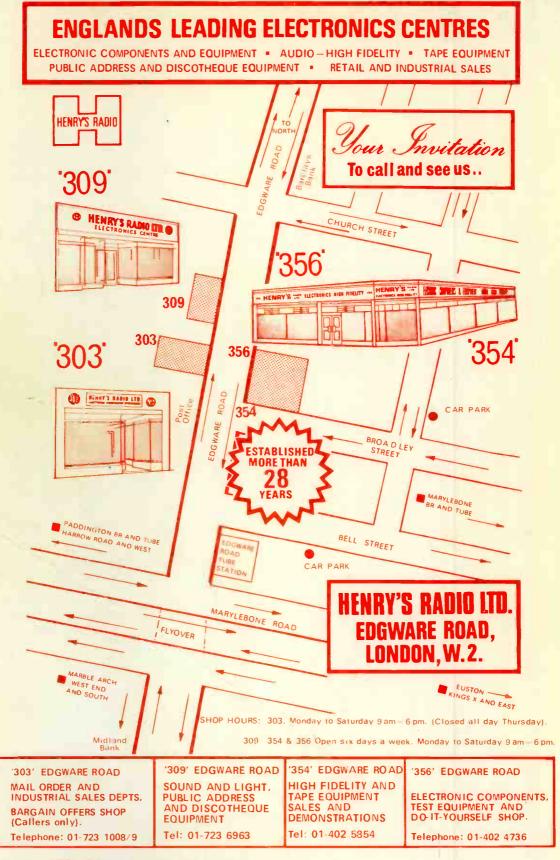


COMMUNICATIONS, ELECTRONIC COMPONENTS AND EQUIPMENT





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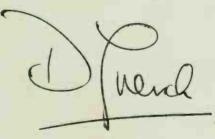
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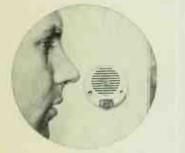


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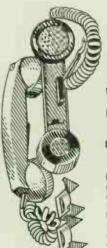
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7



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MODEL AM 7

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MODEL TI 406

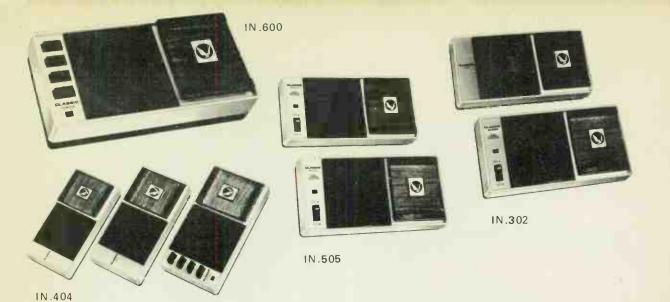
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A superbly styled multi-way intercom system which responds to a whisper. Master unit can call, talk and listen to any one, or up to any six Subs simultaneously. Any Sub can call the Master and converse. The Master has individual pilot lamps, buzzer signals and slide switches for each Sub in the system. Compact modern cabinets of rigid steel construction. Handsomely finished in grey brushed chrome with black speaker grilles and rubber feet to protect desk top. Master and Subs all feature high quality  $3\frac{3}{2}$ " speakers. The latest battery-operated transistor circuit ensures minimum space, maximum efficiency and trouble-free operation. Master  $8\frac{3}{4}$ " x  $7\frac{4}{4}$ " x  $3\frac{1}{4}$ ". Subs  $4\frac{3}{4}$ " x  $4\frac{4}{4}$ " x  $2\frac{1}{2}$ ".

PRICE MASTER UNIT IP7 £14.99 (post etc.31p) SUB STATIONS £ 5.50 pair (pp. 20p)



IN.302 2-3 Station Intercom The IN.302 is a complete two station Intercom System which can be switched to three stations at any time simply by adding another IN-2 Sub Station. AC Powered and using integrated circuits the IN.302 is as beautifully engineered as it is styled. Supplied complete with 15 metres of interconnecting cable but further cables can be added bp to a maximum of 76 metres between stations.

PRICE £7.85 post 20p Dimensions: 178 x 90 x 50 mm (each unit). 30 metres extension cable. Model No.-2C.100. 95p.

IN.404 3-5 Station Intercom As IN.302 but supplied as a complete three station Intercom which can be expanded up to five stations with the addition of two IN.2 Sub Stations.

PRICE £10.95 post 30p

#### IN.505 2 Station Dual Channel Wireless Intercom

The IN.505 dual channel wireless intercom can be used as a closed three way master to master system or as an open system calling station on one channel and speaking on the other. The IN.505 is supplied complete as a two station system which can be expanded at any time by adding IN.500 units. Dimensions: 178 x 90 x 50 mm.

PRICE £13.75 post 30p

#### IN.600 5 Station All Master Intercom

Interconnected by plug-in multiway cables the IN.600 can be linked simply and quickly to give an up to five way all master system. Cables can also be linked together so that an installation can be altered at any time, either to expand the system up to the full five stations or increase the distance between extensions. Each station is supplied with one 6C.50 cable.

PRICE £9.75 post 20p Dimensions: 178 x 90 x 50 mm. Interlinking cable: 16 metres multiway cable with interconnect plugs. Model No. 6C.50 £2.80

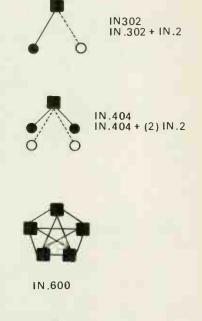
#### IN.2 Sub Station

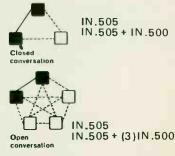
The IN.2 is a matching sub station for the IN.302 and IN\_404. Styled in the same soft wood grain highlights and elegant ivory/brown colour combinations the addition as a single IN.2 to the IN.302 or two IN.2's to the IN.304 will expand the systems to three or five stations respectively. Each IN.2 is supplied complete with 16 metres of interconnecting cable.

PRICE £2.97 post 13p Dimensions: 178 x 90 x 50 mm.

#### IN.500 Dual Channel Wireless Intercom

The IN.500 is a single wireless unit used to expand the IN.505 two station system. Like the IN.505 it must be fed into the same mains circuit for continuity between stations. PRICE £7.85 post 20p.





NEW RANGE OF ATTRACTIVE OFFICE INTERCOMMS



A.129 Plugs into the cigar lighter socket of car and reduces the voltage to 9 volts to operate transistor portables etc. For negative earth vehicles only. PRICE 50p



S1025 Car or van imobilising lock makes sure only you can use your vehicle. With key and instructions. PRICE £2.40

BC12 1 amp battery trickle charger for 12 volt car accumulators. PRICE £1.59



"EASIPHONE" TELEPHONE AMPLIFIER AND SPEAKER Fully transistorised equipment ensures high-quality amplification of telephone communications with the facility for multi-person conversation and standby listening. Incorporates a volume control and automatic On/Off switching. 3" x 31/4" x 4" with 4' of connecting cord, 9V battery operation,

PRICE £5.971/2 (Post 121/2p)



BATTERY-OPERATED TWO-STATION INTERCOM An effective baby alarm, equally good as an office intercom. Negligible battery running cost. With cable. Modern styling. PRICE £4.50 pp.15p.

MODEL BW.10

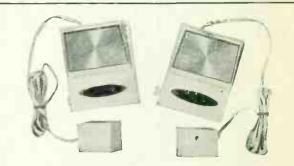


#### **BW.20 DUAL-OPERATION INTERCOM**

Versatile two-station intercom or baby alarm. Can be operated by battery or plugged into a.c. mains, Robustly built and engineered for superb clarity. Excellent sensitivity, With cable,

MODEL BW.20

PRICE £5.371/2 pp.141/2p



#### **BW-40 TWO-STATION WIRELESS INTERCOM**

This is the luxury version of the two-way intercom - the "wireless" set! There is no cable connecting the two stations -simply plug both sets into the ring main or domestic power circuit. PRICE £10.75 pp.25p

MODEL BW.40

#### "DOOR-PHONE" INTERCOM DP.303

Ultra sensitive transistorised Intercom designed so that you may answer the door from within, for greater convenience and safety. Remote unit can signal the master even when system is off. Operates on standard 9 volt battery for many months. Remote unit is completely weatherproof. Complete with 50' of cable, battery and installation instructions.



PRICE £4,371/2 (post 121/2P).





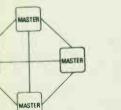


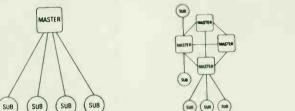
8811 ELEVEN STATION MASTER

MASTER ASTER MASTER MASTER

8807 SEVEN STATION MASTER

8801 REMOTE SUB STATION







New advanced Intercom Series giving an easy to install system which is not only flexible but will meet the requirements of any office, industrial or professional application. As well as being well styled and precision moulded from high impact cycollac the units are life engineered to provide long and reliable service. Conversations can be private or conference depending on the system chosen and shown below are the combinations that can be used.

#### All Master System

The 8807 (up to seven station) or 8811 up to eleven station) can be interconnected as an all master system providing up to three or five simultaneous conversations. A conference can also be held between several people while other two way lines remain free for calls.

Cable Requirements:

Two conductors more than total number of masters in system.

#### Master to Sub Station System

The 8807 or 8811 can be used as a master station for up to respectively six or ten sub-station units (8801). Single conversations can be carried master to sub, conferences master to any or all subs, or sub to sub through the master.

Cable Requirements:

Four conductors more than total number of subs in the system.

#### Intermix System

System 88 Intercoms can also be intermixed in a master to master to subconfigeration. Any master can have a number of subs added to it up to the maximum number of spare lines available at the master. Direct conversation between masters is available with connection to the subs through appropriate master.

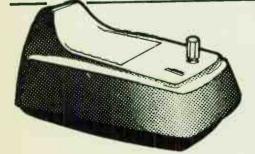
Cable Requirement: See All Master and Master-Subs.

#### Sub Station System

This is the simplest two-way system with direct connection between two 8801 units. This system can be added to master unit(s) for subsequent expansion.

Cable Requirement: Three conductors.

MODEL	8811	£18.50
MODEL	8807	£14.50
MODEL	8801	£10.50

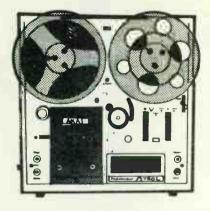


#### D.1212 TELAM TELEPHONE AMPLIFIER

This elegantly sculptured pearl grey and blue moulded cabinet houses a sensitive 5-transistor amplifier and built-in loudspeaker for excellent and convenient amplification of telephone communications. When receiver is placed inside snug receptacle of cabinet, amplifier is automatically switched on. Adjustable sensitivity and volume controls. Internally located batteries. Completely integrated free-standing model, which can be located virtually anywhere, with desk area 81/2" x 31/2".

#### AKAI 1720L STEREO TAPE RECORDER

All Silicon Transistorized. Three speeds  $-1\frac{7}{6}$ ,  $3\frac{3}{4}$ ,  $7\frac{12}{2}$  (15 IPS optional). Automatic Shut Off. Pause Lever, Tape Cleaner. Tone Controls. Speaker Switch. Two 7" x 5" Speakers (built in). Stereo Headphone Socket. Vertical and Horizontal Operation.



#### PERFORMANCE SPECIFICATION

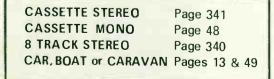
Tape Speed: Wow and Flutter: Frequency Response: Signal to Noise: Cross Talk: Line Output: Power Output:  $1\frac{7}{3}, 3\frac{3}{4}, 7\frac{1}{2}$  (15 IPS optional) less than 0.12% 40–15,000 Hz at 7½ IPS Better than 48db. Less than -45db stereo 1.228 V at 0 VU meter 3 watts per channel.

PRICE £69.90 carr.60p

AVAILABLE REVOX, TANDBERG and FERROGRAPH TAPE RECORDERS and DECKS YOUR ENQUIRIES INVITED









PHILIPS FAMILY FOUR-TRACK RECORDER 4307 Elegant looks, precision design. Simple operation and outstanding reproduction make this a machine of which to be really proud. There are four tracks with facilities for mono playback of two parallel tracks, monitoring facilities, tone control and tape position indicator. Output 2 watts. External loudspeaker socket.

Size: 16" x 11¾" x 5½". Speed: 3¾ i.p.s. 7" reels.



PHILIPS DE LUXE FOUR-TRACK RECORDER 4308 Sensibly priced, high-quality reel-to-reel recorder. Mono recording and playback; stereo/playback, four tracks, tape position indicator, tone control. Fully transistorised. Duoplay. Multiplay facilities. Size: 16" x 11¼" x 5½". Speeds: 3¾, 1% ips. 7" reels.

PRICE £49.50 Carr. 50p



#### PHILIPS STEREO TAPE RECORDER 4404

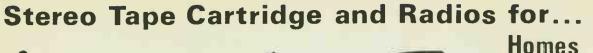
The breathtaking reality of stereo in a vertical or horizontal recorder. Four tracks, two speeds, illuminated VU meter, cardioid moving-coil microphone. Monitoring and playback by means of built in loudspeakers.

Size: 19" x 13<sup>3</sup>/<sub>8</sub>" x 7<sup>1</sup>/<sub>2</sub>". Speeds: 7<sup>1</sup>/<sub>2</sub>, 3<sup>3</sup>/<sub>4</sub> ips. 7" reels.

PRICE £71.00 Carr. 50p

TAPE IN STOCK – COMPLETE RANGE OF LOW COST TAPES, ALSO BASF and SCOTCH. SEE LISTS AT END OF CATALOGUE.

PRICES ARE CORRECT AT TIME OF GOING TO PRESS, CHECK WITH CURRENT STOCK LIST. Ref. 16/17. PUBLISHED QUARTERLY





planes

boats



Homes Caravans and Outdoors

LEAR JET AM/FM - 8 TRACK STEREO Model LJ277

SHARP ICC-80

AM and Stereo FM Car Radio



412 + 412 watts output with built in medium wave and FM radio. Plays prerecorded 8 track cartridge tapes. 12 volt neg. earth supply. Size 8" x 814" x 2". Supplied complete with mounting kit, ceramic speakers and grills and optional use speaker housings.

(List £60) £49.50 pp.30p

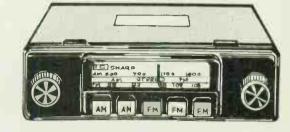
#### NEW PORTABLE 8 TRACK STEREO PLAYER

Model P550

Plays all prerecorded 8 track cartridge tapes with automatic and manual track change. Battery operated, plus built in mains unit for home bse. Fitted carry handle for walking about and playing. Weighs only 8 lbs total. Terrific quality and performance.

(List £56) £34.50 pp.50p

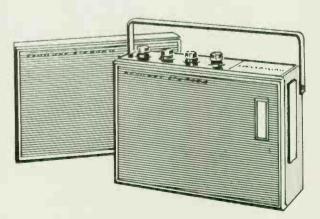
BATTERY OR MAINS OR CAR BATTERY OPERATED FOR HOME STEREO USE OR CARRY AROUND. ALSO WALK AROUND PLAYING AS A MONO PLAYER.



5 + 5 watts output. The 1st car radio with stereo radio. 12 volt (+) or (-) supply. Covers medium wave band and VHF FM stereo. Size 6's" x 2" x  $6^3$ s". Supplied complete with speakers and mounting kit. Push-button and variable tuning. Uses 3 IC's plus 16 transistors.

(List £53) £42.50 pp.30p

See Page 47 for further car radios and aerials



Complete range of 8 Track Stereo Recorders and Decks also in stock.

13

Accessories for HI-FI \* KEEP YOUR RECORDS, CARTRIDGES AND EQUIPMENT CLEAN SAVE EEE



#### CECIL WATTS - DUST BUG (illustrated)

Easily fitted to any turntable to remove dust and static from the grooves of the record the moment before play. A simple device that has sold in thousands and is highly Rendermoted. De

eplacements:	Vylon 1/2 oz.	New Formula dispens	er 13p	£1.20

#### PARASTAT Manual Model MKIIA

The professional choice to preserve and restore complete fidelity to older records or where anti-static deposits have built up. Nylon brush tips remove all dirt, grit and residue from the grooves making even old records "as new" and maintaining new records in perfect condition. Complete with 1 oz. fluid dispenser and instructions. All parts re-olaceable placeable. Replacem

Brush 63p	
Pad covers 10p each	
Sponge cover pad 5p	
loz, New Formula dispenser 43p	

#### HI-FI PARASTAT MK4

HI-FITPAKASIAI IMK4 Record maintenance and stylus cleaning kit for use on new condition records. Provides a high degree of cleanliness necessary when using ultra lightweight pick-ups, tracking at 2 grammes or less. An integral part of the kit is the Watts stylus cleaner complete with instructions, loz, new formula dispenser, distilled water dispenser, spare pad cover and ribbons. Replacements: loz.

ements:	loz. New Formula dispenser 43p	
	Distilled water dispenser 20p	£2.19
	Pad cover and ribbons 9p	

#### PARASTAT DISC PREENER

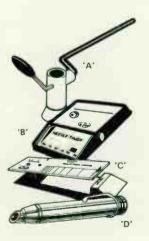
PARASIAL DISC PRECIPER A must for every record user-designed for use from the start with new records. Collects all dust from the record surgace without the use of anti-static agents. Plush pile penetrates and cleans each groove, giving ideal playing conditions, less background noise and enhanced tidelity, especially where lightweight pick-ups tracking at less than 2 grammes are in use. Complete with instructions. 34p

#### HUMID MOP

Recommended for use in conjunction with the Manual Parastat and Preener. Cleans and conditions the bristles and velvet pads. Ensures correct degree of humidity at the time of use. Complete with spare sponges end instructions. Replacement set of sponges. 25p

#### STYLUS CLEANER

Provides a safe and efficient method of cleaning the stylus. Complete with instructions. 31p



COLTON

A' PICKUPLIET

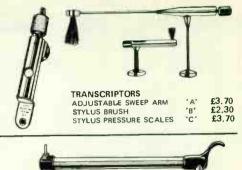
A precision instrument employing e silicon damped piston for slow descent. Leak proof, trouble free and accurate. £1.75

#### '8' STYLUS TIMER

Finished in black with a silver dial, this very neat little device measuresonly 2in x 2kin x <sup>3</sup>/<sub>n</sub>in. The mag-netically actuated preci-ion made mechanism regia scale from 0.250. It can then be set to zero. Since the timer makes no physi-cal contect with the turn-table it is accepteble to even the most critical hi-fi enthusiast. £2.60

#### MAGNALIFT

Magnetam to automatically lift erm at end of record playing thus eliminating unnecessary stylus wear. Easy to fit, gracefully styled. £3.25



#### GOLDRING

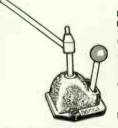
£2.50

GOLDHING The lenoclean (illustrated) is a record cleaning device consisting of a hollow arm pivoted at one end and fitted with a fine brush at the other. The arm is filled with the specially prepared anti-static fluid. This fluid is dispensed on to the record in a narrow band, leaving the record grooves

specially prepared anti-static fluid supplied. This fluid is dispensed on to the record in a narrow band, leaving the record grooves clean and dry. (bottle of fluid 70p) £3,00

STB2 Stylus balance scales

93p



#### DECCA MICROLIFY (illustrated)

This is a simple cam-operated precision device indispensible to every record collector. It gives complete protection against the pitting and scratch-ing of fragile micro-groove records which is bound to occur when pick-ups are raised and lowered by hand. £1.75

DECCALIFT

£8.50

#### BIB

#### 'C' VARISCALE

C VARISCALE A precision engineering device for determining stylus pressure from 0.5 grammes. The beam and knife edge technique pro-vides simplicity of opera-tion and accuracy usually found in more expensive instruments f120 instruments £1.20

#### `D

X50 This pocket microscope of X 50 magnification is specifically designed for stylus inspection. The hood is slotted to accept a wide range of styli. £0.87

#### SPIRITLE VEL

Make sure everything is correctly aligned when using very low trackings. £0.34

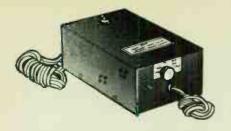
New record cleaner 'Groov Kleen'. Adjustable balance for tracking, Fitted pad and brush. Plus extra stylus brush. Self adhesive fixing.

£1.75

#### BIB

SIZE 8 Stylus as turntable SIZE B Stylus as turntable cleaning kit. Contains special cleaning brush on free standing base. Absorb-ant cleaning cloth, bottle of anti-static cleaner and instructions. 34p

POST ETC.-15p per 1 or 2 items; 20p per 3 to 4; 25p per 5 ta 6 items.



#### P.1076 SIX WAY AC/DC CONVERTER

Replacing former models R.1014 and R.2500, this well constructed converter enables a wide range of battery operated equipment to be powered direct from 230/250V. AC. Suitable for radios, tape recorders, record players, etc. and rated at 500mAmp with switchable voltage selection for 3V, 4.5V, 6V, 7.5V, 9V and 12V. The black crackle finished case measures 2" x 5" x 1%" and incorporates a pilot light and On/Off switch. PRICE £3.30



S.E.800A REGULATED DC POWER SUPPLY UNIT This solid state DC Power Supply Unit features the added refinement of a combination Voltmeter ammeter effective at the flick of a switch. Strict control of voltage output from 1 to 15V is possible. Cartridge fuse protection of transistors and components. Controls are On Off and continuously variable voltage adjustment, current, voltage slide switch. Output terminals are polarised. Strong metal case with cooling louvred air vents. Clear square meter.

DC. Output: Power Consumption: AC. Input: Ripple: Line Regulation:

Load Regulation:

Dimensions:

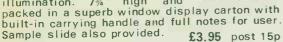
Fuse:

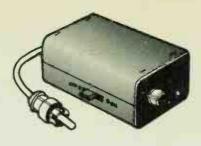
Weight:

0-0.5A 28VA 200-240V Below 3 mV (rms) Max.50 mV against 10% input fluctuation Max. 40 mV at full power 0.5A 7½" x 3½" x 3" 2½ lbs. £11.50 post 20p

#### 420ES MICROSCOPE

An extremely modestly priced yet very efficient microscope capable of magnification up to 750 times with clear, sharp images. This model is of the self-illuminating type and incorporates an easily rotatable four-position turret magnifying lens selector with rack and pinion focusing. The crackle black metal body houses the batteries for adjustable light illumination. 7%" high and





E.1300 SOLID STATE MONO PRE-AMPLIFIER Transistorised pre-amplifier with built-in R.I.A.A. equalisation circuitry producing gain of 47db within frequency response 30-20,000 Hz. Black metal casing with On/Off switch, phono input socket and 2" output lead already fitted phono plug. Internal 9V battery operation. 2¾" x 1¾" x 1⅛". Ideal for amplifying signal from low output magnetic cartridges, tape heads, microphones, etc. into amplifiers. Colourful, hanging display pack with data. PRICE £1.89



E.1310 SOLID STATE STEREO PRE-AMPLIFIER Intended for stereo application, model E.1310 has a gain of 34db. with R.1.A.A. equalisation through frequency 30-20,000Hz. Input load up to 50Kohm; Output load: 50Kohm-500Kohm. Capable of amplifying signals from 3mV to 38mV. 4 low noise silicon transistors. Internally located 9V battery drawing 1 mAmp. Channel separation of over 50db. Twin phono input and output sockets. On, Off switch. Silver and Black case 3½" x 2½" x 1".

PRICE £3.65



#### G.3000

MONO/STEREO HEADPHONE WITH CONTROL UNIT This represents a new approach to achieve the really lightweight headphones combined with wide listening flexibility. The neat integrated remote control box is mounted into the self-coiling curl cord and provides individual left and right volume adjustment, and also incorporates a stereo/mono function switch. This model in contrasting black and white has a leather padded adjustable head band and features new style diaphragm housing! 8/16 ohms. Superb presentation in new style silver and transparent front box. PRICE £6.60 post 20p

Control Unit also available separately. MODEL G1305 £2.15

#### MOBILE ACCESSORIES









#### SOLID STATE TACHOMETER

Functionally styled for under or over dashboard installation, this electronic tachometer fits all 4-cycle, 4-cylinder or 2-cycle, 2-cylinder 12V vehicles. Negative or positive earth, Calibrated white on black 0-8 000 rom in 100 rom divisions together with setable 'danger' line, simple installation-2 screws, 4 wires. 3" diameter dial. 21/2" deep. On adjustable angle bracket. Sealed black crackle finish. PRICE £6.95

'POWER DASH' High performance Transistorised Ignition Stabilizer Suitable for 6 or 12V negative earth ignition systems, and effective up to 9,000 rpm the Power Dash enables engines to produce maximum efficiency by increasing the power available to the spark plugs. The Power Dash produces a voltage of over 15 000V and ensures easy starting in adverse temperature conditions and continuous engine performance. Coincidentally petrol consumption is reduced, plug and point wear minimised and exhaust pollution reduced. Easily fitted below dash or in engine compartment. Simple 3-wire connections, fully comprehensive installation booklet with interesting comparison charts. Size: 6" x 41/4" x 31/4". Weight: under 2 lbs.

#### PRICE £11.50

AUTO BURGLAR ALARM Designed for easy installation on any car (whether 6 or 12V) this device activates the horn when a theft is attempted of expensive equipment or personal belongings. This neat unit only 514" x 234" x t" deep on fixing backplate, reacts when the vehicle is disturbed or rocked and continues its warning for 15 seconds after tampering. The sensitivity of the device is adjustable and controlled by a separate On/Off panel which can be located wherever convenient. Supplied with connecting wires and screws in attractive bubble pack cards containing installation instructions and diagrams. PRICE £0.95 post 15p

#### AUTO CAR LOCK

Provides a very simple method of preventing a vehicle from being started or stolen by "unauthorised persons". By incorporating the Auto Car Lock into the ignition circuit (or in any other application which requires circuit security), the ignition cannot be used or by-passed unless the correct multifaced key is inserted into the three position tumbler lock. Designed for easy mounting in small disguised locations, and supplied complete with heavy duty lead, key and installation and operation instructions

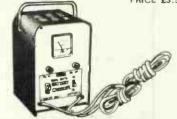
PRICE £2.35



#### BATTERY CHARGER Model B210

Robust stove enamelled case, for free standing, or wall attachment, for home charging of 6 volt and 12 volt batteries. Fitted with 3 core mains lead and heavy duty battery clips. Fully protected by rewireable fuses in all circuits.

200-240 volts 50 c/s A.C. Mains only. MAINS INPUT OUTPUT To charge 6-12 volt batteries at a max. of 4 amps, PRICE £3.50 Carr.30p



#### AUTOCHARGE 4' BATTERY CHARGER

A superior 4 amp charger which incorporates many advantageous features such as heavy duty transformer, large finned rectifier, double fuse protection, square clear-view panel meter. The well ventilated metal case incorporates a a handle, key-hole slot for wall fixing, and rubber protective feet. The specification includes On/Off and 6V/12V selection slide switches, 5'6" 3 core mains lead, and over 5' of red and black battery connecting leads already fitted with heavy duty crocodile clips, 434" x 7" x 4". Individually boxed.

PRICE £3.95 Carr.35p

BC12 TRICKLE CHARGER 1 amp low cost efficient battery trickle charger for 12 volts. PRICE £1.59



#### Plugs into the cigar lighter socket of car and reduces the voltage to 9 volts to operate transistor portables etc. For negative earth vehicles only. PRICE 50p





10ft lead fitted car aerial plug and line socket. PRICE 0.65 post 10p

CAR AERIALS 3 BASIC TYPES COVER EVERY REQUIREMENT

> Three sections in stainless steel. Closed 161/2". Extended 43". Co-Axial lead 4'. Diameter of mounting hole Completely screened, Can be fitted from on top of wing. No access to underwing required. Type A

97p

Four sections in stainless steel, Closed 1%", extended 35". Co-Axial Lead 4'. Diameter of mounting hole 1/4". Length of tube below wing 101/2". Unique lock requiring special key ring for release Completely tamper proof. Type B £1.50



Four sections in stainless steel. Closed 1%" extended 39". Co-Axial Lead 4'. Length of tube below wing 15". Diameter of mounting hole required 1". Fully automatic electric model and foolproof. Easy to install. The operation of a dashboard switch extends or retracts all sections. Type C £5.97

Note: Some slight differences in size and appearance may apply due to stock variations. Post etc. 25p any type. HENRY'S CAN SUPPLY ALL YOUR LEISURE NEEDS.

#### AERIAL EXTENSION LEAD



ALL TYPES BRAND NEW CURRENT MODELS AVAILABLE AT SPECIAL DISCOUNT PRICES.

#### ELIZABETHAN 12" BATTERY-MAINS PORTABLE Model TW12 (LZ)

Compact portable covers all UHF channels 21-70, clearly and easily. Supplied with detachable daylight filter screen, UHF loop aerial, mains lead and DC supply lead for 12 volts. Earphone for private listening. Full range of controls and 1 watt speaker output. External aerial socket. Size: 15<sup>1</sup>/<sub>8</sub>" x 12<sup>5</sup>/<sub>8</sub>" x 12". Weight: 16<sup>1</sup>/<sub>2</sub> lbs.

(List £73)

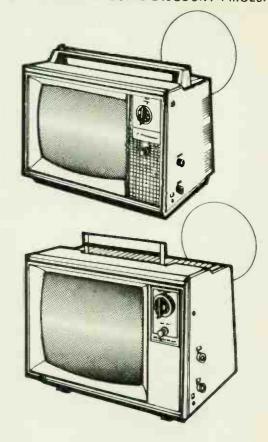
PRICE £52.50 Carr.£1.00

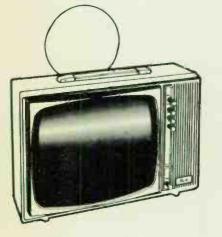
#### ELIZABETHAN 14" BATTERY-MAINS PORTABLE Model F14 (LZ)

As above, but 14" version. Size 161/4" x 121/8" x 121/4". Weight: 181/2 lb.

(List £77)

PRICE £58.75 Carr. £1.00





#### MARCONI 'MINI' 12"

#### Model 4805

Mains portable TV with push-button UHF channel selection. Size: 11¼" x 16%" x 104". All controls. Fitted loop aerial with provision for external aerial.

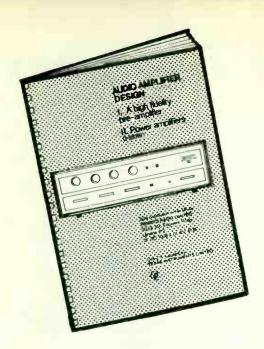
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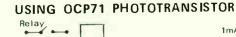
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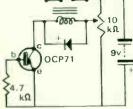
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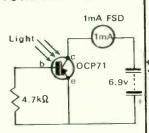
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Suggested Circuits (Also

(Also see later pages)

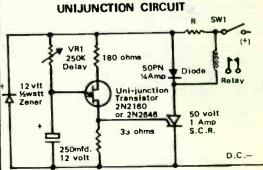




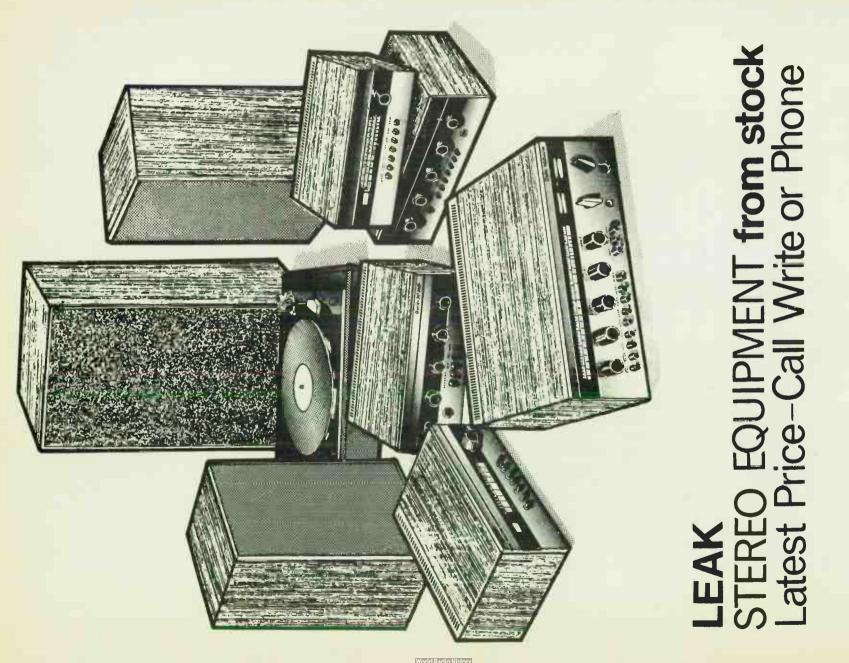


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	I ARCE RANCE OF LIGHTING
HIGH POWER SPEAKER SYSTEMS	LARGE RANGE OF LIGHTING FITTINGS, LAMPS, HOLDERS,
HIGH POWER SPEAKER SYSTEMS DP1 Prince 50 watt £40.00	FITTINGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS,
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £60.00	FITTINGS, LAMPS, HOLDERS,
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £60.00           DP3         Majestic         100 watt £90.00	FITTINGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS, FIBRE OPTICS, etc. FROM STOCK.
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £60.00	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £60.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £80.00           Sound City PA60         pair £89.50	FITTINGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS, FIBRE OPTICS, etc. FROM STOCK.
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £60.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £60.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £80.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         D.1101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £60.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £80.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Liquimatic mini 50 w (w) OI £32.50 Discowheel 50 watt (c) QI £42.00	FITTINGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS, FIBRE OPTICS, etc. FROM STOCK. FLEXILIGHTS £ 3.15 MIXERS DJ101 6 channel £11.50 B2001 (B2005) 4 " £ 2.75 B2002 2/4 channel mono/ stereo £ 3.95
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £40.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Liquimatic mini 50 w (w) 01 £32.50 Discowheel 50 watt (c) 01 £42.00 Gnome 150 watts (c) 01 £42.00	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/         Stereo £ 3.95         B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £60.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Liquimatic mini 50 w (w) QI £32.50 Discowheel 50 watt (c) QI £42.00 Gnome 150 watts (c) QI £55.00 Liquimatic 150 watts (w) QI £50.00	FITTINGS, LAMPS, HOLDERS.           FLASHERS, EFFECTS FOILS,           FIBRE OPTICS, etc. FROM STOCK.           FLEXILIGHTS         £ 3.15           MIXERS         D J101         6 channel £11.50           B2001 (B2005)         4         " £ 2.75           B2002 2/4 channel mono/         stereo £ 3.95           B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel           (Slider) £17.75         (Slider) £17.75
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £40.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Liquimatic mini 50 w (w) OI £32.50 Discowheel 50 watt (c) OI £42.00 Gnome 150 watts (c) OI £55.00 Liquimatic 150 watts (w) OI £50.00 Pluto Tutor-2 250 watt (c) & (w) OI £90.00	FITTINGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS, FIBRE OPTICS, etc. FROM STOCK.           FIERLIGHTS         £ 3.15           MIXERS         D.1101         6 channel £11.50           B2001 (B2005)         4         "£ 2.75           B2002 2/4 channel mono/ Stereo         £ 3.95           B2004 Deluxe: monostereo £ 4.25         MP12 (B2006) 6 channel (Slider) £17.75           A121 Mono/Stereo         £ 48.50
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £90.00           DP5         Sovereign         100 watt £80.50           Sound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS         Baby Liquid 150 watt (w) £22.50           Liquimatic mini 50 w (w) 01 £32.50         Discowheel 50 watts (c) 01 £42.00           Gnome 150 watts (c) 01 £55.00         Liquimatic 150 watts (w) 01 £50.00           Pluto Tutor-2 250 watt         (c) & (w) 01 £90.00           6* bubble wheels         £ 7.50	FITTINGS, LAMPS, HOLDERS.           FLASHERS, EFFECTS FOILS,           FIBRE OPTICS, etc. FROM STOCK.           FLEXILIGHTS         £ 3.15           MIXERS         D J101         6 channel £11.50           B2001 (B2005)         4         " £ 2.75           B2002 2/4 channel mono/         stereo £ 3.95           B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel           (Slider) £17.75         (Slider) £17.75
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £90.00           Sound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS         Baby Liquid 150 watt (w) £22.50           Discowheel 50 watts (c) QI         £35.00           Liquimatic mini 50w (w) QI £32.50         Discowheel 50 watts (c) QI           Discowheel 50 watts (c) QI         £55.00           Liquimatic 150 watts (w) QI £50.00         Pluto Tutor-2 250 watt           6" bubble wheels         £ 7.50           Moire and liquid cassettes £12.00         \$12.00	$\label{eq:response} \begin{array}{c} \mbox{FitTriNGS, LAMPS, HOLDERS, FLASHERS, EFFECTS FOILS, FIBRE OPTICS, etc. FROM STOCK. \\ \hline \mbox{FleXiLigHTS} & \mbox{\pounds} 3.15 \\ \mbox{MiXERS} \\ \mbox{DJ101} & 6 \mbox{ channel } \mbox{\pounds} 11.50 \\ \mbox{B2001} (B2005) & 4 & " & \mbox{\pounds} 2.75 \\ \mbox{B2002} & 2/4 \mbox{ channel } \mbox{mono stereo } \mbox{\pounds} 3.95 \\ \mbox{B2004} & \mbox{Deluxe mono stereo } \mbox{\pounds} 4.25 \\ \mbox{MP12} (B2006) & 6 \mbox{channel } \mbox{\pounds} 17.75 \\ \mbox{A121} & \mbox{Mono/stereo } \mbox{\pounds} 48.50 \\ \mbox{Disco 40 } 4 \mbox{ channel } \mbox{\pounds} 37.50 \\ \mbox{DJ102} & 4 & " & \mbox{\pounds} 22.95 \\ \end{array}$
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £90.00           DP5         Sovereign         100 watt £80.50           Sound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS         Baby Liquid 150 watt (w) £22.50           Liquimatic mini 50 w (w) 01 £32.50         Discowheel 50 watts (c) 01 £42.00           Gnome 150 watts (c) 01 £55.00         Liquimatic 150 watts (w) 01 £50.00           Pluto Tutor-2 250 watt         (c) & (w) 01 £90.00           6* bubble wheels         £ 7.50	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         D.J101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/ stereo £ 3.95         B2006) 6 channel       £ 17.75         A121 Mono/stereo £ 4.25         Disco 40 4 channel       £ 37.50         DJ102 4 " £ 22.95         DISCOTURNTABLES         Complete range of all types in stock
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £60.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Discowheel 50 watt (c) Q1 £42.00 Gnome 150 watts (c) Q1 £55.00 Liquimatic 150 watts (w) Q1 £50.00 Pluto Tutor-2 250 watt (c) & (w) Q1 £50.00 Pluto Tutor-2 250 watt (c) & (w) Q1 £90.00 6° bubble wheels £ 7.50 Moire and liquid cassettes £12.00 (w) wheel (c) cassette QI = Quartz Iodine Lamp.	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS       DJ101       6 channel £11.50         B2001 (B2005)       4       " £ 2.75         B2002 2/4 channel mono/       stereo £ 3.95         B2004 Deluxe monostereo £ 4.25       MP12 (B2006) 6 channel         (Slider)       £17.75         A121 Mono/stereo       £48.50         DJ102 4       " £22.95         DISCOTURNTABLES       Complete range of all types in stock for every application plus cartridges,
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £90.00           Sound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS           Baby Liquid         150 watt (v) £22.50           Discowheel 50 watt (c) Q1 £32.50           Discowheel 50 watts (c) Q1 £55.00           Pluto Tutor-2 250 watt           (c) & (w) Q1 £90.00           6 <sup>+</sup> bubble wheels         £ 7.50           Moire and liquid cassettes £12.00           (w) = wheel         (c) = cassette           Q1 = Quartz Iodine Lamp.           DIMMERS         £ 3.80	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/ Stereo £ 3.95         B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel         Glider) £ 17.75         A121 Mono/stereo £ 48.50         Disco 40 4 channel £37.50         DJ102 4 " £22.95         DISCOTURNTABLES         Complete range of all types in stock for every application plus carridges, plinths, etc. Ws suggest MP60 & HT70.
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £40.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Liquimatic mini 50 w (w) 01 £32.50 Discowheel 50 watt (c) 01 £42.00 Gnome 150 watts (c) 01 £55.00 Liquimatic 150 watts (w) 01 £50.00 Pluto Tutor-2 250 watt (c) & (w) 01 £90.00 6* bubble wheels £ 7.50 Moire and liquid cassettes £12.00 (w) = wheel (c) = cassette 0 = Quartz Iodine Lamp. DIMMERS	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXLLIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/ Stereo £ 3.95         B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel (Slider) £17.75         A121 Mono/stereo £ 48.50         Disco 40 4 channel £37.50         DJ102 4 " £22.95         DISCOTURNTABLES         Complete range of all types in stock for every application plus cartridges, plinths, etc. We suggest MP60 & HT70, see Turntable/Cartridge list.
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £90.00           DP5         Sovereign         100 watt £90.00           Sound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS         Baby Liquid 150 watt (w) £22.50           Liquimatic mini 50 w (w) 01 £32.50         Discowheel 50 watts (c) 01 £55.00           Liquimatic 150 watts (w) 01 £50.00         Pluto Tutor-2 250 watt           (c) & (w) 01 £90.00         6* bubble wheels         £ 7.50           Moire and liquid cassettes £12.00         (w) = Quartz todine Lamp.           OIMMERS         LITESTAT 250 watt £ 3.80         LITESTAT 250 watt £ 3.80           LITESTAT 1 Kw         £ 7.20           MAINS COLOUR WHEELS         S	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS       DJ101       6 channel £11.50         B2001 (B2005)       4       " £ 2.75         B2002 2/4 channel mono/       stereo £ 3.95         B2004 Deluxe monostereo £ 4.25       MP12 (B2006) 6 channel         Stider)       £17.75         A121 Mono/stereo       £48.50         Djisco 40 4 channel £37.50       DJ102 4         DISCOTURNTABLES       Complete range of all types in stock for every application plus cartridges, plinths, etc. W: suggest MP60 & HT70. see Turntable/Cartridge IISt.         FOR PA & DISCOTHEQUE USE
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £40.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Discowheel 50 watt (c) Q1 £32.50 Discowheel 50 watt (c) Q1 £52.00 Chuigiimatic mini 50w (w) Q1 £32.50 Discowheel 50 watt (c) Q1 £55.00 Pluto Tutor-2 250 watt (c) & (w) Q1 £90.00 6° bubble wheels £ 7.50 Moire and liquid cassettes £12.00 (w) = wheel (c) = cassette Q1 = Quartz Iodine Lamp. DIMMERS LITESTAT 250 watt £ 3.80 LITESTAT 1 Kw £ 7.20 MAINS COLOUR WHEELS 3 colour rotating 50 watts £11.97	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXLLIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/ Stereo £ 3.95         B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel (Slider) £17.75         A121 Mono/stereo £ 48.50         Disco 40 4 channel £37.50         DJ102 4 " £22.95         DISCOTURNTABLES         Complete range of all types in stock for every application plus cartridges, plinths, etc. We suggest MP60 & HT70, see Turntable/Cartridge list.
DP1 Prince 50 watt £40.00 DP2 Consort 100 watt £40.00 DP3 Majestic 100 watt £90.00 DP5 Sovereign 100 watt £90.00 Sound City PA60 pair £89.50 COLOUR WHEEL PROJECTORS Baby Liquid 150 watt (w) £22.50 Discowheel 50 watt (c) Q1 £32.50 Discowheel 50 watt (c) Q1 £52.00 Gnome 150 watts (c) Q1 £55.00 Liquimatic 150 watts (c) Q1 £50.00 Pluto Tutor-2 250 watt (c) & (w) Q1 £90.00 6° bubble wheels £ 7.50 Moire and liquid cassettes £12.00 (w) = wheel (c) = cassette Q1 = Quartz Iodine Lamp. DIMMERS LITESTAT 250 watt £ 3.80 LITESTAT 1 Kw £ 7.20 MAINS COLOUR WHEELS 3 colour rotating 50 watts £11.97 4 colour rotating 50 watts £16.50	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS       DJ101       6 channel £11.50         B2001 (B2005)       4       " £ 2.75         B2002 2/4 channel mono/       stereo £ 3.95         B2004 Deluxe monostereo £ 4.25       MP12 (B2006) 6 channel         (Slider)       £17.75         A121 Mono/stereo       £48.50         Disco 40 4 channel £37.50       DJ102 4         DJ102 4       " £ 22.95         DISCOTURNTABLES       Complete range of all types in stock for every application plus cartridges, plinths, etc. We suggest MP60 & HT70. see Turntable/Cartridge list.         FOR PA & DISCOTHEOUE USE       FROM STOCK: TURNTABLES. CART-RIDGES, CABINETS, MICROPHONES, STANDS, LIGHTING, SPEAKERS AND
DP1         Prince         50 watt £40.00           DP2         Consort         100 watt £90.00           DP3         Majestic         100 watt £90.00           DP5         Sovereign         100 watt £80.00           DSound City PA60         pair £89.50           COLOUR WHEEL PROJECTORS           Baby Liquid         150 watt (w) £22.50           Liquimatic mini 50 w (w) 01 £32.50           Discowheel 50 watts (c) 01 £55.00           Liquimatic 150 watts (w) 01 £50.00           Pluto Tutor-2 250 watt           (c) & (w) 01 £90.00           6* bubble wheels         £ 7.50           Moire and liquid cassettes £12.00           (w) = wheel         (c) = cassette           01 = Quartz Iodine Lamp.           DIMMERS           LITESTAT 250 watt         £ 3.80           LITESTAT 1 Kw         £ 7.20           MAINS COLOUR WHEELS         3 colour rotating 50 watts £11.97           4 colour rotating 50 watts £11.97         4 colour rotating 50 watts £16.50	FITTINGS, LAMPS, HOLDERS,         FLASHERS, EFFECTS FOILS,         FIBRE OPTICS, etc. FROM STOCK.         FLEXILIGHTS       £ 3.15         MIXERS         DJ101       6 channel £11.50         B2001 (B2005)       4 " £ 2.75         B2002 2/4 channel mono/ Stereo £ 3.95         B2004 Deluxe monostereo £ 4.25         MP12 (B2006) 6 channel         Glider) £ 17.75         A121 Mono/stereo £ 445.50         Disco 40 4 channel £37.50         DJ102 4 " £22.95         DISCOTURNTABLES         Complete range of all types in stock for every application plus carridges, plinths, etc. W: suggest MP60 & HT70.         FROR PA & DISCOTHEOUE USE FROM STOCK: TURNTABLES. CART- RIDGES, CABINETS, MICROPHONES, STANDS, LIGHTING, SPEAKERS AND COLUMNS, FOILS, HEADPHONES, STANDS, LIGHTING, SPEAKERS AND
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CheDit Tenms Fon CALLENS.
MICROPHONES AND STANDS
AKG D190E (200 ohms)
(+VLR3-11C connector)£19.50
D707E Low £16.75
D707E Hi £17.50
D109E Low £19.50
D109E Hi £20.25
D1000E Hi £34.00
BEYER Twin Mic.Stereo sets.
Dual Impedance M88HL £28.85
GRAMPIAN DP4H 50K £10.98
DP4X 200 ohm £10.98
DP4M 600 ohm £ 10.98
RESLO RBT.H 50 K £19.00
UDI.H 50 K £22.00
SHURE 515SA Unidyne B
50 K Cardiod £16.98
533SA Spher-o-dyne
50K Omni directional £18.98
545 Hi-Low £36.00
HIGH IMPEDANCE (50KΩ)
Disco anti-feedback SS
Performer £11.50
DFI-X (50K/600ohm or 50ohm) £2.98
B.1017 Low cost, gen.purp. £1.50
DM.31C Cardiod Studio £5.87 DM.34C " PA £5.25
DM.34C " PA £5.25
600 OHM IMPEDANCE
B7105 600 ohm Condensor Mic,
Built in power supply & preamp.
£12.50
DYNAMIC DUAL IMPEDANCE
DF.72 Windshield mic. £ 5.75
DF104 Omni directional £10.50 B1053 Unidirectional £ 5.50
B1053 Unidirectional £ 5.50
DM.18HL with Table Stand £ 5.87
UD50HL Unidirectional PA £ 6.75
DM16HL Studio omni-direc. £ 5.00
DM58HL Cardiod PA £ 8.00
UD50HL Unidirectional PA £ 6,75 DM16HL Studio omni-direc. £ 5,00 DM58HL Cardiod PA £ 8,00 MDF611 BC Cardiod Studio £11.98 MDF610C Cardiod Studio £11.98
MDF0196C Cardiod Stick £ 9.98
MDF623 £ 7.50
B1078 Cardiod £ 6.25
UD 76 HL Studio Cardiod £17.50
UD 76 HL Studio Cardiod £17.50 MIC. STANDS AND BOOMS B1410/B1426 Stand £4.62 pp.32p
3703 Stand £8.45 pp.32p
3708/3709 Boom £4.40 pp.22p
B1403B/B1411 Stand £5.75 pp.25p
B1416 Boom £3.98
3703 Stand         £3.15 pp.32p           3703 Stand         £8.45 pp.32p           3708/3709 Boom         £4.40 pp.32p           B1403B/81411 Stand         £5.75 pp.25p           B1416 Boom         £3.98           B1402 Table Stand         £1.97 pp.15p           MIC TRANSFORMERS to 50K OHMS
MIC TRANSFORMERS to 50 K OHMS.
MX5 (20/50 ohms) £2.10
MX6 (200/600 ohms) £2.10
LINE TRANSFORMERS
100 watt 8 ohm £8.50
MT10E 10 watt tapped £1.10
MT15 15 " " £1 20
MT20 20 " £1.40
COMPLETE RANGE OF LEADS, GOOSE-
NECKS, PLUGS, SOCKETS, ADAPTORS
AND ACCESSORIES IN STOCK
REVERBERATION UNITS
SR202 2 channel £36.00
RA859 2 " 4 Inputs £12.75

303, EDGWARE ROAD, W.2 BARGAIN STORE (Closed all day Thursday). MAIL ORDER AND INDUSTRIAL SALES DEPTS.	309, EDGWARE ROAD, W.2. PUBLIC ADDRESS, DISCO EQUIPMENT, LIGHT & SOUND STUDIO (Open 6 days per week)	354, EDGWARE ROAD, W.2 HIGH FIDELITY SALES AND DEMONSTRATIONS (Open 6 days per week)	356, EDGWARE RD, W.2 ELECTRONIC, COMPON- ENTS AND EQUIPMENT (Open six days per week)
Telephone: 01-723 1008/9	Telephone: 01-723 6963	Telephone: 01-402 5854	Telephone: 01-402 4736

#### NOW AVAILABLE -- NEW MODERN RANGE OF DISCOTHEQUES

DISCO-MINI	Mixer/Preamp. 2-MP60 Decks etc. (use DJ100 amp.)	£ 98.50
DISCO-STANDARD	As Disco-mini, but with 100 watt amplifier	£180.00
DISCO-SUPER	As standard, but with DJ30L mk.II	£224.00
DISCO-SUPREME	As Super, but with 3-turntables	£261.00
	and the second se	

ALL PRICES TAX PAID - READY TO USE AND FULLY GUARANTEED

#### SOUND CITY AMPLIFICATION

1 x Sound City P.A.50 Plus Amplifier Section 2 x Sound City P.A.60 Column Speakers.





Sound City Concord Amplifier (Reberb Model).

This self contained amplifier incorporates 2 x 12" heavy duty speakers each rated at 40 watts. The amplifier has a continuous distortion-free output of 30 watts R.M.S., but will in fact develop up to 40 watts. The highly rated speakers therefore allow for excessive peak overloading without any visible break-up of performance.

Volume and tone controls are by means of noise free slider fader controls set into two channels.

#### Channel 1

Consists of high or low gain input, volume, bass, and treble control. A flick-over switch provides brilliant or normal response.

#### Channel 2

Identical to channel 1 but graduated reverberation control is also available. An output level meter gives easy indication of working level. Standby/ mains switch together with double indicator lamps complete the front panel. At the back of the amplifier a variable voltage selector is fitted covering 105-245 volts. AC mains. An external speaker can be connected by means of a built-in jack socket. A sensitivity switch allows the amplifier to be worked at high or low gain, i.e. for studio or recording work or live concert performance. The cabinet itself is open-backed ensuring excellent middle and treble response. Covered in scuff and dirt resistant rexine, this very compact amplifier is easily transportable. A waterproof cover is supplied with each model.

PRICE £120.00 Carr.£1

#### CONTRACTOR CONTRACTOR

#### Sound City P.A.50 Plus Model. Cat. No. 8303

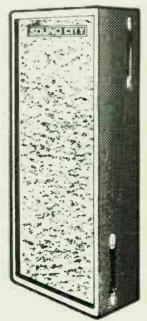
50 watts R.M.S. undistorted output. Six individual channels each having separate volume, treble and bass controls. Master volume control operates over all six channels, allowing increase or decrease of volume whilst tone settings on all inputs remain the same.

Output impedance 4,8,16 ohms or 100 volt lines controlled by impedance plug located at back of amplifier. Variable mains selector plug 105-245 volts 40/60 cycles AC only. Size: 23" x 13" x 12". Weight: 40 lbs. PRICE £69.50 Carr.75p

> Sound City P.A.60 Column Speakers.

Cat. No. 8311

4 x 10" speakers each rated at 15 watts allows each column to give a continuous total rating of 60 watts R.M.S. Each column has the low acoustic feedback properties. The recommended amplifier for use with each pair of columns is the SOUND CITY P.A.50 Plus unit. The total outfit is very compact and makes transportation easy. Supplied with extension lead and waterproof cover. Size: 48" x 20" x 111/2". Weight: 65 lbs.ea. PRICE £89.50 pair. Carr.£1.50

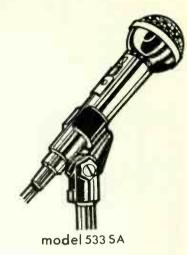


ALL OTHER 'SOUND CITY' PRODUCTS AVAILABLE AS REQUIRED

# **SHURE Microphones**







#### UNIDIRECTIONAL DYNAMIC

#### MODELS 55S 55SW

UNIDYNE H Equipped with a multi-impedance switch, furnishing a choice of three impedances: L-35-50 ohms, M-150-250 ohms. H-35,000 ohms. Ultra-Cardioid. Response at rear down 15dB from front.

MODEL 55S £32.40 MODEL 55SW (with switch) £33.00

#### UNISPHERE I MODELS 565: 565S: 565SD

Unisphere I microphones have a strong, built-in wire mesh spherical front containing a filter designed to give excellent protection from wind and 'pop' (explosive breath sounds). Model 565 is suitable for hand and stand use (swivel adaptor supplied). Model 565S includes an on/off switch in swivel base while Model 565SD incorporates an on/off switch in the body of the microphone and also features a Cannon-type connector. All three are dual-impedance microphones.

£37.80 MODEL 565 MODEL 5655 £39.00 MODEL 565SD £39.00

#### MODELS 588SA: 588SB

**UNISPHERE B** 

Unisphere B microphones feature a natural lifelike reproduction of music and voice and are ideal for use with good quality sound systems and tape recorders. They have a true unidirectional characteristic and are provided with a very effec-tive filter to reduce pick-up of wind and 'pop' noise.

MODEL 588SA (High impedance) £24.00 MODEL 588SB (Low impedance) £22.80

#### MODELS 545: 545S: 545SD

UNIDYNE III

Approach the theoretical ideal of the cardioid pick-up pattern giving completely uniform pick-up about the axis at all frequencies, in all planes. Dual impedance; choice of 50-250 ohms or high. Model 545S incorporates switch in swivel base: Model 545SD incorporates switch in body of microphone and also has Cannon-type connector.

MODEL 545 £33.00 MODEL 545S £34.80 MODEL 545SD £34.80

#### MODELS 515SA: 515SB

#### UNIDYNE B

The Unidyne B Series offers the advantages of cardioid performance at a price previously associated only with omni-directional microphones. Sturdy die-cast case, smooth shaped response. shockproof mounted dynamic cartridge, On/Off switch with locking plate.

MODEL 515SA (High impedance) £16.80 MODEL 515SB (Low impedance) £16.20

MODELS 548: 548S: 548SD UNIDYNE IV The premier models in the Unidyne range and the most sturdy microphones ever made. Particularly suitable for use in high quality sound systems. Model 548 for hand or stand use (swivel adaptor supplied). Model 548S incorporates an on-off switch in its permanent swivel-base, while Model 548SD has on-off switch in the body of the microphone. All models have Cannon-type connectors and are dual impedance.

MODEL 548 £39.00 MODEL 548S £40.80 MODEL 548SD £40.80

#### OMNI-DIRECTIONAL DYNAMIC

#### MODELS 533SA: 533SF

SPHER-O-DYNE

These microphones provide wide range reproduction of music and voice and are highly suited to lowcost public address, theatre-stage sound systems and tape recording applications.

the Model 579SB the ideal microphone for intimate

MODEL 533SA (High impedance) £19.80 MODEL 533SF (Low impedance) £11.40

#### MODEL 579SB

**VOCAL SPHERE** Peak-free, linear, wide-range response and a uniform omnidirectional pick-up pattern makes

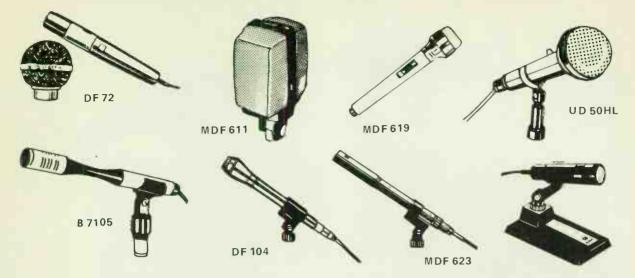
close talking situations. Incorporates built-in wind and 'pop' filter. Low impedance.

#### MODEL 579SB £25.80

PRICES ARE CORRECT AT TIME OF PRESS - REFER TO HI-FI STOCK LIST, Ref. 16/17 PUBLISHED QUARTERLY, FOR LATEST PRICES

22

# **Recommended TTC Foster Microphones**



DF72BC Ideal for PA and Recording A well styled stick mic incorporating an ON/OFF switch precision engineered for smooth accep-tance of heavy duty windshield provided. Dual impedance of 50 k ohm and 600 ohm. Frequency response: 80-12,000 Hz with non-directional characteristics. Overall dimension: 7% with 2%" round windshield when in place. Black and Silver finish. With lead, stand fixing bracket and re-movable wire meshed screen. Price £5.75

MDF 6118C Cardioid Studio Microphone This is another model answering the exacting demands of professional, studio and high fidelity users intended for fitting onto the widest possible variety of stands and booms. Strong 'cage' sur-round to cardioid patterned insert with similar easy-change facility for high (50K ohm) and low (600 ohm) impedance. ON/OFF switch: 180° angle fixing bracket. Provided with carrying wallet and extra-long lead. Response: 100-10,000 Hz Sensitivity: -76d8 600 ohms -58d8 50K ohms PRICE £11.98

#### MDF 619 BC Cardioid Stick Microphone

MDF 619 BC Cardioid Stick Microphone A superby constructed microphone for profes-sional requirements. Built-in mesh protective windshield: ON/OFF switch; ready-wired con-nections for 50 K ohms or 600 ohms. Satinised send grey and polished metal finish. Leather cerrying wellet with zip sealing. Extra long 16 heavy duty lead with top quality screened stan-derd jack plug. The appearance and performance of this mudel places it amongst the elite. Response: 200–10,000 Hz Sensitivity: -76 d8 600 ohm -58 d8 50K PRICE £9.98

87105 \* Now available at an unbelievable price similar to ordinary good quartly dynamic models, this neatly styled condenser microphone in a diecast alum-inium finished satin-silver and black, houses its 15V battery within the microphone body. Fre-quency response is from 20 to 18,000 Hz with a sensitivity of -704b. Current drain is. BmA with a slide On/Off switch. Model 8.7105 has cardioid characteristics and is supplied with a removable "Busby' type windshield and over 19' of a par-ticularly supple lead already fitted with a jack plug. 600 chms impedance. Sensitivity -72d8 Strong 'U bracket and stem. PRICE £12.50

#### DF 104

DF 104 This dual impedance Microphone has the addit-ional feature of an On/Off switch and also a removable wind-screen of the "Busby" dip-on type to match the appearance and lines of this par-ticular Microphone styling. Frequency response is from 80 to 12,000Hz plus 200-60b and this model has a sensitivity of -76db at 600 ohms and -58db at 50kohms. Dimensions are 6%" long x 1.1° in diameter. Microphones supplied with with winscreen and Microphone holder and as with all Foster models is dynamic. 9° lead already fast' storage case. PRICE £10.50

MDF623 This dual impedance model incorporates the the highly convenient changeover by a simple rotation of the plug and socket connection. The Microphone itself has a frequency response from 200 to 10,000Hz within 6db, and a sensitivity of -82db, at 600 ohms and -63db at 50 kohms. The diaphragm is stylishly protected within a pill box housing and is extremely elegant in its new style finish. The pick-up pattern of this particular model is unidirectional cardioid and this model comes with a Microphone holder and neck cord. 6%" long x %" diameter. S' lead. Supplied in durable case. PRICE £7.50

#### B 1426

B 1426 A 60" high adjustable two-section stem with various Microphone adapters. By means of a quick 'snare drum' locking system the 12" tripod legs can be easily collapsed for transit but are perfectly firm when erected. They are fitted with stout non-slip rubber ferrules. A particularly well-made, strong yet easily portable Microphone floor stand, chrome stem with black moulding; height adjustment and other black fittings. PERCE £4 50 no 400 PRICE £4 50 np.40p

B1415 Intended mainly for use with stand B1426 this matching Boom is 33" long and weighs 2 lb. Finish is in chrome with black cast brackets adjustable for stem fitting, angle of boom arm, and U' bracket to receive wide range of micro-phones. PRICE 23.15 post 30p

#### B1411

B1411 A genuinely heavy duty microphone stand with sophisticated refinements such as easy-grip stem locking device, selection of three coupling screw terminations, microphone cord retaining clip and satin silver-grey sprayed finish. This is a strong two section stand extending to 63" (closed: 35") with extremely heavy steel screw-in tripod legs fitted with rubber ferrules. Stem and legs are contained in a single pack. PRICE £6.30 post 60p

B 1416 Intended for operated with model B.1411 stand, this colour matching boom is 32" long and angle adjustable through 190° with easy-grip boom travel locking and positive wrench type angle adjustment. Screw type coupling to boom end for acceptance of virtually all microphones. PRICE £3.98 post 30p.

#### SE.37

SF.37 This is a most unusual and attractive deskstand consists of elegantly styled 3" tripod legs with rubber protective feet, fitting on to a beautifully shaped metal centre 2" high designed to accept most microphone adaptors and holders. practically all models for instant securing. PRICE £1.96 post 16p

UD.50 HL Uni-directional Oual Impedance Mic Reproduces true-sound completely eliminating unwanted pick-up from sides or rear due to a sensitive uni-directional pick-up pattern. Spher-ical wire mesh screen, on/off switch, 20 ft detachable cable with plug. Dual Impedance: 600 ohm Low, 50K ohm high. Response: 100 12,000 cps. Ourput: -52 db. PR\*CE £6.99

DFIX

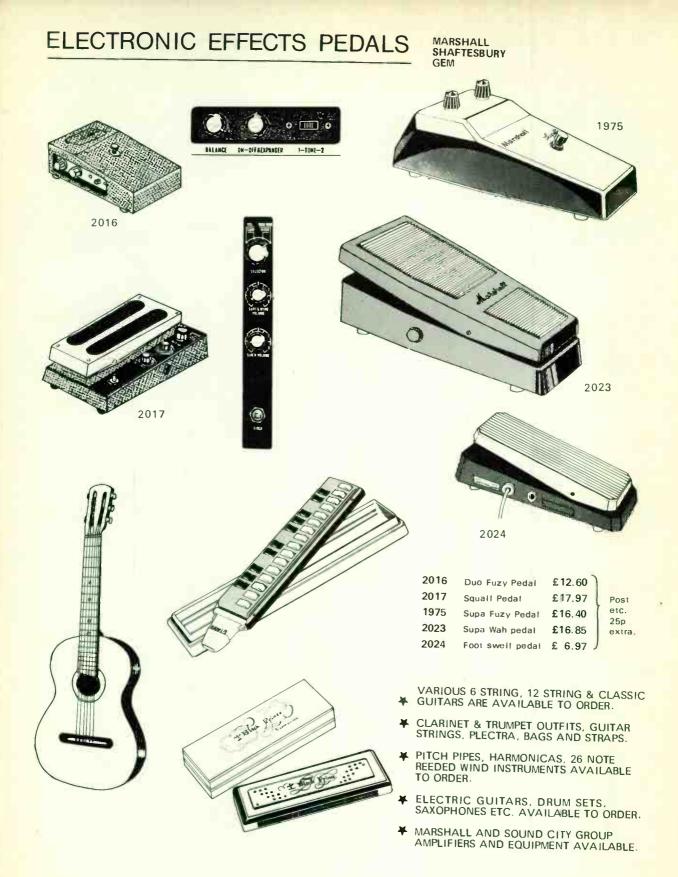
B 1416



B.1426

B 1415





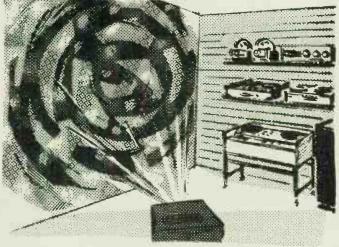
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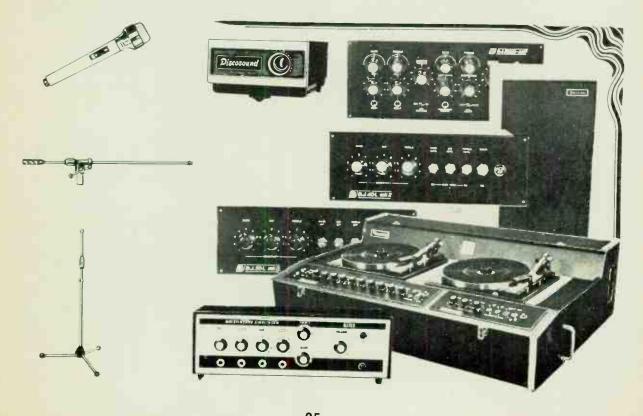
VISIT "HENRY'S" DISCO SOUND AND LIGHTING CENTRE AT 309 EDGWARE RD., LONDON W.2. CALL IN AND SEE FOR YOURSELF. WRITE OR TELEPHONE (01-723-6963) IF YOU CAN'T MAKE IT IN

# DISCOTHEQUE AND P.A. EQUIPMENT

Complete range of equipment and accessories in stock, including effects projectors from £22.50, anti-feedback and various microphones, speakers, turntables, psychedelic light control, spotlamps and fittings, mixers, stands, dimmers, strobes, amplifiers, cabinets - all your requirements. (CREDIT TERMS FOR CALLERS).

HENRY'S SUPPLY ALL YOUR AUDIO-ELECTRONIC NEEDS! MORE OF EVERYTHING AT LOW PRICES ALWAYS FROM HENRY'S







#### SPOT BANK

3-Swivel spot light holders on portable metal chassis. Particularly for use with soundlight equipment, i.e. DJ30L & 40L (see page 43).

PRICE £12.75 post 40p

UK'S LARGEST STOCKIST OF EFFECTS LIGHTING ALL TYPES OF EQUIPMENT LAMPS & FITTINGS IN STOCK YOUR ENQUIRIES INVITED

#### **Ultra Violet Lamps**

#### "ATMOSPHERE" LAMPS

Available with E.S. or normal BC (bayonet) end cap; these "black light" lamps plug directly into the mains.

Especially useful with mobile discos playing small venues and in laboratories as a convenient light source.

With the addition of a reflector they can be used for illuminating 'black light' posters. Please state E.S. or BC CAP

PRICE £9.00 pp.20p

#### ST777 Colour Wheel

This 12v 50 watt 4 colour 'rotating' spot contains a transformer and synchronous motor. It is suitable for domestic, window display and club lighting; as well as being suitable for mobile disco use.

These 'wheels' have been chosen as the most compact, solidly built units available to us.

 ST777 Colour Wheel £16.50 pp.30p

 Spare bulbs
 95p pp.15p

#### KALEIDOSCOPIC or 'K' LENS

For use with 'Tutor-2' Projectors for Kaleidoscopic effects. Particularly spectacular when used with 6" liquid wheels.

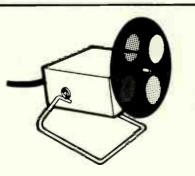
**PRICE £18.00** 



#### Industrial 125 Watt ULTRA VIOLET SPOT

This high-power UV Spot kit consists of an industrial UV spot, a 9" parabolic reflector, which can be used to focus the beam, and a limiting ballast which must be connected in series with the lamp.

PRICE £13.00 pp.35p



#### CASSETTES

A WIDE RANGE OF MOIRE CASSETTES AND A LIQUID CASSETTE ARE AVAILABLE (Order by line and number).

PRICE £12 each

#### 6" Liquid Wheels or Discs

(As illustrated on facing page) These wheels are constructed as a sandwich of three glass plates to form two separate cells. These are filled with multicoloured liquids which do not dry up. When the wheel is rotated the liquids flow to produce an unending variety of beautiful patterns and colours.

PRICE £7.50 pp.20p

A**lso available.** Polarised discs of all types.

#### B.C. Flasher

This unit fits into a standard 'BC' bayonet mains holder and converts it into a flasher for any, 100 watt maximum, filiament lamp.

PRICE 0.65p pp.15p

#### **Block Flasher**

Similar to the B.C. Flasher, but for building into 'units'.

PRICE 0.45p pp.15p

#### Syncronous Motors

A selection of syncronous motors are available for personal callers to our Lighting centre; but as the range varies continuously they have not been catalogued.

#### Honeywell Programmer

A bank of 15 micro-switches are each independently operated by 15 pairs of cams which in turn are individually adjustable to give switching periods of zero to 12 seconds with infinitely variable combinations. A mains synchronous motor drives the cam shaft at 1 rev. per 12 seconds (5 R.P.M.). Originally cost £15.00 plus. Many applications such as lighting effects etc. New in original makers cartons. First class value at £5.75 plus 25p pp.

#### Spare projector bulbs post 15p

50 watt QI	2.25
150 watt QI	2.50
250 watt QI	3.50
150 watt Mains Lamp	1.30

#### **EFFECTS LIGHTING**

We are pleased to introduce our new range of effects lighting equipment. During the last 18 months we have found much interest created by the effects projectors, light modulators and other lighting equipment which has been sold ancillary to our Discotheque and Public Address equipment; and to accommodate this interest we have increased our range of lighting equipment substantially.

Our 309 branch now has full demonstrating facilities for our effects lighting equipment and accessories.

We intend not only to cater for dance halls, mobile and static discotheques, clubs and restaurants etc., but also the home constructor who wishes to build his own light displays.

We would be pleased to recommend suitable systems. and if it is only possible to contact us by post please include in your letter a sketch plan of the area to be lit, so that we may ascertain your requirements.

#### DISCO IMP PROJECTOR

This 150 watt (mains lamp) liquid wheel projector is sold with a carrying case, and complete with one 6" Liquid wheel.

£22.50 post 50p

#### LIQUIMATIC MINI PROJECTOR

A 50 watt QI (Quartz lodine) liquid wheel projector, complete with one 6" liquid wheel. This unit is one of the most reliable projectors available, and is recommended especially for use in small discotheques, pubs and restaurants etc, where it can be left on a shelf and left unattended. £32.50 post 50p

#### **DISCO WHEEL PROJECTOR**

The smallest cassette projector available from us at present. This 50 watt QI projector is highly recommended for the smaller portable discotheque, club, pub etc. The totally enclosed effects are easily interchangable. This unit is supplied with a liquid cassette.



#### **GNOME 150 PROJECTOR**

This 150 watt QI projector takes all the standard cassette effects wheels. It is especially suitable for portable discotheque use, in all but the largest halls. Supplied normally with a liquid cassette.

£55.00 post50p

#### LIQUIMATIC 150 PROJECTOR

This 150 Watt QI projector, which is built on the same chassis as the Gnome 150, takes the standard 6" liquid wheel, one of which is supplied. These projectors have really efficient fan cooling systems, fine focussing and are extremely reliable.

£50.00 post 50p

#### **TUTOR 2 PROJECTOR**

The Tutor 2 projector is the most powerful portable effects projector normally used for effects lighting. Fitted with 250 watt Quartz lodine lamp. There are many attachments for this projector, and more will be available in the future.

Especially recommended for use in large halls - for outdoor use and for "Group" use. Its exceptional power and optical efficiency allow it to be used, at close range, in conditions of high ambient lighting. Tutor 2 (Cassette)

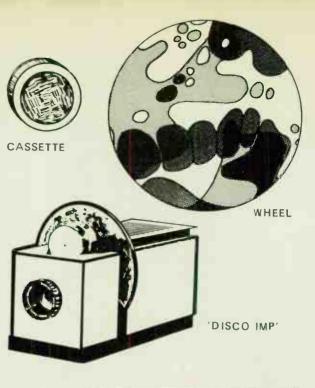
Available with liquid or graphics cassette as required. £82.50 post 65p **Pluto Tutor 2** 

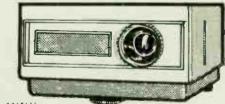
Supplied with 6" liquid wheel and liquid or or graphic cassette all easily interchangeable. £90.00 post 65p

#### TUTOR 2 LIQUISPLODE TANK

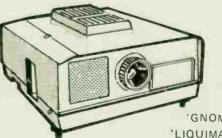
The liquisplode tank is a device which contains coloured oils, which appear to 'explode' at fast irregular intervals If used in discotheques this effect appears to be coupled to the music. This effect is enhanced when used with a 'k' lens.

£95.00 post 65p



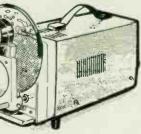


'LIQUIMATIC MINI' 'DISCO WHEEL'



'GNOME 150' 'LIQUIMATIC 150'





World Radio History

27

#### 'CROFON' LIGHT GUIDES

The function of CROFON light guides is to transmit light from one point to another, just as copper wire transmits electrical energy.

CROFON light guides consist of a number of 10-mil-diameter plastic fibres, bundled randomly in a common jacket. Each fibre has a core of polymethyl methacrylate sheathed with a transparent polymer of lower refractive index. The jacket is made of Du Pont ALATHON\* polyethylene resin.

A basic principle of fibre optics is that light travels in a zigzag path through the transparent core of each fibre by internal reflections from the sheathing medium. The amount of light transmitted is a function of the number of fibres in each bundle. CROFON light guides contain 16, 32, 48, or 64 such light-carrying fibres. In addition to the number of fibres, the amount of light transmitted also depends on the intensity of the light source.

In a broad sense, CROFON light guides can be used in any application where there is a need to carry light from one point to another. The economy and versatility of the light guides and optical fibre make possible exciting new design opportunities in a broad spectrum of industrial applications for such functions as sensing, signalling, controlling and styling as well as basic illumination.

CROFON light guides can be used in two broad areas of application. In remote illumination applications, such as instrument panels, dials and controls, multiple locations can be illuminated by a single light source. Light can be carried around bends and tight angles without resorting to lenses, prisms or other optical devices. CROFON light guides also permit confining lighting to very small areas. In remote monitoring, CROFON light guides permit detection of the status of light sources or the position of objects such as remote optical counting of items on a conveyor. CROFON light guides are easily combined with electronic devices such as solid-state light sources and photodetectors to make reliable and compact systems for the computer, electronics, and aerospace industries.

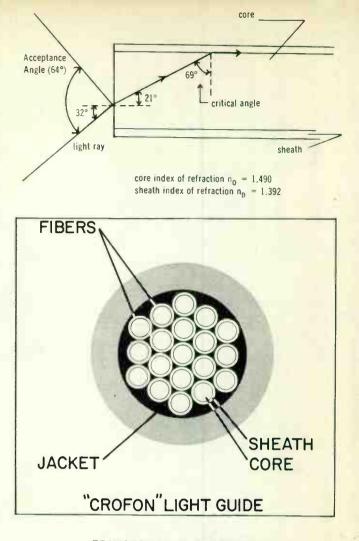
#### CUTTING

CROFON light guides may simply be cut to length to provide a light conductor suitable for many applications. A sharp razor blade, a guillotine-type cutter, and a rotary knife have been used successfully. Properly cut ends typically give 70-80% of the light transmission of well-polished ends.

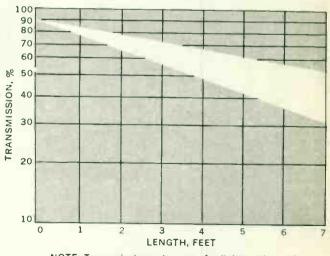
#### POLISHING

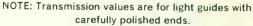
Where designs require better light transmission than can be obtained with cut ends, the ends may be polished either with abrasives or by the use of a special lacquer.

- TYPE 1610 64 FIBRES SHEATHED 0.13" diam. PRICE £1.00 per yard (Post 15p per 1-10 yds, 20p up to 25 yds)
- TYPE 0010 MONO FILAMENT 0.001" diam. PRICE £1.50 per 25 metre reel. (Post 15p per 1 to 3 reels).

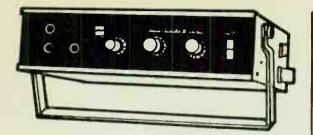


#### TRANSMISSION OF WHITE LIGHT THROUGH "CROFON" LIGHT GUIDES





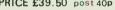
#### MOBILE PUBLIC ADDRESS AMPLIFIERS (Also see Page 32)



#### NT.300 20/30 WATT MOBILE TRANSISTORISED AMPLIFIER

Beautifully styled, this new Unipex high quality amplifier is intended for operation from a car battery or similar power supplying 10-16V and can be fad with player decks, tape recorders, microphone, and radio tuners. The shielded speaker output socket and lead allows for impedance selection 4, 8, 16 ohms. The 7 transistor printed circuit includes a diode safety device in case of misuse, a 3 amp fuse, individual volume controls for microphone and audio inputs. The robust grey and black metal case incorporates a removable stand which doubles as a carrying handle, tone control, pilot light. Supplied with additional brackets for car-fitting, screws, leads and instruction booklets.

Circuit:	7 transistor, 1 diode
Power Output:	20 watts (rated) 30 watts (max)
Frequency:	150-7000 Hz
Output Impedance	: 4, 8 & 16 ohm
Power:	10-16V. DC.
Consumption:	Below 3A
Inputs:	Microphone, phono, radio/tape
Control s:	Mic.volume; Aux.vol: tone control;
	On-Off switch pilot lamp
Dimensions:	10 x 7¼ x 2½ ins.
Weight:	6 lbs.
	PRICE £39.50 post 40p



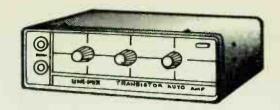


#### B.2004 DE LUXE

#### DE LUXE STEREO/MONO MICROPHONE MIXER

This smartly presented Mixer is finished in beige, crackle and features new type black metal capped knobs which are used for the individual gain adjustment of each Input socket. The two slide switches are for mono/stereo function and power On-Off. Neat jack type input sockets are rear located together with phono type output sockets; rubber feet have been fitted for furniture protection. Supplied complete with operation instructions.

Input Impedance:	100K ohms (suitable for Crystal Mics.etc)
Max. Input signal:	
Max.Output signal:	
Hum Level:	Negligible
Gain:	App.3db
Dimension:	6 x 2¾ x 2 ins.
	PRICE £4.25 post 15p

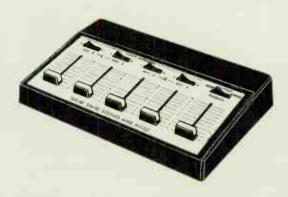


#### NT.200 14/20 WATT MOBILE TRANSISTORISED AMPLIFIER

This more modest Unipex amplifier has a black and silver etched fascia with individual volume controls for the two front located microphone input sockets, and a unique On-Off tone control with press action. The six transistor – 1 diode printed circuit is built in to a compact case proof against vehicle vibration. Auxiliary and tape inputs are rear located as is the variable (4/8/16 ohms) loudspeaker socket. Supplied with dashbard mounting brackets, fused lead.

Circuit:	6 transistor, 1 diode			
Power Output:	14 watts (rated) 20 watts (max)			
Frequency:	200-8000 Hz			
Output Impedance	e:4,8 & 16 ohm			
Power:	12V DC			
Consumption:	2.2A			
Inputs:	2 microphone, auxiliary, tape			
Controls:	Mic. 1 volume; Mic. 2 volume;			
	Tone/On-Off; pilot lamp			
Dimensions:	7 x 6¾ x 2 ins			
Weight:	4 lbs.			
-	DDIOE DOD ED			

PRICE £29.50 post 30p



#### B.2006 6-CHANNEL STEREO MIXER AND PREAMPLIFIER

Up to 6 input channels enabling multiple combinations of high or low impedance microphones, varying output cartridges and other signal sources to be controlled by studio type slide controls. The functionally styled cabinet in black and silver minimises hum and houses a complex low noise silicon transistorised circuit with individual gain control on each input channel, except for the special R.I.A. A. 50Kohms socket which is stereo ganged. Rear sockets are phono type for output and phono input, and jack type for the 4 microphone inputs; On/Off switch. High/low impedance switching on control panel. Internal 2 x PP3 type batteries. Current consumption: 2.7mA. Size: 9¼ x 7½ x 2 ins. Weight: 3¼ lbs.

PRICE £17.75 post 20p



#### D202 ES 200 $\Omega$ Impedance

This microphone is extensively used for TV broadcasting, sound recording, and is also a favourite with many film recordists. Its response is similar to that of a condenser mike, the body containing 2 capsules, one for bass, one for treble and a specially designed crossover. **PRICE £36.00** 

#### D1000E Hi 50k Cardiod

This Hi-Impedence performer mike is designed especially for musicians and singers. It is supplied in the 'E' version with a cannon connector. Built in tone control caters for every type of voice or instrument. Supplied with clip on windshield for 'pop' use. **PRICE £34.00** 

#### D190 E Cardiod

Available Hi or Low Impedance. A cardiod anti-feedback mike. Designed for sound reinforcement system, sound recording. Also for professional applications – reporting, conference and music. Supplied in 'E' version with cannon connector. 50K Hi £20.25 60 or 200 ohm Low £19.50

# D58 Anti Noise Microphone and MSH58 gooseneck

200 or 600 ohm Impedance.

This close talk anti noise microphone and gooseneck is specially designed for paging systems in noisy environments – airports, athletic stadiums and for public address use at mass meetings. Also for discotheque use. **PRICE £17.20** 

#### D707E Cardiod

Available Hi or Low Impedance. Cardiod Cardiod anti-feedback mike designed for musicians (both instrumentalists and vocalists) and for sound reinforcement systems. This sturdy, sensitive mike is supplied in the 'E' version, with a cannon connector. 50k Hi-Impedance £17.50 60 or 200 ohm Low-Impedance £16.75

POST 15p PER MICROPHONE

Prices are correct at the time of going to press, check with latest Stock List, ref. 16/17, published quarterly.

#### AKG MICROPHONES

#### D109 LAVALIER MIKE

A low impedance mike for studio and film use, with cord and clip and 15 feet attached cable, 200 or 60 ohm. This mike has a specially tapered response for lavalier work. PRICE £13.00

#### D7DHL OMNI-DIRECTIONAL

RECORDING MIKE with desk stand clip. A general purpose tape recording mike. Dual Imp. Hi/200 ohm.

Especially suitable for use with cassette recorders. PRICE £3.95

COMPLETE RANGE OF AKG ACCESSORIES AND HEADPHONES AVAILABLE YOUR ENQUIRIES INVITED.

#### HENRY'S DISCO PERFORMER MIC.

This microphone is specially made for us, by one of Europe's largest microphone manufactures.

It is one of the most efficient anti-feedback microphone available from us at present, having an extremely good cardiod response.

This response is coupled with high sensitivity and output. Recommended both as a recording and a P.A. Mic., this unit contains a similar capsule to microphones of double its cost. Fitted lead and standard jack plug.

We are interested in trade enquiries for this microphone, which is always on demonstration at our PA/DISCO shop.

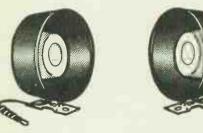
**PRICE £11.50** 



# **COMPLETE PUBLIC ADDRESS SYSTEMS**

SUGGESTED COMBINATIONS SELECTED FROM THE LARGE RANGE OF PA EQUIPMENT NOW AVAIL-ABLE FROM HENRY'S. IF THESE SYSTEMS DO NOT MEET YOUR REQUIREMENTS THEN SELECT FROM THE EQUIPMENT AVAILABLE OR CONTACT OUR PA DEPT FOR A SUGGESTED SYSTEM OR TO YOUR REQUIREMENTS.





#### EPA2

Complete system comprising Control Unit, 4 Tannoy loud hailers, microphone and headphones. etc., 12V DC operation. Low battery drain. 8 watts power output. The ideal system for mobile use, outdoor meetings, sports days, factories, garden fetes, etc. Speakers can be spaced effectively over hundreds of yards. Also has talk back facility. Guaranteed Brand New in sealed cartons. Original cost over £60.

PRICE £17.50 carr 90p

#### EPA1

10 watt 12 volt mobile system. NT100 amplifier, two K2109 5 watt round horn speakers. DF508 microphone with switch and mounting bracket. For any mobile use. Also input for radio or tape recorder.

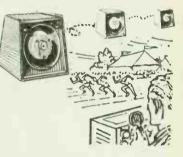
#### FPA1A

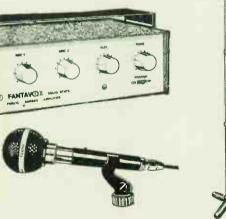
PRICE £24.00 carr 50p

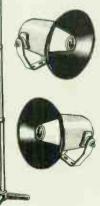
As EPA1 but with two K2104 10 watt round horn speakers for added sensitivity.

PRICE £29.00 carr 65p





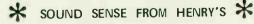




#### EPA3

20 watt system operating from 12 volt car type battery or AC mains. Comprises PA2000 (TPA30) amplifier, DF72 microphone with detachable wind shield, pair of HDB8 (SC10F)20 watt rectangular horn speakers. B1043B microphone heavy duty adjustable stand.

PRICE £48.00 carr 90p



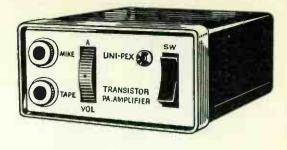
#### MOBILE AND BATTERY-MAINS PA AMPLIFIERS

#### NT. 100 12V PUBLIC ADDRESS

A most compact PA amplifier designed to be fitted under car dashes, on boats, caravans, etc. Input facilities include tape, microphone, whilst the 10 watts output is switchable to 4,8 and 16 ohms impedance. Fully transistorised printed circuit, isolated earth, fused, etc. Supplied with mounting brackets, screws, instruction booklet.

Circuit: 4 transistor, 1 diode. Power Output: 10 watts (rated), 15 watts max. (U.S.). Frequency: 250-7,000 Hz. Output Impedances: 4, 8 and 16 ohms. Power: 10-16V d.c. Inputs: Mic, Magnetic and Crystal Tape. Radio or Tape Output. Controls: Volume; ON/OFF switch. Lamp. Dimensions:  $4^{\prime\prime} \times 2^{\prime\prime} \times 5^{\prime\prime}$ . Weight:  $1\frac{1}{2}$  Ibs.

#### PRICE £15.00 Carr.32p





#### PUBLIC ADDRESS MAINS/BATTERY Model PA2000/TPA30

This all-transistor amplifier operates from a.c. mains or 12 V d.c. sources (negative or positive earth). It is compactly styled in grey and gold and is presented complete with removable chrome mounting bracket. Inputs can take 2 microphones, 1 music and auxiliary positions, whilst output is designed for 4, 8, 16 ohm, 25 V and 70V line systems. Inputs have separate controls on the front.

Circuit: 6 transistor printed circuit. Power Output: 20 watts (music). 10 watts RMS. Frequency: 200–10,000 Hz. Output Imp edance: 4, 8, 16 ohms, 25 and 70V line, Signal-to-Noise Ratio: Better than 50 dB. Power: 230–250 V a.c. and 12 V d.c. (switched). Inputs: Mic. 1–2 mV 600 ohms, 2–2 mV 50 K ohms, Aux. 200 mV; Music 200 mV. Controls: Mic. 1 Volume: Mic. 2 Volume; Aux. and Music Volume; Tone; Power ON/OFF, Lamp. Dimensions: 91/2" x 7/4" x 3/4". Weight: 7/4 lbs.

PRICE £24.00 Carr. 40p



#### TPA.40 MAINS/MOBILE PA AMPLIFIER

Latest transistor techniques give one of the best output to size ratios in PA. Operates on 240 V a.c. or 12 V d.c. for mobile with 40 watts power output. Full input mixing for two mikes and aux/phono, with master tone control. Excellent performance quality and long-life reliability.

Output Power: 40 watts peak. Frequency Range: 50-18,000 Hz. Inputs: Mic 1, 2mV at 50,000 ohms; Mic 2, 2mV at 600 ohms. Aux/Phono: 300mV at 50,000 ohms. Signal-to-Noise Ratio: Better than 50 dB. Output Impedance: 4, 8 and 16 ohms. 25 and 100V line output. Operating Voltage: 220-250 V a.c. or 12 V d.c. Dimensions:  $241 \times 102 \times 190$  mm.

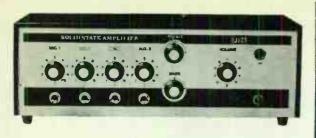
PRICE £35.00 Carr. 50p



#### DF50B MICROPHONE

Of particular interest for public mobile address and communications application (radio hams, cab call, air to ground, etc.), this rugged moulded model is hand shaped and fitted with a spring-pressured ON/OFF switch. Provided with this model is a screw-on bracket for accepting the built-in boss on the rear of the microphone which also has over 4' of self-coiling cable. Frequency Response: 200-8,000 Hz 50 k ohms.

PRICE £3.75 Carr.15p



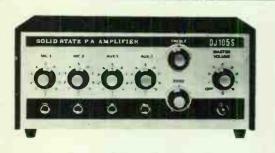
#### D.J.70S INTEGRATED MIXER-AMPLIFIER

The D.J.70S is an integrated mixer amplifier which is in every respect one of the finest units available on the market today, regardless of price. The front end of the unit consists of a four-channel mixer with separate inputs and volume controls, plus a separate bass, treble and master volume control. One of the main features of this remarkable ampfifier is its elaborate protection against shock and open circuit and we can guarantee that it is virtually indestructable. Allied to this is its very high power output, a frequency response that is superb, and distortion that is well below 1% even at full output. The unit is suitable for use with discotheques, groups, P.A. clubs, etc., or anywhere that high quality high output is required.

#### SPECIFICATION

SPECIFICATION Power Output: 70 watts RMS  $\pm 1$  db at 8 ohms. Frequency Response: 30-20,000 Hz  $\pm 3$  db. Signal-to-Noise Ratio: Better than -65 db. Harmonic Distortion: Less than 1% at full output. Speaker Impedance: 8-16 ohms. Inputs: Mic I and 2: 8m Va t 50k ohms; Aux 3 and 4: 100w at 1M ohm. 60- or 600-ohm Mic Inputs can be ordered at extra cost to special order. Bass: Continuously variable 20 db at 100 Hz. Treble: Continuously variable 20 db at 10 kHz. Fuse: A.C. 1-5 amps (British Standard). Size:  $15\frac{1}{3}m \times 5m \times 6m$ .

PRICE £53.50 Carr. 50p



#### D.J. 105S 30 WATT P.A. AMPLIFIER

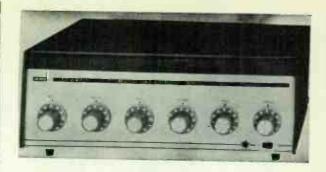
Specifically designed to meet the demand for a high-quality unit capable of sustaining high output levels without fear of break-downs. The unit features all-silicon transistors throughout, of modular construction with short, open and thermal overload protection for added reliability. Four channel mixing facilities each with separate inputs and volume controls, make this amplifier suitable for use in clubs, factories, discotheques, etc.

Styled with a silver and black front panel and is housed in attractive metal cabinet covered in black vinyl.

#### SPECIFICATION

Power Output: 30 watts RMS ± 1 db at 8 ohms . Frequency Response: 20-20,000 Hz ± 3 db. Harmonic Distortion: less than 1% at 25 watts RMS. Signal-to-Noise Ratio: Better than -65 db. Speaker Impedance: 8-16 ohms. Inputs: Mic 1 and 2: 8mV at 50k ohms; Aux 3 and 4: 100mV at 1M ohm 50- or 60-ohm Mic Inputs available at extra cost. Bass Control: Variable 20 db at 100 Hz. Size: 1134" x 5" x 6". Fuses: A.C. 1.5A (B.S.); D.C. 1A (B.S.). Speaker Short Fuse: 2A (B.S.).

PRICE £33.50 Carr. 50p



#### PA.3500/PA.539 PA AMPLIFIER

A new updated version of this best-selling PA amplifier, now with 50 watts output on 240V a.c. mains. Two microphone inputs and one tape or radio input, each with individual gain control. Separate bass, treble, and volume controls, Very popular for schools, clubs, restaurants, amusement arcades, and the like. First-class value.

Output Power: 50 watts peak. Frequency Range: 30-15,000 Hz. Inputs: Mic 1, 3 mV at 50,000 ohms : Mic 2 3 mV at 50,000 ohms, Aux./Phono 300 mV. Signal to Noise: Better than 50 dB. Output Impedance: 8, 16, 250 ohms and 100V line. Dimensions: 320 x 216 x 254. PRICE £32.50 Carr. etc. 50p

#### NEW!! PA539N

NEW VALVE/TRANSISTOR DESIGN, SAME DETAILS AND SPECIFICATION. PRICE £34.75 Carr. etc. 50p



#### TPA.80 PA AMPLIFIER

Power for all purposes! Magnificent 80-watts output gives utmost clarity at all levels -- indoors, outdoors, discotheques, church fetes, jazz festivals. Independent mixing controls for two mic rophones and aux/phone inputs allow for any combination, undisturbed by adjustment of master volume, bass, treble. Fully trans storised for reliability.

Output Power: 80 watts peak. Frequency Range: 50-20,000 Hz. Inputs: Mic 1, 2 mV at 50,000 ohms. Mic 2. 2 mV at 50,000 ohms. Aux/Phono: 300 mV at 50,000 ohms. Signal-to-Noise Ratio: Better than 50 dB. Output Impedance: 4,8 and 16 ohms. 25 and 100 V line output. Operating Voltage: 220-250V a.c. Dimensions: 368 x 114 x 304 mm.

PRICE £54.00 Carr. etc. 50p

SEE PAGE 3 FOR POST AND PACKING CHARGES

#### \* PUBLIC ADDRESS MEGAPHONES, COLUMNS, TRANSFORMERS \*

CS.15

C\$.30



The CS.15 incorporates three dual cone 204 x 128" speakers and CS.30 no fewer than six. When used above head height, taper is reversed, ensuring directional sound for best presentation. Harmonise with dignified architecture as in churches, schools, conference halls, etc.

#### CS.15

POWER HANDLING: 30 watts peak. FREQUENCY RANGE: 60-12,000 Hz. IMPEDANCE: 8 ohms. NUMBER OF SPEAKERS: 3 DIMENSIONS: 760 × 200 × 150 tapering to 115 mm.

#### CS.30

POWER HANDLING: 60 watts peak. FREQUENCY RANGE: 60-12,000 Hz. IMPEDANCE: 8 ohms. NUMBER OF SPEAKERS: 6 DIMENSIONS: 12,000 × 240 × 180 tapering to 140 mm

CS.15	PRICE	£18.50	Carr.50p
CS.30	PRICE	£22.50	Carr.70p

#### MT.10E/MT.15/MT.20 100 Volt Line Matching Transformers A range of 100 volt line matching

transformers with secondarys tapped 4 and 8 ohms, primarys as follows:

#### MT. 10E

CONTINUOUS RATING (Watts): 10 TAPS (Watts): 0.625, 1.25, 2.5, 5 and 10 SLOTTED FIXING CENTRES 60 mm. PRICE £1.10

#### MT.15

CONTINUOUS RATING (Watts): 15 TAPS (Watts): 1.25, 2.5, 5, 10 and 15 SLOTTED FIXING CENTRES: 62 mm. PRICE £1.20

#### MT 20

CONTINUOUS RATING (Matts): 20 TAPS (Watts): 2.5, 5, 10, 15 and 20 SLOTTED FIXING CENTRES: 68 mm. PRICE £1.40

MV.3 **3 Watt Megaphone** A low cost efficient megaphone ideal for those applications where high power is not required. Gymnasiums or small playing fields for example. A low battery consumption gives long life from 4 standard HP.2 cells.

OUTPUT POWER: 3 watts peak. VOICE RANGE: 160 x 180 metres. DIMENSIONS: 330 x 220 mm. WEIGHT: 1.6 Kg.

PRICE £11.95 Carr.40p

#### MV.8S (TR10mA)

#### **10 Watt Siren Megaphone**

Similar to MV.20S but medium power and fixed microphone. Like all Eagle Megaphones it is well balanced and has an all aluminium construction for the best possible power to weight ratio.

OUTPUT POWER: 10 watts peak. VOICE RANGE: 0.5-0.6 Km. DIMENSIONS: 356 x 178 mm. WEIGHT: 1.8 Kg.

PRICE £19.95 Carr.40p

#### MV.20S 20 Watt Siren Megaphone

Replacing Model ER.308 this new heavy duty megaphone is more versatile as well as extremely powerful. The microphone is a clip on unit which means that it can be used in conventional pistol grip fashion or hand held. A built in siren alarm switch gives a blasting alarm signal which can be used for general alert, fog horn or other calls.

OUTPUT POWER: 20 watts peak VOICE BANGE: 0.8-1 KM DIMENSIONS: 380 x 230 mm. WEIGHT: 3.6 Kg.

PRICE £26.75



MT.10E/MT.15/MT.20

(Post etc. 12p)

HENRY'S SUPPLY THE SOUND YOU NEED



#### PUBLIC ADDRESS LOUDSPEAKERS





HDA6





HDA15T

(or HFA3)

K2104

HDA10





HDA.30T

#### HDA5



#### K2109

#### K2109

Cone Reflex weatherproof housing for use up to 5 watts. Response 300-16,000 Hz. Impedance: 4 ohms. Swivel angle bracket, Size 5" diam, x 234", Weight 11b,

PRICE £3.00 Carr. 20p (HFA3 8 ohm version £3.00)

#### K2104

10 watt horn PA speaker. Features 6" diameter trumpet with diffused radiation. Fitted bracket. Speaker length 612". Impedance: 8 ohms, Weight 2 lbs.

PRICE £5.75 Carr. 20p

#### HDA.5 (SC.5) 7.5 WATT PA SPEAKERS

A competitive, up dated version of model SC.5, rated at 7.5 watts continuous duty, excellent response and output for its compact size. Finished in gold anodize throughout.

Power Handling: 7.5 watts continuous rating. Frequency Range: 450-12,000 Hz. Dispersion Angle: 120°. Impedance 8 ohms. Dimensions: 150 x 134 mm.

PRICE £3.75 Carr. 20p

HDB.8

140 mm.

HDA 6

HDB.8 (SC.10F)

**20 WATT PA SPEAKER** 

PRICE £8.75 Carr.25p

and cadmium plated.

PRICE £6.25 Carr. 25p

frequency range and size.

PRICE £8.00 Carr. 25p

pregnation for even greater reliability.

Power Handling: 20 watts continuous

rating. Frequency Range: 350-13,000 Hz.

Dispersion Angle: 110° x 60°. Imped-

ance: 8 ohms. Dimensions: 216 x 210 x

The HDA.6 is just one of the new range

of Horn Speakers, Built on the immense

success of models like the SC.10F this

new range is the logical development

of a design concept that builds quality

into the product. Rugged and weather-

proof, all finishes are stove enamelled

Power Handling: 15 watts continuous

rating, Frequency Range: 350-13,000 Hz.

Dispersion Angle: 115°. Impedance: 8

HDA.10 30 WATT PA SPEAKER As HDA.6 but greater power handling,

Power Handling: 30 watts continuous

rating. Frequency Range: 250-13,000 Hz.

Dispersion Angle: 105°. Impedance: 8

ohms. Dimensions: 230 x 260 mm.

ohms, Dimensions: 204 x 166 mm.

**15 WATT PA SPEAKER** 

**HDB.12** 

### **30 WATT PA SPEAKER**

Updated version of Model SC.15B. As HDB.8 but greater power handling, frequency range and size.

Power Handling: 30 watts continuous rating. Frequency Range: 250-13,000 Hz. Dispersion Angle: 110° x 60°. Impedance: 8 ohms. Dimensions: 290 x 280 x 166mm.

PRICE £10.95 Carr. 35p

#### HDA.15T

Multi Tap 15 Watt PA Speaker

The HDA.15T has a built in totally enclosed Multi-Tap transformer so that just by rotating the 4 way input plug the unit can be exactly matched in seconds. Once in position the plug locking ring is screwed home to provide a secure and reliable connection. Supplied complete with connecting cable and plug.

Power Handling: Tapped 100 volt line-15, 7.5, 3.5, and 2 watts continuous rating. Frequency Range: 300-13,000 Hz. Dispersion Angle: 110°. Impedance: 8 ohms. Dimensions: 280 x 216 mm.

PRICE £10.50 Carr. 30p

#### HDA.30T

#### Multi Tap 30 Watt PA Speaker

As HDA.15T but greater power handling, frequency range and size.

Power Handling: Tapped 100 volt line -30, 15, 7.5 and 4.5 watts continuous duty. Frequency Range: 250-13,000 Hz. Dispersion Angle: 105°. Impedance: 8 ohms. Dimensions: 304 x 254 mm.

PRICE £12.75 Carr. 35p

HENRY'S CAN SUPPLY ALL YOUR PUBLIC ADDRESS REQUIREMENTS

World Radio History

Updated version of Model SC.10F. Now with twice the handling capacity and using a new system of diaphragm im-

HDB.12 (SC.15B)



#### SPEAKER SYSTEMS FOR GROUPS, PA and DISCOTHEOUES

DESIGNED TO PRODUCE THE BEST SOUNDS FROM YOUR EQUIPMENT. ALL TYPES FEATURE SOLID CABINETS AND HIGH SENSITIVITY SPEAKERS. POSITIONING OF SPEAKERS WILL VARY, BUT THEY SHOULD BE USED IN PAIRS FOR OPTIMUM PERFORMANCE PARTICULARLY FOR INDOOR APPLICATIONS. OUR DISCO DEPT CAN ADVISE YOU CONCERNING YOUR REQUIREMENTS.







DP1, DP4

DP2, DP5

#### DISCOSOUND SPEAKER SYSTEMS

The new range of discosound speakers have been specifically designed to do full justice to DJ and Discosound range of Discotheques and Amplification Equipment. All units are made of ¾" high density chip-board and are fully lagged internally. Finish is in black leather cloth with metal and plastic mouldings on all edges for protection in transit.

- DP1 1-12" 50 watt twin cone drive unit. Size: 24" x 16" x 12" (with strap handle). Impedance: 16 OHMS (8 ohms to order) Power handling 50 watts RMS. DP1 PRICE £45.00 or £85 pair.
- DP2 2-12" 50 watt twin cone drive units. Size: 36" x 18" x 12" Impedance 16 OHMS (4 and 8 ohms to order) Power handling 100 watts RMS. PRICE £79 (Carr.80p) or £150 pair (Carr.£1.50)
- DP3 1-18" 1-12" + Tweeter (full range). Size 50" x 26" x 14". Impedance: 16 OHMS (8 ohms to order) Power handling 100 watts RMS. PRICE £100 (Carr. £2.00)
- DP4 4-12" 50 watt twin cone drive units. Size: 30" x 30" x 12". Impedance: 16 OHMS (8 ohms to order) Power handling 200 watts RMS. PRICE £160 (Carr.£2.00)
- DP5 1-15" 100 watts full range speaker in reflex cabinet. Size: 38½" x 15" x 23½" Power handling 100 watts RMS. Impedance: 16 OHMS (8 ohms to order) PRICE £90 (Carr.£2.00)

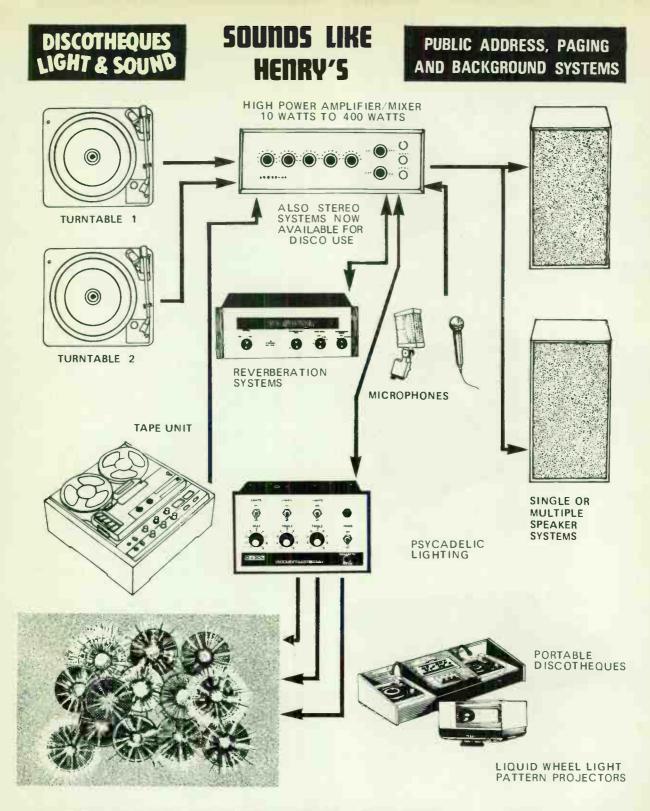
REAL POWER AND REAL PERFORMANCE FROM HENRY'S

DP3



MT.10/MT.15/MT.20 100 Volt Line Matching Transformers A range of 100 volt line matching transformers used particularly for PA work and amplifiers having 100 volt line facilities with secondarys tapped 4 and 8 ohms, primarys as follows:

MT.10 Continuous Rating (Watts): 10 Taps (Watts): 0.625, 1.25, 2.5, 5 & 10 Slotted Fixing Centres: 60mm £1.20 MT.15 Continuous Rating (Watts): 15 Taps (Watts): 1.25, 2.5, 5, 10 & 15 Slotted Fixing Centres: 62mm £1.40 MT.20 Continuous Rating (Watts): 20 Taps (Watts): 2.5, 5, 10, 15 and 20 Slotted Fixing Centres: 68mm £1.80 (100 WATT VERSIONS AVAILABLE)



# **DEMONSTRATIONS AND ADVICE** — JUST ASK!

37

#### PORTABLE DISCOTHEQUES





#### FOR CLUBS, PUBS AND ONE NIGHT STANDS PROFESSIONALLY DESIGNED FOR PORTABLE AND PERMANENT MUSIC ENTERTAINMENT.

All Discotheque and Speaker units are finished in matching black leather cloth with metal and plastic mouldings around all edges for protection in transit. Output for use with single or multiple speaker systems of 8 phms total.

All the Discotheque units are of the suitcase portable type, but any one can be made into a consul, for permanent site work (i.e. clubs etc). Prices can be quoted upon receipt of requirements.

Magnetic cartridges can be fitted to all models, for an extra £15.00 with the exception of the Disco-Supreme where the price will be £25.00

Garrard S.P.25 Mk.III Decks can be fitted at no extra cost. The new MacDonald H.T.70 (highly recommended by us), can be fitted at a cost of £5.00 extra per deck. Other turntables and Flexi Lights can be fitted according to customer requirements.

#### DISCO-MINI

A portable compact unit, hardly larger than a suitcase yet containing all the necessary features for a high quality mobile unit. The pre-amp has separate tone controls for both mic. and decks, and each input has its own individual volume controls and inputs plus the addition of a cross-fade for deck to deck sound transfer. A built in (P F.L.) system for cueing plus mic-over-ride is standard on all units. MacDonald M.P.60 turntables are used with high quality ceramic cartridges. This unit is suitable for Disco's or Clubs that already have their own power amplifier as this unit is sold without the power amplifier. Portable amplifiers available from stock as required.

#### PRICE £98.50

#### **DISCO-STANDARD**

This unit has all the facilities of the Disco-Mini with the addition of its own built in 100 Watt power amplifier, which makes this a completely self contained disco unit.

PRICE £ 180.00

#### DISCO-SUPER

This unit has all the facilities of the Disco-Standard but with the addition of a D.J.30L, three channel psychedelic light control unit built in as standard. PRICE £224.00

#### DISCO-SUPREME

This is the largest and most elaborate discotheque that we offer. The unit has all the facilities of the Disco-Super plus the addition of a third turntable, which can be used for Jingles or other effects without using the main deck system. Flexi Lights are fitted as standard.

PRICE £261.00



SUPPLIED WITH FREE MICROPHONE AND MONITORING HEADPHONES MATCHING SPEAKER SYSTEMS, SEE PAGE 36.



#### MIXER - AMPLIFIERS FOR PUBLIC ADDRESS, GROUPS AND DISCOTHEQUES.



#### DJ. DISCO-AMP

The DJ. Disco-amp has been designed specifically for use with discotheques and has many exclusive features not normally found on PA amplifiers. The unit will be of use to the professional D.J. as well as in clubs and mobile discotheques. The pre-amp section features independent inputs and volume controls for two mics with separate bass, treble and master volume, plus two independent inputs and volume controls for turintables, again with separate bass, treble and master volume controls.

A complete Pre-fade listen (P.F.L.) cueing monitor section is also featured with separate input for headphones (either stereo or mono) with an independent volume control for headphone monitoring, and a P.F.L. switch, so that either turntable can be monitored for accurate cueing up of records. A mic over-ride switch is also added which cuts the music volume by half so that mic announcements may be made over the music without altering the volume controls.

The power amplifier section has an output of 100 watts RMS into B ohms and has elaborate protection against thermal, short or open circuit. The unit is designed for panel mounting. SPECIFICATION

SECTIONI	
Output Power	100 watts RMS ± 1 db at B ohms.
Frequency Response	30-20,000 HZ = 3 db.
Harmonic Distortion	Less than 1% at 70 watts RMS + 1 db.
Signal Noise Ratio	Better than -65dp.
Soeaker Impedance	B-16 ohms.
Headphone Impedance	B-16 ohms
Bass Control	Variable 20db at 100 HZ.
Treble Control	Variable 20db at 10 KHZ
Inputs: Mic 1 & 2	5 mV at 50 K ohms.
Turntable 1 & 2	100 mV at 1 meg ohm.

 50 ohm or 600 ohm mic inputs may be ordered at extra cost.

 Size
 Front panel 16½" x 7<sup>3</sup>. Cut out 15½" x 6".

 Fuses
 AC 1.5 amp (B.S.) Mounted on back panel.

#### DJ Disco-Amp Price £76.50





#### DJ.70S INTERGRATED MIXER-AMPLIFIER

The DJ.70S is an intergrated mixer amplifier which is in every respect one of the finest units available on the market today, regardless of price. The front end of the unit consists of a four channel mixer with separate inputs and volume controls, plus a separate bass, treble and master volume control. One of the main features of this remarkable amplifier is its elaborate protection against short and open circuit and we can guarantee that it is virtually indestructable. Allied to this is its very high power output, a frequency response that is superb, and distortion that is well below 1% even at full output. The unit is suitable for use with discotheques, groups, P.A. clubs etc., or anywhere that high quality high output is required.

#### SPECIFICATION

Power Output	70 watts RMS 1 1db at B ohms
Frequency Response	30-20,000 HZ + 3db
Signal/Noise Ratio	Better than -65db
Harmonic Distortion	Less than 1%
Speaker Impedance	B-16 ohms
Inputs 1 & 2 - Mic	B mV at 50K ohms
3 & 4 - Auz	100 mV at 1 meg ohm.
50 or 600 ohm mic	Inputs can be ordered at extra cost to special order.
Bass	Continuously variable 20db at 100 HZ
Treble	Continuously variable 20db at 10KHZ
Fuse	A.C. 1.5 amps.
Size	1512" × 5" × 6"
DJ.70S Price £5	3.50

#### DJ. 105S 30 WATT PA AMPLIFIER

The DJ.105S Amplifier has been specifically designed to meet the demand for a high quality unit capable of sustaining high output levels without fear of break-downs. The unit features all silicon transistors throughout, of modular construction with short, open and thermal overload protection for added reliability in use. Four channel mixing facilities each with separate inputs and volume controls, make this amplifier suitable for use in Clubs, Factories, Discotheques, etc. The unit is styled with a silver and black front panel and is housed in an attractive metal cabinet covered in an attractive metal cabinet covered in black vinyl.

#### SPECIFICATION

Power Output	30 watts RMS 1db at B ohms
Frequency Response	20-20,000 3db
Harmonic Distortion	Less than 1°
Signal Noise Ratio	Better than -65db
Speaker Impedance	B-16 ohms
Imputs Mic. 1 & 2	BmV at 50K ohm
Aux. 3 & 4	100mV at 1 meg ohm.
50 or 600 Ohm Mic Ir	nputs available at extra cost
Bass Control	Variable 20db at 100HZ
Treble Control	Variable 20db at 10KHZ
Size	11¾" × 5" × 6"
	AC 1.5 amp (B.S.) Mounted on back panel
1	DC 1 amp (B.S.) Mounted on back panel
Speaker Short Fuse 2	2 amp (B.S.) Mounted on back panel

DJ.105S Price £33,50

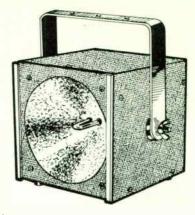
#### **DISCO LIGHTING AND ACCESSORIES**

#### LUMITRON DISPLAY LIGHT

50 watt rotating three colour lighting effects projector. Colours red, blue and green. Ideal for ceiling and wall background lighting. Mains operated.

PRICE £10.95 carr.40p





#### DECORATIVE FOIL PANELS

Metallic surface panels with various designs which produce exciting movement effects from reflected light. Adds a further dimension to your lighting displays.

Panel sizes: 13% x 13%

Ideal for complete walls and ceilings or panelling.

### PRICE EACH

(Price per 6, £4.50)

Post etc. 15p each or for 6.



#### STROBE UNIT

Variable speed strobe, mains operated. Supplied in metal case with mounting bracket. Fitted reflector. Output 4 joules. Case size:  $5\frac{1}{2}$ " x  $5\frac{1}{2}$ " x  $5\frac{1}{2}$ " approx.

PRICE £19.75 Carr.45p

Colour filters available at 25p each.

#### FLASH FAR LIGHTING EFFECT Model EP3

Permanent strobe using replaceable Xenon tubes. Rating 4 joules giving a flash every 3 seconds. Tube life around 3000 hours. Brilliant flash equivalent to 3 Kw of lighting. Fitting standard ES. Supplied complete with four colour filters.



PRICE £19.75 Post 45p

Adjustable angle socket

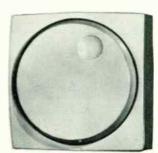


#### LAMP FLASHER

For use with any lamp for 100 watts. Bi-metal mains flasher. **45**p each



**SPOT LIGHTS** LARGE RANGE AVAILABLE FROM STOCK CALL IN AND SEE FOR YOURSELF. 125 watt ultra violet spot light with fittings and ballast unit. 5000 Har Life. £11.75 post 35p



#### EVEREADY DIMMER

1 Kw Dimmer for domestic or professional lighting. Moulded finish. Full control, plus On/Off. Fits standard lighting boxes or can be panel mounted. PRICE £7.20 post 20p

Also 200 watt version. £3.84 post 16p

(See separate page for 3 Kw 3 channel dimmer).

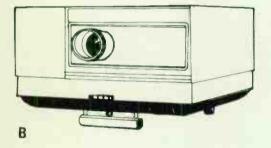
★ STROBES, LIGHTING, FLASHERS, SPOTS AND DIMMERS ★

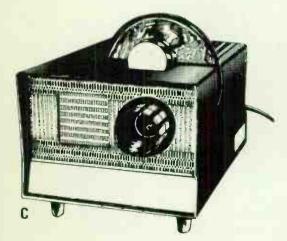
# **COLOUR PROJECTORS**

LIGHTING EFFECTS PRODUCED BY THE FLOW OF COLOURED LIQUIDS IN A ROTATING GLASS WHEEL. PRODUCES AN UNENDING VARIETY OF PATTERNS AS COLOURS EVER-CHANGING, ALL TYPES ALL MAINS OPERATED AND WITH VARIABLE FOCUS LENSES. TYPE A CONVECTOR COOLED, TYPE B AND C ARE FAN COOLED.









#### 'A' DISCOSOUND COLOUR WHEEL PROJECTOR

This projector has been designed for professional discoteque and educational purposes, to project a range of liquid wheels and colour change wheels for special lighting and effects. They add colour and variety to any form of entertainment

12 volt 50 watt lamp-convection cooled Spare liquid colour wheels £15 each Graphic pattern wheels-many designs £15 each Supplied with one liquid wheel as standard. Size 11" x 71/2" x 43/4" PRICE £49.50

#### 'B' EPI EFFECTS PROJECTOR

Totally enclosed, purpose designed, 24v 150w Tungsten Halogen light source, fan ventilation. Adjustable front foot for height control, 8.5 cms lens gives 5'0" circular moving image at 12ft throw.

DATA: Input 230/50v AC.

Output 24v 150w T/H. Lamp Dimensions 131/2" x 51/2" x 131/2" (24 x 14 x 24 cms)

Approx Nett Weight 12½ lb (5.7 kg)

Spare wheels and graphic wheels available. Supplied with one liquid colour wheel. PRICE £55.00

#### 'C' LIQUID WHEEL COLOUR PROJECTOR

A powerful liquid wheel projector fitted with a 24 volt 150 watt quartz-iodine lamp. Sturdy construction, combined with a slot-in optical system and precision 8.5 cm projection lens ensure razor sharp definition, while the built-in fan ensures hours of trouble free, cool running. Specification

opeentoution	
Animation:	Bi-cell sealed liquid wheel.
Lamp:	24 volt 150 watts.
Cooling:	Integral fan
Lens:	f2.8 8.5 cm.
Power Supply:	230 volts 50 c/s.
Dimensions:	8" wide x 8" high x 11" deep
Weight:	11 lbs. PRICE £65.00
Spare liquid co	olour wheels and pattern effect wheels available.
Supplied with	one liquid wheel.

IN STOCK – EFFECTS SPOTS, COLOURED LAMPS, FLASHERS ETC. CONTINUALLY INCREASING LIGHTING STOCKS ON DISPLAY

### **REVERBERATION AMPLIFIERS**

THE WAY TO PROVIDE 'NEW PRESCENCE' FOR INDOORS AND OUTSIDE

HIGH FIDELITY SYSTEMS
 ELECTRONIC ORGANS

DISCOTHEQUE EQUIPMENT
 ALL MUSICAL EQUIPMENT

CAL EQUIPMENT • AMPLIFIER SYSTEMS

#### PIONEER SR202

Particularly designed for use with amplifiers having separate preamplifier and power amplifier as found in many Disco and some HI-FI systems. Can be used with HI-FI etc. when using one or two tape recorders. Also with guitar and musical instrument preamplifiers and mixers.

Min.Input: 200mV. Output: 330mV. Max.Input: 3 volts. Response: 20-35,000 Hz, Distortion: 0,2%, S/N: 65dB Reverb. Time: 1.9–3.2 sec. Input Impedance: 300K ohms (50K to 300K ohms source 0K). Size: 11% x 4½" y3%", Finished in Rosewood and satinised aluminium.

Price £36.00 Carr.45p



#### **RA.856 REVERBERATION AMPLIFIER**

Completely self-contained battery-operated transistorised reverberation amplifier – gives extra richness to one-dimensional sound from a single source. Controls to adjust volume and reverberation. No complicated wiring – just plug microphone into RA.856, and output into the amplifier. Walnut cabinet.

Input: 5 mV @ 47 K ohm. Output: Variable 0-600 mV. Delay: Variable 20-30 mS. Dimensions:  $190 \times 75 \times 110 \text{ mm}$ .

Price £8.50 Post 25p



#### **RA.859 2 CHANNEL REVERBERATION AMPLIFIER**

A professional two channel reverberation/mixer unit with two microphones and two instrument inputs. As well as depth of reverb, separate mic and instrument controls allow mix and fade effects. Hard wearing leather grain PVC covered cabinet and sloped front control panel.

Mic Inputs: 2 @ 600 ohms. Instrument Inputs: 2 @ 100 K ohms. Output: 500 mV @ 100 K ohms. Dimensions:  $300 \times 88 \times 170$  mm.

Price £12.75 Carr.35p

OR BUILD YOUR OWN SYSTEM - SPRING UNITS AND SUITABLE AMPLIFIERS IN STOCK



# Lighting from Sound from HENRY'S



DJ.30L Mk.2 PSYCHEDELIC LIGHT CONTROL UNIT

The DJ.30L Light Control Unit has been designed using the latest semiconductor circuits, for utmost reliability under all conditions. The unit features dual input sockets for front or rear connections, plus an over-ride switch so that the lights may be left permanently on if required. The cabinet has been made for panel mounting so that it may be fitted into a permanent installation or a small portable box as required. The unit is suitable for use in Discotheques, Clubs, Theatres etc. Designed to follow the sound from your amplifier feeds via the amplifier output socket.

This is a 3 channel light unit that enables the bass, middle, and treble frequencies from the amplifier to be operated individually as required. For use with up to 1000 watts of lamos for each channel.

Size: Front Pane 12" x 4¼" Cut Out: 10<sup>%</sup>/<sub>8</sub>" x 3¾" DJ.30L Mk.2 PRICE £33.50

With a little ingenuity terrific colour variations and effects can be obtained depending upon your choice of colour mix of lamps used. Any type of mains lamps can be used including spot lights up to 1000 watts per channel. If dimmers are also used, an extra dimension is introduced providing either dimming of the Light-Sound or with separate lamps, providing 3000 watts from the DJ30L or 40L, plus 3000 watts from each dimmer used. Two types of psychaedelic control units are available and one dimming unit.



#### DJ.40L Mk.2 SOUND CONTROLLED PSYCHEDELIC LIGHT UNIT

The DJ.40L Sound Control Light Unit is the end product of extensive research into psychedelic lighting effects to give the maximum variety of facilities, yet being extremely simple to operate, and reliable in use.

The DJ.40L Light Unit will handle up to 1000 watts of Lights per channel, over the three channels (BASS, MID, TREBLE). Each has its own sensitivity control with the addition of a master control for overall light balance over the three channels.

The unit features a built in microphone so that no connection is needed to any amplifier or sound source whatsoever. A jack socket is also provided on the front panel, so that an external mic may be plugged in if required. Three over-ride switches are also featured so that any, or all of the light channels may be left permanently on if required. The DJ.40L can be used free standing or panel mounted.

Size: Front Panel 12" x 4¼" Cut Out: 10<sup>5</sup>/<sub>8</sub>" x 3¾" DJ.40L Mk.2 PRICE £46.50



#### **DJ.3000 THREE CHANNEL DIMMER**

The DJ.3000 Dimmer is a three channel light dimmer unit that will handle up to 1000 watts of lighting per channel (Total 3000 watts). The unit will be of use to discotheques, clubs, restaurants, theatres, or anywhere that a versatile portable dimmer is required. SLIDE FADER CONTROLS are used on each channel for ease of operation. A neon bulb is built into the front panel (one for each channel), which will dim with the channel being operated.

Size: Front Panel 10" x 6" Cut Out: 91/4" x 51/4"

#### **DIMMER 30**00

This is a straight three channel Dinimer Unit, with one mains input and three light outputs. For all general lighting effects.

DJ.3000 PRICE £29.75

#### PSYCHEDELIC LIGHTING AND DIMMING EQUIPMENT

#### QUALITY AUDIO MIXERS FOR PROFESSIONAL AND AMATEUR REQUIREMENT



#### B2010

Professional specification: fully transistorised circuit, superb design and ultra-functional control input/output layout plus outstanding value make this unit perhaps the finest ever mixer 'buy'; Facilities include: four microphone inputs, either high (20K/ hm, or above) or low (50-600 ohm) impedance (switch selector at rear, over each standard jack socket input). One 'AUX' high level input (50K/ohm and above) for tape recorder, phono or radio tuner. Each input has a separate infinitely variable volume control, and a master volume control is also provided which simultaneously adjusts the gain of all the inputs. Two outputs are provided: one with switch, for high or low impedance for connection to the microphone input of an amplifier or tape recorder, the other is a high level output for amplifiers or tape recorders requiring 0.5 to 2 volts. Frequency response: 30-20,000Hz. Distortion: less than 1% at 20mV (low mic), 200mV (high mic.). 2.0 volts (aux.). The all metal cabinet is finished in black crackle enamel with satin silver front panel. Size: 113/8 x 25/8 x 51/4 in. Complete with mains lead and one output lead with standard jack. PRICE £23.00 post 20p

#### DJ102

Four-channel mixer pre-amplifier (each input with its own volume control) and features the PFL monitoring system for accurate cueing of records. The unit also features a mic, cutdown switch which drops the music level so that the D.J. can make announcements over the music without altering the volume controls. The DJ. 102 is designed to be used with amplifiers which have tone controls but do not have the above facilities. SPECIFICATION

Frequency Response: 20-20,000 Hz ± 2dB. Distortion: less than 1%. Signal/Noise Ratio: better than -65dB. Output Voltage: Variable up to 500mV. Inputs Mic. 1 & 2: 5mV at 50K ohms. Turntables 1 & 2: 100mV at 1 meg ohm. Headphones: 8-16 ohms (Stereo or Mono) Size: 101/2 in x 4 in x 4 in

Finish: Brush satin with black relief.

**PRICE £23.00** post 20p

#### B2003

A high quality transistorised mixer for controlling two stereo or four mono sources-either high or low impedance (switch selected), into high impedance amplifier or tape recorder input. Two Vu meters fitted for stereo balance and also headphone monitor outlet. Brief Spec: 8 transistor and 8 diode circuit; input imp. (each channel) 600 or 50K/ohms: output impedance matches 10K/ohms to 100K/ohms; maximum output 1V; Frequency response: 20-10,000Hz, ± 1dB. Powered by one 9V battery. Size: 10¼ in x 2½ in x 5in. Finish: satin chrome and grey enamel. Complete with battery. £10.95 post 15p

#### A121

Made by Uher and suitable for amateur or professional use. Five slider potentiometers for mixing five mono sources, or two stereo plus one mono source. Independent control of left and right-hand channels of each channel, if required. All inputs have silent muting switches and individual pre-set controls to allow for differing signal levels. Built-in generator to set up correct recording levels on a tape recorder. Battery operated (PP3). PRICE £48.50 post 25p

#### DISCO 40

This unit is the pre-amp section as used in portable discotheque equipment and has been designed specifically to include all the facilities required by the professional D.J. The unit is self-powered and although it has basically been designed for use with the range of Discosound power amplifiers, it can be used with any good-quality power amplifier. One of the outstanding features of this unit is that it can be used in conjunction with up to 10 of the Discsound 100 power amplifiers (total 1,000 watts) via the emitter follower outputs of which four are fitted as standard. This enables the user to start off with one power amplifier and gradually build up the power output to meet his requirements as needed. Size: 61/2 in x 7in x 7in. Finish: Black crackle with brushed aluminium trim. Supplied complete with all instructions.

PRICE £37,50 post 35p

#### **MP12**

Built around studio console slider controls the MP.12 has been designed as a 6 channel Stereo/Mono Mixer and Pre-Amplifier. All the mic inputs can be individually switched between high and low impedance so that any combination of microphones can be used. The mic inputs are all independently controlled whilst the phono input is stereo ganged.

4 Microphone Switched Inputs: 600ohms 1mV or 50Kohms 2mV. Stereo Phono Input: 2 x 3.5 mV @ 47 Kohms (RIAA). Output Switched Stereo/Mono: 2 x 250 mV.

Signal/Noise: Better than -50 dB. PRICE £21.00 post 20p

NEW STEREO MIXER/PREAMPLIFIER FROM 'DJ'. DRIVES UP TO 2-100 WATT AMPLIFIERS PER CHANNEL. SEE DISCO SECTION OF THIS CATALOGUE.

HENRYS CAN SUPPLY ALL YOUR AUDIO REQUIREMENTS



#### DISCOSOUND 40 DISCOTHEQUE PRE-AMPLIFIER

The Discosound 40 Discotheque Pre-Amp has been designed specifically for use in discotheques and has many exclusive features not normally found on standard pre-amp units. The unit will be of use to the professional D.J. as well as in Clubs and Mobile Discotheques.

The Pre-Amp section features independent inputs and volume controls for two mics with separate bass, treble and master volume plus two independent inputs and volume controls for turntables, again with separate bass, treble and master volume controls.

A complete Pre-fade listen (P.F.L.) cueing monitor section is also featured with separate input for headphones (either stereo or mono) with an independent volume control for headphone monitoring and a P.F.L. switch, so that either turntable can be monitored for accurate cueing up of records. A mic over-ride switch is also added which cuts the music volume by half so that mic announcements may be made over the music without altering the volume controls.

As the unit is self powered it can be used with any good quality power-amplifier, but is basically designed to be used with the range of Discosound Power Amplifiers.

One of the outstanding features of this unit is that it can be used to run up to 10 of the 100 watt power amplifiers (Total 1,000 watts) via the emitter follower outputs of which 4 are fitted as standard. This enables the user to start off with say 1 power amplifier and gradually build up the power output as required. Sizes as for DJ Disco Amp.

#### DISCOSOUND 40 Price £37.50

#### MONO AND STEREO DISCOTHEQUE MIXER PREAMPLIFIERS DJ. 103S STEREO PRE-AMPLIFIER

The DJ.103S has been designed to fill the need for a high quality stereo discotheque pre-amp unit, which has full mixing and monitoring facilities. Two microphone and two turntable inputs, each with their own volume controls fitted as standard, plus bass, treble, balance and master volume controls for overall sound distribution.

A complete Pre-fade listen (P.F.L.) cueing monitor section is also featured with separate input for headphones (either stereo or mono), with an independent volume control for headphone monitoring, and a P.F.L. switch, so that either turntable can be monitored for accurate cueing up of records. A mic over-ride switch is also added which cuts the music volume, so that mic announcements may be made over the music without altering the volume controls.

The unit has been designed basically to work with the DJ100 watt power amp but may be used with any high quality power amp unit. Designed particularly for building into your own cabinet or consul.

#### SPECIFICATION

Distortion Signal/Noise Ratio Output Voltage

Bass Treble Inputs: Mic 1 and 2 Inputs: Aux 1 and 2 Fuses: Fuse 1 Fuses: Fuse 2 20-20.000 Hz + 2 db less than 1% better than -65 db up to 1 volt (each channel) via emitter follower outputs continuously variable 25db at 100 Hz continuously variable 25db at 10 KHz 8 mv at 50K ohms 100 mv at 1 meg ohm 5 amp-20 mm quick blow 1 amp-20 mm quick blow

DJ.103S Price £47.00 Portable case if required £4.00



#### **DJ.100 POWER AMPLIFIER**

The DJ.100 power amplifier is a high quality all silicon transistor power amplifier, which utilises all the latest technical advances in transistor design for reliability in use. The output stage has elaborate protection against short and open circuit whilst under full drive conditions. It has been designed specifically for use with our DJ.103S stereo pre-amp, but can be used with most good quality pre-amps. DJ100 is a slim line version of the Discosound 100 Amplifier.

#### SPECIFICATION

Output	100 wat
Frequency Range	20-20,0
Distortion	less the
Signal/Noise	Better t
Input Sensitivity	700 mv
Speaker Impedance	8-16 of
AC Fuse	1.5 amp
Size	15" x 4

100 watts RMS + 1db at 8 ohms 20-20,000 Hz +3db ess than 1% at 70 watts RMS + 1db Better than -65db 700 mv at 25K ohms 8-16 ohms 1.5 amp (BS) 20 mm 55 " x 4" x 5"

DJ.100 Price £49.50





#### D.J. 101 MIXER PRE-AMPLIFIER

The D.J. 101 is a battery (9V) operated all-silicon transistor mixer pre-amplifier, which has been designed as a versatile high quality unit, suitable for use with tape recorders, amplifiers, discotheques, etc.

Six inputs allow full mixing facilities for all types of equipment. The unit is housed in an attractive all-metal cabinet which is logically laid out for simplicity in use. A 9V (PP6) battery is supplied with the unit.

#### SPECIFICATION

Inputs: Mic 1: 8mV at 50k ohms: Mic 2: 8mV at 50k ohms: Mic 3; 8mV at 600 ohms; Aux 1: 100mV at 500k ohms; Phono 1: 100mV at 500k ohms: Phono 2: 100mV at 500k ohms, Output: 250mV (RMS) at 100k ohms for rated input, Signal-to-Noise Ratio: -65 db (Ref.1∨ RMS). Frequency Response: 20-20,000 Hz +1 db. Harmonic Distortion: Less than 0.5% at 1V. Size:  $10\frac{5}{8}$ " x  $2\frac{5}{8}$ " x  $4\frac{5}{2}$ ". Battery: Ever Ready (PP6) or equivalent.

#### D.J101 PRICE £11.25 pp. 25p.

#### TRANSISTOR MIXER AND PREAMPLIFIER MODEL MP.7 (or MPA7) PRICE £11.37%

pp. 17½p



The MP.7 has five microphone inputs, each with individual gain controls enabling complete mixing facilities. The high output voltage of 250 mV enables the unit to be used with any auxilliary equipment. Internal battery operation. Housed in a shielded me tal cabinet, 91/4" x 5" x 3".

#### SPECIFICATION

Inputs: Mic. 1, 2 and 3, 3 mV at 50K ohms. Mic. 4 and 5, 3mV at 600 ohms. Phono Magnetic: 4 mV at 50K ohms RIAA. Phono Ceramic: 100 mV at 1 meg ohm. Output: 250 mV at 100K ohms. Frequency Response: Mic. Inputs, 50-12,000 cps; ±3 db; Phono Inputs, 40-16,000 cps ±3 db, Signal to Noise Ratio: Better than 55 db.

#### EAGLE MICROPHONE MATCHING UNITS MX.5 and 6



Dimensions; 70 x 65 x 30 mm.

These switched transformer units (MX5-low impedance; MX6 -medium impedance) give the following facilities; feed balanced low and medium impedance mikes into an unbalanced high-impedance input; similarly feed unbalanced mike; extend high-impedance mike lead; feed high-impedance mike to low impedance balanced or unbalanced input.

MX5 Imp edance Matching: 20-50 ohms MX6 Impedance Matching: 200-600 ohms PRICE £2.10 PRICE £2.10

"IMP-VERTA" IMPEDANCE CONVERTOR

PRICE £2.971/2



Designed for many applications, the brilliant new "Imp-Verta" is ideal for enabling long-lead, low-impedance microphones (such as DFI 600 ohms) to be used directly into input sockets of amplifiers and tape recorders. This solid-state compact unit is powered by PP3 type battery with minimal drain and has standard jack sockets. Can also be used for pick-ups, Robust, crackle-finish case 534" x 11/2" x 11/2".

**4-CHANNEL** MICROPHONE MIXER **MODEL B.2001** 



#### PRICE £2.48

Offers a whole new world of experience to the sound enthusiast. Mixes sounds from four separate channels (microphones, or a mixture of mikes, phono tuner, etc.) into a single output. Add music and sound effects to recordings, Fully transistorised and self-contained. Gives professional flexibility at very modest cost.

Inputs: 4 x 50k ohm microphone or Phono up to 1.5 V max Gain 3 dB (O/P max 2.5 V)

Dimensions: 150 x 90 mm.

#### B2002 STEREO/MONO MICROPHONE MIXER

This unit, similar in appearance to MM4 above, has been designed to accept up to four sound input sources for mixing - either monaural or stereophonic. The four level controls on the front are continuously variable, and there is the addition of a MONO/STEREO selector switch. Operation is from an internal 9V battery which provides approx. 400 hours' use.

Input Impedance: (Crystal, etc.) 100 k ohms Max. Input Signal: 1.5 V Max. Output Signal: 2.5 V Hum Level: Negligible Gain: Approx. 6 dB Dimensions: 6" x 2¾" x 2¼"

PRICE £3.48

SEE PAGE 3 FOR POST AND PACKING CHARGES.

# **CAR RADIOS**



MANUAL

#### **ELIZABETHAN 606**

Here is a new model with silicon transistors and an outstanding performance. It incorporates all the latest improvements and sells for an amazingly low price complete.

PRICE £12.95 (Carr. etc. 37p)

#### TECHNICAL DETAILS

Supply:

12 volts DC Positive or Negative polarity. Consumption: 0.4 amps. Size: 7" x 2" x 31/2". Weight: 1 lb. 4 ozs. Output: 2-3 watts Waveband Coverage: MW; 480-5670 metres. LW: 1200-1960 metres. Sensitivity: MW: Better than 7uV. LW: Better than 14uV. Signal to Noise Ratio: MW: 25 db. LW: 20 db. Automatic Gain Control: 14 db change from 10uV to 1m/V. Intermediate Frequency: 471 KHZ Rotary Controls: Volume (incorporating On/Off switch). Tuning (slow-motion drive to illuminated 31/2" long scale).

Press Button Controls: Medium-Long waveband. Fuse: 1 amp. 1¼" x ¼". Supply Lead: 3 ft. long incorporating fuse holder. Aerial Connection: Co-axial socket.

Speaker Lead: 4' long with easy fix tags. Speaker: 7" x 4" BRITISH MADE \* RECOMMENDED VALUE
 FULLY GUARANTEED \* FIT ANY CAR
 SILICON TRANSISTOR MODERN DESIGNS



#### PUSHBUTTON

#### **ELIZABETHAN 700**

Push Button Station Selector Car radio with RF stage is probably the finest value in its price range. Elegant in appearance and easy to install, you just press the button to pick your station.

PRICE £21.50 (Carr.etc. 37p)

#### TECHNICAL DETAILS

Supply:

12 volts DC Positive or Negative polarity. Consumption: 0,6 amps Size: 7" x 2" x 5". Weight: 31b. Output: 5 watts Waveband Coverage: MW: 185-550 metres. LW: 1180-1920 metres. Sensitivity: MW: Better than 6.5uV. LW: Better than 12uV. Signal to Noise ratio: MW: 40 db. LW: 30 db. Automatic Gain Control: 7 db change from 10uV. to 1 m/V. Intermediate Frequency: 471 KHZ Controls: Volume (incorporating On/Off switch). Tone (fully variable). Tuning (slow motion drive to illuminated 3½' long scale). 5 push-button station-selector controls (4 Medium, 1 Long). Fuse: 1 amp. 11/4" x 1/4".

Supply lead:

3 ft. long incorporating fuse-holder.

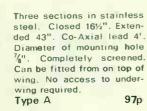
Aerial connection: Co-axial socket Speaker Lead: 4' long with easy fix tags. Speaker: 7" x 4"

BOTH MODELS SUPPLIED COMPLETE WITH SPEAKER, BAFFLE AND GENERAL PURPOSE MOUNTING KITS.

Type C

#### CAR AERIALS

3 BASIC TYPES COVER EVERY REQUIREMENT



#### Four steel 35". mete Leng 10%<sup>1</sup> spec Com Type

Four sections in stainless steel. Closed 1½", extended 35". Co-Axial Lead 4'. Diameter of mounting hole 7%". Length of tube below wing 10½". Unique lock requiring special key ring for release. Completely tamper proof. Type B £1.50



Four sections in stainless steel. Closed 12", extended 39". Co-Axial Lead 4'0". Length of tube below wing 15". Diameter of mounting hole required 1". Fully automatic electric model and foolproof. Easy to install. The operation of a dashboard switch extends or retracts all sections.

£5.97

Note: Some slight differences in size and appearance may apply due to stock variations.

POST ETC. 25p ANY TYPE

HENRY'S CAN SUPPLY ALL YOUR LEISURE NEEDS.

#### CASSETTE TAPE RECORDERS \* PORTABLES

#### FOR USE WITH BLANK OR PRE-RECORDED CASSETTES

#### \* HOME

#### ★ RADIO-PORTABLE

#### ★ PHILIPS N2202

Portable battery operated Record/Play machine, Supplied complete with microphone, tape, carry case. Built-in speaker and Input and Output sockets. For all applications. Size: 7<sup>7/</sup><sup>8</sup> x 4½" x 2¼"

PRICE £21.65 post 35p





#### ★ PHILIPS EL3302

Similar to N2202 above. most popular cassette recorder made.

PRICE £18.25 post 35p

# 

#### ★ TELETON TCR130

As TC110 facing, but with built in MW and FM Radio. All facilities, Battery/ Mains operation.

PRICE £30.25 post 35p

#### 🛨 ELIZABETHAN LZ216

Low cost battery cassette recorder/player complete with microphone, case etc. Simple push-button controls.

PRICE £16.45 post 35p

#### ★ ELIZABETHAN LZ416

Upright portable cassette recorder with MW/LW and FM radio built in. Battery/ mains operated. Complete ready to use. Made by HITACHI

PRICE £33.95 post 40p

SEE PAGES 340 and 341 OF CATALOGUE FOR STEREO TAPE EQUIPMENT

#### **CROWN CTR 8750**

Battery/Mains portable record and play. Features plano-key operation. Supplied with micro-phone and remote control switch. Input and output sockets to use with other facilities. Size: 21/2" x 7%" x 71/4".

PRICE £24.50 post 40p

#### ★ CROWN CTR 320W

Similar to above, but with shoulder strap.

PRICE £23.50 post 40p

#### ★ TELETON TC110

Twin motor cassette recorder. Mains/battery operated. Features automatic level control for recording, monitoring facilities, 500mW output, regulated motor control. Supplied complete with all accessories. Size: 271/2 x 17 x 8 cm.



PRICE £19.25 post 35p

#### ★ PHILIPS N2204

New battery/mains portable cassette recorder, complete with microphone, case etc.

PRICE £28.40 post 35p

#### ★ PHILIPS N2205

As N2204 above, but with plano key operation and automatic end of tape warning. Complete with carry case, mic., etc.

PRICE £33.65 post 40p

#### ★ STANDARD T183FL



Similar to LZ416, but made by "Standard"

PRICE £36,75 post 40p





#### **8 TRACK SLOT STEREO PLAYERS**

Your favourite music while you drive. 8 track Cartridge Car Stereo Players give superb tone and a powerful output to fill the car with spacious stereo music. Easy to install in any vehicle with a negative earth system. Takes all 8 track prerecorded tapes — available from all good record stores.





#### **ELPICO CST 800A**

Fitted tone balance and volume controls. Output: 4 watts per channel. Features automatic and manual override track change. Response 50–10,000 c/s. Size:  $8\frac{1}{8}$ " x  $6\frac{3}{4}$ " x  $2\frac{7}{8}$ ". Supplied with mounting brackets, speakers in housing etc.

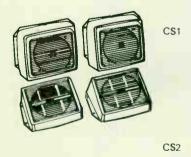
PRICE £24.95 post 50p

EAGLE CS8  $2^{1/2}$  watts per channel. Size:  $5^{15}/_{16}$ " x  $5^{1/2}$ " x  $2^{3}/_{6}$ " PIONEER TP83 with CS1 speakers.

4 watts per channel output, fitted programme selector, volume, balance and tone controls. Response: 5 0– 10,000 Hz. Overall size: 3" x  $6\frac{5}{6}$ " x  $6\frac{3}{4}$ " approx. Supplied with brackets etc. (Speakers CS1, CS2, TS10 or P-16K).

PRICE £32.50 post 40p

With two TS10 speakers £37.50 post 50p



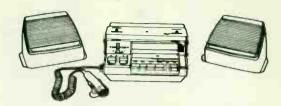
#### with CS1 speakers. PRICE £24.95 post 50p



### FOR YOUR CAR

8 TRACK SLOT STEREO AND CASSETTE EQUIPMENT

CASSETTE MACHINES



#### **TELETON MC7200**

Twin capability. Plays in stereo prerecorded cassettes available from all good record stores or your own recordings. PLUS record your own cassettes, C60, C90 or C120 types in mono in your car. Ideal for messages, memos, etc.

Power Output:

Supplied complete with speakers etc.

PRICE £42.50 post 50p



#### PHILIPS N2602

Car stereo cassette player. Plays all types of cassettes. 30, 60, 90 and 120 minute sizes. Automatic stop at end of tape. Power output 4+4 watts. Size  $7\frac{1}{6}$ " x  $7\frac{3}{6}$ " x  $2\frac{1}{2}$ ". Easy to mount. Complete with speakers in housing.

PRICE £41.00post 50p

RADIOMOBILE CAR CASSETTE Model 30 1CS Complete with speakers – stereo car cassette player. PRICE £41.00 post 50p

SEE LATER SECTION FOR HOME EQUIPMENT

### STEREO LOUDSPEAKERS with cable FOR CAR STEREO

 $\begin{array}{l} \textbf{CS1} \ 6^{11} / _6^{11} \times 5^{11} / _6^{11} \times 3^3 / _{32}^{12} \text{. Screw to shelf or} \\ \textbf{door. For use up to 3 watts.} \\ \textbf{Per pair PRICE $\pounds 3.40 \text{ post 25p}} \end{array}$ 

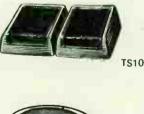
CS2  $6^{11}/_{6}$ " x  $6^{9}/_{6}$ " x  $3^{5}/_{8}$ ". Sloping to  $1^{7}/_{16}$ ".

Screw to shelf or door. Up to 3 watts. Per pair PRICE £4.50 post 25p

TS10  $2^{13}/_{6}$ " x 6" x  $6\frac{5}{6}$ ". Up to 5 watts. Shelf fitting. Per pair PRICE £7.95 post 25p

Ter part TRICE 17.55 post 25

P. 16K  $2\frac{1}{10}$  diameter x  $3\frac{1}{16}$ . Up to 5 watts. Insertion into door or shelf. Per pair PRICE £5.95 post 25p



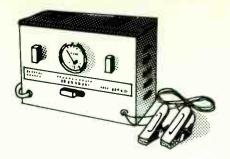


P-16K

# WHY LIMIT YOUR STEREO LISTENING TO YOUR HOME ? - NOW YOU CAN HEAR TRUE STEREO WHILE YOU DRIVE !!!

FULL 12 MONTHS GUARANTEE - SUPPLIED COMPLETE WITH MOUNTING ACCESSORIES AND INSTALLATION INSTRUCTIONS. SUITABLE FOR ALL CARS, VANS, LORRIES AND BOATS WITH 12 VOLT NEGATIVE EARTH SUPPLY.

49



#### **BATTERY CHARGER Model B210**

Robust stove enamelled case, for free standing, or wall attachment, for home charging of 6 volt and 12 volt batteries. Fitted with 3 core mains lead and heavy duty battery clips. Fully protected by rewireable fuses in all circuits.

MAINS INPUT 200-240v 50 c/s A.C. Mains only.

OUTPUT To charge 6-12 volt batteries at a max. of 4 amps.

PRICE £3.50 Carr. 30p



#### SINCLAIR Q.16 LOUDSPEAKER

Presents an entirely new appearance with its attractive teak surround and all-over cellular foam front, chosen as much for its appearance as for its ability to pass all audio frequencies without loss. The Q.16 will handle loading up to 14 watts RMS and presents an 8-ohm impedance to the amplifier output. Frequency response extends from 60-16,000Hz with exceptional smoothness. A specially designed driver system is used in a sealed and contoured pressure chamber to ensure good transient response at all frequencies. Size: 9%" square x 4%" deep from front to back.

PRICE £7.69 Carr.25p

HENRY'S SUPPLY EQUIPMENT TO ALL PARTS OF THE UK AND THE WORLD.

SEE PAGE 3 FOR POSTAL CHARGES.

#### SINCLAIR MICROMATIC

The world's most successful miniature radio

Considerably smaller than an ordinary box of matches, this is a multi-stage AM receiver meticulously designed to provide remarkable standards of selectivity, power and quality. Powerful AGC is incorporated to counteract fading from distant stations;

bandspread at higher frequencies makes reception of Radio 1 easy at all times. Vernier type tuning, selfcontained ferrite rod aerial, plug-in magnetic earpiece. Everything, including the batteries, is contained within the attractively designed case.



(Actual Size)

#### **SPECIFICATIONS**

Size:  $1^{13}/_{16}$ " x  $1^{7}/_{16}$ " x ½". Weight: including batteries—1 oz. approx. Medium waveband tuning with bandspread at higher frequency end. Magnetic type earpiece. Black plastic case with anodized aluminium front panel, spun aluminium dial.

Complete Kit including earpiece, case, solder and instructions in fitted case. PRICE £2.25

Ready built, tested and guaranteed, with earpiece. PRICE £2.75

Mallory Mercury Cell RM675 (2 required)

each 14p



#### MORSE CODE PRACTICE SET F. 1009

A conveniently easy-to-use combined morse key and signal buzzer operated from U2  $1\frac{1}{2}$ V battery. Strong moulded black base, rustproofed metal parts. The buzzer is pitch variable and the key can be adjusted for both 'touch' and pressure requirements. There are also power isolated headphone take-off pillars.  $6\frac{3}{4}$ " x  $2\frac{3}{4}$ ". Morse code sheet included.

PRICE 97

MODULAR COMPLETE STEREO SYSTEMS



#### HENELEC SELF-POWERED PRE-AMPLIFIERS

SLIM MODERN DESIGNS USING THE LATEST SILICON TRANSISTORS. FET'S and IC's. DIN SOCKETS, ETC. fitted. PUSH-BUTTON SELECTION, ± 20dB. Bass and treble boost and cut. All inputs provided plus TAPE RECORD and REPLAY. Specifically designed for use with PA25 and PA50 Amplifiers GOLD AND SILVER FINISH. Mains operated. Supplied with all plugs etc. ADJUSTABLE OUTPUT UP TO 1 VOLT. Simple mounting.

FET9/4 Mono with built-in mic. mixer. Accepts any ceramic or crystal cartridge. Plus tuner, tape, etc Price £12.50 pp.20p

FET154 STEREO Magnetic cartridge. input, tuner, tape, etc. Beautiful stereo sound. Price £16.50 pp. 25p





FET9/4

Brochure No. 25 on request

SIMPLICITY TO MOUNT - EASY TO USE - DESIGNED FOR QUALITY, PERFORMANCE AND PRICE

Also suitable for use with Amplifier Models MPA 12/3 and MPA 12/15.



Project 60 is a range of modules which connect together to form a complete stereo amplifier. The modules are: 1. Z-30 high gain power amp. 2. Stereo-60 pre-amp. control unit. 3. The PZ-5 unstabilised and PZ-6 stabi-lised power supplies. A complete system comprises two Z-30's, one Stereo-60 and a PZ-5 or PZ-6.

#### STEREO 60 SPECIFICATION

Input sensitivities: Radio up to 3mV. Magnetic Pick-up 3mV; correct to R.I.A.A. curve = 1dB: 20 to 25,000Hz. Ceramic Pick-up up to 3mV: Auxiliary up to 3mV • Output: 1 volt • Signal to noise: better than 70dB . Front panel: brushed aluminium with black knobs and controls . Size: 814 x 11/2 x 4"

#### Z-30 SPECIFICATION

 Power output: 15w. R.M.S. into 8 ohms using a 35 volt supply . Frequency response: 30 to 300,000 Hz ±1dB . Distortion: 0.02% . Signal to noise: better than 70dB . Input sensitivity: 250mV into 100 K ohms . Loudspeaker imp: 3 to 15 ohms . Power requirements: from B to 35V DC (The Z30 will operate from batteries if required). Size: 31/3 x 21/4 x 1/2 in.

P75 30V unstabilised-sufficient to drive two Z-30's and a Stereo 60 for domestic applications.

PZ6 35V stabilised-ideal for driving two Z-30's and a Stereo 60 for low efficiency speakers.

#### ALSO IN STOCK: Z50, PZ8, ARU

AND THE NEW PHASE LOCK FM TUNER

#### SINCLAIR PROJECT 60 PACKAGE DEALS

2 x Z30 amplifier, stereo 60 pre-amp, PZ5 power supply, £16.75 carr.40p. Or with PZ6 power supply, £18.25 carr. 40p. 2 x 250 amplifier, stereo 60 pre-amplifier PZ8 power supply, £20.25 carr.40p. Transformer for PZ8. £2.75 extra. Any of the above with Active Filter unit add  $\pounds4.75$ , with pair O16 speakers add  $\pounds15$ . Also FM TUNER add  $\pounds21.00$ . LOOK AT THE SPECIFICATIONS! 25 WATT & 50 WATT **RMS SILICON** AMPLIFIERS



- At full power 0.3% distortion.
- At full power-1dB 11c/s to 40 kc/s.
- Response 1dB 11c/s to 100 kc/s.
- Rise time 2µ sec.
- Short circuit proof plus limiting cct.

PA25 10 transistor all silicon differential input 400 mV sensitivity. 25 watts Rms into 8 ohms. Supplied with edge connector harness, size 5" x 3" x 2".

PA 50 12 transistor version 50 watts Rms into 3 to 4 ohms. Size 5" x 3" x 4"

MU 442. Power supply for one or two PA 25 or one PA 50

PA 25 £7.50 pp.20p. PA 50 £9.50 pp.20p. MU 442 £6.00 pp.30p. All units.

No soldering-just edge connectors & plugs.

### NEW from Mullard

#### UNILEX Audio Modules

Now you can build your own stereo units as you want them and entirely in your own home

A good quality stereo amplifier can be built with no electrical knowledge. All solid state - Baxendall tone control circuit-no soldering-terminal block connections throughout.



FULL SPECIFICATIONS AND DETAILS OF THESE MODELS CAN BE FOUND ELSEWHERE IN THIS CATALOGUE. ALSO HENRY'S COMPONENT STORE AT '356'

### SOLID STATE FULL FUNCTION MONO PREAMPLIFIER AND CONTROL UNIT



Model MP3 mono preamplifier provides input for pickups (crystal cartridges and low impedance magnetic) microphones, radio tuners (valve and transistor), tape preamplifier, tape head replay and other auxiliary inputs. Equalisation is provided for tape head replay and for pickup cartridges. The circuit uses two high gain silicon epitaxial planer low noise transistors plus one zener diode. The preamplifier is constructed on a rigid printed circuit panel and metal chassis and supplied complete with removable dark grey front panel and matching Silver Aluminium knobs as illustrated. Overall unit size is 9%" x 2%" x 2%" and two 4BA holes are provided for fixing. The chassis is electrically connected to signal earth and positive supply. Input supply voltage and output tags are clearly marked. Refer to specifications below for details.

#### SPECIFICATIONS AND PERFORMANCE

Frequency response	within 3dB 30c/s to 20kc/s.
Signal to noise ratio	better than 60dB.
Maximum Boost	15dB at 35c/s and 14kc/s.
Full Cut	15dB at 30c/s and 15kc/s.
Filter provides	4, 6, 10 and 20kc/s roll off.
Input sensitivity	1.5mV (see table).
Output	300mV peak from 10kohm.
Maximum ambient ten	nperature 40°C.
Power requirements	12 to 60 volts 3mA
(Tappings	15, 20/28, 36/45,50/60volts).

**Connections** (Tags on the printed Circuit) **Inputs** (See table) Signal earth tag 7. Connections to be made with screened cable and to be as short as possible. **Output.** Common output tag 4, signal output tag 2. Use screened cable to connect to amplifier(s).

**Power supply.** Negative (--) of supply to tag 5 for 12/15 volts. Tag 1 for 20/28 volts. Tag 6 36/45 volts. Tag 8 for 50/60 volts (+ve tag 4). Two leads are fitted from on/off switch (SW) capable of switching mains up to 1 amp. Connect to On/Off terminals of Mains Unit used.

Model MP3

ALL SILICON LOW NOISE
 CIRCUIT

HENRY'S RADIO

- ZENER STABALISED SUPPLY
- EIGHT SELECTED INPUTS
- FACTORY BUILT AND TESTED
- BRITISH DESIGNED AND MADE
- 'TRUE SOUND' HIGH FIDELITY

#### CIRCUIT AND APPLICATION

The first stage provides frequency selective negative feedback equalisation and has been adapted for a variety of inputs. Eight standard inputs are used. The second stage is a baxandall type tone control circuit giving full range of treble and bass control. High and low pass filtering above and below 20Kc/s and 40c/s is provided by negative feedback.

Supply voltage required is from 12 volts up to 60 volts at 3mA either from one of the mains units or dry batteries. The preamplifier supply line is zener stabalised. Controls are input selector, treble and bass (full boost and cut), high pass filter and volume control with on/off switch. Input sensitivity figures quoted allow for 2½ times overloads. Higher inputs must be attenuated at source. Designed for use with any amplifier requiring 200/250mV peak input for full output. Suitable for use with amplifier models MPA12/3, MPA12/15. Sufficient output is available to power two 12 watt amplifiers.

Input	Selector Position	Function	Sensitivity At 1 Kc/s.	Input Impedance	Remarks
A	LP 78	LP Records 78 ,,	up to 500 mV. up to 1 volt	500 K ohm. To 1 Meg.	High Output Crystal P.U.
В	LP 78	LP ,, 78 ,	4 to 5m∀. 7 to 10mV.	6 K ohm. 8 K ohm.	Magnetic (Low) Pickups (Imp.)
С	LP 78	LP 78	100mV. 150mV.	100 K ohm.	Quality Crystal Pickups.
D	Aux.	Preamps Etc.	150m V.	100 K ohm.	Mixer Preamps. Tape Preamp.
E	Tuner	Tuner Mics.	1.5mV.	*1 K ohm.	Radio Tuners, 1K,600 ohm mics.
F	Tape	Tape Head Replay	2.5mV.		ids between 30 K phm at 10 Kc/s.
G.	Mic.	Micro- phones.	Up to 15mV.	For 50 K ol all crystal n	nm dynamic and nics.
н	Tuner	Aux.	50m∨.	30 K ohm.	Radio Tuners and Auxilary.

 Use series resistors to attenuate input if necessary at 1.5mV per 1 K ohm, i.e. for 75mV input use 47 K ohm in series with E.

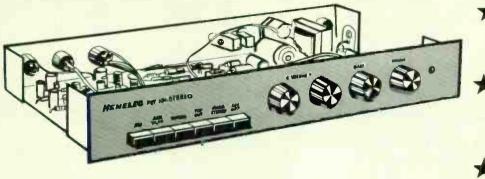
MODEL MP3 Price £7.25 post 25p AND KNG

COMPLETE WITH FRONT PANEL AND KNOBS. BUILT AND TESTED



SELF POWERED STEREO PREAMPLIFIER & CONTROL UNIT

MODEL FET154 STEREO



- ALL SILICON DESIGN **13 TRANSISTORS** 2 FET's 2 DIODES
- MAINS OPERATED WITH TRANSISTORISED SMOOTHING CIRCUIT
- ADJUSTABLE OUTPUT LEVELS



**TWIN OUTPUTS** 

SLIM MODERN

DESIGN WITH

TO DRIVE UP TO

FOUR AMPLIFIERS

#### GENERAL DESCRIPTION

Silicon transistor stereo design with inputs for Cartridge, Radio Tuner, Auxiliary and Tape. All input sockets are 'Din' Type. Twin stereo din output sockets are fitted plus tape recorder input and output. All inputs mono/stereo and top cut facilities are selected by a push-button unit. Controls are treble and bass with independent volume controls on each channel for definite channel balancing. Output level is adjustable up to 1 volt rms. The preamplifier is suitable to drive almost any type of amplifier and can drive two power amplifiers on each channel if required. Designed for domestic and professional users of stereo equipment. Recommended quality power amplifiers for use with the FET154 are models PA25 and PA50 and also models MPA12/3 and MPA12/15. A 100 watt amplifier is also available.

#### CIRCUIT

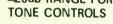
The design uses 13 silicon transistors two FET's and two silicon diodes. Pickup input has two low noise high gain devices with RIAA correction over two stages. Standard input is for magnetic cartridge (2 to 10mV 47-100K ohm are suitable), for crystal and ceramic cartridges, see table. Radio Tuner, Auxiliary and Tape inputs are direct to the next stages compounded NPN/PNP, followed by a low pass switched filter stage. Full range tone controls providing ± 20dB variation designed around a field effect transistor and buffer amplifier with high stability and low noise. Output is adjustable up to 1 volt for each channel. A separate 100mV tape recorder or auxiliary output is provided. A transistor is used along with capacitors to smooth the power supply which is mains operated. Low voltage lamp indicator. Fitted with push-button mains On/Off switch.

#### PROVISIONAL SPECIFICATIONS

THOTHORNE OF L			
Magnetic Cartridge 4mV Input at 1Kc/s for 600mV output			
	Max.Input 15mV. Input Imp. 47Kohm nominal, RIAA corrected.		
Crystal/Ceramic Car	tridges - see table overleaf.		
Flat Inputs	50mV Input at 1 Kc/s for 400mV output		
(Tape, Aux/Tuner)	100mV Input at 1 Kc/s for 800mV output		
	Maximum input 400mV. Input Impedance 10K ohm nominal.		
Frequency Response	-1dB 35Hz to 30K Hz.		
Tone Controls	± 20dB at 50Hz, ± 16dB at 10K Hz (± 20dB at 18K Hz)		
	Top cut -15dB at 10K Hz.		
Output	Adjustable up to 1 volt per channel - output impedance		
	approx. 1K ohm, Tape output nominally 100mV 50K ohm.		
Distortion etc.	Negligible		

±20dB RANGE FOR

**BRUSHED PANEL** 



DESIGNED FOR USE WITH AMPLIFIERS UP TO 250 WATTS EACH CHANNEL

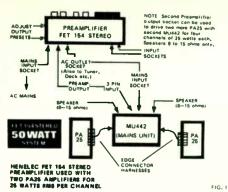
UNPARALLELED PERFORMANCE AT THE **RIGHT PRICE** 

COMPLETE WITH ALL HENELEC MODEL FET154 STEREO £16.50 POST 30P FULLY GUARANTEED NECESSARY ACCESSORIES

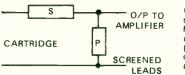
53

PRICE

#### CONNECTING STEREO PREAMPLIFIER FET154 to PA25 and PA50 POWER AMPLIFIER

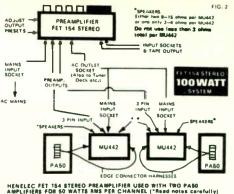


#### USING CRYSTAL AND CERAMIC CARTRIDGES WITH FET 154 PREAMPLIFIER



One channel only shown. Mount components under turntable. (Magnetic cartridges do not require any additional components).

CARTRIDGE	'S'	'P'
BSR C1	47K-100K	Nothing
DERAM	Zero	22K 0,01
CS 90	220K	22K
9TA	100к 1000рf	6.8K
9ТАН/С		10K
GP93 SERIES	100K — 330K	47K
SCU1	47K — 100K	Nothing



#### PREAMPLIFIER / AMPLIFIER CONNECTIONS SUPPLIED WITH FET154

3 pin din plug with twin screened cable for connection to turntable (spares at 43p each). Twin lead with 3 pin din plug at each end for connection of output to amplifier (spares at 63p each).

Mains cable with plug to preamplifier. Flat pin AC out plug (for amplifier power supply, radio tuner, tape deck, record turntable etc.). 5 pin din plug for tape in and out.

3 pin din plug for Tuner/Auxiliary input.

#### INPUT/OUTPUT CONNECTIONS

3 pin din Plugs/Sockets. Marked pins. 1 left, 3 right, 2 earthy. 5 pin tape plug/socket. Record Left Pin 4, Right, Pin 5, Pin 2, Earthy. Replay Left Pin 1, Right Pin 3, Pin 2 Earthy. (NOTE: Pin sequence as marked is 1, 4, 2, 5, 3.).

#### DIMENSIONS

FRONT PANEL 12" x 1.75" OVERALL SIZE 12" x 1.75" x 6.125" Front panel finished in brushed aluminium with black lettering and matching knobs.

#### FIXING By three 6BA tapped pillars.

Unit can be mounted in any type of cabinet or sleeve. Hole cut out should be less than front panel size.

BRITISH MADE AND FULLY GUARANTEED

#### **HEADPHONES**

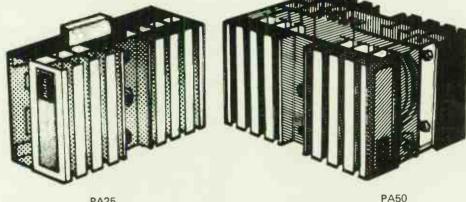
To enable headphones to be used for private listening or monitoring tape recordings a small junction box is available, price £1.37. This allows selection of speakers, headphones or both with the built in switch, Connections are made as per the instructions supplied to the power amplifiers used. A complete range of headphones from £1.97 is available from stock.

# **HENELEC** HENELEC ELECTRONIC PRODUCTS



1

# New range of SILICON AMPLIFIERS



**PA25** 

The first of a series of new British designed and made Silicon Transistor Amplifiers. Featuring small overall size and cool running, no extra heatsinking is required. Built-in current limiting and fused output for full protection. Circuits use differential input amplifiers, balancing circuits, compounded NPN and PNP silicon output stages using the latest semiconductors. Current limiting via transistor/diode PNP/NPN circuits. Very wide frequency and power response is obtained with negligible distortion. The designs are 'Zero earth' with + and - power lines, preamplifiers used should preferably have a separate power supply. The preset on the panel is factory adjusted for crossover and should not be touched. All connections are made via edge connector which is supplied fitted with cables ready to use with the MU442 mains unit. Both amplifiers are short circuit proof and open circuit protected.

The PA25 is for 8 to 15 ohm speakers (not 4 ohm), 4-8 ohm, if marked as such, are suitable. Circuit uses 10 transistors and two diodes plus 2 amp output protection fuse. Connection to the MU442 Power Unit is via edge

connector and harness Type A supplied with amplifier (multi-lead with edge connector each end). Only the MU442 mains unit should be used suitable for one or two PA25. Output is 25 watts rms into 8 ohms or 15 watts rms into 15 ohms. Overall size: 5.1" x 3" x 2.1". Weight: 13 ozs.

The PA50 is developed from the PA25. Features 12 transistors plus two diodes and 3 amp output fuse. For continuous output at 50 watts, replace with a 4 or 5 amp fuse. Power is 50 watts rms into 3-4 ohms or 25 watts into 8 ohms or 15 watts into 15 ohms. Only the MU442 Power Supply should be used. Each amplifier is, supplied with edge connector harness Type B- (multilead with single edge connector for amplifier to two edge connectors for power supply). - See notes overleaf. Overall size: 5.1" x 3" x 4", Weight: 19 ozs.

Designed as quality high power amplifiers for domestic and professional use where quality and reliability is required. Recommended integrated self powered preamplifiers are models FET154, FET9/4

Price £9.50 Post 200 PA50

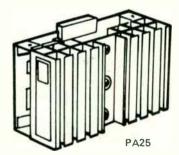
PA25 Price £7.50 Post 15p

COMPLETE WITH EDGE CONNECTOR HARNESSES.

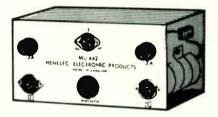
# HENELEC HENELEC ELECTRONIC PRODUCTS



MODEL			
MODEL	PA25 AMPLIFIER	PA50 AMPLIFIER	
Input Impedance	15Kohm	15Kohm	
Power Output Into 15–16 ohms Into 8 ohms Into 3 to 4 ohms	15 watts rms 25 watts rms Not allowed	15 watts rms 25 watts rms 50 watts rms	
Power Bandwidth (At Full Power)	11 Hz — 40К Hz —1dB	11 Hz – 40K Hz –1dB	
	14 Hz – 30K Hz OdB	12 Hz – 35K Hz 0dB	
Bandwidth (Full Power	12 Hz –150K Hz –1dB	12 Hz – 150K Hz –1dB	
-10dB)	14 Hz - 100KHz 0dB	12Hz – 100K Hz 0dB	
Input for Full RMS Power	400m.V	400mV	
Distortion (At full power)	0.25% at 1K Hz and full power under 0.5% 20Hz - 40K Hz		
Distortion at 10 watts RMS	Not greater than 0.15% 20 Hz 40K Hz		
Rise Time at 10K Hz	2.5µ sec	2.5µ sec	
Crossover Distortion	-60dB	-60dB	
Hum and Noise Input shorted Input open	95dB 80dB	—75dB —70dB	



AND MU442 POWER SUPPLY



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#### MU 442 POWER SUPPLY

Designed for use with either one or two PA25 Amplifiers or one only PA50 Amplifier, Connections from amplifier to power supply are via edge connector harness supplied. Type A for PA25 and Type B double harness for PA50. Speaker output sockets are on the power supply as is also the signal input. When using PA50 Amplifier the output sockets are paralled automatically therefore each socket is for 8 to 15 ohm speakers or using one socket only for 4 to 8 ohm speaker. For PA25 use only 8 to 15 ohms for each socket. Preamplifiers should have a separate power supply to reduce hum effects and eliminate earth luops.

MU 442 FIXING Two 4BA bolt holes

OVERALL SIZE 61/2" x 35/8" x 51/2"

WEIGHT 5 lbs.

FUSES 2 x 2 amp Anti-surge

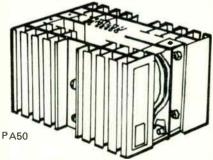
TOTAL OUTPUT No Load Approx .- 28/0/+28 volts. At 2 amps Approx.-22/0/+22 volts.

#### PRICE £6.00 MU 442 Post 30p

(Supplied with mains plug, 3 pin din input plug, two speaker din plugs, 2-4 BA fixing bolts.)

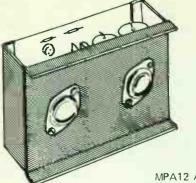
#### AMPLIFIER FIXING

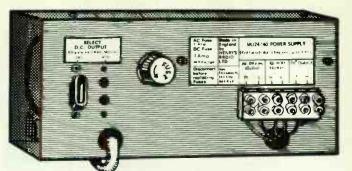
No extra heatsinking is required, the amplifiers can be bolted to wood, paxolin or metal as required as the heatsinks are isolated from the circuitry. Fixing is via two 6BA clearance holes for the PA25 and four for the PA50 although only two need be used. Mount the amplifiers vertically allowing ventilation above and below if enclosed in a box.



#### **12 WATT TRANSISTOR POWER AMPLIFIERS**

#### MODELS MPA12/3 and MPA12/15





MPA12 AMPLIFIER

#### GENERAL DESCRIPTION & CIRCUIT

These amplifiers are 6 transistor plus rectifier designs, incorporating direct coupled circuitry with heavy AC and DC feedback. Stability and performance is very good with push-pull power transistor output driven by complementary PNP/NPN drives. Two presets are on the panel, and must not be touched as they are adjusted at the factory. The assembly is on a printed circuit bolted to a heatsink providing cooling for the power transistors. Small compact size 5 x 2 x 3.25 in. is a feature with very low weight due to the elimination of any output transformer. Designed for use with any preamplifier capable of providing 100 to 150mV. Suitable preamplifiers are Models XP2, Fet 9/4 and Fet 154 all capable of driving up to 6 of these amplifiers per channel.

Two versions are available, Model MPA12/3 designed for use with 3 to 4 ohm speakers (8 ohms are suitable with reduced power output) and operating from 18 to 24 volt supply either the optional mains unit, dry batteries or accumulators. Model MPA12/15 is designed for use with 12 to 16 ohm speakers and operates from a 36-40 volt supply provided by the MU24/40 mains unit. Input, output and supply voltage tags are clearly marked on the amplifiers as are the connections to the mains unit Model 24/40. The mains unit is suitable for powering one or two amplifiers, either two MPA12/15. The unit is choke smoothed with high value electrolytic capacitors and double fused. Connections are clearly marked, and should only be made with the unit disconnected from the mains – read notes carefully overpage.

MU24/40 POWER SUPPLY

BRITISH DESIGNED & MADE

COMPACT CONSTRUCTION Size '5'' x 2'' x 3.25''

15 WATTS MUSIC POWER OUTPUT - 20 WATTS PEAK

DESIGNED FOR STABILITY AND RELIABILITY

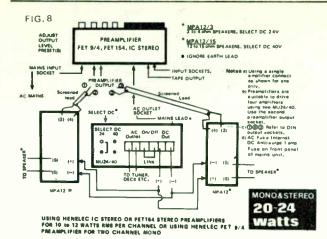
MAINS OR BATTERY OPERATION

IDEAL FOR HIGH FIDELITY EQUIPMENT, ELECTRONIC MUSICAL INSTRUMENTS TAPE AND CINE SYSTEMS. PAGING AND PUBLIC ADDRESS, MODULATORS, STUDIO EQUIPMENT, ETC.

### IN USE DOMESTICALLY AND PROFESSIONALLY THROUGHOUT THE WORLD

MODEL PRICE MPA12/3 £4.50 pp.20p	MODEL         PRICE/           MPA12/15         £5.25 pp.20p	MODEL         PRICE           MU24/40         £4.50 pp.30p
-------------------------------------	--	--

#### CONNECTION OF PREAMPLIFIERS TO MPA12/3 or MPA12/15 AMPLIFIERS



MODEL	MPA12/3	MPA12/15	
Input Impedance	33K ohm 33K ohm		
Power Output Into 12-16 ohms Into 8 ohms Into 3-4 ohms	Not suitable 10–12 watts rms 5 watts rms Not advised 10 watts rms Not allowed		
Full Power Response Frequency Response	Within +11/2dB 30 HZ 20K HZ ±3dB 20 HZ 25K HZ		
Input for full rms power	100mV	100mV	
Distortion at full power	0.2% at 1 K HZ		
Power Requirements No load Full Power	24/28 volts 18 volts 0.8A	40/50 volts 36 volts 0.4A	

#### EXTRA NOTES TO FIGURE 8.

- 'ON/OFF' on MU24/40 power supply is linked only if preamplifier used as a switched AC outlet socket. If not then 'on/off' should go to a separate mains on/off switch or switch section of a volume control. AC fuse is internal, DC Fuse 1 amp anti-surge is on the front panel.
- 2. The MU24/40 power supply is suitable for one or two amplifiers—use only two MPA12/3 or two MPA12/15 not mixed. Make sure that 'Select DC' is set to 24 for MPA12/3 or to 40 for MPA12/15. Preamplifiers used should have a separate power supply to minimise hum and earth loops. However a series resistor in the (-) output - selected for the desired voltage can be used followed by an electrolytic capacitor of 200 to 1000 mfd 50 volts with a zener diode and/or transistorised regulator. Note that the amplifiers are (+) earth.
- Amplifier connections are to tags on the main printed circuit panel. Input signal to tag 2, signal earth Tag 4, Negative supply to (-) and positive to (+). Output to speakers tags (S)(S). Use screened leads for input.

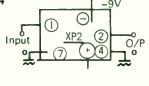
#### IMPORTANT

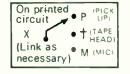
- 1. SPEAKER CONNECTIONS FOR THESE AMPLI-FIERS DO NOT HAVE ONE SIDE EARTHY.
- Use only 3-4 ohms (up to 8 ohms is suitable) for MPA12/3 & 12-16ohms only for MPA12/15.
- These amplifiers do not have short or open circuit protection so do not short terminals 'SS' together it could be expensive to repair.
- 4. The amplifiers are of +ve earth design with the metal heat sinks connected to +ve. Fixing is via two 48A clearance fixing holes. For continuous use at high outputs bolt the amplifiers to a metal chassis for extra cooling and allow ventilation if enclosed in a box. Mount the amplifiers vertically.

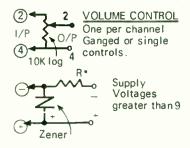
#### SIMPLE MULTI-PURPOSE PREAMPLIFIERS Models XP2 & XS4



Model XP2 is an ideal preamplifier for 47K ohm magnetic cartridge with RIAA correction; 50 K ohm microphone and tape head replay with adjustable curve. The link on the panel can be replaced by a switch as required. If overloading occurs connect a 10 K ohm preset before the volume control. Use screened leads for input and output connection.







\* 12K for 18 to 28 volts 33K for 34 to 45 volts Zener Z6Y88C10 or similar.

SINGLE CHANNEL MODEL XP2 Price £2.25 TWO CHANNEL OR STEREO MODEL XS4 Price £3.50



#### HENELEC SELF POWERED SINGLE CHANNEL PREAMPLIFIER WITH MICROPHONE MIXER MICROPHONE MIXER MODEL FET 9/4



#### GENERAL DESCRIPTION

A new all silicon transistor single channel preamplifier with a built-in two stage microphone mixer. Inputs provide for any ceramic or crystal cartridge, Radio Tuner/Auxiliary and Tape input and output. All inputs and top cut facility are selected by push-button unit except for the microphone which has a direct input with its own volume control. Controls are treble, bass, volume with independent volume control for the microphone. The output is adjustable up to 1 volt and is capable of driving up to four amplifiers as required. Designed for all domestic and professional applications such as HI-FI, studio monitoring, relay systems, disco systems and multi-channel use with one or more of these preamplifier to obtain multi-channel mixing. Amplifiers for use with model FET 9/4 are available from 12 watts up to 100 watts per channel.

#### CIRCUIT

The design uses 7 silicon transistors, 2 FET's and two silicon diodes. The cartridge input us an FET transistor with preset input sensitivity adjustable from 50mV up to a volt and is therefore suitable for all types of ceramic and crystal cartridge. Tuner, auxiliary and Tape inputs are direct via the main volume control into a compound NPN/PNP pair followed by a low pass switched filter stage. The microphone mixer stage is a two transistor linear circuit with a separate mixing volume control, Full range tone controls designed around a FET and transistor provide up to 20dB tone variation. The output stage is a buffer amplifier with feedback for linear ty and high stability. The output is adjustable up to 1 volt. A separate output of approx. 100 mV is provided for tape etc. A transistorised power supply unit is used with low voltage lamp indicator and push-button on/off mains switch.

#### SPECIFICATIONS

Crystal or Ceramic Cartridge 50 mV to 1 volt (adjustable for 600 mV output at 1 Kc/s Maximum Input 1.5 volt. Input Inpedance approx 2 megohms. Suitable for all types of ceramic and crystal cartridge.

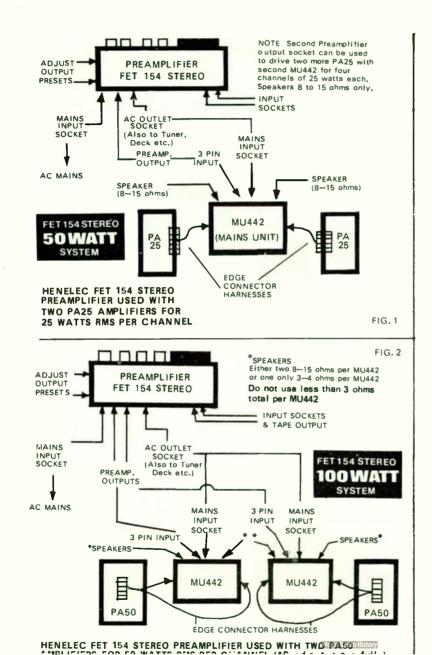
	50 mV Input at 1Kc/s for 400 mV output. 100 mV " " " 800 mV "	
	Maximum Input 400 mV, Impedance 10K ohm.	
Microphone	5 to 15 mV nominal 50 Kohm	
Frequency Response -1 dB 35 Hz to 30KHz.		
Tone Controls	± 20dB at 50 Hz and 18KHz ± 16dB at 10KHz. Top Cut approx15dB at 10KHz.	
Output	Adjustable up to 1 volt-output Impedance approx. 1 K ohm. Tape output nominally 100 mV 50 K ohm.	
Distortion etc.	Negligible	

★ ALL SILICON DESIGN 7-TRANSISTORS 2-FET's 2-DIODES

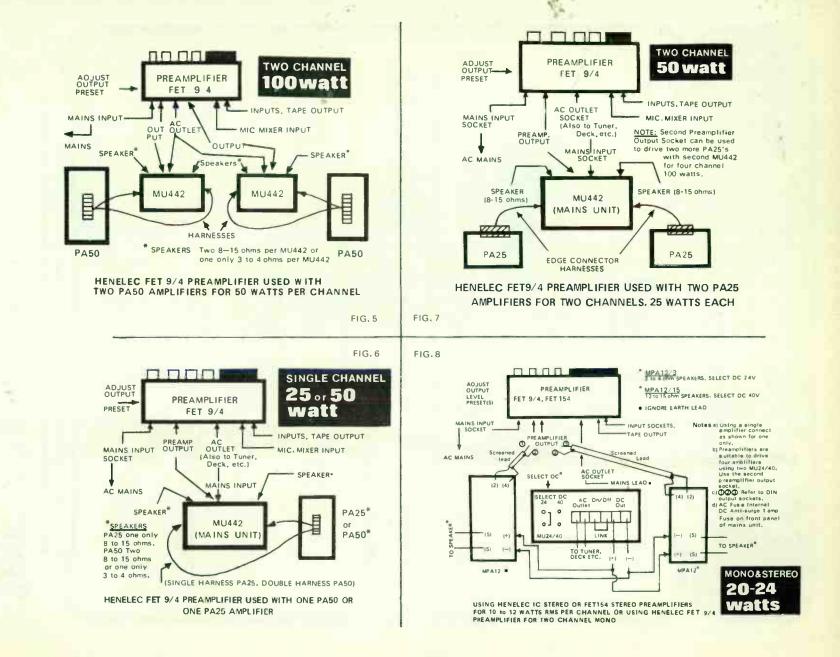
- **X** MAINS OPERATED WITH TRANSISTORISED **SMOOTHING CIRCUIT**
- **PUSH-BUTTON** SELECTION
- **MICROPHONE MIXER** BUILT-IN
- **X** TWIN OUTPUTS TO DRIVE UP TO FOUR AMPLIFIERS
- \* SLIM MODERN DESIGN WITH BRUSHED PANEL
- ± 20dB RANGE FOR TONE CONTROLS
- **X** ADJUSTABLE INPUT AND OUTPUT LEVELS

### HENELEC Model FET 9/4 PRICE £12-50 post 25p

COMPLETE WITH ALL NECESSARY ACCESSORIES



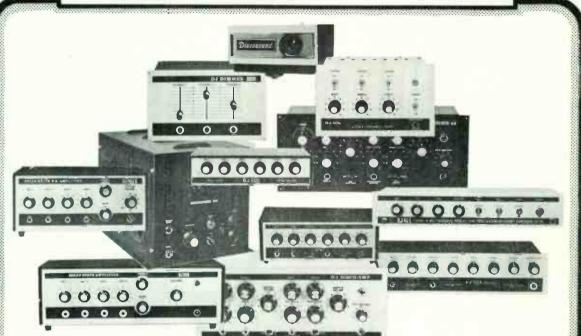




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### Discosound A. AND DISCOTHEOUE EQUIPMENT - A COMPREHENSIVE RANGE COVERING EVERY REQUIREMENT

AMPLIFIERS, MIXERS, LIGHT CONTROL UNITS.



D.J. 102 Discotheque Mixer Pre-Amplifier 4 inputs each with its own volume control plus master volume control, PPL monitoring and mic override switches. Size 104" x 4" x 4".

#### D.J. 1055 P.A. Amplifier

4 channel mixing facilities each with separate inputs and volume controls 30 watts r.m.s. power output A.C. Mains 200/250v A.C. Size 11‡\* x 5" x 6".

#### D.J. 705 Integrated Mixer Amplifier

Power output 70 watts r.m.s. 4 channel mixer with separate inputs and volume controls, plus master volume and separate bass and treble controls. Size  $15_1^{\circ} \times 5^{\circ} \times 6^{\circ}$ .

#### D.J. Disco-Amp

Pesigned specifically for use with discotheques. Power output 100 watts r.m.s. Two mike inputs and two gram inputs, with independent volume controls plus bass and treble controls. Incorporates many exclusive features Front panel size 164" x 7".

#### **D.J.** 101 Mixer Pre-Amplifier

Six inputs allow full mixing facilities for all types of equipment. 9v battery operation. Size  $10^{2^{n}} \ge 2^{2^{n}} \ge 4^{2^{n}}$ . 1.6.

#### **Discosound 40 Discotheque Pre-Amplifier**

Discondura du Disconneque pre-amplitier Peatures independent inputs and volume controls for two microphones and two turntables plus Belf powered and ideal for use with Disconound 100 Power Amplifier (in capable of running 10 of these power amplifiers-total 1000 watts) Front panel size 164" x 7".

#### **Discosound 100 Power Amplifier**

Discosound 100 Powar Amplifier 1 100 watar.rms.power amplifier (at 8 ohms) utiliaing all silicon transistors and features full automatic newfload against short or open circuits. Frequency response 20-20,000 Hz  $\pm$  3db. Distortion less than 1% at 70 watts r.m.s.  $\pm$  1db. 8/ze10/\* x 8\* x 7\*.

D.J. 1035 Stereo Pre-Amplifier A high quality stereo discotheque pre-amp unit. Incorporating two microphone and two turniable inputs each with independent volume control. plus bass, treble, balance and master volume control Offer full mixing and monitoring facilities. Front panel size 16§\* x 3§\*.

D.J. 30L Psychedelic Light Control Unit 3 channel light unit enabling bass, middle and treble frequencies from the amp filer to be operated individually. Handles 1000 watts per channel. Front panel size  $10^{\circ} \times 6^{\circ}$ . ....

D.J. 40L Sound Operated 3 Channel Light Unit Features built-in microphone which eliminates the need for connections to any amplifier or sound source. Handles 1000 watts per channel.

#### **D.J. DIMMER 3000**

3 channel light dimmer unit offered in two versions: Dimmer 3000—a straight three channel dimmer unit with mains input and three light outputa. Dimmer 30008—for use in conjunction with D.J.30L Light Control unit only and has three mains inputs and three light outputs Front Panel size 10° x 6°.

#### Discosound Disco-Wheel

Discound Discoverees A projector designed to project a range of liquid wheels and colour change wheels for special lighting effects, adding colour and variety to any form of entertainment. Size  $7i^* \times 10i^* \times 5i^*$ .

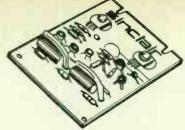
A range of complete Discotheques with matching Speakers also available.

**DISCOSOUND PRODUCTS ARE GUARANTEED FOR 12 MONTHS** 

# HENRY'S RADIO LTD.

SUPPLY SOUND AND LIGHTING THROUGHOUT THE WORLD





The Z-30 is a complete power amplifier of very advanced design employing 9 silicon epitaxial planar transistors. Total harmonic distortion is incredibly low being only 0.02% at full output and all lower outputs. As far as we know, no other high fidelity amplifier made can match this specification, no matter what the price. Thus you can be utterly certain that your Project 60 system will do full justice to your other equipment however good it may be. The Z.30 is unique in that it will operate perfectly, without adjustment, from any power supply from 8–35V. It also has sufficient gain to operate directly from a crystal pick-up. So in addition to its use in a high-fidelity system you can use a Z.30 to advantage in your car or a battery-operated gramophone for your children, for example. These, and many other applications of the Z.30.

#### SPECIFICATIONS

Power Output: 15 watts RMS (30 watts peak) into 8 ohms using a 35V supply; 20 watts RMS (40 watts peak) into 3 ohms using a 30V supply.

Output:	Class AB
Frequency Response:	30–300,000 Hz ± 1 db.
Signal-to-Noise Ratio:	Better than 70 db unweighted.
Distortion:	0.02% total harmonic distortion at
	full output into 8 ohms and at all
	lower output levels.
Size:	3½ <sup>11</sup> x 2¼ <sup>11</sup> x ½ <sup>11</sup> .
Input Sensitivity:	250mV into 100k ohms.
Damping Factor:	>500
Loudspeaker Impedances:	: 3-15 ohms.
Power Requirements:	8-35∨ d.c.

Ready built, tested and guaranteed with Z.30 manual.

PRICE £3.60

SINCLAIR POWER SUPPLY UNITS

PZ.5 30V unstabilised-sufficient to drive two Z.30's and a Stereo 60 for the majority of domestic applications.

#### PRICE £3.98

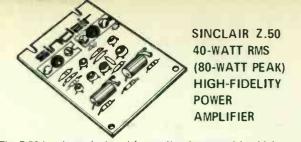
PZ.6 35V stabilised--ideal for driving two Z.30's and a Stereo 60 when very low-efficiency speakers are employed.

PRICE £6.38

PZ.8 45V unit for use with two Z.50's and Stereo 60 (less mains transformer).

PRICE £5.98 (Transformer £2.75 extra)

POST AND PACKING SEE PAGE 2.



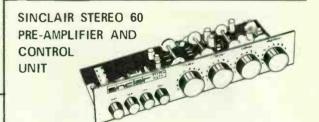
The Z.50 has been designed for applications requiring higher output power than the Z.30. The maximum supply voltage is raised to 50V and the output power is 40 watts continuous RMS into 3 or 4 ohms and 30 watts continuous into 8 ohms. The Z.50 is otherwise identical to the Z.30 in design and specification, the increased power being obtained by using much higher current power transistors used well within their rated limits.

The Z.50 is, of course, compatible with the other Project 60 modules, such as the Stereo 60, and since the price is only slightly higher than that of the Z.30, customers may like to consider the advantages of buying two Z.50's for their systems now in case higher power is required later.

Where the full output power is not required the Z.50 may be used with the PZ.5 or PZ.6 but for the full output power the PZ.8 should be used. This unit is a stabilised power supply providing 45V at up to 3 amps. (It is supplied without mains transformer as it is designed for use with a readily available unit, Model PZ8).

Z.50 Power Amplifier, built tested and guaranteed: PRICE £4.38 PZ.8 Power Supply Unit: £5.97

Transformer: £2.75 extra



The Stereo 60 is a stereo pre-amplifier and control unit designed for the Project 60 range but suitable for use with any high quality power amplifier. Again silicon epitaxial planar transistors are used throughout and great attention has been paid to achieving a really high signal-to-noise ratio and excellent tracking between the two channels. Input selection is by means of push-buttons and accurate equalisation is provided for all the usual inputs. The tone controls are also very carefully designed and tested.

#### SPECIFICATIONS

Input Sensitivities:-

Output: Signal-to-Noise Ratio: Channel Matching: Tone Controls:

Power Consumption: Power Requirements: Finish:

Mounting:

3mV correct within ± 1 db on R.I.A.A. curve; Ceramic Pick-up-up to 3mV; Auxiliary-up to 3mV. 250mV. Better than 70 db. Within 1 db. Treble+15 to -15 db at 10 kHz; Bass +15 to -15 db at 100 Hz. 5mA. PZ.5 or PZ.6. Brushed aluminium front panel with black knobs. On cabinet front by spindle brushes and adjustable brackets.

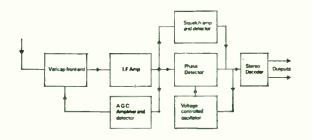
Rasio-up to 3mV; Magnetic Pick-up

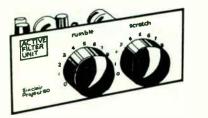
Ready built, tested and guaranteed:

PRICE £7.98

#### Specifications

Number of transistors 16 plus 20 in I.C. Tuning range 87.5 to 108 MHz Capture ratio 1.5dB Sensitivity 2µV for 30dB quieting  $7\mu$ V for full limiting Squeich level 20µV A.F.C. range @ 200 KHz Signal to noise ratio >65dB Audio frequency response 10Hz-15kHz (± 1dB) Total harmonic distortion 0.15% for 30% modulation Stereo decoder operating level 2µV Pilot tone suppression 30dB Cross talk 40dB I.F. frequency 10.7 MHz Output voltage 2 x 150mV R.M.S. Aerial Impedance 75 Ohms Indicators Mains on; Stereo on; tuning indicator Operating voltage 25-30 VDC Size 3.6 x 1.6 x 8.15 inches: 91.5 x 40 x 207 mm





ACTIVE FILTER UNIT FOR PROJECT 60

The Sinclair Active Filter Unit is a new addition to our Project 60 range of high-fidelity modules and is designed to complement the other modules in the range.

#### **SPECIFICATIONS**

Designed for connection between the Stereo 60 pre-amplifier and two Z.30 or Z.50 power amplifiers.

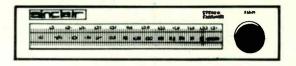
Employs two Sallen and Key type active filter stages, the first being a rumble (high pass) filter and the second a scratch (low pass) filter. The two stages use complementary transistors to minimise distortion.

Supply Voltage: Current: Gain at 1 kHz, filters flat: H.F. Cut-off (-3 db); H.F. Filter Slope: L.F. Cut-off (-3 db): L.F. Filter Slope: Distortion at 1kHz (35V supply:

15-35V 3mA max. 0.98 (-0.2 db). Variable from 28-5 kHz. 12 db/octave. Variable from 25-100Hz 12 db/octave. 0.02% at rated output (250mV RMS). Frequency Response, Flat Position: 35-20,000 Hz-1 db. 25-28.000 Hz-3db.

Built, tested and guaranteed: £4.78

# STEREO FM TUNER



#### first in the world to use the phase lock loop principle

Before production of this tuner, the phase lock loop principle was used for receiving signals from space craft because of its vastly improved signal to noise ratio over other systems. Now, for the first time the principle has been applied to an FM tuner with fantastically good results. By the inclusion of other original features such as varicap diode tuning, printed circuit coils and an I.C. in the specially designed stereo decoder the tuner has an unsurpassed specification, which also incorporates a squelch circuit for silent tuning between stations, A.F.C. and A.G.C. Sensitivity is such that good reception becomes possible in difficult areas, foreign stations can be tuned in suitable conditions and often a few inches of wire are enough for an aerial. In terms of high fidelity this tuner has a lower level of distortion than any other tuner we know. Stereo broadcasts are received automatically as the tuning control is rotated, a panel indicator lighting up as the stereo signal is tuned in. Although the tuner is intended primarily for use with a Project 60 system, it can be used to advantage with any other high fidelity system. It is easily mounted into any cabinet as shown in the manual supplied with it.

#### PRICE £20.97 Built and tested.

#### SINCLAIR PACKAGE DEALS

- 2 x Z.30 Amplifiers
- 1 x Stereo 60 Pre-amplifier
- 1 x PZ.5 Power Supply

£16.75 Carr.37p (or with PZ6 Power Supply £18.25 pp.37p)

- 2 x Z.50 Amplifiers
- 1 x Stereo 60 Pre-amplifier
- 1 x PZ.8 Power Supply less transformer

£20.25 pp.37p (Suitable transformer for PZ.8 £2.75 extra)

Add £4.78 to any of above package deals for Active Filter Unit.

Add £13.90 pp.25p to any of above package deals for a pair of Q.16 Speakers.

Add £20.25 to any above package deals for Project 60 FM Tuner.

### MW-LW QUALITY SUPERHET TUNER mkII

#### HIGH SENSITIVITY AND STABILITY

HIGH FIDELITY QUALITY (FOR AM!)

OUTPUT UP TO 250mV FOR VALVE OR TRANSISTOR EQUIPMENT

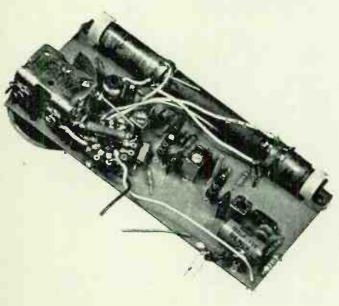
LOOK AT THE PRICE - LISTEN TO THE QUALITY

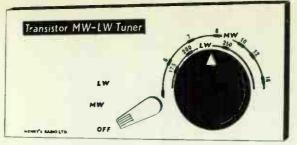
A new printed circuit superhet design easy to construct. Never before has such quality been available from this type of circuit. A preset is used on the output to enable a correct input to be chosen for your amplifier. The complete set of parts includes ivory with black front panel and matching controls. Overall size 6" x 2%" x 1½" deep. Unit runs from 9 volts 1½/2mA either small battery or via a resistor from your equipment.

FULL COVERAGE OF MEDIUM AND LONG WAVEBANDS WITH AVC – FULLY TUNABLE

#### PARTS LIST AND PRICES (Np)

- A. Airspaced Gang and Dial Knob 32½
- B. 4 pole 2 way switch and nut/washer 17½ and lever 17½
- C. Osc. Coil/IFT1 orange/yellow or yellow IFT2 orange/yellow or white/IFT3 blue 50 or black (Price 3/- each separately). (Set of 4)
- D. Transistors TR1 OC44, TR2 and TR3 721/2 2N4061 Diode OA70/OA81/OA85 (Set of 4)





### TOTAL COST TO BUILD £3.98 pp. 17p

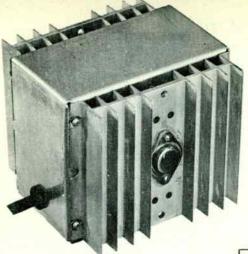
ALL PARTS SOLD SEPARATELY AND FULLY GUARANTEED

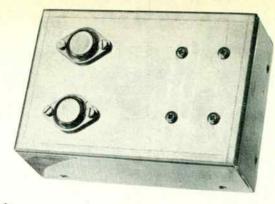
FULL AFTER SALES SERVICE

A 'HENRYS' QUALITY DESIGN

- 10 E. 5k submin preset F. Ferrite aerial with Medium and Long 40 Wave windings G. MW/LW tuner printed circuit board (No.10) 45 H. Capacitors (Set of 14) 50 (1) 100mfd 12v. C13 8p (1) 10mfd 16v.C5 9 (4) Disc type 0.04mfd. C8,C9,C10,C13 ea. 4 (6) Disc type 0.01mfd. C1,C2,C3,C11, C14, C15 ea. 4 (1) 130pf 5% C4 1/- (1) 4.7pf 5% C7 5 1. Resistors all 5% 6p each (Set of 16) 30 J. Front Dial Plate 28
- K. Miscellaneous (Complete pack) 23
- ★ RECEIVES ALL MEDIUM AND LONG WAVE BROADCASTS WITHOUT AN EXTERNAL AERIAL.
- ★ OPERATES FROM 9 VOLT SUPPLY
- ✤ PRINTED CIRCUIT CLEARLY MARKED WITH EXACT COMPONENT LOCATION
- ★ IDEAL FOR USE AS A TUNER FOR DOMESTIC OR PORTABLE USE.

SUITABLE FOR USE WITH ANY OF THE VALVE OR TRANSISTOR PREAMPLIFIERS AND AMPLIFIERS SHOWN IN THIS CATALOGUE





### REPANCO

	15 Watt	40 Watt
т.	TT 51a	TT 57
TR½	OC 25	OC 35
C <sub>1</sub>	0-25.150v	0-25.150v
C <sub>2</sub>	0•47.500v	0•47.500v
R <sub>1</sub>	100Ω3W	100 Ω 3W
R <sub>2</sub>	3 3 Ω 3W	3 3 Ω 3W
Current from 12v	2 Amps.	5 Amps.

#### 40 WATT AND 15 WATT INVERTOR KITS

• COMPLETE KITS OF PARTS AS SPECIFIED BY REPANCO WITH CHASSIS & HEATSINKS

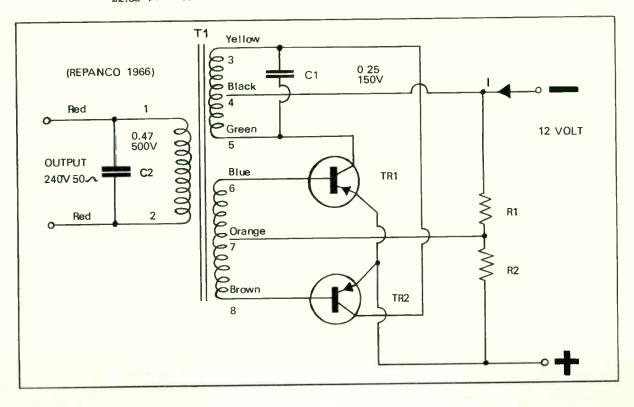
15 WATT	40 WATT
PRICE	PRICE
£3.75	£5.25
pp.30p	pp.40p



Input 12–14 volts DC at 2 Amps. Output 240 volts 50 c/s 15 watts (Transformer TT51a  $\pounds$ 1.75 post 20p)

#### 40 WATT

Input 12-14 volts DC at 5 Amps. Output 240 volts 50c/s 40 watts or 300 volts about 7-8 watts. (Transformer type T757 £2.85 post 25p)



# EXCEPTIONAL 7 Transistor 2 Wave Band VALUE !! Superhet Portable to Build

- 7 TRANSISTORS PLUS DIODE
- PRINTED CIRCUIT PUSH PULL SUPERHET CIRCUIT
- ROOM FILLING VOLUME
- FULL TUNING OF MEDIUM WAVE AND LONG WAVE BANDS
- QUALITY DESIGN

ALL YOUR FAVOURITE STATIONS-ENGLISH AND CONTINENTAL



An outstanding portable transistor superhet radio with full tuning on medium and long wavebands. Sensitivity and selectivity is excellent with easy and clear selection of local and continental stations as well as the 'Pirates' Cabinet is finished in two colour leathercloth with attractive grill with chromed surround. Fitted carry handle and car aerial socket. Overall cabinet size is 10" x 7" x 3½", weight 3½ lbs.

Construction is straight forward using a printed circuit board on which all parts are clearly marked, and large size fully detailed drawings and photographs. The construction handbook contains the complete circuit diagram and parts list as well as full building and alignment details. (Handbook FREE on request). Mullard transistors are used throughout plus a high flux 5 inch speaker. Sound output is 500mW from the push-pull circuit. A high sensitivity seven inch, specially wound ferrite aerial is used with a coupling coil for use with a car aerial when the portable is used in a car. Power supply is from a 9 volt PP9 or VT9 battery, average current consumption around 45 to 50mA for full output.

Definately a recommended portable radio with easy controls. Volume plus on/off switch, lever type MW/LW wavechange switch and clearly marked tuning dial. MW coverage 190 to 570 metres (1570 to 525 Kc/s) and LW 1090 to 1940 metres



#### TOTAL COST OF ALL PARTS TO BUILD

# £6.97

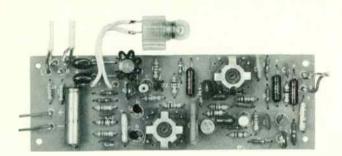
pp.23p

FULL AFTER SALES SERVICE (battery 25p extra) AND GUARANTEED

ALL PARTS SOLD SEPARATELY OUTSTANDING PERFORMANCE

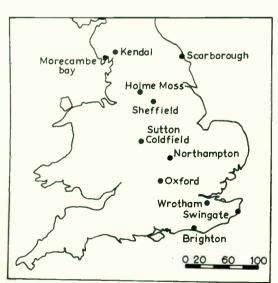
UNBEATABLE RESULTS !!!

### FM Broadcast Stereo Multiplex Decoder



- DESIGNED TO ENABLE MOST FM TUNERS TO RECEIVE STEREO BROAD-CASTS – VALVE OR TRANSISTOR
- 7-TRANSISTOR DESIGN WITH INPUT PREAMPLIFIER, AUTOMATIC INDI-CATOR LAMP, OUTPUT DEMPHASIS, PRESET INPUT LEVEL 10mV to 250mV, OUTPUT UP TO 1 VOLT PER CHANNEL.
- RESPONSE 20C/S TO 20KC/S WITHIN 2dB, POWER REQUIREMENTS 12VOLTS DC 4 TO 60 mA. OVERALL SIZE 6" x 2" x <sup>7</sup>/<sub>4</sub>".
- AS USED BY GPO AND BBC.
- AVAILABLE BUILT AND TESTED OR IN KIT FORM.

- KIT TO BUILD £5.98 post etc. 17p
   BUILT AND TESTED £7.50 post 17p
- OPTIONAL MAINS UNIT PS1200 £2.62 pp.12p



VHF STEREO BROADCAST STATIONS



68

# HENRYS' VHF FM RADIO TUNER

#### SPECIFICATIONS

Tuning range 87 to 105 Mc/s.

Typical sensitivities. 2-3mV output for 1 microvolt aerial input 30 mV " " 10 " " " 70 mV " " 100 " " " Signal noise ratio better than 50dB.

Output up to 1 volt peak for loading between 30 Kohm and 100 Kohm.

Band width approximately 350 Kc s.

Aerial impedance 75 80 ohms. Type will vary from length of wire to outdoor aerial depending upon reception.

5-Mullard transistors and 4-diodes.

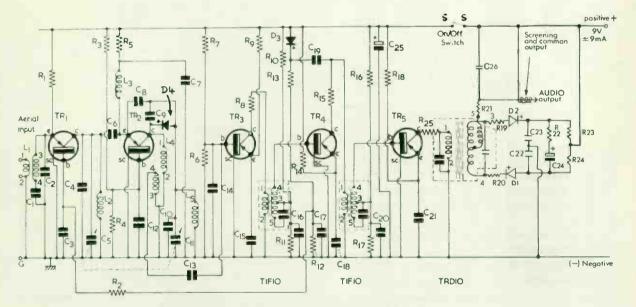
RF stage mixer-oscillator/3-10.7 Mc/s. IF amplifiers Ratio detector/OSC and IF clamping - superhet circuit.

Audio response from 30 c/s to 18 Kc/s 3dB.

Operates from 9 volts 9 10mA from internal battery or external supply.

Size in cabinet 31/8 x 214 x 4 in.





COMPLETE CONSTRUCTIONAL DETAILS Ref. no.: 3/4 FREE ON REQUEST



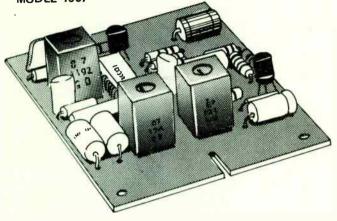
Recommended aerial for Loft or Roof £3.60 pp.40p. Aerial Cable 5p per yard, post 15p per 10 yards. Optimal Fine Longy PS900 9 volt £2.47 or PS1200 12 volt (if Stereo Decoder used) £2.62 pp.12p either type.

World Radio History

mk.H

# HENELEC IC Stereo Broadcast Decoder

**MODEL 1067** 



#### NOTE 1

Lamp connects between pins 5 and 9-use 6 volt 0.04, 0.06 or 0.1 amp. For 12 volt 0.1A or more connect a 100 ohm resistance in series with the lamp and use a 12 volt supply for the lamp only.

#### NOTE 2

To use mono squelch, connect a 1.5K resistance via a switch to pin 4 and pin 6.



9 - (+) Supply 9 volt (8-14V)

- 8 Output Left channel
- 7 Output Right channel
- 6 Signal output earth and (-) Supply
- 5 To Lamp see Note 1.
- 4 Mono, see Note 2.
- 3 Mute see Note 3.
- 2 Signal input earth
- 1 Input see Note 4.

#### FEATURES

● MONOLITHIC FM MULTIPLEX STEREO DE-MODULATOR INTEGRATED CIRCUIT ● EXTRA TRANSISTOR BUFFER DRIVER FOR INDICATING LAMP ● AUTOMATIC STEREO – MONAURAL SWITCHING ● MONAURAL SOUELCH CAPABILITY OPERATION FROM 12 VOLTS DC ● 40dB CHAN-NEL SEPARATION AT 1KC/S ● 0.5% THD ● MAXI-MUM INPUT 75mV APPROX 10K OHM●50mV INPUT FOR 1 VOLT OUTPUT PER CHANNEL ● INTER-STATION MUTE CAPABILITY ● OVERALL SIZE 2.75" × 1.75" × 0.7" ● STEREO SEEK.

A new design stereo multi-plex decoder to enable any FM Radio Tuner to receive stereo broadcasts. Design for negative earth tuners if the tuners power supply is used — alternatively use a separate supply of 12 volts DC. Total current is 3 to 4 mA without stereo signal and up to 100 mA with stereo signal dependent only on the lamp used — see note 1. Overall size is small and the board is designed to take a 0.1" spacing, edge connector if necessary. Circuit uses a Silicon input amplifier, silicon integrated circuit and silicon lamp driver transistor. 50 sec demphasis circuits are fitted on the output. No adjustment should be made to the 19 KHZ (black) coils as they have been set prior to being sold.

#### NOTE 3.

For interstation muting connect a 1.5K resistance via a switch to pin 3 and pin 6.

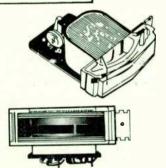
#### NOTE 4.

For inputs above 50mV attenuate with a suitable resistance network or preset resistor.

#### SPECIFICATIONS

Input: 50mV approx. 10 Kohm Output: 1 volt per channel Response: 10-20,000 HZ-1dB Separation: 40dB at 1 KHZ Supply: 12 volts DC (--) earth Power Required: 2mA to 100mA at 9 volts THD: 0.5%

PRICE £6.50 POST 15p



#### HENELEC FM TUNER TUNING INDICATOR Model 1118

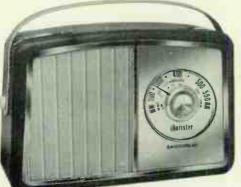
For almost any VHF FM tuner or radio. Connects to discriminator input and signal earth. Fitted preset to aujust for signal swing on meter. Meter movement 150 A full scale. Some adjustment to the discriminator coil cores may be required due to the added capacitance of the Indicator. Overall size:  $1\frac{3}{4}$ " x  $\frac{7}{6}$ " x 2", back to front. Panel hole required is  $1\frac{3}{4}$ " x  $\frac{9}{46}$ ". Circuit uses diode detector and R/C network.

PRICE £1.60 p (Post etc. 10p)

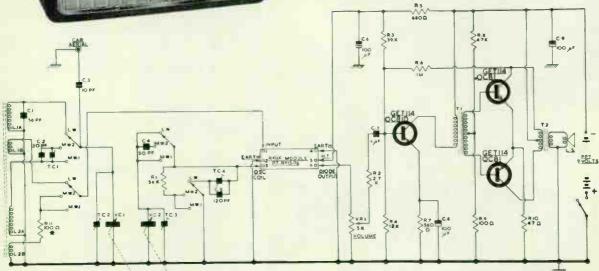
# **Dansette `CHORISTER'**

\* BANDSPREAD PORTABLE TRANSISTOR RADIO TO BUILD

HENRYS RADIO







\* - SUBJECT TO ADJUSTMENT

## SPECIFICATIONS

TRANSISTORS:-	3 H.F. Transistors and one Diode within the sealed	TO
	Module. 1 x OC81D and 2 x OC81.	TOT
WAVE-BANDS:-	Long Wave: 1200 Meters - 2000 Meters	
	Medium Wave Bandspread: 180-250 meters.	
	Medium Wave (Normal): 180-550 meters.	T
POWER OUTPUT:	600 Milliwatts Approximately	
POWER SUPPLY:-	Every-Ready Battery P.P.7. or equivalent	- 4
LOUDSPEAKER:-	3½ inches circular	_
CARRYING HANDLE		
CABINET MATERIAL:	-Fibreglass	ALL
COVERING:-	PVC	AFT
SIZE:-	81/2 inches wide x 51/2 inches high x 31/4 inches deep	GU
WEIGHT:-	3 lbs. 2 oz. including battery.	00
in Er Griff.		BUI
	Fitted with car aerial socket.	SAD

TOTAL COST TO BUILD

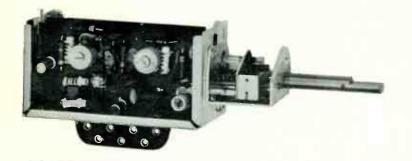
7.98 Post etc. 32p

ALL PARTS SOLD SEPARATELY AFTER SALES SERVICE AND GUARANTEE BUILD AND LEARN AT THE SAME TIME

N.B. Specification and components are subject to alteration without prior notice.

# EASY TO BUILD USING MULLARD MODULE AND TRANSISTORS

# VHF-FM RADIO PERMEABILITY TUNED TRANSISTOR TUNING HEART





(Shown with cover removed)

GORLER MODEL 312-0029 RF AMPLIFIER/OSC. MIXER STAGES

- Fitted 5½ turn worm drive (1980°)
- Size: 3" x 1¼" x 1¼"
- Tuning Range: 87.5 to 108.5 Mc/s
- Oscillator: 76.8 to 97.8 Mc/s
- IF: 10.7 Mc/s
- Bandwidth: 6dB 350 Kc/s
- Aerial: 50 to 300 ohms
- Power Gain: Approx. 29dB
- AGC Control for 1:100 1 volt
- AFC Pullin with ± 0.5 volt control voltage ± 250 Kc/s
- Input sensitivity: 2 microvolts
- 8 to 10 volts supply voltage

SUITABLE AS A FRONT END FOR ALL TYPES OF FM RECEIVER REQUIREMENTS





PRICE £4.13 DD 12D

T41/3KIFT's38pT41/4R2Ratio Detector50p

10.7 Mc/s IFT's AND RATIO DETECTOR

Set of four £1.47 pp.13p

Complete with data and connections.

# FM TUNING METER

• MODEL A304 5H (R31)

500 microamp FSD 2" Fixing Centres Hole Cut Out: 1½" x ¾" PRICE 98p PUBLICATION No.: 184

GIVES DATA AND CONNECTIONS FOR TUNING HEART PLUS IF CIRCUITS, ETC. PRICE 20p

# ALL ITEMS ARE BRAND NEW STOCKS

 SPECIAL OFFER
 TUNING HEART
 PRICE £6.50

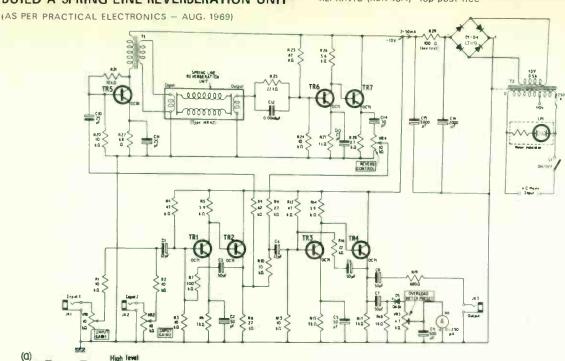
 (3) IFTS WITH RATIO DETECTOR
 PRICE £6.50

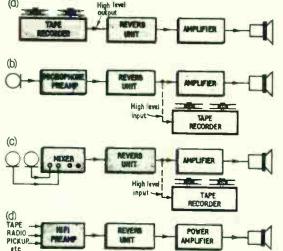
 FM TUNING METER
 pp. 25 p

 184 BOOK
 Normal price about £8.00

SEE PAGE 2 FOR POST AND PACKING CHARGES

# BUILD A SPRING LINE REVERBERATION UNIT





Various ways in which the unit can be used: (a) adding reverb to a pre-recorded tape; (b) recording from a microphone; (c) mixing two microphone signals for recording; (d) adding reverberation effects to any sound source.

## **TRANSFORMERS**

T1 Type TT12

T2 Type TS213 (Replaces PS 12/5) use half only of secondary.

SPRING UNIT Model HR42

#### TRANSISTORS

TR1, 2, 3, 4, 6 and 7 OC71. TR5 OC81 D1 to D4 Selenium Rectifier LT119 (Replaces 1H3) D5 OA81 Diode

RESISTORS 5% R1, R2, R3, R10. R13, R20, R21, R24. 10K R4, R12, R25. 47K R7. 100K R8, R11, R28. 2.7K R19 680 ohms. R22 68 ohms. R5, R14. 3.9K R6, R15, R17, R18, R27. 1K R9, 4.7K. R16, R23. 22K R26, 5.6K. R29 100 ohms.

#### POTENTIOMETERS VR1, VR2, VR4 10K Log. VR3,5K Log.

CAPACITORS C1, C4 10 or 12mfd 25 volt C2, C3, C5, C6, C7, C8, C14 50 mfd 12/25 volt C9 500 mfd 25 volt. C10, C11, C13 25 mfd 15/25 volt. C15 5000 mfd w/e 25 volt. C16 2000 or 2500 mfd 30 volt. C12 0.0068 (6800 pf) 125/400 volt.

#### MISCELLANEOUS

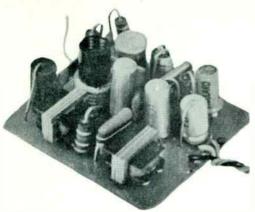
M1 Meter V31 (Replaces V250) LP1 Mains Neon S1 On/Off mains toggle 3 - Jack sockets. Standard 3 - Jack plugs. Standard screened 3 only (i.e. 1'2 packs) Knobs NK2 2-Veroboard Plain 0.15 pitch 5 x 3% ins.

(Note: We do not supply the case and angle brackets.)

# COMPLETE SET OF PARTS WITH PRINTED CIRCUIT BOARD

£11.95 post etc. 25p

# BUILD THE TINYTONE Mk II. **RADIO CONTROL RECEIVER**



- ★ Printed Circuit 2" x 1¾"
- ★ Full building instructions with circuit and layout.
- ★ As described in November 1966 Radio Control Models and Electronics Magazine.
- ★ REPRINTS FREE (ref. no.: 18A).

Single channel tone receiver to operate relay or actuator etc. directly. Operates from 3-6 volt supply. Latest modified circuit has improved stability and performance. ALL PARTS AVAILABLE SEPARATELY.

> Transistors (1) OC170

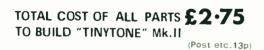
# PARTS LIST

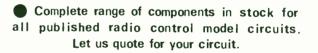
- **Resistors 5%** 
  - (2) 5.6 K (3) 1 K (1) 1000 ohm.

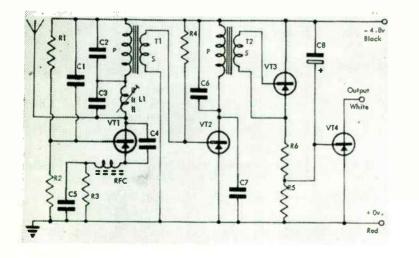
#### Capacitors

- (2) 0.001 (1000 pf) disc
- (1) 0.04 disc (2) 68 pf. 10% (2) 0.01 disc (1) 50.01
- (1) 50mfd, sub-min

(2) OC71 (1) OC83 Transformers (2) D1001 Miscellaneous - 1 Amp. TV1 Choke Coil (Former + siug + wire) Printed Circuit Drilled, etched and ready to use Price 45p



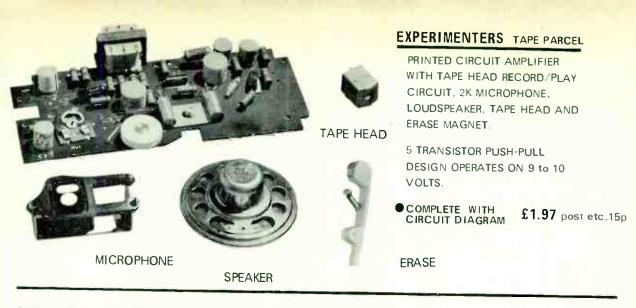




Theoretical Circuit

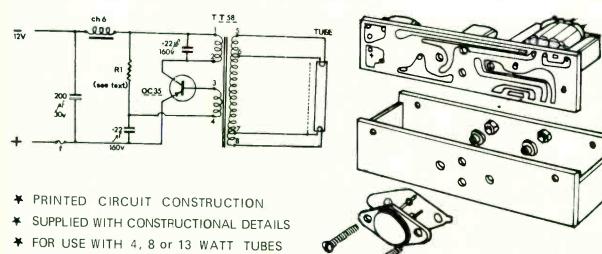
Com	ponent	Val	ues

R1:5.6K	VT1:0C170
R2:1K	VT2:0C71
R3:1K	VT3:0C71
R4:5.6K	VT4:0C83
R5:1K	R.F.C. 1 Amp
R6: 100	T.V. choke
C1: .001 JF	as wound,
C2: .04 uF	L1 5½ turns
C3: 68 pf	P.V.C. covered
C4: 68 pf	wire on ¼ in.
C5: .01 uF	dia.former.
36: 01 uF	T1. T2:
7: .001 uF	D1001
28: 50 uF	Pri:Yellow/Blue
electrolytic	Sec: Green/Red



# BUILD THIS BATTERY OPERATED FLUORESCENT LIGHT

USING REPANCO TT58 TRANSFORMER



✤ FOR USE WITH 4, 8 or 13 WATT TUBES

HENRY'S FOR ALL ELECTRONIC COMPONENTS AND EQUIPMENT

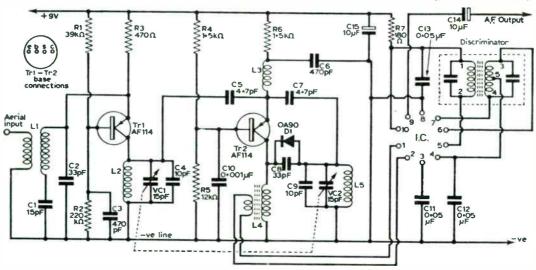
# INTEGRATED CIRCUIT f.m.tuner



# USE INTEGRATED CIRCUIT MODULE BY RCA

Complete constructional details available (See list below)

(As per Practical Wireless 1967)



# Inductors;

- L1 Aerial coil, blue spot v.h.f. (0.5 cm. dia. former).
- L2 R.F. Coil Red
- L3 Reactor Coil
- L4 1st IFT orange spot, 10.7 Mc/s
- L5 Osc. Coil Black
- TRD10 Discriminator 10.7 Mc/s ratio detector transformer.

# Resistors:

All	5% 1/4	watt.	R1	<b>3</b> 9k
			R2	220
			R3	470
			R4	1.5k

39k ohm	
220k ohm	
470 ohm	
1.5k ohm	

R5	12k ohm
R6	1.5k ohm
R7	180 ohm

Miscellaneous Printed circuit kit to etch your own panels.

- COMPLETE CIRCUITS AND LAYOUT DIAGRAMS Ref. no: 40 *FREE* ON REQUEST.
- ALL PARTS SOLD SEPARATELY.
- TOTAL COST OF ALL PARTS £5.13 post etc.12p.

## Capacitors;

#### Semiconductors: TR1 AF114

TR1 TR2 D1	AF114 AF114 OA90

Integrated circuit RCA. Type CA3014

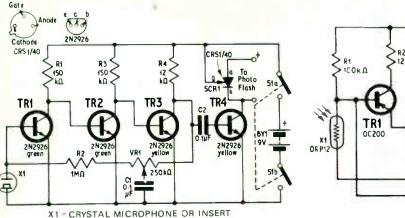


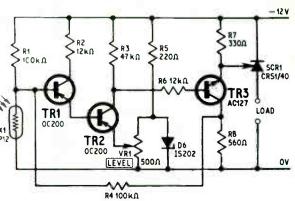
# SOUND OPERATED SWITCH

LIGHT OPERATED SWITCH - RELAYLESS

(AS PER PRACTICAL ELECTRONICS-JUNE 1970)

(AS PER PRACTICAL ELECTRONICS - OCTOBER 1970)





ALL PARTS AVAILABLE - CHECK THROUGH CATALOGUE

ALL PARTS AVAILABLE - CHECK THROUGH CATALOGUE

I AMP

LP1 6 watt 'natural' or

lighting centre).

BATTERIES (Not supplied)

BY1 12V heavy duty dry

1-TAG Strip 7-way

VB4504(x3)

Ree 1

batteries or

accumulator

**MISCELLANEOUS** 

Plain Vero Board

4 Rubber grommets

32 s.w.g. enamelled wire

38 s.w.g. double cotton

covered wire (for L3) Reel

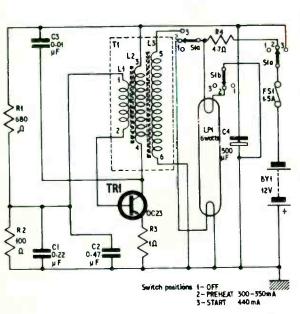
and fuseholder.

FS1 1.5A %" cartridge

'warm white' 9" fluorescent tube (from your local

# BUILD THIS 12 VOLT BATTERY OPERATED FLUORESCENT LIGHT

(PRACTICAL ELECTRONICS DESIGN - FLUORESCENT CAMPING LIGHT)



RESISTORS

R1 680Ω 10%, ¼W carbon R2 100Ω 10%, 1W carbon R3 1Ω 5%, 3W wirewound

#### CAPACITORS

C1 0.22 $\mu$ F disc ceramic 20V C2 0.47 $\mu$ F polyester 250V C3 0.01 $\mu$ F polyester 250V C4 500 $\mu$ F elect. 25V

#### TRANSFORMER

T1 LA5 pot core with bobbin (Mullard) or LA4 - see note below

#### TRANSISTOR

TR1 OC23 with mica washer and bushes

#### SWITCH

S1 2-pole 3-way midget rotary or 3-pole 3-way.

#### .

#### NOTE

Due to occasional shortage of LA5, LA4 can be used L2. 20 turns, L1 4 to 5 turns, L3 230 turns.

CONSTRUCTIONAL DETAILS FREE ON REQUEST

(Ref. no: 43)

TOTAL COST TO BUILD £3.13 post 17p (Less metal work & tube).

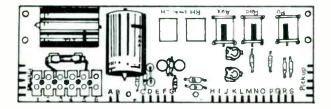
FUSE

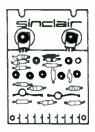
LET US QUOTE FOR COMPONENTS FOR YOUR CIRCUIT - SEND S.A.E. PLEASE



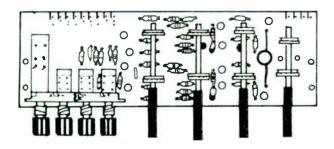
# SINCLAIR PROJECT 605 STEREO AMPLIFIER

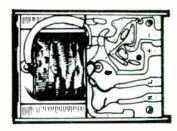
An extension of Project 60 System, but with no soldering. Uses a new masterlink connector unit and cable assembly. Supplied complete with full handbook showing details of building Project 605 into the plinth of popular Garrard and BSR-McDonald turntables.











(Recommended Price £29,95) PRICE £21.50 post 30p SEE PAGES 51, 63 and 64 FOR PRICES OF PROJECT 60 UNITS, ARU and FM TUNER.

# 1000's OF PRACTICAL USES WITH THIS NEW MINIATURE AMPLIFIER Model 4-300

#### A FEW SUGGESTIONS

BABY ALARM — TELEPHONE AMPLIFIER — TAPE OR CINE MONITOR — PORTABLE PA OR CALL SYSTEM — SPRING REVERBERATION AMPLIFIER — PICKUP AMPLIFIER — TRANS-MITTER MODULATOR — INTERCOMM — HEADPHONE AMPLIFIER MICROPHONE AMPLIFIER — RADIO TUNER AMPLIFIER — RECORD PLAYER AMPLIFIER — MUSIC AL INSTRUMENT AMPLIFIER — AUDIO ALARMS. BURGULAR, RAIN, PROXIMITY, DOORBELL — LINE BOOSTER AMPLIFIER — DOOR PHONE — TAPE HEAD AMPLIFIER — EARPHONE AMPLIFIER — TWO AND MULTI-CHANNEL AMP-LIFIERS — STEREO APPLICATIONS — MUSIC SYSTEMS.

## OR

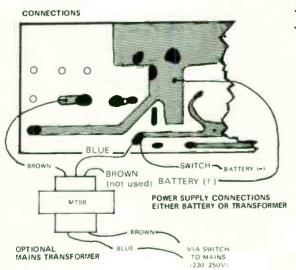
used in conjunction with Henry's 'STC DELAY MODULE' LIGHT AND HEAT OPERATED VARIABLE DELAY SWITCH — SWITCH OPERATED DELAYS — DOOR OPENING DEVICES — TEMPERATURE AND HEAT ALARMS (NOTE: for alarms relay contact in series with a small microphone placed near to speaker).

- \* 9 VOLT BATTERY OPERATED
- \* MAINS OPERATED (with optional transformer)
- \* HIGH SENSITIVITY
- \* INPUT suitable for 25 ohms up to 100 K ohms or more
- ★ OUTPUT FOR 3 8 OHMS SPEAKER
- ★ 300 mW NOMINAL PUSH-PULL OUTPUT
- ¥ SIZE ONLY 5½" x 113/16" x ¾" high
- ¥ 1-10mV ADJUSTABLE SENSITIVITY PRESET ON PANEL
- \* PRINTED CIRCUIT CONSTRUCTION

# MOST VERSATILE LOW COST AMPLIFIER EVER OFFERED !

# PRICE £1.75

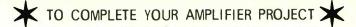
post etc. 20p



()

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(6)





B1012



LAPEL MICROPHONE



SPEAKER-MICROPHONE (75 ohms)





**INSERT MICROPHONE (GPO)** 

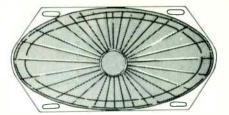


**CRYSTAL INSERT** MICROPHONE





ł	Telephone Pickup Coil	60p
ł	Magnetic Lapel Microphone	50p
	Crystal Lapel Microphone	42½p
	Speaker Microphone 21/4" 75 ohm	50p
	Magnetic GPO Insert Mic. $1^{13}/16^{11}$ diam.	35p
	Crystal Mic. Insert MCI 11/2" dia.	25p
	CM20 Crystal Hand Microphone	60p
•	B1019 50K ohm Hand Mic.	£1.47½
ł	B1017 50Kohm Desk/Hand Mic.	£2.62½
	B1012 50Kohm Desk/Hand Mic.	£1.25
	Stethoscope 8 ohm Headset	62½p
	7" x 3%" 3 ohm Hi-Flux Speaker	£1.00
	Portable Rexine Cabinet with handle, Size: 12" x 8½" x 4"	621⁄2p
	STC Delay Module (with Data No. 38)	£1.75
	PP9 Batteries (use up to 2 in parallel)	25p ea.
	Battery clips for PP9	5p ea.
	On/Off Toggle Switch	15p
	MT98 Optional Mains Transformer	70p
	¼" Standard Jack Sockets	10p
	3½mm Jack Sockets for items *	7½p



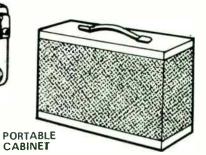
7" x 35/" SPEAKER



STETHOSCOPE PHONES



**B1017 DESK MICROPHONE** 



CM20 MICROPHONE

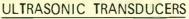
BIG VALUE EXCLUSIVE TO HENRY'S RADIO LIMITED.

STC DELAY MODULE

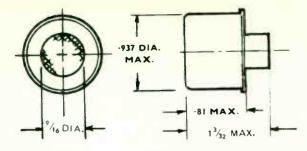
Please allow adequate post and packing when ordering the above items (Minimum 15p)

# 80

# Dimensions



FOR USE AS TRANSMITTER AND RECEIVER AT APPROX 40 KC/S.





# SPECIFICATION TRANSDUCER AS TRANSMITTER AND RECEIVER

Operating frequency	Trans 40 ±
	10
Radiated output with 6 volts across transducer	+30d 1 n
Receiving sensitivity with 17 mH inductance tuning	
Beamwidth at 3 db points	60 <sup>0</sup>
Attenuation of beam in air	0.5 d
Capacitance	<b>900</b> p
Mechanical Q (approximately)	100
Maximum voltage rating	25V
Resonant Impedance (approx.)	1000

40± 1.0 kc/s --54 db (reference Odb 1 volt/microbar) 60<sup>0</sup> --900pF ± 20% 100 --1000 ohms

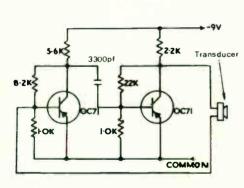
Receiver

Operating frequency approx 40 Kc/s. Provides modulated on unmodulated signals over range of up to 100 yards. Ideal for alarns, garage door opening, batch counting and remote control of all sorts of things. Each transducer is suitable for both receiving and transmitting. Phono socket connection.

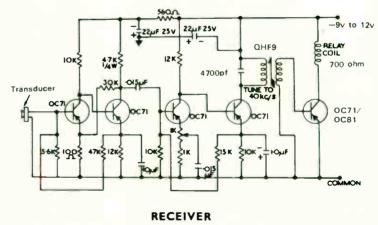
# PRICE PER PAIR £5.90

(Complete with several circuit suggestions.)

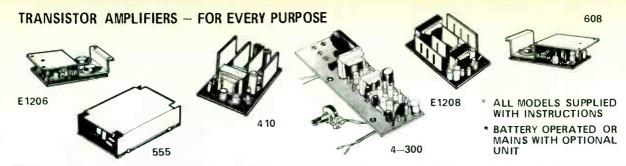
# SUGGESTED CIRCUITS



TRANSMITTER



# HENRY'S FOR ALL ELECTRONIC COMPONENT SUPPLIES



TYPE NO		SIZE		- 1	NPUT	Response	Power	Supply	NOTES	Signal	PRICE	Pos
	L	W	н	Level	Impedance	(C Sor Hz)	and load	INE- no input)	NOTES	Earth	£p	each
4–300	5'2"	1 <sup>13</sup> 16	341	<b>1</b> -10m	+	100-10.000	300m₩ 3–8 ohms	9V DC	+25ohms to 100Kohms suitable • Built in Rect.007	(+)	£ 1.75	12p
2004	100mm	40	15	10mV	1—2K ohm	100+12.000	250mW 3 to 8 ohms	9 volts	4 tr. +th.Transformer Pushpull	-{+}	1.97½	12'2
104	75mm	55	30	10mV	2Kohm	100-15.000	1 watt 816 ohms	9 volts 12-180mA	4 tr. + th. Transformer Push-pull	(+)	2.121/2	12'2
304	75mm	55	30	10m∨	2 Kohm	50-15,000	3 watts 4—8 ohms	9 volts 12-500mA	4 tr. +th-Transformer Push-pull	(+)	2.471/2	1212
555				150m∨	80— 100 Kohm	30-20,000	3 watts 8-16 ohms	12 volts 15-350mA	6 tr. +th-Push-pull Transformerless	(+)	2.75	17
PA7	4.25"	3	1.5"	5mV	1—2 Kohm	40-17,000	7w 3ohm 5½w 8ohm 3½w 15ohm	20/22v NL 14/16v 700mA	6 transistor plus diode Transformerless Push—pull	(+)	3. <b>62½</b>	17%
E1208	4.5"	2.5"	1.5"	25-60m∨	50 K ohm	60-12,000	5/8 watts 4,8,16ohms	12 volts 15-900mA	4 transistor transformer Push-pull		4.50	20
608	118mm	60	28	30-50m∨	50-70Kohm	20-15,000	10 watts 4-8 ohms	24 volts 15-400mA	6 transistor Push-pull Transformerless	(+)	4.12%	17½p
410	90mm	<b>6</b> 0	32	160m∨	50-70Kohm	30-25,000	10 watts 8 ohms	28 volts 150-650mA	4 silicon tr.Single ended transformerdrive Push/pull	()	4.97½	17½p
MPA12/3	5"	2"	3.25"	100mV	33 Kohm	30-20,000	12 watts 3—4 ohms	24/28v NL 18v 0.8A	6 transistor plus diode Transformerless Push—pull	(+)	4.50	15
MPA 12/15	5"	2"	3.25"	100m∨	33 Kohm	30-20,000	12 watts 15-16 ohms	40/50v NL 36v 0.4A	As MPA12/3	(+)	5.25	15
<b>Z</b> 30	3.5"	2.25"	0.5"	250m∨	100 Kohms	30-30,000	15w 8ohms 20w 3ohms	35 volt 30 volt	9 Silicon Transistor Transformerless Push—pull	()	3.75	15
E1206	5"	3.25 <mark>"</mark>	1"	150m∨	30-40Kohm	10-40,000	30—35watt 4—8 ohms	45 volt 20-900mA	6 transistor Push-pull Transformerless		8.75	<b>2</b> 0
PA25	5.1"	3"	2, 1"	<b>40</b> 0m∨	15 K ohm	11-40,000	25w 8ohm 15w 16ohm	-28/0/+28 NL -22/0/+22v at 1 amp	10 sillcon transistor plus 2 diodes trans- formerless Push—pull S/C and O/C protection	(0)	7.50	15
Z 50	3.5"	2.25"	0.5"	250mV	100 Kohms	30-30,000	40v3/4ohm 30v 8 ohm	40v 50v	Transformerless Push∕pull	()	4.62%	14½p
PA50	5.1"	3"	<b>4</b> "	400m∨	15 K ohm	11-40,000	50w 4ohm 25w 8ohm 15w 16ohm	-28/0/+28v NL -22/0/+22v at 2 amps	12 silicon transistors plus 2 diodes trans- formerless Push-pull S/C & O/C protection	(0)	9.50	15

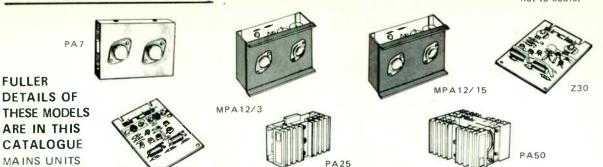






REAL VALUE FOR EVERY APPLICATION - FULLY GUARANTEED

TRANSISTOR POWER AMPLIFIERS ALL MODELS SUPPLIED WITH INSTRUCTION DETAILS. (NOTE: Illustrations are not to scale



TYPE NO		SIZE		L.	NPUT	Response	Power	Supply	NOTES	Signal		
	L	w	н	Level	Impedance	(C/S or Hz)	and load	(NL- no input)	NOTES	Earth	£p	each
PA7	4.25"	З н	1.5"	5mੂV	1-2 Kohm	40-17,000	7w 80hm 5½w 80hm 3½w 150hm	20/22vNL 14/16v 700mA	6 transistor plus diode Transformerless Push-pull	(+)	3.62½	17½
MPA12/3	5"	2"	3.25"	100mV	33 Kohm	30-20,000	12 watts 3-4 ohms	24/28vNL 18v 0.8A	6 transistor plus diode Transformerless Push-pull	(+)	4.50	15
MP A12/15	5"	2"	3.25"	100mV	33 Kohm	30-20,000	12 watts 15-160hms	40/50vNL 36v 0.4A	As MPA12/3	(+)	5.25	15
Z30	3.5"	2.25"	0.5"	250mV	100 Kohm	30-30,000	15w 8ohms 20w 3ohms	35 volt 30 volt	9 Silicon Transistor Transformerless Push-pull	()	3.75	15
PA25	5.1"	3"	2.1"	400mV	15 Kohm	11-40,000	25w 80nm	-28/0/+28 NL -22/0/+22v at 1 amp	10 silicon transistor plus 2 diodes transfor- merless Push-pull S/C and O/C protection	(0)	7.50	15
Z50	3.5"	2.25	0.5"	250mV	100 Kohm	30-30,000	40v3/40hm 30v 80hm	40∨ 50∨	Transformerless Push-pull	()	4.621/2	141/2
P A50	5.1"	3"	4"	400mV	15 Kohm	11-40,000	50W 40hm	-28/0/+28v NL -22/0/+22v at 2 amps	plus 2 diodes transfor-	(0)	9.50	15

MIXERS PREAMPLIFIERS MODULES

-see overpage.

Z50

FULL RANGE IN STOCK COVERING EVERY REQUIREMENT FOR MONO AND STEREO SYSTEMS, SINGLE AND MULTICHANNEL APPLICATIONS – see appropriate section.

# **DISCOSOUND 100**



★ 100 WATTS RMS OUTPUT ★ BUILT IN MAINS UNIT ★ OPEN & SHORT CIRCUIT PROOF

## DISCOSOUND

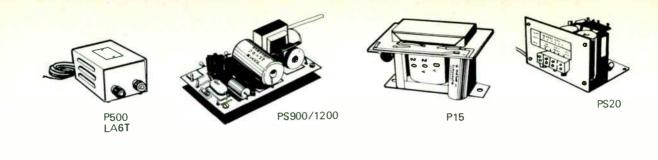
The Discosound 100 power amplifier is a high-quality all-silicon transistor power amplifier which utilises all of the latest technical advances in transistor design, for reliability in use. The output stage has elaborate protection against short and open circuitwhilst under full drive conditions. SPECIFICATION: Output: 100W R.M.S.  $\pm$  1dB at 8 ohms. Frequency Range: 20-20,000Hz $\pm$  3dB. Distortion: Less than 1% at 70W R.M.S $\pm$  1dB. Signal Noise Ratio: Better than -65dB. Input Sensitivity: Variable 100mV to 1V at 50K ohms. Speaker Impedance: Maximum output 100 watts R.M.S. Overall size: 11" x 8" x 8".

## DJ 100

100 watt amplifier similar to above, but slimline design to match DJ103S stereo preamplifier PRICE £49.50 Post 50p.

TRANSISTORISED POWER AMPLIFIERS FOR EVERY AUDIO APPLICATION See Over Page for Optional Power Supplies.









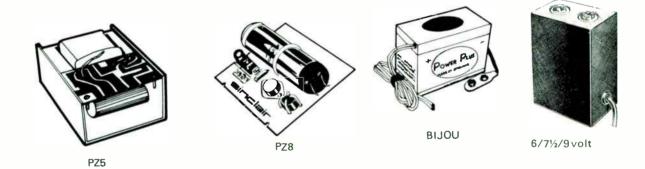


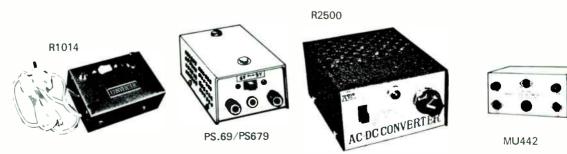
MU24/40



PS 6-12

DE, DC





# LOW VOLTAGE POWER SUPPLIES FOR EVERY APPLICATION

1	
	HENRY'S RADIO

# LOW VOLTAGE FIXED, SWITCHED AND VARIABLE POWER SUPPLIES FOR AMATEUR AND PROFESSIONAL APPLICATIONS

TYPE NO.	SIZE		SIZE		SIZE			Stabi- lised	Cased (C)	DC OUTPUT	FUSED	APPLICATION AND NOTES	PRICE	Post
TYPE NO.	L	W	н	( <b>S</b> )	Chassis (CH)	(NL - ND LDAD)	(DC) Output	than general purpose).		Packing				
LA9P	2 <sup>3</sup> 8''	$1^{1}$ /8 <sup>11</sup>	11/8**	-	(C)	18v NL 9v 50mA	-	Eliminator for small radios etc.	1.50	12p				
BIJOU	2'4"	112 <sup>0</sup>	11/211	-	(C)	18v NL 9v 50mA	-	Eliminator for small radios etc.	1.15	12p				
100/6	314"	234"	2 <sup>1</sup> '8''	-	(C)	6v 100mA		Radios etc.	1.50	12p				
100/9	3'4"	234"	118	-	(C)	9v 100mA	-	Radios etc.	1.50	12p				
250/7.5	3'4"	234"	2 <sup>1</sup> 8"		(C)	7'2V 250mA	-	Tape Recorders. (with 5 pin DW Connector)	2.12	13p				
LA6T	120 mm	60 mm	50 mm	1	(C)	6v 200mA, 6v 600mA	-		3.62	13p				
PS6-12	4"	2' 2''	2'2"	(S)	(CH)	Preset 6 to 12v Up to 200mA	-	FMTuners, Decoders, Integrated circuits, preamplifiers etc.	3.20	13p				
DE	5"	4"	3"	(S)	(C)	3.6v 300mA, 9.6v 250mA	-	No Load, 30 volt each	3.35	12p				
DC	5"	4''	3"	(S)	(C)	30v NL 3.6v 30v NL 9.6v	-	For charging 3.6v and 9.6v Deal or rechargeable batter- ies simultaneously up to 500mA	2.25	12p				
R1014	4"	234"	2"	_	(C)	6. 9, 12 volt		Tape recorders, Intercomms, Radios etc.	4.25	12p				
R2500	4"	3'4"	2"		(C)	3, 412, 6, 9, 12v Up to 500mA			4.95	20p				
PS69	130 mm	50 mm	7 <b>4</b> mm		(C)	6 or 9v Up to 400mvA	-		2.98	12p				
P\$679	130 mm	50 mm	74 mm		(C)	6, 7'2 or 9 volt Up to 400mA			3.98	12p				
P500(LA10S)	120	60 mm	50 mm	-	(C)	9v 200mA, 7v 500mA		2.621/2	12'2p					
PS 20	4.5"	3.5"	2.8	-	(CH)	20 22v NL 16 volt 1 Amp	(M) (DC)	For 1 or 2 'PA7' Amplifiers	3.471/2	20p				
PS 900	4''	2.5"	1.5"	(S)	(CH)	9.25v NL (& 15v unstabilised 8.75v 80mA	(DC)	(DC) Ideal for preamplifiers,		1 <b>3</b> p				
PS 1200	4"	2.5"	1.5"	(S)	(CH)	12v NL (& 30v unstabilised) 11,5v 80mA	(DC)	Tuners and decoders.	2.62	13p				
MU24/40	7120	<b>4</b> <sup>1</sup> 2 <sup>11</sup>	31/4"	-	(C)	24/28v NL 18v 1 amp DR 45v NL 36v 1 amp	(M)	For 1 or 2 MPA 12/3 or MPA 12/15 or E 1206 Amps.	4.50	25p				
PZ5				-	(CH)	30v Nominal	External	For 1 or 2 Z30 Amplifiers	3.971/2	15p				
PZ6				(S)	(CH)	35v Nominal	External	For 1 or 2 Z30 Amplifiers	6.971/2	15p				
PZ8				(S)	(CH)	45v Nominál	External	For 1 or 2 Z50's (Transformer £2.75 extra).	5.971/2	25p				
MU442	6.5"	3.6"	5.5		(C)	-28/0/+28 volts NL -22 0/+22 volts 2 amp.	(DC)	For 1 or 2 PA25 Amplifiers DR 1 only PA50 Amplifiers (Edge connector used).	6.50	25p				
P11	85 mm	56 mm	53 min	-	(CH)	24v 500mA	- 1	For 608 Amplifier	2.871/2	15p				
P12(P112)	150 חיזיה	90 mm	65 mm	(S)	(C)	7v NL 4.5v 1A, 6 v 0.4A         Suitable for Amplifiers           10v NL 7.5v 1A, 9 v 0.4A         Suitable for Amplifiers           14v NL 10v 1A, 1112v 0.4A         2004, 104, 304 E1208			6.75	20p				
P 15	85 mm	56 mm	53 mm	_ 1	(CH)	28v 600mA; 26v 1 anip. 35v NL	-	For 410 Amplifier	2.62%	15p				
RP124	185 mm	105 mm	85 mm	(S)	(C)	Variable 0-24v 1 amp.		Dual Scale voltage/ current meter	13.50	30p				
RP24	200 mm	100 mm	155 mm		(C)	6-12v ± 3v (Adj) 0-2 amp.		Variable - Dual meters. Dverload protection	19.50	40p				
RP40	8%"	4 <sup>1</sup> /8"	61/8"	(S)	(C)	5-20v 0-2 amp	(M) (DC)	Overload Protection, Dual meters, 1% regulation.	25.50	40p				
SE101A	175 mm	1 15 mm	65 mm	(S)	(C)	3, 6, 9, 12v 1 amp max.	(M) (DC)	Switched output 19, regulation	8.97	25p				
	1	1	00			6, 7½, 9, 12v 1 amp. max. Switched output			1					
RP164	160 mm	96 mm	60 mm	(S)	(C)	6,7½,9,12v 1 amp. max.		Switched output	8.97	25p				



RP164





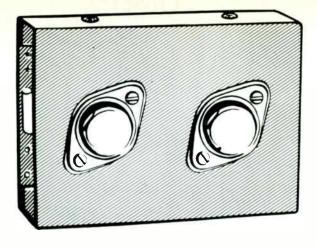






SE101A

RP40, RP24, RP216



# 7-WATT TRANSISTOR AMPLIFIER

A new miniature transistor amplifier of transformerless push-pull design. Features high gain high sensitivity preamplifier stage with direct coupled output stages with AC and DC feedback. Power output is up to 7 watts for 3 ohm speakers reducing to 2½ watts for 15 ohm. The PA7 Amplifier can be used for all applications from intercomms to Hi-Fi, requiring a versatile and reliableunit. Power supply can be 18 volts dry batteries (3 x Eveready 996 or equivalent) or the optional mains unit. For 3 ohm speaker average current is about 300mA for full music output, for 15ohms about 150mA. Some simple Input Circuits are supplied with each amplifier.

Connections are input signal to Pin 2 (common Input to E), output for speaker or load at SS, DC voltage supply to + and - Chassis is connected to +VE supply.

- 6 TRANSISTOR PLUS DIODE DESIGN
- MAINS UNIT OR BATTERY OPERATION 12 TO 18 VOLTS (Suitable for 12 volt car supply)
- PUSH-PULL OUTPUT FOR 3 to 16 OHM SPEAKERS

# PRICE £3.621/2 pp 17½p

PS20 OPTIONAL MAINS UNIT 3.47½ Pp.19½p (will operate one or two PA7's)

# SPECIFICATIONS

# Input:

3/5mV into 1.5K ohm at 1Kc/s for full RMS output

# Output:

MUSIC POWER	RMS SINEWAVE	
7 watts	(5 · watts)	for 3 ohm speakers
5½ watts	(4 watts)	for 71/2 or 8 ohm "
4¼ watts	(3¼ watts)	for 10 to 12 "
3½ watts	(2½ watts)	for 15 or 16 " "
_		

# Response:

Within 3dB 40c/s to 20kc/s.

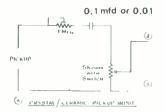
# Supply:

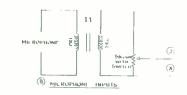
18 to 22 volts 15-22mA with no input. 0.75A 15/16 volts peak with 3 ohm load, considerably less with 15 ohm speaker and also average current on music is much less.

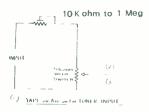
# Size and Fixing:

Overall size  $4\frac{1}{2}$  x  $3\frac{1}{2}$ , mounted using two 4 BA bushes.

SIMPLE INPUT CIRCUITS FOR USE WITH ANY SENSITIVE AMPLIFIER

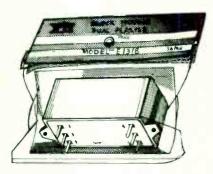






# MINIATURE TRANSISTOR MODULES

The following range of block modules are presented in see-through hanging packs, and all models are encapsulated in durable lightweight plastic cases measuring 2" by 1" by  $7_8$ " with flanged hole fixing. The wiring connections are made to tags protruding through the underside of each module, and are numbered to coincide with details given on the circuit diagram and data sheet packed with each unit.



E.1311 Phono Pre-amplifier Module Input Impedance: 100K ohms Gain: 28 db Max. Output: 2.5 volts RMS. Max. Input: 50 mV. Distortion: .15% at 1 volt output Compensation: RIAA Power Requirements: 9–12 volts d.c. £1.25p

# E1313 Microphone

Pre-amplifier Module Input Impedance: 100K ohms Gain: 28 db. Max. Output: 2.5 volts RMS. Max. Input: 50 mV. Distortion: .5% at 1 volt output Response: 10-15,000 cps. Power Requirements: 9-12 volts d.c. £1.25p

E.1315 Electronic Organ Tone Oscillator.

Used in conjunction with an organ keyboard, variable resistances and a 9 volt power supply, this module acts as the oscillator unit for an electronic organ. Tone Frequency: 200-1000 Hz; Output: 8 mW; Current: 15 mA; Power Supply: 9 volts. £1.05p

#### E.1316 Morse Code Oscillator

A transistorised morse code oscillator (buzzer) to be used in conjunction with an operating key. Suitable for direct connection to a loud-speaker.

Tone Frequency: 400 Hz; Power Output: 80 mA; Power Supply: 3–9 volts; Current; 45 mA. £1.05p

# E.1320 Metronome

A complete solid-state electronic timer capable of tempo variations from 40 to 208 beats per minute requiring only an external speaker, 100K potentiometer and 6/9V. D.C. supply.

Tempo: 40-208 beats/minute. Power Supply: 6/9V Consumption: 100mA peak. Potentiometer Required: 100K ohm. D.P.S. Linear Law. Speaker: 8 ohms. £1.25p

#### E.1322 Burglar Alarm

This is an effective security device for providing an audio alarm when pre-arranged circuits (wires, switches, relays, infra-rays) are closed by unwanted visitors. By connecting to a large loudspeaker or horn unit, a loud warning signal will be given.

Power Supply: 6/9V. (Long life cells are advised). Consumption: 60mA. Speaker Required: 8 ohms.

£1.25p

E.1314 Power Amplifier Module Input Impedance: 1K ohms. Gain: 20 db Max. Output: 300 mW. Max. Input: 100 mV. Distortion: 3% at 200 mW. Response: 10–12,000 cps. Power Requirements: 9volts d.c. £1.25p

## E.1312 Tape Head

Pre-amplifier Module Input Impedance: 100K ohms. Gain: 25 db. Max. Output: 1.5 volts RMS. Max. Input: 50 mV. Distortion: .5% at 1 volt output Compensation: N.A.B. Power Requirements: 9–12 voltd.c. £1.25p

# E.1317 Wireless Code Oscillator/Transmitter.

This oscillator unit can be used with an ordinary AM radio receiver for modulated signal transmissions, and for bench trouble shooting when servicing.

Transmitter Frequency: 400 Hz 30 mHz; Tone Frequency: 400 Hz; Power Supply: 9 volt d.c.; Current: 35 mA. £1.05p

## E.1318 Dual Lamp Flasher.

A switch module for electronically alternating two miniature bulbs, 6 volt, 100–200mA. Ideal for models, toy boats and planes, displays, warning and security devices, communication signals, etc.

Flasher Time: ¼ second; Power Supply: 6 volt d.c.;Current: 150mA; Lamp: 6 volt-150 mA.£1.05p

## E.1321 Rain Alarm

Incorporation of this module into a circuit consisting of a rain/moisture grid, loudspeaker and battery will result in an auditory alarm system whose high frequency warning note will be varied according to the degree of moisture.

Power Supply: 6/9V. Consumption: 30mA. Speaker Required: 8 ohms. £1.25p

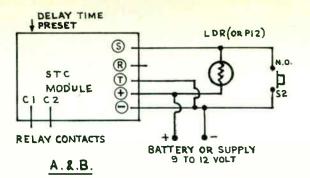
#### E.1323 Fire Alarm

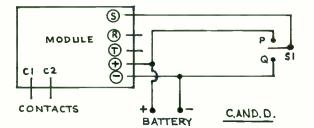
By connecting this module to a thermal sensitive switch, and arranging the output into a suitable speaker system, a wide cover fire alarm network can be installed on private or commercial premises.

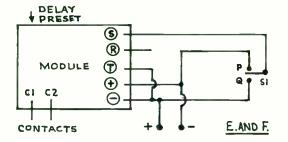
Power Supply: 6/9V. D.C. (Long life cells are advised). Consumption: 60mA, Speaker/s Required: 8 ohms.

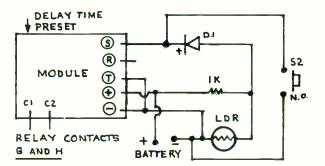
£1.25p

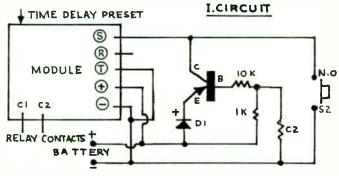
SEE PAGE 2 FOR POST AND PACKING CHARGES











A Cell normally in darkness, when briefly illuminated the relay closes for the preset time period (approx. 3 to 15 secs), or until S2 (which is normally open) is pressed, i.e. circuit is reset.

**B** If 'T' is not connected to (-) the relay will remain closed after cell is briefly illuminated until S2 is pressed with no time delay.

C S1 is a normally open switch. If briefly connected to 'P' relay closes and stays closed. Opens only by disconnecting supply or briefly connecting S1 to 'Q', i.e. reset.

D If S1 is connected to 'Q', relay remains open until S1 connected to 'P'.

E If S1 briefly connects to 'P' relay closes and remains closed for preset time period (approx. 3 to 15 secs). Time delay can be over-ridden by connecting S1 to 'Q'.

F Connecting S1 to 'Q' makes circuit inoperative whilst S1 is at 'Q'.

G LDR cell (ORP12 or equivalent) is normally illuminated. When briefly obscured, relay closes for the preset time period. If S2 is closed circuit resets, over-riding the time delay.

H If 'T' connection is not made, circuit operates as G above, but without time delay. Relay remains closed until S2 is operated.

I When the thermistor (CZ) reaches a certain temperature (depends upon the thermistor selected) the relay closes and will open after the preset time delay (approx. 3 to 15 secs). The thermistor has to cool during this time. The time delay can be overuled by S2, which will open the contacts at any time, assuming thermistor has cooled.

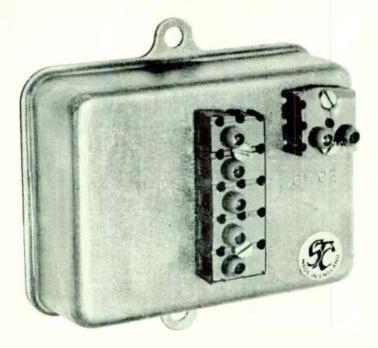
# NOTE

10K and 1K values may require a change, depending upon thermistor.

Also for A and B, G and H, a resistor in series with the LDR cell can be used for sensitivity.



# Something New!...



# For the Experimentor AND Professional USER

VARIABLE TRANSISTORISED TIME DELAY SWITCH

Made by STC this Electronic Variable Time Delay Unit (3 to 15 secs. approx.) is fully transistorised, operating from 9 to 12 volt DC supply. Output is a relay with heavy duty 10 Amp contacts. Suitable for tape stops, car headlight autodimmer, parking lights, heat detector, fire and burgular alarms, temperature control, batch counting, plus numerous other applications.

Operates from 9 to 12 volts supply at about 10 mA, also can be used with and without time delay, with and without auto reset, supplied complete with 9 circuit applications.

Clearly marked connections and easy mounting, overall unit size  $3\frac{3}{4}$ " x  $2\frac{3}{2}$ " x  $1\frac{3}{2}$ ". These units are brand new and offered at a fraction of the manufacturers price. Other features are side time control, encapsulated electronics and heavy duty relay contacts to operate motors, bells, lamps and actuators of all types up to 300 volts AC/DC up to 100 watts.



# FANTASTIC BARGAIN BRAND NEW

●SUITABLE MERCURY BATTERY PACK SIZE: 2<sup>1</sup>/16" × <sup>5</sup>/8" × <sup>5</sup>/8" PRICE 50p

QUANTITIES AVAILABLE FOR SHORT PRODUCTION RUNS

# RADIONIC

RADIO AND ELECTRONICS CONSTRUCTIONAL KITS FOR HOBBYISTS AND EDUCATIONAL USE.

# RADIONIC X30

This Radionic kit provides 33 fascinating experiments, including transistor radios, burglar alarms, a morse code buzzer, etc. Completely safe and battery operated.

A system of no soldering, a printed circuit board and Radionic mounted components, secured by nuts on the reverse side makes circuits especially easy to assemble.

A fully illustrated 110 page instruction manual gives precise directions for building each experiment, PLUS a section on the fundamentals of electricity and electronics to provide an excellent basis for further study.

PRICE £7.95 post etc. 20p

(£15.55 post 25p for two, £22.90 post 35p for three, £29.50 post 50p for four.)

# RADIO RECEIVER AND AMPLIFIER CIRCUITS

Radionic Radio Kits 1 to 4 allow the study and construction of radio receivers—from the simplest diode detector to reflex superhet circuits.

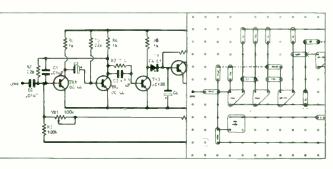
Each kit contains a handbook, construction notes and a series of radio circuit sheets. The handbook explains the radio principles by which the circuits operate.

Circuit sheets show both theoretical circuit and constructional diagrams and describe the working circuits in detail.

No.:	1	Builds	14 (	circuits	£	7.35	post 20p
No.:	2	н	20	11	£	8.80	post 20p
No.:	3	u.	22	11	£1	13.20	post 25p
No.:	4		26	**	£	17.95	post 30p









# INTEGRATED CIRCUIT AUDIO AMPLIFIERS

# SINCLAIR IC12 6 WATT AMPLIFIER

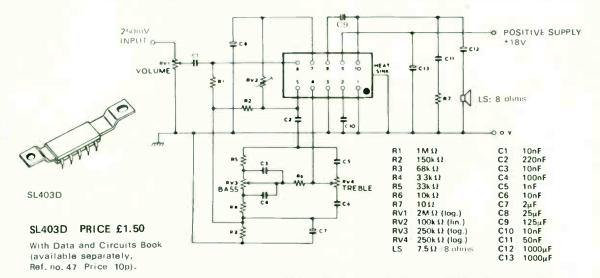
Output power:	6 watts
Frequency Response:	5 Hz to 9
Total Harmonic Distortion:	Less tha
Load Impedance:	Greater
Power Gain:	90dB
Supply Voltage:	6 to 28 y
Size:	22 x 45
Size:	22 x 45
Input Impedance:	250K nor

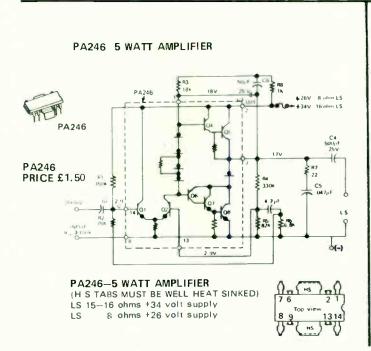
watts r.m.s. Hz to 50 KHz iss than 1% reater than 3Ω kdB to 28 volts x 45 x 28 mm 60K nominal

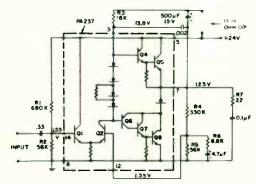


Complete with specifications, circuits and data. PRICE £2.50

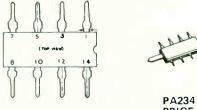
# 3 WATT AMPLIFIERS USING SL403 INTEGRATED CIRCUITS (Use at least 21/2" x 21/2" heat sink)







PA 237 2 WATT AMPLIFIER



PA234

# ADASTRA "DOUBLE 5" STEREO AMPLIFIER



This all-transistor amplifier delivers up to 5 watts each channel, and can be fed with a wide variety of inputs including low output magnetic cartridges, other pick-ups, AM and FM tuners and microphones. The controls are simple, and due to its solid-state construction this unit can safely be adapted for cabinet installation.

10 TRANSISTORS. OUTPUT: 3 watts, 5 watts peak. SENSITIVITY (Magnetic): 5mV; (Crystal): 60 mV. FREQUENCY RESPONSE: 75-20,000 Hz. DISTORTION FACTOR: 2% average. HUM AND NOISE: -65dB. NEGATIVE FEEDBACK: 15-20 dB. OUTPUT IMPEDANCE: 12-16 ohms. MAINS SUPPLY: 200-240 V a.c. BASS BOOST: +9 dB at 160 Hz. TREBLE CUT: 19 dB at 10 kHz. MAX. INPUT: 130 mV. CONTROLS (Ganged): Volume, Treble, Bass (On/Off) and Shift (Balance). DIMENSIONS: 8½" x 6" x 3½". PRICE £12.25 Carr. 30P

**ADASTRA** 

'3.3'

AMPLIFIER

Probably the best value for money in modest amplifiers, this

famous 3-4 watt model can be

used with pick-ups, radio tuners, microphones and tape recorders. Based on a Mullard circuit with separate Bass and Treble controls, the "3.3" can be operated as a freestanding unit or fitted into a cabinet.

VALVE LINE-UP: EX80. ECL86. POWER OUTPUT: 3 watts, 4 watts peak. SENSITIVITY: 200 mV. DISTORTION FACTOR: 2%. HUM & NOISE: -70 dB. NEGATIVE FEEDBACK: 10 dB. OUTPUT IMPEDANCE: 3-5 ohms. MAINS SUPPLY: 200-250 Va.c. CON-TROLS: Volume, Treble, Bass, On/Off. DIMENSIONS: 8" x 5" x 4¼". PRICE £6.30 Carr. 30p



# "ADASTRETTE" Record Player Amplifier

A 2-3 watt printed circuit amplifier with a high standard of performance presented for easy installation. The chassis and mains transformer are removable from the wood base for adapting into any cabinet. The controls are on a flying lead with self-adhesive escutcheon and this flexible amplifier will operate with any player deck utilising a medium or high output cartridge.

VALVE LINEIUP: EZ80, ECL82. OUTPUT: 2.5 watts, 3 watts peak. SENSITIVITY: 250 mV. OUTPUT IMPEDANCE: 3-5 ohms. MAINS SUPPLY: 210-250 V a.c. CONTROLS: On/Off, Tone, Volume. DIMENSIONS: 8½" × 4½" × 2¼".

PRICE £4.75 Carr. 25p

# LINEAR AMPLIFIERS

LT55 'SOLID STATE' 5–6 WATT AMPLIFIER



Designed for use either as a free-standing unit or fitted in equipment cabinet. Sturdy construction with fitted plastic feet. Facia finish black and silver. Size:  $94'' \times 23''' \times 514''$ . Output: 6.3 watts IHFM. Instantaneous Peak Power: 12 watts. Frequency Response: 30-20,000 cps  $-2\,dB$ . Input Facilities: separate sockets for microphone, gram and radio tuner/tape recorder. Output Matching: for loudspeakers of 3-15 ohms impedance. Hum and Noise:  $-70\,dB$ . Harmonic Distortion: 0.5% at 1,000 cps. Mains Operation: 200/250 AC 50 cps

Teak wood cabinet available £3.50

**PRICE £11.00** 

LT66 'SOLID STATE' STEREO AMPLIFIER (6 + 6)



A twin-channel version of the LT55 unit. Up to 6watts output per channel (or 12 watts monoaural). Size:  $12" \times 7" \times 3½"$ (fascia  $1234" \times 4"$ ). Output: 6.3 watts IHFM. Instantaneous Peak Power: 12 watts. Frequency Response: 30-20,000 cps -2 dB. Input Facilities: separate sockets for microphone, gram and radio tuner/tape recorder. Output Matching: for loudspeakers of 3-15 ohms impedance. Hum and noise: -70dB. Harmonic Distortion: 0.5% at 1,000 cps. Mains Operation:  $200/250 \vee AC 50$  cps.

Teak wood cabinet available £3.50

**PRICE £16.80** 

LTA15 'SOLID STATE' 15-WATT AMPLIFIER



For home or studio. Compact size, only 9" x 3" x 5½". Fitted plastic feet. Robust perspex fascia, black and silver. Suitable for cabinet mounting or free-standing. Switched inputs for gram, microphone, tape and radio. Output for speakers with impedance from 3–30 ohms. Frequency Response: 10–40,000 cps –3 dB. Negative Feedback: total 60 dB. Rated Output: 10 watts r.m.s. (continuous) into 15 ohms; 15 watts r.m.s. (IHFM) into 15 ohms. Instant Peak Power Output: 30 watts. Hum and Noise: –80 dB. Total Harmonic Distortion: less than 0.2% at rated output measured at 1,000 cps. AC Mains: 100/230/250V 50 cps. PRICE £19.00

Teak finished cabinet available £3.50 PRICE £19.0

CARRIAGE AND PACKING 45p ANY MODEL

SHORT WAVE RECEIVER - TWO CHANNEL REVERBARATION - PAGING SYSTEM -STEREO FREQUENCY RESPONSE CONTROLLER ALL QUALITY EQUIPMENT

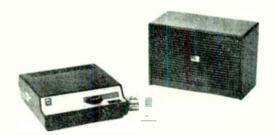


# AR.91 Amateur Communication Receiver

A battery operated Receiver covering standard AM broadcasts plus three short wave bands up to 30 Mhz.

Communication features include band spread tuning, RF gain and 1-10 logging scale. Supplied complete with detailed instruction manual, world broadcast guide and frequency conversion tables. Band A: 12-30 MHz. Band B: 4.5-12 MHz. Band C: 1.5 4.5 MHz. Band D: 550-1,600 KHz. Dimensions: 230 x 120 x 100 mm.

Price £11.90 post 20p.



# MPA.258 Paging System

Complete microphone, amplifier, speaker. Especially suitable for the average-sized garage or warehouse – saves keeping customers waiting on the telephone or in the reception area. Pays for itself in a few weeks through increased efficiency.

Amplifier, Output Power: 5 watts peak. Frequency Range: 100-12,000 Hz. Mic Input: 3 mV @ 50 K ohms. Aux Input: 200 mV @ 250 K ohms. Dimensions: 180 x 70 x 210 mm.

Speaker, Diameter: 180 x 125 mm. Power Handling: 6 watts peak. Impedance: 8 ohms. Dimensions: 230 x 155 x 105 mm.

Microphone: Impedance: 50 K ohms. Response: 100---10,000 Hz. Average Output: 3 mV.

Price £25.00 post 30p.



# RA.859 2 Channel Reverberation Amplifier

A professional two channel reverberation/mixer unit with two microphones and two instrument inputs. As well as depth of reverb, separate mic and instrument controls allow mix and fade effects. Hard wearing leather grain PVC covered cabinet and sloped front control panel.

Mic Inputs: 2 @ 600 ohms. Instrument Inputs: 2 @ 100 K ohms. Output: 500 mV @ 100 K ohms. Dimensions: 300 × 88 × 170 mm.

Price £12.75 post 25p

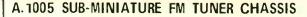


# FRC.5 Stereo Frequency Response Controller

The facility to adjust every point in the audio spectrum individually could only previously be found in very costly amplifiers or studio equipment. The FRC.5 gives a ± 10 dB slide control adjustment to five carefully chosen, optimum points in the Audio Spectrum.

Operating Frequencies: 120, 480, 1,900, 3,800, and 7,680 Hz. Output: 200 mV. Dimensions: 150 x 100 x 130 mm.

Price £24.75 post 25p





# A1008 FM TUNER

Utilising a similar chassis to model A.1005, this precision tuner is contained within a medium oiled walnut cabinet fitted with protective rubber feet. The smart anodised and black front has a horizontal tuning scale covering the FM waveband from 88-108 Mc/s. Connections are made at the rear onto screw terminals. Dimensions are  $734" \times 332" \times 5"$ . Other specifications as for model A.1005.

PRICE £9.75

# INTEGRATED CIRCUIT AMPLIFIER MODULE IC-403

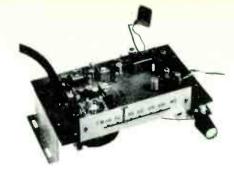


Size only 25 x 10 x 5mm – represent the most amazing breakthrough in circuit design since the introduction of the transistor. The actual circuit – no bigger than a pinhead – is encapsulated in solid plastic, fused with the heatsink and connecting pins to make an almost indestructible unit. The IC-403 is an integrated power and pre-amplifier requiring only the addition of tone and volume controls, power source and speaker to form a complete audio amplifier of 3 watts output. There are many applications for this unique device, wherever high efficiency and ultra compact size is required, i.e. miniature PA and audio amplifiers, intercoms, electronic organs, tape recorders, etc., etc.

SPECIFICATION: (ratings at 25°C) Output Power: Typically 3 watts from 250mV input. Frequency Response: 20-80,000 Hz ± 3 dB. Power Amp. Distortion: 0.3% (at 1 watt, 400 Hz). Pre-amp. Gain: 24 dB. Power Amp. Gain: 26 dB. Max. Operating Voltage: 21 V. Min. Operating Load: 7.5 ohms. Noise Level: -75 dB. Pre-amp. Input Impedance: 2 M/ohms. Pre-amp. and Power Amp. D.C. Input Current: 50mA.

ONLY £1.50 (with data and applications)

SEE PAGE 2 FOR POST AND PACKING CHARGES



Fully tunable over 88-108 MHz. 6 transistors and 3 diodes, circuit completely assembled and tested on printed circuit board. Negative ground type. Slow-motion tuning drive. Operates from 9V battery. Complete with tuning scale, tuning dial knob, telescopic antenna and instructions leaflet.

 $\label{eq:spectral_$ 

# TRANSISTORISED FM ADAPTOR MULTIPLEX MODEL A1005M



Designed for use with the above and also A1005 or A1008 FM Tuners. Simple installation.

MPX Input Power:
Power Requirement
Output Power:
Transistors:
Diodes:

.1 V minimum, hts: 9V – 12V 5mA at 12V. 1.5 times input power. 2 x 2SB-202; 2 x 2SB-186 1 x IN34; 6 x IN60

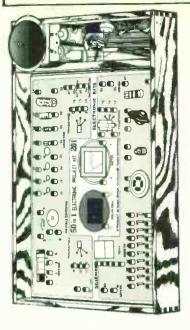
PRICE £4.99



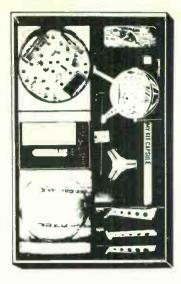
A neat inexpensive Medium waveband A.M. Tuner covering frequencies 530 Kc/s - 1,600 Kc/s (190-560 metres). Etched circuitry, 3 transistor, 1 diode, operating from 9V battery. Size:  $4\frac{1}{2}$ " x 3" x 2". Provided with instruction sheet. Positive earth signal.

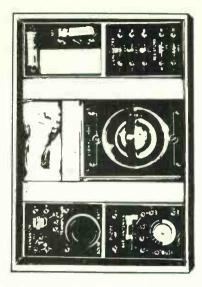
94

# ELECTRONIC EDUCATIONAL KITS



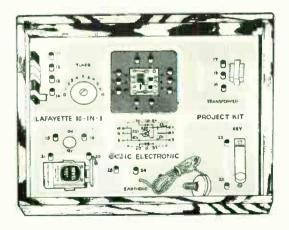
16





81550	"10 in 1"	Project	Kit	for	10 0	different	circuits.	£	3.55	post	20p	
81548	"10 in 1"	Integra	ted	circ	uit ve	rsion.		£	6.35	post	20p	
81991	"17 in 1"	Project	Kit	for	<b>17</b> d	different	t circuits.	£	<b>5.6</b> 0	post	20p	
81551	"20 in 1"	11	12	**	20	Ħ	11	£	<b>5.6</b> 0	post	25p	
81552	"50 in 1"	11	12	ti.	50	10	2.0	£	8.00	post	30p	
81553	"80 in 1"		0	п	80	п		£	8.95	post	30p	
81549	"150 in 1"	11	U.	н	150	11	11	£1	13.75	post	40p	

ALL KITS SUPPLIED COMPLETE WITH FULL INSTRUCTION MANUAL IN PRESENTATION BOX NO SOLDERING LEARN AS YOU GO



DISCOUNT LESS 10% FOR TWO OR MORE



# US.50 ULTRA SONIC REMOTE SWITCH



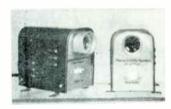
Shaped like a small torch and powered by an internal battery, the transmitter sends out a narrow ultra sonic beam when the button is pressed. Directed at the receiver, which can be anything up to 12 metres away, the beam will automatically switch on or off any unit (TV, radio, light, etc.) connected via the receiver.

Specification: Maximum Loading: 600 watts. Operating Frequency: 38 kHz.

PRICE £9.50

# PHOTO ELECTRIC RELAY SYSTEM

An inexpensive warning or counting system featuring the very latest technical advantages of photo electric circuitry. Consisting of a rugged exciter and relay unit which can be connected to signal persons entering a



room or building, counting people or merchandise, or function as an effective system to warn of intruders.

Relay unit has a convenient variable sensitivity control and switch for intermittent alarm operation. Exciter unit has removable infra red filter. Includes a.c. outlet socket to operate bells, or counters, etc.

Both units housed in robust metal cases, complete with connecting cables and installation and operating instructions. 240 volt a.c. operation.

PRICE £10.12½ pp. 27½p

(model Q4001 or PEA400)



Type 2

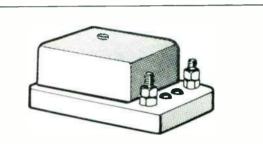
**TYPE 1** Base size 3<sup>7</sup>/<sub>4</sub>" × 2<sup>1</sup>/<sub>4</sub>" PRICE 45p TYPE 2 " 5<sup>3</sup>/<sub>4</sub>" × 3<sup>1</sup>/<sub>4</sub>" PRICE £1.40 (Also see F1009 Complete Morse Code Set).

VHE AIRCRAFT BAND CONVERTER MIDLAND MODEL 10-502



An entirely new item for the radio enthusiast bringing instant reception of the ground-to-air, air-toground waveband. For use covering 535 - 1605 Kc/s, 88 - 108 Mc/s

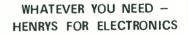
respectively - with no electrical conversion or connection required. Self-powered by one 9-volt (PP3 type) battery, is merely placed close to the receiving set and then tuned over 110-135 Mc/s which covers the whole aircraft communications band. Volume and reception effectiveness is adjusted by moving both sets to the most favourable position and balancing the vol. controls of each accordingly. Black plastic cabinet with brushed metal front panel and 18" chrome telescopic antenna, size only 4" x  $2^{7}$ " x  $2^{3}$ " (inc. knobs). Complete with battery and full instructions. PRI CE £3.621/2 pp.171/2p



# HIGH FREQUENCY BUZZER

For use with alarm systems, morse code practice etc., etc. Produces a high frequency signal adjustable for pitch. For use with 11/2 to 6 volt batteries.

PRICE 23p post 10p

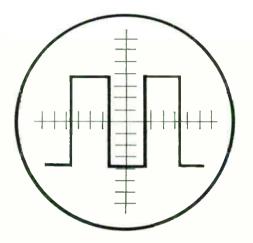


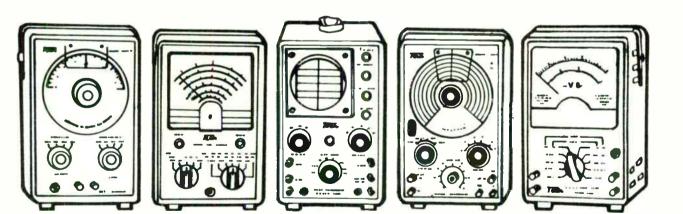
# MORSE-TELEGRAPH KEYS

Moulded phenolic base and full size key knob. Key arm is ad-justable, has tension spring and easy action bearing pivots. All metal parts plated silver contacts. Knurled adjustment and binding post screws. Mounting holes in base.



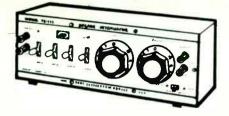
FOR AMATEUR, PROFESSIONAL AND EDUCATIONAL USE





# HENRY'S RADIO LTD.

# DECADE ATTENUATOR



**TE111** PRICE £27.50

# **AVOMETER MODEL 9 MK.4**

Voltage Ranges: a.c. 3V to 3kV f.s.d. in 7 ranges. d.c. 3V to 3kV f.s.d.

Resistance: 0 to 20M Ω in 3 ranges (first indication 0.5 ()).

Accuracy: a.c. voltage + 2.25% of f.s.d. (25 to 2.000Hz)

a.c. current ± 2.25% of f.s.d. d.c. current ± 1% of f.s.d. Sensitivity: a.c. voltage 1,000 Ω/V (100V upwards). d.c. voltage 20,000 Ω/V (all ranges). Size: 8 x 7 ± x 4 ± in. (204 x 185 x 115 mm.). Weight: 6 ± 1b. (2.95 kg.). (Including leads).

Price £40.00 post 50p

LEATHER CASES EVER-READY TYPE £6 FOR MODEL 8 & 9.

# **MULTIMINOR MK. 4**

# SPECIFICATION

Current Ranges: d.c. 100µA to 1A f.s.d. in 5 ranges.

Voltage Ranges: a.c. 10V to 1,000V f.s.d. in 5 ranges. d.c. 100mV to 1,000V f.s.d. in 7 ranges.

Resistance: 0 to  $2M\Omega$  in 2 ranges (first indication  $5\Omega$ ).

Sensitivity: a.c. voltage ranges 1,000 $\Omega/V$ . d.c. voltage ranges 10,000 $\Omega/V$ .

Accuracy: a.c. voltage ranges 2.75% of f.s.d. d.c. voltage and current ranges 2.25% of f.s.d.

Size: 7% × 4 × 1% in. (197 × 102 × 41 mm.). Weight: (including case): 11/2 lb. (0.675 kg.).

Price £15.00 post 20p

# Variable range: 0-111dB Connection system: Unbalance T and Bridge T.

SPECIFICATION

Resistance Attenuator MODEL TE-111 0-111dB 0.1dB step DC-150 KHz

Impedance:  $600\Omega$ Range:  $(0.1 dB \times 10) + (1 dB \times 10) + 10 + 20 + 30 + 40 dB$ . Measured freq .: DC~200KHz (-3dB) Accuracy: 0.05dB + indication dB x 0.01 Max, Input: Less than 4W (around 50V) Additional device:  $600 \Omega$  load resistance with internal external change over switch is built-in. Dimensions & weight: 325(W) × 114(H) × 100(D)mm 2kg.

# MODEL 8 MK.3 SPECIFICATION

Current Ranges: a.c. 10mA to 10A f.s.d. in 4 ranges. d.c. 50 1A to 10A f.s.d. in 7 ranges.

in 8 ranges.

d c. voltage ± 2% of indication.

SPECIFICATION

Current Ranges: a.c. 100mA to 10A f.s.d. in 4 ranges. d.c. 50µA to 10A f.s.d. in 7 ranges.

Voltage Ranges: a.c. 2.5V to 2,500 V f.s.d. in 7 ranges. d.c. 2.5V to 2,500V f.s.d. in 8 ranges.

Resistance 0 to 20M 12 (first indication  $0.5 \Omega$ ).

Decibels: -15dB to +15dB.

Accuracy: a.c. voltage and current 2.25% of f.s.d.

d.c. voltage - 2% of indication. d.c. current ± 1% of f.s.d. Sensitivity: a.c. voltage ranges 1,000 Ω/V (10V upwards), d.c. voltage ranges 20,000 Ω/V (all ranges). Size: 8 x 7‡ x 4½ in. (204 x 185 x 115 mm.). Weight: 6½ lb. (2.95 kg.). (Including leads).

# Price £40.00 post 50p

# V.O.M MULTI-METER

MODEL K1400



Professional quality VOM, using a giant 15 cm meter with mirror scale. The vast range of readings are precise and easy to see. A feature of the instrument is the addition of 4 measuring ranges of AC current from 10mA to 10A complete with leather carrying handle. batteries and workshop operating manual.

Meter Sensitivity: 50µ A, DC Voltage: 0.025, 1, 2.5, 10, 50, 250, 1,000, 5,000V (20,000 O.P.V.) AC Voltage: 2.5, 10, 50, 250, 1,000, 5,000V (5,000 O.P.V.) DC Current: 50/LA, 1, 10, 100, 500 mA, 10A. AC Current: 10,100, 500mA, 10A, Resistance: 0-2K ohm, 200K ohm, 20 megohm. (Mid-Scale): 12 ohm, 1.2K ohm, 120K ohm. Decibel: -20 to +50db (0db=1mW, 600 ohm). AC Voltage, AC Current ±3.5% of full scale value. Size: 203 x 165 x 95 mm.

Price £23.50

# 98

# FOR THE TEST ENGINEER OR THE AMBITIOUS AMATEUR

# UNIVERSAL SIGNAL INJECTOR

MODEL SE-250 B



For easy checking of TV, Radio, Amplifier, Tape Equipment, Intercomm and PA Equipment, Tuners etc., etc. Small pocket sized unit – operated with one hand. Built in battery and using 2 transistors. Output approximately 1.4v. P-P at nominally 1 Kc/s with continuous harmonics up to VHF. Overall size: 0,6" Diam. × 7" Length.

SE-250 B

PRICE £1.75 pp.12p

# UNIVERSAL SIGNAL TRACER

MODEL SE500. Simple detector circuit designed to trace all kinds of signals for high and low frequencies. Size 0.6" diam.  $\times$  7" length.



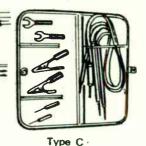
# TEST PRODS AND TEST LEAD KITS

a nn 11

Type A

Туре В

A TEST PRODS Red/Black with 40" leads, fitted pin type plugs as illustrated. Price 20p

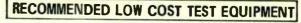


B As A, but banana plugs. Price 20p

C TEST LEAD KIT. Type A Prods and Pin Adaptors, Croc Clip and Spade Adaptors. Price 50p pp.7½p

D TEST LEAD CLIP SET 10 Leads 14" length fitted insulated croc clips each end. 5 different colours used. Price 35p

E.TL60 De Luxe Pin Type 30p F.TL64 " " Banana Type 32p



# THL33 MULTI-METER

Return of a popular model. Robust in design and construction. Large scale. Recommended and reliable. Overall size:  $5 \times 3\% \times 1\%$  in.

RANGES (2000 ohms per volt AC & DC 0/10/50/250/500/1000 volt. AC/DC 0/500 uA. 0/10/250 mA DC. 0/10K/100K/1 Meg Resistance. (Centre scales 100 ohms, 1K & 100K). dB and Capacitance Scales. Complete with Test Leads, Battery and instructions.

THL33 PRICE £4.12 pp.15p

Leather case for THL33 Price £1.15

# 200H MULTI-METER

# MORE RANGES THAN OTHERS OF SIMILAR APPEARANCE

Well established reliable meter. Large clear scale with simplified range selector. High input resistance 20,000 ohms per volt for reliable readings.

Overall size: 41/2 x 31/4 x 15/16 in.

RANGES (20,000 ohms/volt DC 10,000 ohms/volt AC)

0/5/25/50/250/500/2500 volts DC. 0/10/50/100/500/1000 volts AC.  $0/50 \mu$  A.  $0/2\frac{1}{2}/50$  mA. DC. Resistance: 0-6K (centre 300 ohms)

0-6 Meg (centre 30K ohm) Also dB and Capacitance Scales. Complete with Leads, Batteries and instructions. Output socket.

200H PRICE £3.97 pp.15p Case for 200H Price 60p

# AF105 MULTI-METER

## MIRRORED SCALE AND OVERLOAD PROTECTION

Represents the best in quality and performance. Has 'off' position, polarity switch, two coloured and mirrored scale. Also overload protection. Meter sensitivity 20 uA. Input 50,000 ohms per volt. Socket for use as output meter.

# RANGES

0/0.3/3/12/60/120/300/600/1200 volts DC (50K/V) 0/6/30/120/300/600/1200 volts

AC (10K/V) 0/30 µA, 0/6/60/300 mA. 0/12 Amp.

Resistance: 0/10K/1 Meg/10 Meg/ 100 Meg.

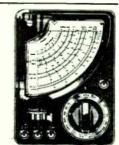
Centre scale 100 ohms/1K/10K/100K Overall size:  $6^2$ /s" ×  $4^3$ /s" ×  $1^4$ /s" Complete with Leads, Batteries and instructions.

 AF105
 PRICE £8.50
 pp.20p

 Leather case for AF105
 Price 1.40

 (30KV Probe DC30
 £3.25
 pp.15p)











# C.1000 MULTI-METER

A general purpose pocket size multi-meter. Sensitivity 1,000 ohms per volt.

#### Ranges:

AC Volts: 10, 50, 250, 1000V DC Volts: 10, 50, 250, 1000V DC current: 1 mA, 100mA Resistance: 0-150 K ohms Dimensions:21/4" x 3%/16" x 11/16"

Supplied complete with batteries. test prods and instructions.

Price £1 98



## EP. 10KN

10.000 OPV Multimeter with Overload Protection Circuit and Mirror Scale

PRICE £6.98 pp. 12n

Leather Case L150 PRICE £1.25



A really precision instrument at an economical price. 5 Multi-coloured scales, 19 test measurement ranges, exclusive 'EAGLE' Overload Protection Circuit and mirror scale, with test leads, batteries and manual.

#### Specifications:

DC Volts: 0 to 0.5, 2.5, 10, 50, 250, 500, 1000V (10,000 O.P.V.). AC Volts: 0 to 10, 50, 250, 500, 1000V (4,000 O.P.V.). DC Current: 0 to 100 uA, 25mA, 250mA. Resistance: 0 to 3K, 300K, 7 meg. Decibels: -10 to +22dB. Size: 5" x 31/4" x 15/14".

EP.30KN (G23) 30.000 C.P.V Multimeter with Overload Protection Circuit and **Mirror Scale** 





PRICE £2.10

The de luxe portable multimeter of advance performance and design provides wide voltage current resistance and dB ranges. Clearly visible on a large mirrored meter with coloured catibration. All multipliers used are 1% precision resistors for maximum accuracy and years of dependable service. 27 Test measurement ranges, 'EAGLE' Overload Protection Circuit with test leads, batteries and manual.

#### Specifications:

DC Volts: 0 to 0.6, 3, 12, 60, 300, 600, 1200, 3000V (30,000 O.P.V.). AC Volts: 0 to 6, 30, 120, 300, 1200V (10,000 0.P.V.). DC current: 0 to 30uA, 6mA, 60mA, 600mA. Resistance:0 to 10K, 1 meg, 10 meg, 100 meg, Decibels: -20 to + 17, 31, 43, 57, 63DB. Size: 4" high x 6" wide x 11/2" deep.

# TRANSISTORISED FIELD STRENGTH METER

pp. 12p

- \* Permits easy Tune-up for maximum Transmitter Output.
- Earphone Jack to Monitor Audio
- ★ Tuned Input from 2.53 to 57 mc/s in three Bands.
- ★ 200 µA Meter Movement.

# Price £4.97 pp.15p

Covers 2,530 mc/s to 57,000 mc/s in 3 bands. Ideal for use with ham, Citizens Band or other transmitters within this frequency range. Enables user to tune his transmitter and antenna for maximum RF

output. 200µA meter is calibrated from 0 to 10. Earphone jack provided. Front panel controls: gain on-off switch, tuning, and band selector switch. Battery powered-can be operated anywhere. With telescoping antenna and battery.



# SWR & METER MODEL C3005

Versatile, highly efficient new TTC meter. Reads output and reflected power simultaneously. Easy-to-read heavy black numbers scaled for quick, exact readings. Can be used for reference power meter. Dual 100-microamp meter movements, low insertion loss. May be left in line, up to 2,000 watts. Good through 175 MHz, Grey enamelled metal case, Size; 44" x 21/4"-21/2". Complete with full instructions. £6.30 pp.20p



# NOMBREX WIDE RANGE RF GENERATOR

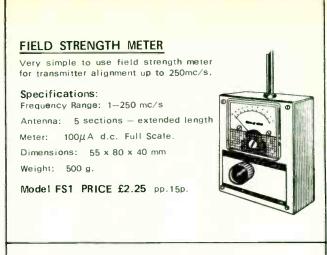
Models 29-S and 29X - Spinwheel

- W DE FREQUENCY COVERAGE 150 KHz-220 MHz
- ALL FREQUENCY RANGES ARE ON FUNDAMENTALS
- ¥ EIGHT BANDSPREAD SCALES. TOTAL LENGTH 40"
- ★ SMOOTH VERNIER TUNING CONTROL RATIO 71/2:1
- ★ RAPID SPIN WHEEL TUNING FITTED
- ★ UNIQUE ELECTRONIC SCALE CALIBRATION CONTROL
- ★ SCALE FREQUENCY ACCURACY WITHIN ± 1.5%
- ★ MAGNIFIER CURSOR CLEAR PRECISION TUNING
- ★ INTEGRAL CRYSTAL CALIBRATOR MODEL 29-X
- ★ MODULATION DEPTH FULLY ADJUSTABLE 0 100%
- VARIABLE MODULATION FREQUENCY 400 1000 Hz
- ★ MODULATION SIGNAL AVAILABLE AT A.F. JACK
- ¥ PROVISION FOR EXTERNAL MODULATION 0-100%
- ★ STABILIZED SUPPLY FOR LONG-TERM ACCURACY
- ★ STANDARD 9v. TRANSISTOR BATTERY OPERATION
- ★ JACK SOCKET PROVISION FOR EXTERNAL SUPPLY.
- \* FITTED SPIN WHEEL TUNING CONTROL

Two new transistorised portable RF Generators. Featuring 8 overlapping scales. Output up to 100mV at 600 ohms impedance. Scale size: 51/2" x 21/4". Supplied complete with battery, leads, instructions etc.

Standard Model 29-S	£21.00
<ul> <li>With Crystal Oscillator Model 29-X</li> </ul>	£28.50





# GRID DIP METER All Transistor

#### Model TE15 Operates as a Grid Dip. Oscillator, Absorption Wave-meter and Oscillating Detector. Battery operated. Versatile Portable Applications.

#### Specifications:

•	
Meter: Battery: Dimensions: Weight:	3 and 1 diode 500µA F/S. 9 volts PP3 180 x 80 x 40 mm 730 g
Frequency Range:	440 kc/s-280 mc/s with 6 coils:
	A coil 0.44-1.3 mc/s; B coil 1.3-4.3 mc/s;
	C coil 4-14 mc/s; D coil 14-40 mc/s; E coil
	40-140 mc/s; F coil 120-280 mc/s.

Model TE15 PRICE £12.50 pp.20p

# SWR METER Model SWR-3

Handy SWR meter for transmitter antenna alignment. Convenient field strength meter built-in. Suitable for mobile and amateur stations.

#### Specifications:

SWR: 1:1 to 1:3 Accuracy: 5% Impedance: 52 ohms 100µ A d.c. Full Scale. Indicator: 5 section collapsible. Antenna: Dimensions: 145 x 50 x 60 mm Weight: 500 g

Model SWR-3 PRICE £4.25 pp.15p

# UNIVERSAL TESTMETER MODEL 500

30,000 OHMS PER VOLT D.C. 15,000 OHMS PER VOLT



A.C. Sensitivity is 33 microamperes DC, and use of a knife edge pointer over a 2 colour scale, which is in a clear perspex cover, gives quick easy readings. Stable printed circuit, positive action selector switch with recessed finger grip, 'Off' position to lock movement in transit, and an internal buzzer to give audible warning when testing for short circuits. Complete with test leads and probes, internal batteries, and operating instructions. Size 3 S/16" x 6 S/16" x 2 34", weight 22 ozs.

MODEL 500 PRICE £8.87 Post 23p Now with Mirror Scale and Overload Protection

DC VOLTAGE:	0-0.25 - 1-2.5-10-25-100-250-500 -1,000V at 30,000 Ohms per volt.
AC VOLTAGE:	0 - 2.5 - 10 - 25 - 100 - 250 - 500 - 1,000V at 15,000 Ohms per volt.
DC CURRENT:	0.05-5-50-500mA; 0-12 Amps.
RESISTANCE :	From 5 ohms to 60 Megohms x 10 x
	1k- x 10k- Centre scale readings 350
	Ohms – 35K ohms – 350K ohms.
DECIBELS :	-20 to +56dB (0db = 1mW, in 600 ohms).
	Internal blocking condenser.
	Internal buzzer for audible warning.

LEATHER CARRYING CASE £1.98 Post 12p

· 0/0 5/5/50/250/500/1 000 /20 000 obms/

# UNIVERSAL TESTMETER MODEL TP5SN

20,000 OHMS PER VOLT D.C. 10,000 OHMS PER VOLT



LEATHER

**CARRYING CASE** 

Now with Mirror Scale and 'off' position to lock movement in TRANSIT and Overload Protection.

TP5SNPRICE £5.97Post 23pLEATHER CASEPost 12p.

volt)
DC CURRENT: 0/50 microamp, 0/5/50/500mA.
AC VOLTS : 0/10/50/250/500/1,000 (10,000 ohms/ volt)
RESISTANCE : 0/10k/100k and 0/1meg/10meg.
CAPACITY : 50pf to 5000pf and 5000pf to 0.1mfd.
dB : -20 to +36dB
SIZE : 5¼ x 3½ x 1¾in.
Complete with battery, Test leads and full Instructions

DC VOLTS

Meter movement is of 50 microamperes DC sensitivity, and has full automatic overload protection. Buzzer incorporated for testing wiring or short circuits. Movement lock for transit purposes. Rigid moulded handle can be swivelled for use as a tilt support. Meter size  $44^{44}$ " x 2½", with a knife edge pointer over a widely spaced 2 colour scale for easy readings. Overall dimensions 7½" x 54" x 34", weight 4lbs. Supplied complete with internal batteries, test leads and prods, and 12 page instruction manual.



PRICE

£17.50 Post 35p.

20,000 OHMS PER VOLT D.C. 4,000 OHMS PER VOLT A.C.
DC CURRENT: 0-0.25-2.5-10-50-100-250-1,000-
5,000 at 20,000 Ohms per volt. AC VOLTAGE: 0-2.5-10-50-100-250-1,000-5,000 at 4,000 Ohms per volt.
DIRECT volt)
CURRENT : 0-50 Microamperes. 0-0.5-5-50-500mA. 0-10 Amps.
ALTERNATING
CURRENT : 0-0.5-5-50-500mA. 0-10 Amps.
RESISTANCE : From 0.5 ohm to 50 Megohms. x 1- x
10- x 100- x 1K- x 10K, with centre
scale readings of 30 ohms-300 ohms-
3K ohms-30K ohms-300K ohms.
DECIBELS : $-10$ to $+42$ dB (0 db = 1mW in 600 ohms).
CONTINUETY : Internal burger for audible meaning

UNIVERSAL TESTMETER

CONTINUITY : Internal buzzer for audible warning.

# VALVE VOLTMETER MODEL 360 \* DC VOLTMETER \* AC VOLTMETER \* OHMMETER

£4.50

DC VOLTAGE: Positive and negative 0-1.5-5-15-50-150-500-1,500 Sensitivity 7.33 Megs/V1.5V range. AC VOLTAGE: RMS. 0-1.5-5-15-50-150-500-1,500

Peak to Peak. 0-4.2-14-42-140-420-1,400-4,200 Frequency response ±3% 50 cps to 2 Mc/s (at 1,000 cps) ±10% 25 cps to 4Mc/s (at 1,000 cps).

RESISTANCE : From .2 ohm to 1,000 Megohms in 7 ranges with centre scale readings of 10-100-1K-10K-100K-1M-10M.

DECIBELS : -20db to +60db (0db: 1mW in 600 ohm line).



INPUT IMPEDANCE DC 11 Megohms. SIZE 75/16'' x 434'' x 45/8'' AC MAINS OPERATED, FITTED TWO COLOUR SCALE: 45/8'' x 41/8''.

MODEL 700

MODEL 360 PRICE £17.50 pp. 50p.

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# RESISTANCE – CAPACITANCE ANALYSER

#### Model TE46

#### Capacity: 4 Ranges:

0.00002--0.005mfd, 0.002--0.5mfd, 0.2-50mfd, 50-2,000mfd.

#### Accuracy:

 $\pm$  5% +5m mfd. (except the ranges of 30 from both ends and between 50 to 2,000 mfd. The said ranges not included in 30 from both ends covers 5 to 300 ohms)  $\pm$  15% (For the ranges of 30 from both ends and 50 to 200mfd.)

#### Resistance: 4 Ranges:

2-500 ohms, 200 ohms-50,000 ohms. 20Kohms-5,000 K ohms, 5-200 M ohms.

#### Accuracy:

 $\pm$  5% (except the ranges of 30 from both ends. Between 5M to 200 Mohm)  $\pm$  15% (for the ranges of 30 from both ends and between 5M to 200 Mohms.)

#### Transformer Winding Ratio and Impedance Ratio:

1:1(1:1)-1:100(1:10K) 1:10(1:100)-1:200(1:40K)±10%

Leakage: 0-1, 0-10mA ± 5%

# OM.B and OM.G. CAPACITANCE AND RESISTANCE SUBSTITUTION BOXES

Designed for the service man, student, or experimenter. OM.B offers fast accurate selection of 9 capacitor values from .001 to .22 MFD. OM.G gives swift selection of 24 separate resistances. A matching pair — beautifully engineered.

OM.B Range (MFD): .0001, .001, .0022, .0047, .01, .022, .047, .1, .22. Test Leads: 1 metre. Dimensions: 120 x 58 x 32mm.

OM.G Low Range: 15 ohms to 10Kohms in 12 steps. High Range: 15Kohms to 10M ohms in 12 steps. Test Leads: 1 metre. Dimensions: 120 x 58 x 32 mm.

#### OM.B PRICE £1.20

(post etc. 13p extra)

C.F.FIELD IN PICATOR

64 · 3010

OM.G PRICE £1.72



# Supply Voltages:

3, 6, 12, 25, 50, 150, 250, 300, 350, 400, 450, 600  $\pm$  10% (at input voltage 105-125V, 220-240V AC)

Power Factor: 0-75% ± 10%

Insulation Resistance: 0-300 Mohms (at 600V ± 20%)

Tube Complements: 6 x 4, 6E5.

Power Source: 105-125V, 220-240V AC, 50/60 cps.

Dimensions (mm): 193H x 265W x 150D

Weight: 4kg.

TE46 PRICE £17.50 post etc. 50p



# **RF FIELD INDICATOR**

# MODEL FL30HA

An important improvement over other field strength meters broad tuning covers 1–250 MC's in five calibrated bands. Can be used as a sensitive field strength meter or frequency checker. Detects undesired radiation or spurious frequencies, RF is measured on an accurate clear plastic 200 uA panel meter. Compact, sturdy case contains a powerful magnet for attachment to metal surfaces to leave hands free. Supplied with a telescopic aerial which extends to  $10\%^{\rm H}$ . With manual and earphone. Size:  $3\%^{\rm H} \times 2^{3}/_{6}$  " x  $1\%^{\rm H}$ .

# FL30HA PRI

PRICE £3.98 post etc. 12p

# **CRYSTAL TEST SET TYPE 193A**

Portable Mains operated Rack mounted Test Set for checking crystals in the frequency range of 3,000 to 10,000 kc/s. The instrument will operate on 80, 110, 115, 180 and 230V, The Test Set will measure crystal current under oscillatory conditions and the equivalent parallel resistance. Crystal frequency can also be tested in conjunction with a suitable Frequency Meter.

AS NEW PRICE £12.50 carr. etc. 75p



# NOMBREX - See also Models 29-S and 29-X

MODEL 32

PRICE £10.50

MODEL 31



# PRICE £12.50

# TRANSISTORISED SIGNAL GENERATOR

- ★ Covers 150 kc/s to 350 mc/s in 8 ranges.
- Accuracy ± 2% or better.
- ★ RF modulated or unmodulated, average 50 mV.
- Separate AF output at 400 c/s, 3 volts peak.
- Direct calibration, Consumption 3 mA (average).





# PRICE £19.90

# TRANSISTOR POWER SUPPLY

- 🗶 Maximum current 1 amp.
- K Variable output voltage 1 to 30 volts. D.C.
- Automatic overload and short circuit protection.
- I Residual ripple less than 10 mV.
- K Twin meters
- For operation 230/250 volts A.C. 50/60 c/s.

MODEL

33

PRICE £20.00



# TRANSISTORISED INDUCTANCE BRIDGE

- 1 uH-100 H in four ranges. Direct calibration.
- O Measurements 0.1 to 1000, at 1592 cps.
- \* Tan δ measurement 10-0.001.
- Accuracy: Inductance  $\pm$  5%. Q and tan  $\delta \pm$  10%.
- \* Balance indication by miniature edgewise meter. SEE PAGE 3 FOR POST AND PACKING CHARGES.

# TRANSISTORISED C.R. BRIDGE.

- ▶1 ohm-100 M ohms and 1 pF-100 uF, in 6 ranges.
- Accuracy 21/2% or better, at mid-scale.
- \*Balance by luminescent indicator tube.
- Separate resistance and capacitance scales.
- Power factor check for electrolytics.
- Leakage check by neon indicator.

MODEL 30

PRICE

£19.50



# TRANSISTORISED AUDIO GENERATOR

- 10 c/s-100,000 c/s in four ranges.
- Output, maximum 1 volt peak, sine or square.
- Distortion: Sine less than 1%. Square, Risetime 0.3uSec.
- \* Accuracy: Frequency 5% voltage within 3%.
- Directly calibrated, frequency and output voltage.

All instruments, except Model 22, employ one 9v transistor battery Ever Ready PP4, Drydex DT4, or equivalent.

All models have the following specification: DIMENSIONS: Width 75" (190 mm)

DIMENSIONS:	widui 7.22 (190 mm).
	Height 5¾" (146 mm).
	Depth (including knobs) 3¾" (95 mm).
WEIGHT:	In carton container -
	Excluding battery 2lb.2oz.
	Including battery 2lb.3oz.
FINISH:	Robust steel case, louvred at rear for
	ventilation, Medium grey hammer stoved
	enamel. Recessed panel anodized blue,
	black and satin silver finish. Spin-disc
	styled control knob. Four rubber feet
ACCESSORIES:	Models 30 and 31 are supplied complete
	with 3 ft. shielded terminated test lead,
	operating brochure with each instrument.

### **GUARANTEE**

All instruments are guaranteed for a period of 12 months from purchase date against any defect or fault in manufacture.

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# AC MILLIVOLTMETER **MODEL TE-40**

High Sensitivity V.T.V.M. Suitable to measuring Audio Circuits and Low Level a.c. Voltages up to 1 Mc/s.

#### Specifications:

A.C. V: 1 mV-300 VRMS (1 ORange). Accuracy: 5 cps ~ 1.2 MC ± 2db. (db scale +2~-25 db); 10 cps.~1 MC ± 1 db; 20 cps. ~250 KC ± 0.2 db. db. Scale: -40, -30, -20, -10, 0, 10, 20, 30, 40, 50dbm. Power Source: 105-125, 220-240 V a.c. 50/60 cps Dimensions: 140x215x170mm. Weight: 2.5 kg.



TE40 PRICE £17.50 Post 35p.

# EDUCATIONAL REQUIREMENTS

Let us quote for test equipment for educational use. Discounts available for small quantities.



# **DE-LUXE AUDIO GENERATOR**

MODEL TE22D (Matching TE20D below)

Distortion: Attenuator: Accessory: Power supply:

Output voltage:

Dimensions: Net weight:

Sine Wave 7 volts(RMS) Square Wave 7 volts(P-P) Less than 2% Tube complement: 6BM8, 12AT7, 6 × 4 4-range 1/1, 1/10, 1/100, 1/1000 1-Output cable a.c. 50/60 cps 220-240 volts 19 watts 215 x 170 x 140mm 3 Kgs.

TE22D PRICE £16.50 Carriage 35p.

# SPECIFICATIONS:

TRANSISTORISED MAINS OR BATTERY HIGH STABILITY RF MILLIVOLTMETER

A portable, high sensitivity voltmeter for industrial

for communication equipments, navigation instrument,

Complete with handbook. Separate scales in milliwatt,

radar, fishfinder, etc. For use on Audio and RF from

10 c/s to 2 Mc/s. Instantaneous operation when the

dBm and dBv. Meter sensitivity 3m V F.S.D. Fully

application. Especially invaluable for field service

switch is turned on. Light weight, approx. 5 lbs.

MODEL VM51

stabilized circuit.

Input Impedance:

lower frequencies.

higher ranges. Freq. Response:

+50 dBy.

Source:

Dimensions:

Measuring Ranges: 0 to 3 mV ~ 300 V AC, 5 mW

to 120 mW on 8 ohms, -70 ~

Accuracy: +3% on all ranges.

Within ±0.5 dB at 20 cps to 1 Mc and ± 2 dB at higher and

6 pieces of flash light batteries.

150(W) x 240 (h) x 114 (d) mm.

VM51 PRICE £32.00 Post 35p.

 $1M\Omega$  +30pF on 0.3 V and lower ranges, 2MΩ +25pF on 1 V and

+50 dBm on 600 ohms and -70  $\sim$ 

Frequency range: Sine Wave -20 to 200,000c/s in 4 bands. Square Wave -20 to 30,000cps Frequency Response ± 1½ dB Output Impedance: 1 Kohm. Frequency Accuracy: ± 5%

(Also see Model TE22)

# **RF SIGNAL GENERATOR**

## MODEL TE-20 D (Matching TE22D above)

SPECIFICATIONS: Frequency range:

(6 Fundamental Bands and 1 Harmonic Band) Frequency accuracy: ± 2% to 8 volts Audio output: Approx. 400c/s Internal modulation: 12BH7A, 6AR5, Silicon Diode Tube complement: and Germanium Diode Printed Circuit for uniform characteristics 105/125, 220/240 volts a.c., Power source: 50/60 cps 12 watts. 140 x 215 x 170mm Dimensions: 2.8 kg Weight:

120kc/s-500mc/s

TE20D PRICE £15.00 Carriage 35p.

- Factory calibrated and \* tested
- **Dual output RF terminals**
- Separate variable Audio output
- Employs a X' tal socket and can be used as
  - (a) Self-Calibration
  - (b) Marker Generator



# MULTIMETER/ TRANSISTOR CHECKER EP.100LN 100,000 O.P.V. **Band Suspension**

This is a precision instrument measuring up to laboratory standards in its sensitivity, but as rugged as ordinary bench instruments, Built-in socket for instant testing of transistors.

#### DC volts:

0-0.12, 0.6, 3, 12, 30, 120, 600∨.

AC volts: 0-6, 30, 120, 600∨

## DC current:

0-12 uA, 600 uA, 12 mA, 300mA, 12**Δ** 

**Resistance:**  $0-10\kappa\Omega$ ,  $0-1M\Omega$ ,  $0-10M\Omega$ .

Decibles: -20db to +18db.

#### Transistor Ranges: ICO 0-12 uA, Alpha 0-0.9965, Reta 0\_280

Dimensions: 165 x 125 x 6mm



A multi-function and multi-purpose Ten-in-One tester. It combines its innate performance as a tester with functions of field strength indicator, generator, resistor, condenser and battery supply. The Mini-Lab, in its small case, is completely battery operated and suited for quick checkups in service shops and home-service calls.

SE4:00 PRICE £9.50 pp.30p



# **KEW.5 SNAP-ON VOLT AMMETER**

EP100LN

(LEATHER

CASE TYPE

L185 £2.10)

**PRICE £15.50** 

post etc. 20p

Pocket instrument to measure alternating voltage and current quickly and accurately. Invaluable tool in balancing circuits, tracing faults, estimating new or revised circuits without shutting down equipment, 'Body revolves 180 Thumb operated range selector with indicator window. Completely insulated. Exclusive Eagle overload protection circuit, Leather finish case.

Accuracy: ± 3% full scale reading. Ammeter Ranges: 0-5, 0-25A, AC. Voltage Ranges: 0-150, 0-300, 0-600, volts AC. Dimensions: 156 x 57 x 26 mm

KEW.5 PRICE £7.95 pp.15p

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World Radio History

# TRANSISTOR CHECKER MODEL FTC-401

# SPECIFICATIONS

Ranges: Ico (Icbo) and Diode Reverse Current: 0-50-100µA, and 0-1-10mA, full scale: Beta, B: 0-100-200-400-800 full scale. Accuracy, ICO and Beta: ± 3% of full. Meter Movement: Mirror backed; sensitivity 50µA. Internal Batteries: 4 UM3 (Penlight) cells, 6V total; 1 Mercury (1.3V) cell, Matsushita MT, Size and Weight: 160mm high, 110 mm wide, 55 mm deep: 570g. Accessories, Furnished: Lead with clip, 3 ea.

#### For Testing PNP or NPN Transistors and Diodes



No tedious circuit balance adjustments are required in operation. It will measure the Ico and Beta for all types of transistors-from the small to the power-with minimum effort. Self-contained batteries are used and it is possible to make measurements at voltages near the end-of-life condition. The auxiliary mercury consumption is so low that it can be used for a period which is practically equal to its shelf life.

PRICE £6.97 post 15p

# ALL IN ONE MINI-LAB Model SE400

#### **SPECIFICATIONS**

- 1.2 AC & DC Voltmeter \*Meter Movement 0 to 217µA
- \*Input Resistance, 4,000 ohm/volt \*Four Ranges: 0-15, 0-50, 0-150 and 0-500V \*Accuracy: ±3% of full scale.
- 3 Ohm Meter \*0-10K, 0-100K, and 0-1M ohms. \*Accuracy: + 3% of full scale.
- Resistance Substitution \*Resistors: 1/2W 1% tolerance \*Five Δ values: 100 ohm, 1K ohm, 10K ohm, 100K ohm and 1 M ohm.
- Capacitance Substitution \*Five values: .002µ fd, .005µ fd, 5 .02 $\mu$ fd (oil) at 600WV and 10 $\mu$  (electrolytic), at 350WV.
- 6 RF Field Strength Indicator \*Frequency Range: 1 to 140 MC \*Antenna: 5 section, 10.3/4".
- DC Ammeter \*0.500mA (at full scale) 7
- R Battery Supply \*9V DC.
- RF Signal Generator \*Frequency: Fixed at 455Kc (up to 700kc 9 adjustable) \*Output: 35mV (Approx)
- 10 Audio Generator \*Frequency: 400c/s (Approx.). \*Output: 35mV (Approx.) \*Weight: 750g \*Size: 7.48" (W) x 3.74" (D) x 3.30" (H) \*Accessories: The unit comes with test leads, an antenna and 3 batteries.

# KEW.8 SNAP-ON VOLT AMMETER/ OHMMETER

A compact, accurate tester, measuring alternating current and voltage without cutting the power! Special feature is resistance range for checking out circuits found defective. Only one scale range appears in the window at one time - for greater speed simplicity and accuracy in reading. Complete with voltage test leads ohmprobe, carrying strap, leather finish case.

AC amps: 0-6, 0-15, 0-40, 0-100, 0-300 A. AC volts: 0-150, 0-300, 0-600V. Resistance: 0-2 K ohm, 25 ohm (Mid Scale). Dimensions: 208 x 58 x 38 mm.

KEW.8 PRICE £19.50 pp.17p



# **RECOMMENDED LOW COST TEST EQUIPMENT ¥**

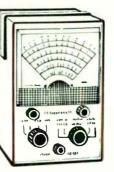
#### VACUUM TUBE VOLT METER

#### **MODEL TE-65**

With new 6" full-view Meter. Compare it to any Peak-to-Peak V.T.V.M. made by any other manufacturer at any price. 28 ranges.

#### SPECIFICATION

D.C. V: 0-1.5-5-15-50-150-500-1500V RMS. 0-1.4-4-14-40-140-400-1400-4000 P-P. Resistance: 4 x 10-100-1K  $-10K-100K-1M-10M(0.2\Omega-1000M\Omega)$ . Decibel: -10 db to +65 db. Power Source: 105-125, 220-240Va.c. 50/60 cps Tube Complement: 12AU7, 6AL5. Dimensions: 140 x 215 x 150 mm



Weight: 2.5 kg. Complete with standard probe. \*For extra higher voltage or frequency, use with Model

HV-20 and Model RF-22 Probes.

MODEL TE-65 PRICE £17.50 pp.25 p

#### EXTRA PROBES FOR TE-65 V.T.V.M.

MODEL RF-22 Measures high Frequency at max. 20V. Dimensions: 160 mm. Weight: 85g. £2.12



MODEL HV-20 Measures d.c. Voltage 20x of original Scale up to 3 KV. Dimensions: 250 mm. Weight: 140 g. £2.50



3" OSCILLOSCOPE **MODEL TO-3** 

PORTABLE TYPE **HIGH QUALITY!** 

**ILLUMINATED SCALE** 

COMPACT -SPACE SAVING

#### SPECIFICATION



VERTICAL AXIS **Deflection Sensitivity:** 0.1V p-p/cm (at 1 kHz) Frequency Characteristics: 1.5 cps - 1.5 MHz Input Impedance: 2 megohms 25 pF Calibration Voltage: 1V p-p/cm HORIZONTAL AXIS **Deflection Sensitivity:** 0.9 V p-p/cm Frequency Characteristics: 1.5 cps - 800 kHz Input Impedance: 2 M 20 pF Sweep Oscillator: 5 Ranges -(1) 10-100 cps; (2) 100-1 kHz; (3) 1-10 kHz; (4) 10-80 kHz; (5) 50 -300 kHz Synchronization Devices: Internal (Positive & Negative) External Power Source (± Line) Cathode Ray Tube: 3 KPIF Power Source: 105-125, 220-240 volts a.c., 50/60 cps Dimensions: 140 x 215 x 330 mm Weight: Approx. 7 kgs. (15.4 lbs.)

MODEL TO-3

PRICE £36.00 Carr.50p

# AUDIO GENERATOR

Factory Calibrated and Tested

Low Distortion

Frequency Range Sine: 20 cps-200Kc in 4 Bands Square: 20 cps-25 Kc (Vernier Tuned)

Etched Circular Dial 41/2"

Frequency Response: ± 1.5 DB

60cps-150Kc Vernier Dial. Grey wrinkle steel case with leather carrying handle. Complete with a pair of test leads.



MODEL TE-22

# SPECIFICATIONS: Frequency Range:

Sine wave: 20-200,000 cps in 4 bands Square wave: 60-30,000 cps. Output Voltage: (Variable) Sine: 7 volt. Square: 7 volt P-P Output Impedance: 1,000 ohm Frequency Accuracy: + E

riequency Accuracy.	± p
Distortion:	Less than 2%
Tube Complement:	6BM8, 12AT7, 6X4.
Power Requirements:	105-125V, 220-240V AC 50/60 cps. 19W
Dimensions:	193 mm H × 265mm W × 150mm D
Net Weight:	3.5 Kg.

MODEL TE-22 PRICE £17.00 Carr.etc. 40p

World Radio History



150, 185 Leather-finish Carrying Cases

Eagle instruments deserve protection from accidental damage; these new cases also make instruments much more convenient to carry. No. L.150 for models EP.10, EP.10 KN, EP.20 KN, EP.30 K, EP.30 KN. No. L.185 for models EP.100 LN, TT.144.

L.185

L.150	Price	£1.25	p.p.	10p.

L150, L185.

Price £2.10 p.p. 10p.







### 30,000 O.P.V. Multimeter

A new standard of performance, ease of operation and styling. The number one choice for technicians, service men and experimenters who seek reliability with honest value for money. Flat frequency response in AC measurement provided by semi conductor diodes, with test leads, batteries and manual.

#### SPECIFICATION:

DC Volts: 0 to 0.6, 6, 30, 120, 600, 1200V (30,000 O.P.V.) AC Volts: 0 to 12, 60, 300, 1200V (14,000 O.P.V.), DC current: 0 to 60uA, 12mA, 300mA. Resistance: 0 to 10K, 1meg, 10meg, Decibels: - 10 to +23 DB, Size: 51/8in.x35/16in.x13/8in.

PRICE £6.98 pp.17p

**EP.20 KN** 

#### 20,000 O.P.V. Multimeter with Overload Proction Circuit and Mirror scale.

Compares with meters costing double its price. Large easy-to-read meter with mirror and 2 colour scale. Unusually high sensitivity and wide choice of ranges with test leads, battery and manual.

#### SPECIFICATIONS:

DC Volts: 0 to 5, 25, 50, 250, 500, 2500V (20,000 O.P.V.) AC Volts: 0 to 10, 50, 250, 500, 1000V (10,000 O.P.V.). DC current: 0 to 50uA, 2.5mA. 250mA. Resistance: 0 to 6K, 6 meg. Capacitance: 10uuF, .001uF, .001uF to .1uF. Decibels: -20 to +22DB. Size 4½in. x 3½in. x 1½in.

PRICE £5.50

pp. 18p.



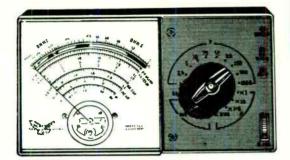
# EP.10K

#### 10,000 O.P.V. Multi-Meter

New high quality low priced instrument. Extra large, easy to read meter of 10,000 O.P.V. on A.C. and D.C. Slide switch range selector assures minimum manipulation. With test leads, batteries and manual.

RANGES: D.C. Volts: 5, 25, 100, 500, 1,000 (10,000 O.P.V.) A.C. Volts: 5, 25, 100, 500, 1,000, (10,000 O.P.V.). D.C. Current: 100uA, 250mA. Resistance: 30 K, 3 meg. Decibels: -20 to +15db.

PRICE £4.98 pp.17p



#### KEW.66 20,000 O.P.V. MULTI-METER

Brilliantly designed and engineered . . . advanced circuitry with 28 measuring ranges. Exclusive Eagle overload protection circuit, sloping mirror scale for accurate read-out, sealed operating components with printed circuitry, positive action rotary range selector switch. Complete with test leads, batteries, manual, and fitted case.

DC volts: 0 to 1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 V.

AC volts: 0 to 1, 2.5, 5, 10, 25, 50, 100, 250, 500, 1000 V.

DC current: 0 to 50 uA, 2.5 mA, 25 mA, 500 mA. Resistance: 0 to 5 K, 50 K, 500 K, 5 meg.ohm (Mid Scale): 50 ohm, 500 ohm, 5 K, 50 K. Decibles: -20 to +22 db on 10 V AC range. Dimensions: 185 x 102 x 44 mm.

PRICE £9.00 pp.20p



#### SPECIFICATIONS

S

M

F

D

Frequency:	X100 range	18 c/s-200 c/s 180 c/s-2Kc 1.8Kc-20Kc 18Kc-200Kc
Frequency Accuracy: Frequency Stability:	± (2% + 1c/	

ine Wave Output laximum Voltage: irequency Response:	5V rms ± 0.5dB max.
istortion:	Less than 1% at 1Kc

#### MULTI-PURPOSE SIGNAL TRACER

Gain: Over 70dB Gain Control: Continuous from zero **Attenuation Factor:** 0-20-40-60dB Input Impedance: AF; Over 70K ohm RF: Over 100K ohm **Output Impedance;** Ext. Speaker; 8 ohm Output: 600 ohm unbalanced Meter: VU 200uA Speaker: 2-1/4" dynamic Transistor: 2SB112 x 3, 2SB113 x 1, 2SB223 x 1, 2SD23 x 1 Diode: SD46 x 4 Thermistor: D32Sx1 **Power Supply:** Drycell BL006P 9V x 1 Size: 150(5<sup>13</sup>/<sub>16</sub>) × 85(3<sup>11</sup>/<sub>32</sub>) × 70mm(2¾") Weight: Approx, 530gs(1.17 lbs) Accessories: Test prod x 1, Clip cord x 1, Dry cell x 1.



Here is a most unusual and versatile signal tracer of exceptional value. Handy as follows and easy to operate. Designed for use with AM, FM, TV and audio circuitry, its high gain enables direct tracing of the actual signal at the input terminal. Has a fine visual indicator plus output terminals for use with VTVM or scope. Other features include: test amplifier; checking of speaker, microphone, pick-up, etc.; also 2-way AF-RF shielded prod with a selector switch built in the unit.

PRICE £8.97 pp.20p

### WEINBRIDGE RC AUDIO FREQUENCY GENERATOR Model ORC-27A

A first class audio generator featuring high stability and low distortion. Fitted slow motion tuning and mirrored scale. Four overlapping ranges are used and variable output level. Output waveforms are sine squared complex. Supplied complete with full handbook with circuit.

#### ORC-27A PRICE £30 pp.40p

Square Wave Output Maximum Voltage: 10V p-p Frequency Response: ± 0.5dB max. (below 20 Kc)

 Complex Wave Output

 MaxImum Voltage:
 10V p-p

 Base:
 Line Frequency

 Superposed Wave:
 18 c/s-200 Kc

 Amplitude Retio:
 4 :1 approx.

 Output Impedance:
 Less than 3KΩ

 Dimensions:
 300W x 180H x 180D mm

 Net Weight:
 4.5kg approx.

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World Radio History

Model SE350

# NEW TMK TW-20S MULTIMETER

The Model TW20S Multimeter incorporates all the desirable features required for testing modern electronic equipment in the laboratories, service shops, and in the field. It is a rugged and sensitive circuit tester with measuring ranges selected to be most practical in use. The voltage sensitivities are 20,000 ohms per volt for d.c. and 5,000 ohms per volt for a.c., respectively, and the circuit loading effects are minimized. There are six d.c. voltages, up to 1 kV full scale, and five a.c. voltages, up to 1,000 V full scale. The lowest d.c. voltage range is 0.5 V full scale, and is useful for transistor circuit testing. The maximum d.c. current range is 10 amps.; the lowest is 50 uA (0.05 mA) full scale, and currents down to 1 uA can be read. The resistance range covers from 1 ohm to 5 megohms, in four steps. Carrying handle can be used to place the tester at 20° angle for ease in reading.

#### SPECIFICATIONS

Ranges: D.C. Voltage:	0-0.5, 2.5, 10, 50, 250, 1,000 V at 20,000 ohms/V
A.C. Voltage:	0-2.5, 10, 50, 250, 1,000 V at 5,000 ohms/V
D.C. Current:	0-0.05, 0.5 , 5, 50, 500 mA-10 amp.
Resistance:	0-5 k, 50 k, 0-500 k, 5 M ohms.
	(30-300, 3,000 30 k ohms at mid-scale)
Decibels:	-20 to $+52$ dB in five ranges, where 0 dB = 1 mW into
	600-ohm line
Size:	115 x 60 x 150 mm (5 <sup>5</sup> / <sub>8</sub> " x 4" x 2¼" approx.)
Weight:	0.57 kg. (1.25 lb.)
Batteries:	Burgess Z (1.5 V) or equivalents, 2 each.
Accessory:	1 pair test leads

#### TW-20S PRICE £7.95

(LEATHER CARRYING CASE £2.50)

Also MODEL TW-20CB with resettable current breaker, similar specification. (Not 10 amp range). PRICE £12.25 (LEATHER CARRYING CASE £2.50)

# **NEW TMK TW-50K MULTIMETER MULTITESTER**

The Multitester is a reliable instrument incorporating features which are most desirable when used in the electronics laboratories, servicing establishments and educational institutions

Means are included whereby the meter movement sensitivity can be halved yet fulfilling the high sensitivityr requirements. An overall coverage of 46 measurement ranges is available without sacrificing the high-performance characteristics. The meter movement is protected against burnouts with the use of a nonlinear circuit element. The ranges are indicated directly on the fount panel for rapid selection when the selector knob is rotated. Carrying handle also can be used to place the tester at 20° angle for ease in reading. The accuracies are +3% of full scale for the d.c. ranges and +4% for the a.c. ranges.

#### SPECIFICATIONS

D.C. Volts:	0-0.25, 2.5, 10, 50, 250, 1,000 V at 25 k ohms/V 0-0.125, 1.25, 5, 25, 125, 500 V at 50 k ohms/V
A.C. Voltage:	0-3, 10, 50, 250, 1,000 V at 2.5 ohms/V 0-1.5, 5, 0-25, 125, 500 V at 5 k ohms/V
D.C. Microampere:	0-25 uA at 125mV 0-50 uA at 250mV
D.C. Milliampere:	0-5, 50, 500 mA at 250 mV 0-2,5, 25, 250 mA at 125 mV
D.C. Ampere:	0-10 A at 250 mV 0-5 A at 125 mV
Ohm:	10 k, 100 k (65, 650 ohms at centre) 1 M, 10 M (6.5 k ohms, 65 k ohms at centre)
Decibels:	-20 to +81.5 dB in 10 a.c. V ranges 0 dBm = 1 mW (0.775 V) into 600 ohms
Weight: Dimensions: Batteries: Accessories:	580 grams (1.3 lb.) 115 x 60 x 150 mm ( $4\frac{1}{8}$ '' x $2\frac{3}{8}$ '' x 6'') Type Z, UM3 or equivalent penlite, 1.5 V, 2 each Test leads 1 pair

#### TW-50K PRICE £9.45

(LEATHER CARRYING CASE £2.50)

POST & PACKING SEE PAGE 3.





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# OMG, OMB, CR.22 Capacitance & Resistance Substitution Boxes

A range of substitution boxes designed for the Service Engineer, Technician or Experimenter.

OMG (Resistance) Low Range: 15 ohms to 10 K ohms in 12 steps. High Range: 15 K ohms to 10 M ohms in 12 steps. Test Leads: 1 metre. Dimensions: 120 x 58 x 32 mm. OMB (Capacitance) Ranges (mfd): .0001, .001, .0022, .0047, .01, .022, .047, .1, .22. Test Leads: 1 metre. Dimensions: 120 x 58 x 32 mm.

CR.22 Switched Capacitance, Resistance, Resistance in Series with Capacitance, Resistance in Parallel with Capacitance. Resistance Range: 25, 50, 100, 250, 500, 1 K, 10 K, 25 K, 50 K, 100 K, 250 K, 500 K, 1 M, 215 M, 10 M.

Capacitance Range: (pfd) 50, 100, 200, 500. (mfd) .001, .002, .005, .01, .05, .1, .2, .25, .5, 1, 10, 20, 40.

Test Leads: 0.5 metres. Test Terminals: 4 mm. Dimensions: 800 x 130 x 70 mm.

OMG	OMB	CR.22		
Price £1.20	Price £1.75	Price £4.50		
(Post etc. 15p.	any model).			

C3042

### FIELD STRENGTH AND SWR METER



A combination unit that will give relative field strength readings in forward and reflectedpower.Coaxial fittings allow permanent installation for constant monitoring of transmitter output. Meter has sensitive 100micro-amp movement with two-colour bold, easy-to-read scale. SWR: 1:1 to 1:3. Accuracy: 5%. Impedance: 52 ohms. 9in. telescopic antenna. Overall size: 6in. x 21n. x 23 in. Complete with full instructions.

Price £4.25 post 15p

#### SE406

#### MINIATURE SWR METER



The SE-406 is a subminiaturused SWR meter small enough to be carried in the coat pocket and boasting the same or better performance than much larger types. All internal components are mounted on a P C board and designed to withstand normal shocks and vibrations. Highly sensitive meter movement with easy-to -read colour scale. SW ratio: 1:1 to 1:3. Frequency Range: 1.8MHz to 200MHz. Insertion loss: within 2dB. Impedance: 52 or 72 ohms. Power input (max.): 2kW. SSB: 1kW AM. CW (min.): 180mW.

Price £4.65

Post 15p



#### K.200 FET MULTIMETER

Designed in the Eagle Laboratories for Technicians the K.200 FET VOM regresents a manufacturing breakthrough in offering a reasonably priced electronic multimeter. Stable and easy to use the K.200 has an input resistance of 10 meg ohms complete with test leads, batteries and 12 page operating manual.

DC VOLTAGE: 0 to 0.3, 1, 3, 10, 30, 100, 300 1,000 V. (Input Resistance 10 Meg Ohms). AC VOLTAGE: 0 to 0.3, 1, 3, 10, 30, 100, 300, 1,000 V. (Input Resistance 10 Meg Ohms). FREQUENCY RESPONSE: 20 Hz to 3 MHz 1 dB. DC CURRENT: 0 to 30 uA, 300 uA, 1 mA, 3 mA, 10 mA, 30 mA, 100 mA, 300 mA. AC CURRENT: 0 to 30 uA, 300 uA, 1 mA, 3 mA, 10 mA, 30 mA, 100 mA, 300 mA. RESISTANCE: 0 to 500 ohms. 5K 50K, 500K, 5M, 500M. DIMENSIONS: 195 x 130 x 112 mm.

PRICE £28.50 Carr.35p.



### AC/DC MULTIMETER & TRANSISTOR

Multimeter type U4341 provides 27 AC/DC ranges as well as transistor testing facilities. Transistor measurements are made in the common emitter circuit.

 Measurements
 Ranges
 and
 Specification

 DC
 Voltage
 .0.3-1.5-30-60-150-300-900V

 AC
 Voltage
 .1.5-7.5-30-150-300-750V

 DC
 Current
 .0.06-0.6-6-60-600mA

 AC
 Current
 .0.3-3-30-300mA

 Resistance
 .0.5-5-50-500 kohms

 Resistance extended range, with external
 voltage source of 35 to 40V

 Voltage source of 35 to 40V
 5 megohms

Collector cut-off current60 microamps D.C. current gain, h <sub>FE</sub>
Accuracy, D.C. ranges 2.5%
Accuracy, A.C. ranges 4.0%
Accuracy, h <sub>FE</sub>
Sensitivity, D.C
Sensitivity, A.C 3300 ohms per volt
Voltage drop at the terminals:-
on D.C. current ranges 0.3V
on A.C. current ranges
Scale length
Overall dimensions 115 x 215 x 90 mm
PRICE - complete with probes and leads

PRICE – complete with probes and leads and steel carrying case £10.50

#### DOUBLE BEAM OSCILLOSCOPE CI-16

The double-beam oscilloscope type CI-16 is a laboratory instrument designed for investigation and measurement of pulsed and periodic waveforms. The use of two independent vertical deflection amplifiers permits the display and analysis of two different waveforms simultaneously.

#### Specification

Repetition Rates of Investigated Waveforms: 50-10,000,000 Hz. Range of Pulse Length: 0.35µs-1 sec. Range of Amplitudes: 0.04-400V. Maximum Amplitude without External Attenuator: 100V. Characteristics of Vertical Amplifiers: Amplifier Passband at 1 db: 0-1 MHz: Amplifier Passband at 3 db: 0-5 MHz; Sensitivity at Medium Frequencies at Broad Passband: 500 mm/V; Size of undistorted Pulse Display: 40 mm; Input Impedance: 0.5 ± .015M ohms, shunted by 45pF; Input Impedance with External Attenuator: 5M ohms, shunted by 13pF; Voltage Attenuation Ratios of the Built in Attenuator: 1:1, 1:10, 1:100, 1:1,000. Time Base: Preset Calibrated Sweep Durations: Microseconds per cm-0.2, 0.5, 1, 2, 5, 10, 20, 50, 100; Milliseconds per cm-0.2, 0.5, 1, 2, 5, 10, 20, 50, 100; Free-running Time Base Frequency Range: 50-1,000,000 MHz; Sweep Sync, Voltage and Trigger Voltage: 0.5V; Maximum Trigger Pulse Repetition Rate: 10 kHz. Built-in Amplitude Calibrator: Amplitude of Test Pulses with Duration of 0.35µsec or longer: 0.04-100V; Fundamental Error of the Calibrator: ± 10%. Frequency of Quartz Crystal Calibrator: 100kHz. Overshoot of Pulse Top for Pulses with Rise Time not below 0.1µsec: 10%. Instrument Warm-up Time: 30 min. Power Supplies: 220 ± 22V, 50 Hz. Overall Dimensions: 260 x 550 x 376 mm. Weight: 55 lb.

#### Standard Equipment

External Attenuator 1:10:2. Mains Lead: 1. Coaxial Cable with Jack: 2. 75-ohm Coaxial Cable with Jack: 2. Coaxial Jack: 4. Connector for Coupling to Plates: 4. Crocodile Clips: 4. Viewing Hood: 1. Spare Lamps and Fuses. Operating Manual.



PRICE: £87.00 (Carr. £1.00)



#### PRICE: £39.00 (Carr. 50p)

#### PULSE OSCILLOSCOPE TYPE CI-5

The pulse oscilloscope CI-5 is used for display and investigation pulsed and periodic waveforms in electronic circuits. The oscilloscope provides the facilities for measurements of duration, amplitude and phase of signals and for comparison using the Lissajous figures.

#### Specification

Max. Amplitude of Test Signals: 200V. Characteristics of Vertical Amplifier: Bandwidth: 10 MHz; Sensitivity at 100 kHz, V RMS/mm; Wide Passband, 3-25; Narrow Passband-10-500,000 kHz; Input Impedance: .5M ohms; Capacitance in Shunt with Input Impedance, pF: 50; Tilt of 2,000 $\mu$ sec pulse: 15%; Total Overshoot of 1 $\mu$ sec Pulse: 5%. Built-in Attenuator: Voltage Attenuation Ratios: 1:1, 1:10, 1:100; Maximum Error:  $\pm$  5%. Characteristics of Horizontal Amplifier: Sensitivity at 100 kHz, V RMS/mm; 3-25; Frequency Response between 3 db points: 20-500,000 kHz; Input Impedance 80k ohms. Time Base: Preset Triggered Sweep Lengths: 1, 2, 5, 10, 30, 100, 300, 1,000, 3,000 $\mu$ sec; Triggered Sweep Error;  $\pm$  20%; Free-running Sweep Frequency Range: 20-200,000 Hz, in nine ranges; Trigger Voltage: .25V max; Sync. Voltage: .12V max; Calibrator: Preset Repetition Rates of Calibrating Pips: .05, .2, 1, 5, 20, 100 $\mu$ sec; Calibrator Error:  $\pm$  5%. Amplitude Calibrator Voltage Measurement: Error within the Range 2-1.2V RMS;  $\pm$  10%. Input Impedance of Vertical and Horizontal Deflection Plates of the C,R.T.; 3.6M ohms (in parallel with 30 pF). Power Supplies: 127V and 220V 50 Hz and 115V 400 Hz. Overall Dimensions: 220 x 360 x 430 mm. Weight: 401b.

#### Standard Equipment

Supply Lead; Set of Coaxial Cables; Spare Fuse; Graticule; Operating Manual.

#### DIGITAL VOLT-KILOOHMMETER TYPE BK2-6

D.C. Voltage Range: 0.01-1,000V. Resistance Range: 100 ohms-1,999k ohms. Automatic Range and Polarity Selection. Provision for Remote Operation.

The instrument is of the electro-mechanical type with sequential energisation of electro-magnetic Relays. It consists of the following units:

- (a) Measuring Unit.
- (b) Control Unit.
- (c) Zero Balance Unit.
- (d) Source of Reference Voltage.(e) Indicator Unit.
- (f) Power Supply Unit.

#### Specification

Voltage Measurement: Range:  $0.01-1,000 \vee d.c.$ ; Accuracy:  $\pm .2\% \pm 1$  digit; Range Selection: Automatic; Polarity Selection: Automatic; Max. Ripple Contents: 0.1%; Input Resistance, minimum: 1M ohm. Resistance Measurement Range: 100 ohms-1,999k ohms; Range Selection: Automatic; Accuracy:  $\pm .3\% \pm 1$  digit; Max. Parallel Capacity: For Range 10 ohms-10k ohms  $-1\mu$ F; For Range 10-10k ohms- $.1\mu$ F; For Range 100-1,999k ohms- $.01\mu$ F; Max. Series Inductance: 1 H. Time of Measuring Cycle: 3 sec. Power Supplies: 220V  $\pm 10\%$  50 Hz, 220V  $\pm 5\%$  and 115V  $\pm 5\%$  400 Hz. Dimensions: 325 x 220 x 415 mm. Weight: 66 lb.

PRICE, complete with full complement of spares and instruction manual:



£128.00 Carr. 50p

#### 112

#### KHP.30 HIGH VOLTAGE TEST PROBE

This is a completely self-contained instrument-high voltage test probe with integral 30 kV volt meter. Very accurate. Robust in construction. Easy to read. Essential for service men dealing with colour television.

Range: 0-30 Kv. Dimensions: 360 x 50 mm.

PRICE £9.45

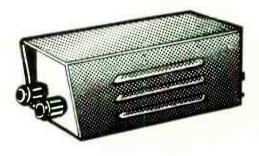


#### POWER SUPPLY UNIT MODEL P500 (LA 10S)

Operates 9V DC equipment from AC mains. Ensures constant voltage, and therefore performance of the equipment. Elimnates battery costs. Fully isolated heavy duty transformer. DC output iterminals. Robust, all-metal and built to last.

Output: 9V DC a 500 mA Dimens : 120 x 48 x 60 mm

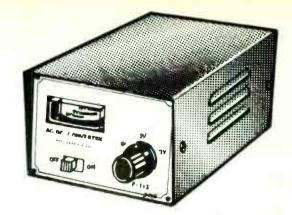
PRICE £2.62 pp.18p



LA.6T POWER SUPPLY UNIT This AC-DC Converter is a 6V version of LA.10S.

Output: 6V DC @ 600 mA Dimensions: 120 x 48 x 60 mm.

PRICE £3.63 pp.17p



#### POWER SUPPLY UNIT MODEL P12 (P112)

Versatile, well filtered, very low ripple DC power supply. Suitable for operating and servicing radios, intercoms, tape recorders, amplifiers, transistors, and so on. Input Voltage: 230-250V AC. Output voltage: Switched 6-9-12V DC. Front panel illuminated voltage meter. Housed in ventilated metal case.

Output: 6-9-12 V DC @ 1 amp. Dimensions: 150 x 90 x 58 mm.

PRICE £6.75 pp.20p

#### TT. 144 DYNAMIC TRANSISTOR TESTER

Tests in or out of circuit. Identifies PNP and NPN types, Indicator lamp provides positive information on: electrode open circuits and current drain; reliable go-no-go tests at practical collector currents of from 5mA-50mA, or more on power transistors. Quick-check transistor socket is mounted on front panel. Supplied complete with accessories and instructions

Dimensions: 160 x 95 x 64 mm.

PRICE £4.50 pp.20p.



DC.30 30kV PROBE

Low cost, accurate probe especially designed for use with EP.100 LN, AF 105 and K1400  $\,$ 

Dimensions: 260 x 60 mm.

PRICE £3.25



FOR POST AND PACKING CHARGES SEE PAGE 2

#### EDUCATIONAL METERS ED107 RANGE

An entirely new range of high-quality moving-coil instruments housed in bench instrument cases ideally suited for school experiments and other bench applications.

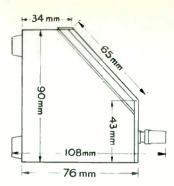
3" length scale with mirror to eliminate parallax in reading. Completely clear view front meter covering, eliminating all shadow. The meter movement is easily accessible to demonstrate the internal working.

The instruments are housed in strong black plastic cases fitted with four rubber feet and fully insulated terminals which will accept either a spade terminal or 4 mm plug.

Available in the following ranges:-

1mA 240<sup>o</sup> PANEL METERS





50µ A				£4.50
100µ A				£4.25
1mÅ		• •		£3.98
50–0–50µA		• •		£4.25
1-0-1mA				£3.97½
1A d.c.				£3.97½
5A d.c.				£3.97½
10V d.c.				£3.97½
20V d.c.				£3.97½
50V d.c.				£3.97½
300V d.c.		••	• •	£3.97½
DUAL RANGE N	IODE	LS		
500mA/5A d.c.		• •		£4.25
5V/50V d.c.	• •			£4.25

TRIPLE RANGE MODEL 1mA/10mA/100mA .. .. £4.63

(Post etc. 121/2p per one, 20p per 2-4)

### PROFESSIONAL EDGEWISE PANEL METERS



#### MODEL PE70.

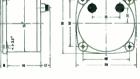
Dimensions:  $3^{17}/32^{11} \times 1^{11}/32^{11} \times 2^{3}/4^{11}$  deep overall.

Available as follows	:		
50 Microamp	£3.00	500 Microamp	£2.60
50-0-50 Microamp	£2.98	1 Milliamp	£2.38
100 Microamp	£2.98	300 Volt AC.	£2.38
100-0-100 Microamp	£2.75	VU Meter	£3.25
200 Microamp	£2.75		

(Post etc. 12p per one, 20p per 2-4)



MA O



MODEL MW1---6 PRICE £3.98 pp.12p PANEL METERS FOR EDUCATION AND INDUSTRY

DISCOUNTS AVAILABLE FOR QUANTITIES, 10% per 6, 15% per 20 - mixed values, one type only.





#### MINIATURE PANEL METER

5mA movement (reverse scale). Meter 1½ inch diameter. Overall depth 1¼ inch. Fixing centres 1¼ inch.

P1 PRICE 75p



500 microamp. panel meter with luminous markings. Requires 21/6" dia. Hole for clamp (supplied) fixing. Resistance 500 ohms. moving coil.

P2 PRICE £1.15



### ELECTRONIC COUNTER READ OUT METERS

100-0-100 microamp. Scaled 0-9 Size 2<sup>1</sup>/<sub>4</sub>" square front. 2" overall front to back. Requires 2" diameter hole. 4 corner holes 1<sup>1</sup>/<sub>4</sub>" centres.

P3 PRICE £1.25

#### P4 METAL CASED MICROAMMETER

Moving coil centre zero 200-0-200 microamp. Face size 2%". Markings every 10 microamps.

Dimensions: Fixing 6 x 6BA clearance on  $2\frac{7}{6}$ " centres. Hole size  $2^{9}\frac{1}{6}$ " clearance. Overall front to back including terminals  $2\frac{5}{6}$ " Flange diameter  $3\frac{1}{6}$ "

PRICE £2.00

#### P5 CENTRE-ZERO DUAL SCALE VOLTMETER

2% inch centre zero two range moving coil voltmeter. Reading 3-0-3 volts and 30-0-30 volts. Ideal for transistor circuits.

PRICE 75 p

# P6 ELLIOT MOVING COIL METER

500-0-500 microamp centre zero calibrated 1-0-1 volts in 0.1 volt markings. Hole size required  $2_{61}^{5}$  clearance. Three fixing holes 6BA clearance. Overall body front to back 1%".

PRICE £1.50

# P7 MINIATURE PANEL METER

Moving coil 200-0-200 microamps. Resistance 260 ohms. Fitted into easily removed casing. Meter face size 11/2" diameter.

PRICE £1.25

REMOVED FROM CASE

METER IN CASING

NOTE: All above types supplied as new - Fully Guaranteed

# E.A.C. DIGIVISOR mk.II

#### At a fraction of normal price.

Moving Coil 0 to 9 Display. One inch character size. Light beam lens operated meter. Movement 500 $\mu$  A. Character lamp 6.3 volts. Also lamp for decimal point. Overall size:  $4\frac{1}{2} \times 1\frac{5}{8} \times 2\frac{5}{8}$ .

BRAND NEW PRICE £4.00

SEE PAGE 2 FOR POST AND PACKING CHARGES







**SPECIAL OFFER** SANGAMO WESTERN 50 $\mu$ A panel meter calibrated up to 10 millirontgens/hour for radiation detection. Easily removed casing for remarking of dial plate if necessary. Made by Sangamo Western to very high standard. Diameter  $2\frac{5}{6}$ " x 1½" front to back or  $1\frac{11}{16}$ " overall to terminals.

PRICE £1.25 post 15p

EDGE PANEL METERS (Post etc.: 15p one to four, 20p four to six).





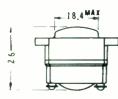


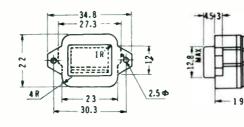
MH25B



TYPE M11 Edge Type Vu meter, Face size 1.8" x 0.5", Overall size 2.25" x 2" x 1.2". Two mounting lugs. Calibrated -20 to +3 scale. PRICE £1.20

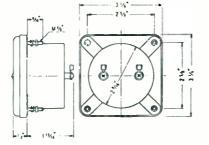
MH-25B FM Indicator or Stereo balance. 50-0-50µA Sensitivity. 220/250 ohms Internal Resistance. PRICE 90p





MH25B





SEE PAGE 2 FOR POST AND PACKING CHARGES



'S' METER Vu METER 250° LONG SCALE



#### 'S' METERS

Standard 'Ham' signal strength indicators. Calibrated 0-5 and 0-10 linear scale also 'S' units 0-9, +10 to +30 dB. 1 mA DC moving coil movements.

#### 38 SERIES 'S' METER.

Size as 38 series panel meters on previous page. PRICE £1.60

#### 65 SERIES 'S' METER.

Size as 65 series panel meters on previous page. PRICE £2.37



#### 38 SERIES Vu METER

Standard Vu meter scaled -20 to +3 and 0 to 100% modulation. Size as 38 series panel meters on previous pages. PRICE £1.47

#### 250° LONG SCALE PANEL METER

Wide and Long Scale instrument.

The deflection angle of pointer is  $250^{\circ}$ and scale length is about 2.5 times longer than the one of same size meter of  $90^{\circ}$  deflection angle, having 6" scale length.

spring-backed jewels eliminate shock and vibration damage to meter pivots. Dome-shaped plastic front cover is permanently protected from static electricity by treating with Antistatic Reagent and is durable against friction.

Clear white painted scale for easy reading.

Thin projecting meter face can save the space on the panel when mounted. 1mA Full scale deflection.

PRICE £4.75 post 15p

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# NEW RANGE OF EDGE TYPE AND PANEL METERS

#### SERIES 11



#### R11

Tuning or level indicator. Pointer rest position on right. 1200 phms resistance  $400\mu A$ . Full scale.

#### F11

Centre zero tuning or null indicator. 1200 ohms resistance. 100-0-100  $\mu$ A.

#### V11

Tuning or level indicator. Pointer rest on left. 1200 ohms resistance. 130 $\mu$ A on  $\frac{2}{3}$ rds scale. 200 $\mu$ A. Full scale.

#### SB11

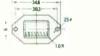
Stereo balance or null indicator. 410 ohms resistance,  $100-0-100\mu A$ .

#### B11

Battery or general indicator. 410 ohms resistance,  $500\mu$ A. Full scale. Pointer rest on left.

PRICE EACH 70p per 1 to 9

QUANTITY PRICE ON APPLICATION







MODEL 881 Very small indicator panel meter with three colour scale. 410 ohms resistance,  $500\mu$ A full scale deflector. Ideal as level meter, battery state meter, program or sequence level indicator, 'Go'-'No go' indication etc. PRICE 50p

FOR POST AND PACKING CHARGES, SEE PAGE 2



#### R31

Tuning or level indicator. Pointer rest on right. 410 ohms  $400\mu$ A. Full scale.

#### V31/12

SERIES 31

Tuning or level indicator. Pointer rest to left. 1200 ohms resistance.  $130\mu A^{2}$ rds scale, 200 $\mu A$  full scale.

#### V31/4

As above, but 410 ohms resistance,  $260\mu A$   $\frac{2}{3}$ rds scale,  $400\mu A$ . Full scale.

#### SB3 1

Stereo balance or null indicator. 410 ohms resistance 100-0-100 $\mu A.$  Full scale.

#### **B**3 1

Battery or general indicator. 410 ohms resistance,  $500\mu$ A. Full scale, Pointer rest to left.

PRICE EACH 85p per 1 to 9 QUANTITY PRICE ON APPLICATION







#### SERIES 45



#### V45/4

Tuning or level indicator. Pointer rest to left. 410 ohms resistance,  $260\mu$ A on  $^{2}$ rds scale  $400\mu$ A full scale.

#### V45/12

As above, but 1200 ohms resistance, 130 $\mu A$  on  $^2\!\!\!/ rds$  scale, 200 $\!\mu A$  full scale.

#### SB45

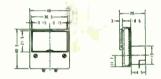
Stereo balance or null detector 1200 ohms resistance. 100-0-100 $\mu A$  full scale.

#### **B**45

Battery or general indicator. 1200 ohms resistance. Pointer rest to left.  $500\mu A$  full scale.

#### PRICE EACH 95p per 1 to 9

#### QUANTITY PRICE ON APPLICATION





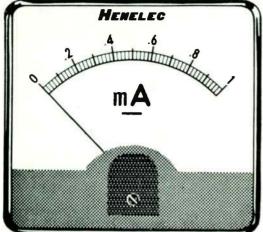


World Radio History

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# PRECISION PANEL METERS — <u>Henelec</u>

QUANTITY PRICE LIST ON REQUEST FOR TRADE AND INDUSTRIAL USERS.



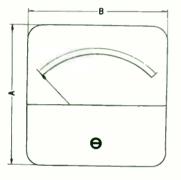
85 SERIES

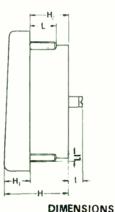


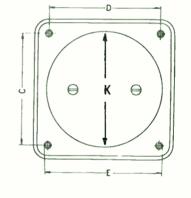


65 SERIES

38 SERIES





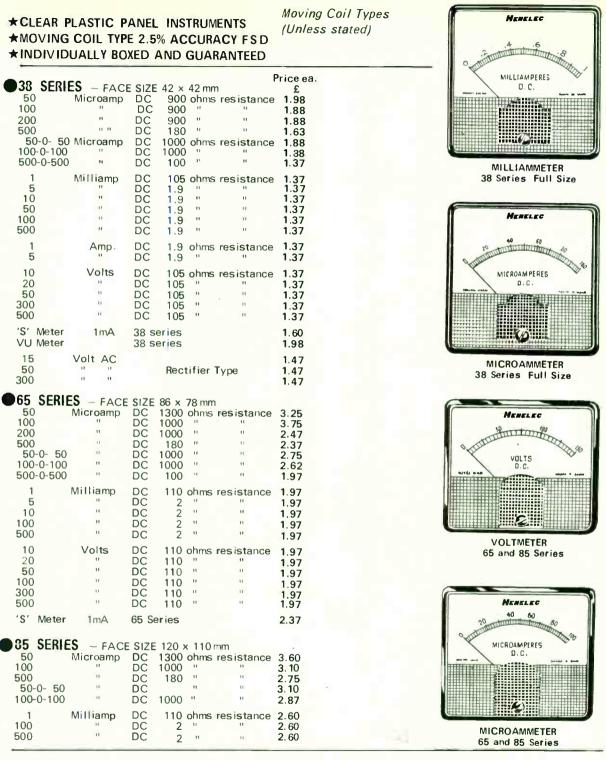


_								MENDIO							
Di	be & men- ions	А	8	С	D	E	н	н <sub>1</sub>	H <sub>2</sub>	L	L <sub>1</sub>	1	F	G	к
85	m∕m inch	110 (4.331)	120 (4.725)	88 (3.464)	98 (3.859)	85 (3.346)	47 (1.850)	15 (0.591)	33 (1.299)	16 (0.630)	4 (0.157)	11 (0.433)	30 (1.181)	8 {0.314)	68 (2.70)
	m/m	78	86	57 (2.243)	57 (2.243)	69 (2.716)	41 (1.613)	14 (0.552)	28 (1.102)	12 (0.472)	3 (0.118)	17 (0.669)			64 (2.55)
38	m∕m inch	42 (1.654)	42 (1.654)	32 (1.260)	32 (1.260)	38 (1.496)	32 (1.260)	9 (0.354)	23 (0.905)	13 (0.512)	2.3 (0.089)	5 (0.197)			37 (1.50)

Ruggedly built quality panel meters, all with D Arsonval movements, dual bearings and clear plastic removable fronts. Accuracy 2½% of full scale. Silver dials with black numerals and pointer. Terminal polarity clearly marked. Front zero adjustment screw, cushioned ceramic bumpers protect pointer. Fitted Screw Terminals. Four corner fixing by threaded studs.

Used extensively throughout industry because of reliability, quick delivery and low price. Also a favourite of the home constructor. All three sizes available are of identical appearance with clear easy to read scales. Supplied individually boxed and guaranteed. Quotations for quantities on request to Sales Department.

# PANEL METERS



PRICES 1-9 as listed, 10-49 Less 15% Mixed types can be ordered Post and packing 18p total per 1 to 4 meters, 20p per 5 to 7, 30p per 8 to 20.

# **VARIABLE VOLTAGE TRANSFORMERS**

MODERN STYLING FOR MODERN EQUIPMENT ALWAYS AVAILABLE ..... ALWAYS REPEATABLE



12 Amp.



1 & 2.5 Amp.

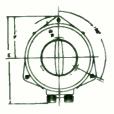


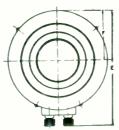
5 & 8 Amp.

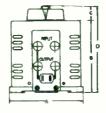


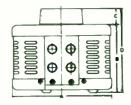
20 Amp.

All models 230/250 VAC Input 50/60 cps. 0-260 VAC Output









						IVITECTIV	VIETNES	)			10
	RATING	А	В	С	D	Е	F	GR	Wt.Kg.	PRICE	(Carriage extra)
1 amp.	230 VA	107	117	20	137	130	61	56	1.9	£7.00	40p
2.5 amp	575 VA	129	125	25	150	152	73	66	4.1	£8.00	45p
5 amp.	1150 VA	143	110	25	135	168	72		6.2	£11.75	55p
8 amp.	1.6 KVA	174	130	30	160	200	86	97	8	£15.90	75p
12 amp.	2.4 KVA	203	130	30	164	235	102	108	12	£23.50	85p
20 amp.	4 KVA	330	208	50	258	290	190	175	22	£49.00	£1.50

MILLIMETRES

# Constant Voltage Transformer

Ensures Perfect Test Gear Reading,

TV Reception,

Photographic and Colour Processing

In spite of Seasonal Voltage Drops  $\boldsymbol{x}$  Protects equipment during sudden surges



- NO MAINTENANCE
- NO ATTENTION

Designed to be used at maximum load for best stabilisation.

Input: 240 VAC  $\pm$  20% 50 Hz. Output: 240 VAC  $\pm$  1%. Fitted inlet and outlet sockets, neon indication and on/off switch. Attractive wood grain finish metal case. Size: 10" x 6" x 4". Weight: 21 lbs. Available in 150-watt and 225-watt models – state which.

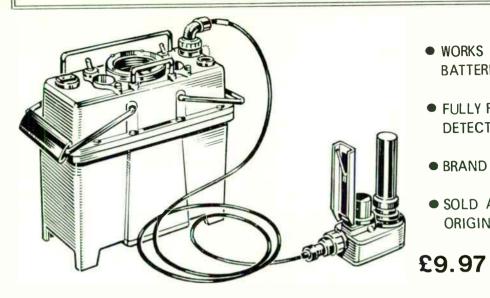


(AUTOMATIC MAINS STABILISER 150 & 225 WATT MODELS)

PRICE £12.50 Car. 75 p

# 120

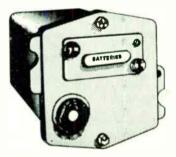
# PORTABLE RADIO ACTIVITY COUNTER



- WORKS FROM 4-PEN CELL **BATTERIES**!!
- FULLY PORTABLE RADIATION DETECTOR EQUIPMENT
- BRAND NEW
- SOLD AT A FRACTION OF ORIGINAL COST

Carriage 73p

PROVIDES MEASUREMENT OF GAMMA RADIATION FROM 0 TO 10.0 MILLI-ROENGTENS PER HOUR WITH CV2247 TUBE SUPPLIED. PROVISION IS MADE FOR HEAD PHONES TO BE PLUGGED IN TO MONITOR THE COUNT. POWER REQUIREMENTS 300 VOLT D.C. COMPLETE WITH PROBE UNIT, HAVER SACK, INSTRUCTIONS, INDICATING UNIT, GEIGERMULLER TUBE AND HT BATTERY ELIMINATOR.



HT BATTERY ELIMINATOR - SUPPLIED

Uses 4 D14/U12 Pencells. Plugs into base of Counter. Provides 300 volts HT

MAINS UNIT - OPTIONAL EXTRA

To operate counter from 220/240 V AC Mains PRICE 3.75 pp35p

PLUG IN HT BATTERY ELIMINATOR (SUPPLIED).

# QUARTZ FIBRE POCKET DOSIMETERS

POCKET SIZE RADIATION DETECTORS - ELECTROSTATIC TYPE CHARGE - BRAND NEW, MADE FOR MINISTRY OF DEFENCE - ORIGINAL PRICES £10.00 TO £17.00 EACH.





TYPES A & B

TYPE C

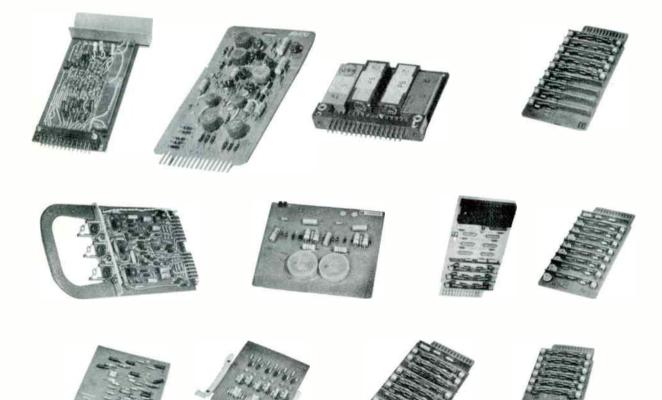
TYPE A	0—500 r	50 p each	45 p each per dozen	
TYPE B	0—150 r	62p each	55 p each per dozen	Post etc. 10 p each or 20 p per 3-12 units.
TYPE C	0- 50 r	62 p each	57 p each per dozen	

# BARGAIN OFFERS IN COMPUTER PANELS

# AVAILABLE AS 3 GENERAL GROUPS

GROUP A	4	$\label{eq:contain components only-some with diodes.}$	15p each	or	10 for	£1.25	
GROUP B	3	Contain components and transistors - some with diodes.	25p each	or	10 for	£2.20	
GROUP C	2	Contain some power transistors plus components.	45p each	or	10 for	£4.00	5
POST ETC. E	EXTRA	. 1 to 5panels 15p, 6 to 10 panels 20p, 11 to 25 pan					





# \* CALLERS TO '303' CAN SELECT AS REQUIRED \*

ALL PANELS ARE OFFERED WITHOUT GUARANTEE OF CONTENTS, APPEARANCE AND OPERATION, OR CONTINUATION OF SUPPLY. THEY ARE IN THE MAIN MOSTLY BRAND NEW AND UNUSED. REGRET NO CIRCUITS OR INFORMATION AVAILABLE. BUT WE ASSURE YOU THAT IF YOU USE COMPONENTS AT ALL YOU ARE WASTING MONEY BY NOT PURCHASING WHILST STOCKS LAST.

NOTE: Appearance and actual components contained on the panels will vary. No guarantee can be given, but value is guaranteed.

# 931A NINE STAGE PHOTO-ELECTRIC MULTIPLIER

PRICE £3.50 (complete with base)



#### TYPICAL OPERATION

Voltage between anode and secondary	
cathode k10 (volts)	50
Voltage difference per stage (volts)	100
Anode dark current (max (uA)	¶ 0.25
Luminous sensitivity (amps/lumen)	‡ 10
Current amplification	§‡ 10°

- The sensitivity is on the basis of a lamp colour temperature of 2700 K and a light area of 4mm, x 20mm.
- § Ratio of anode sensitivity/cathode sensitivity.
- $\P$  With 100 volts between anode and secondary cathode k10
- Note: By joining together Pins 8, 9 and 10, the cell may be used as a 7 stage multiplier. Volts per stage not to exceed 100 volts.

By joining together pins 6, 7, 8, 9 and 10 the cell may be used as a 5 stage multiplier. Volts per stage not to exceed 100 volts.

BASING- Special 11 pin Sub Magnal.

#### CONNECTIONS

Pin 1	Cathode 2
Pin 2	Cathode 3
Pin 3	Cathode 4
Pin 4	Cathode 5
Pin 5	Cathode 6
Pin 6	Cathode 7
Pin 7	Cathode 8
Pin 8	Cathode 9
Pin 9	Cathode 10
Pin 10	Anode
Pin 11	Cathode 1

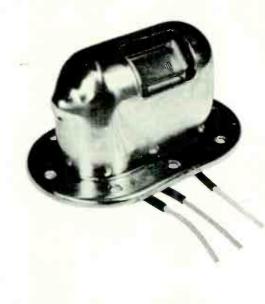


Viewed from free end of pins

NOTE: Pin 1 is taken as the first pin to the left of the keyway. Similarly pin 11 which is connected to the photo emitting cathode k1 is taken as the first pin to the right of the keyway.

# GRAVINER Infra Red Detector

**USING PHOTO MULTIPLIER** 



Designed as a fire or heat detector whilst immersed in fuel tanks. Contains Ferranti Photo Multiplier Type 931A (27-M12), GK-45 tube plus networks. Fitted into casing as illustrated above with quartz window area.

Four connections:-

(left to right)

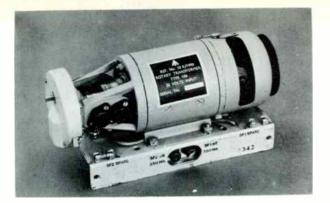
500 volt, + 150 volt, output. Case common to both voltages and output. Low current consumption.

# \* SUPPLIED WITH LEAFLET

BRAND NEW IN ORIGINAL CARTONS

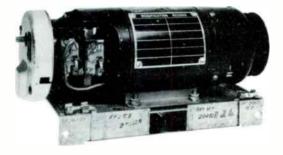
PRICE £6.00

(Manufacturers current price £74)



**TYPE 106 DYNAMOTOR/GEARED DRIVE** Ministry ref. 10K/1990. Rotary transformer or dynamotor. Input 24/28 volts DC. Output 250 volt and 50 volt DC also fitted gear drive for operating tuning capacitors, aerial relays etc. etc. Fan cooled. Can be converted for AC mains input operation. Overall size: 8½" length, 2¾" diameter, 4¼" height. Ex Brand New Equipment.

PRICE £1.00 post 35p



**TYPE 118** As above, but later model. Ex Brand New Equipment.

PRICE £1.50 post 35p

# SERVICES TYPE 4185 SOUND RECORDING

APPARATUS (BOOSEY AND HAWKES MODEL 49)

Complete wire recorders primarily designed for aircraft use but suitable for any 21–29 volt 1.4 amp. DC supply. Supplied complete with wire and instruction leaflet.

BRAND NEW PRICE £4.50 Carriage 60p (½ 1b, Reels of Wire 75p)





# EQUIPMENT COOLING FANS- AC MAINS

Made by McLean Engineering N.J. USA. Input 230 volts AC 50c/s. 0.3 amps. 2800 rpm. Blades can be reversed for blow or suck. Frame size 9" x 9" x 4¼" depth. **PRICE £2.25** Carr.30p LARGE RANGE OF SURPLUS EQUIPMENT BARGAINS FOR CALLERS TO '303' SHOP

#### 124



# HALOGEN QUENCHED GAMMA COUNTER TUBE

#### CV2247 (G5H)

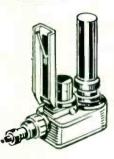
Operating voltage 370 volts average Plateau length Plateau slope Overall size Background Electrode material Stainless Iron Anode length

100 volts minimum. 3% per 100 volts 125 x 25 mm. 40 per min. 5 cms.

Fitted with rubber jacket.

#### Price £1.25

As supplied with the portable radiation equipment.



### DETECTOR PROBE

Fitted with the above counter tube CV2247 (G5H), plus voltage stabiliser CV2255 (Z801U). Finished in white enamel. Supplied complete with cables and connectors. Ideal for your own detection circuits etc.

Price £2.25 post 20p. BRAND NEW



#### COMPUTOR STABILISED POWER SUPPLY.

Brand new multi-transistor panels with multi outputs. Supplied complete with circuit. Panel size

PRICE £1.25 post 20p



#### PRECISION PANEL METER

#### TYPE MK-65

100 Microamp FSD moving coil panel meter made by 'Ultron', a European company. Specially sel-ected and calibrated for 'Acos' for a quality program meter.

Range: 0-100 microamp marked 0 to 10 by 0.2 divisions

Meter Class: 2.5 Meter Face Size: 31/6" × 31/6" Overall Front to Back: 111/16 Fixing Clearance Hole: 212" Fixing: 4 x 212" centres 6BA thread (nuts supplied).

PRICE £2.00





## SOLID STATE AC VARIABLE VOLTAGE CONTROLLERS

Input 230/250 volt 50 c/s Output 25-230 volt AC

VARIVOLT 5	5 amp	£ 9.50
VARIVOLT 10	10 amp	£15.20



#### **VIBRATORS**

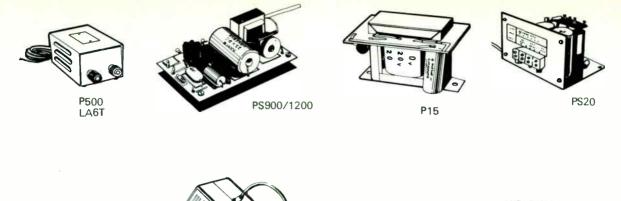
For replacement, original equipment and experimentation.

2 volt	7 pin synchronous	35p
6 volt	4 pin non synchronous	35p
12 volt	4 pin non synchronous	25p
12 volt	6 pin synchronous	60p
QUANTI	TIES AVAILABLE AT SPECIAL	PRICES

# SPECIAL PURPOSE VALVES AND TUBES

WE ARE BULK PURCHASERS OF THESE TYPES CONTACT US FOR BEST PRICES FOR YOUR SURPLUS STOCKS - ANY QUANTITY CONSIDERED.

FOR POST AND PACKING CHARGES SEE PAGE 2





PS 6-12

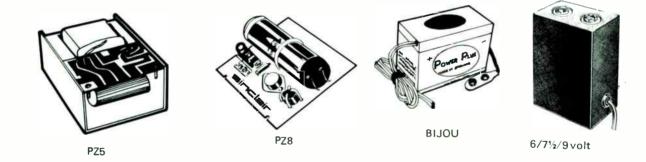
DE, DC

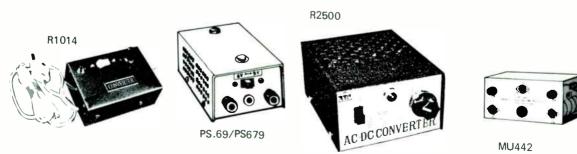


MU24/40



P11





# LOW VOLTAGE POWER SUPPLIES FOR EVERY APPLICATION



HENRY'S RADIO

# LOW VOLTAGE FIXED, SWITCHED AND VARIABLE POWER SUPPLIES FOR AMATEUR AND PROFESSIONAL APPLICATIONS

TYPE NO.		SIZE		SIZE		SIZE		SIZE		SIZE		SIZE		SIZE		SIZE		Stabi- lised	Cased (C)	DC OUTPUT	FUSED	APPLICATION AND NOTES	PRICE	Post
TTPE NO.	L	W	Н	(\$)	Chassis (CH)	(NL - NO LOAD)	(DC) Output	than general purpose).		Packin														
LA9P	2 <sup>3</sup> a''	1 8	1'8'		(C)	18v NL 9v 50mA	-	Eliminator for small radios etc.	1.50	12p														
BIJOU	234"	1121	1'2"	-	(C)	18v NL 9v 50mA		Eliminator for small radios etc.	1.15	12p														
100/6	314"	234"	21/8"	-	(C)	6v 100mA		Radios etc.	1.50	12p														
100/9	31411	234"	1'a''	-	(C)	9v 100mA		Radios etc.	1.50	12p														
250/7.5	3%	2'4''	2'8"	1	(C)	7'₂v 250mA	-	Tape Recorders. (with 5 pin DW Connector)	2.12	13p														
LA6T	120 mm	60 mm	50 mm	-	(C)	6v 200mA. 6v 600mA	-		3.62	13p														
P\$6-12	4"	2'5"	21,"	(S)	(CH)	Preset 6 to 12v Up to 200mA	18	FMTuhers, Decoders, Integrated circuits, preamplifiers etc.	3.25	13p														
DE	5''	4''	3''	(S)	(C)	3.6v 300mA, 9.6v 250mA		No Load, 30 volt each	3.35	12p														
DC	5"	4"	3"	(S)	(C)	30V NL 3.6V 30V NL 9.6V		For charging 3.6v and 9.6v Deal or rechargeable batter- ies simultaneously up to 500mA	2.25	12p														
R1014	4"	234"	2"	14	(C)	6. 9, 12 volt		Tape recorders, Intercomms, Radios etc.	4.25	12p														
R2500	4"	314"	2"		(C)	3.412,6.9.12v Up to 500mA			4.95	20p														
P \$69	130 ബന	50 mm	74 mm		(C)	6 or 9v Up to 400mA	-		2.98	12p														
P \$679	130 mm	50 mm	74 mm		(C)	6, 712 or 9 volt Up to 400mA			3.98	12p														
P500(LA10S)	120 നന	60 mm	50 mm	-	(C)	9v 200mA, 7v 500mA		For 1 or 2 '304', '104', '2004' Amplifiers	2.621/2	12'21														
PS 20	4.5"	3.5"	2.8	-	(CH)	20 22v NL 16 volt 1 Amp	(M) (DC)	For 1 or 2 'PA7' Amplifiers	3.471/2	20p														
PS 900	4"	2.5"	1.5"	(S)	(CH)	9.25v NL (& 15v unstabilised 8.75v 80mA	(DC)	Ideal for preamplifiers,	2.47	13p														
PS 1200	4"	2.5"	1.5"	(S)	(CH)	12v NL (& 30v unstabilised) 11.5v 80mA	(DC)	Tuners and decoders.	2.62	13p														
MU24/40	712"	4*2"	314"	-	(C)	24 28v NL 18v 1 amp OR 45v NL 36v 1 amp	(M)	For 1 or 2 MPA12/3 or MPA12/15 or E1206 Amps.	4.50	25p														
PZ5					(CH)	30v Nominal	External	For 1 or 2 Z30 Amplifiers	3.971/2	15p														
PZ6				(S)	(CH)	35v Nominal	External	For 1 or 2 Z30 Amplifiers	6.971/2	15p														
PZ8				(S)	(CH)	45v Nominal	External	For 1 or 2 Z50's (Transformer £2.75 extra).	5. <b>97</b> ½	25p														
MU442	6.5"	3,6"	5.5	-	(C)	-28 0 ·28 volts NL -22/0/*22 volts 2 amp.	(DC)	For 1 or 2 PA25 Amplifiers OR 1 only PA50 Amplifiers (Edge connector used).	6.50	25p														
P11	85 1100	56 mm	53		(CH)	24v 500mA	-	For 608 Amplifier	2.871/2	15p														
P12(P112)	150 നന	90 mm	65 mm	(S)	(C)	7v NL 4.5v 1A, 6 v 0.4A 10v NL 7.5v 1A, 9 v 0.4A 14v NL 10v 1A, 11 <sup>1</sup> 2v 0.4A		Suitable for Amplifiers 2004, 104, 304 E1208	6.75	20p														
P 15	85 mm	56 mm	53 mm	-	(CH)	28v 600mA; 26v 1 amp. 35v NL	-	For 410 Amplifier	2.62	15p														
RP124	185 mm	105 mm	85 mm	(S)	(C)	Variable 0—24v lamp.	-	Dual Scale voltage/ current mater	13.50	30p														
RP24	200 mm	100 നന	155 mm	(S)	(C)	6-12v 3v (Ad)) 0-2 amp.		Variable - Dual meters. Overload protection	19.50	40p														
RP40	8'4"	4 <sup>1</sup> .8"	61.81	(S)	(C)	5-20v 0-2 amp	(M) (DC)	Overload Protection, Dual meters, 1% regulation.	25.50	40p														
SE101A	175 നന	1 15 mm	65 mm	(S)	(C)	3, 6, 9, 12v 1 amp max.	(M) (DC)	Switched output 1% regulation	8.97	25p														
RP164	160 mm	96 mm	60 mm	(S)	(C)	6, 7 <sup>1</sup> 2, 9 12v 1 amp. max.		Switched output	8.97	25p														



RP164

RP124







SE101A

RP40. RP24. RP216

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#### MULTI-RANGE UNIVERSAL PORTABLE AC/DC RECORDING VOLTAMMETER **TYPE H390** (MADE IN USSR)

Moving coil ink-pen strip chart recorder for recording a.c. and d.c. voltages and currents on a 100 mm wide strip chart in rectilinear coordinates.

Syphon pens and large ink reservoirs are used to give long intervals between refilling.

Non-perforated strip chart is positively driven by a synchronous motor through a train of gears.

Chart speeds are changed by means of change gears; measuring ranges are selected by means of two rotary switches on the front panel of the recorder.



A separate zero-marking pen is fitted to the instrument for use when high accuracy of reading is essential; when using this pen, position of zero line is independent of irregularities and errors of chart printing.

#### Specification

150 mA

250 mA

500 mA

1.5 A

5 A

Accuracy: 1.5% d.c., 2.5% a.c. Measurement Range, a.c. and d.c.: 5-15-50-150-250-500 mA, 1.5-5 A; 5-15-50-150-250-500 V; D.C. only: 150 mV. Frequency Range: 45-1,000 Hz. Damping Time: 2 sec.max. Strip Chart Width: 100 mm. Strip Chart Drive: 220-250 V a.c. 50 Hz. Strip Chart Speeds: 20-60-180-600-1.800-5.400 mm/ hour. Dverall Dimensions: 170 x 265 x 305 mm. Weight: 221b.

PRICE complete with instruction manual, 2 sets of change gears, 1 bottle of ink, spare pen, 10 rolls of paper, pen filler, £78.00 scale and connecting leads

				Full Deflection Current			
Voltage Ran	ige			D.C. Range	A.C. Range		
150 mV	ī.,	 		210 mA	—		
5 V		 		5 mA	50 mA		
15 V		 		5 mA	15 mA		
50 V		 		5 mA	5 mA		
150 V		 		5 mA	5 mA		
250 V		 		5 mA	5 mA		
500 V		 	• •	5 mA	5 mA		
				Input Impe	dance, ohms		
Current Ran	ge			D.C. Range	A.C. Range		
5 mA		 	۰.	300	3,500		
15 mA		 		220	280		
50 mA		 	• •	90	21		

#### SINGLE CHANNEL AND THREE-CHANNEL HIGH-TYPE H320-1 and H320-3 SPEED RECORDERS (MADE IN USSR)

Strip chart recorders type H320-1 (single channel) and H320-3 (three channel) are designed for recording momentary values of voltages and currents.

Movements are of the moving coil type with natural frequency of oscillation of 5 Hz and sensitivity of 8 mA for full-scale deflection (80 mm).

Lightweight syphon pen is fixed to the moving coil frame: large ink well is mounted coaxially with the frame, thus contributing very little to the moment of inertia of the movement.

Usable frequency range is from d.c. to 5 Hz; with certain precautions, described in the instruction manual, accuracy of better than 10% can be achieved at maximum frequency.

H320-1

#### Specification

1. Number of Channels: Type H320-1, 1; Type H320-3, 3, 2, Basic Error on D.C.: 2.5% FSD. 3. Width of Recording Channel: 80mm, 4, Chart Speeds (selected by nush buttons): 1.2-6 -12-30-60-120-300-600 -3,000 mm per minute. 5. Chart Drive: 230-250 V synchronous motor, 6, Full Deflection Current: 8mA. 7. Internal Impedance of Movement: 210. 8. External Impedance (i.e. impedance of the signal source): 800. 9. Dimensions: H320-1. 320 x 345 x 175 mm; H320-3,510 x 345 x 175 mm. 10. Weight: H320-1,35 lb; H320-3 44 lh.

supplied with instruction manual, 2 bottles of ink, 10 rolls of paper, scale, pen blower, pen filler, time market unit,

Single channel high-speed recorder type H320-1 Three-channel high-speed recorder type H320-3

£55.00 £90.00

# SWITCHBOARD TYPE TEN-CHANNEL EVENT RECORDER

33.3

20

0.66

0.27

0.09

Switchboard panel 10-channel event recorder is designed to provide permanent record of duration and sequence of up to ten operations. Its principal applications are: machine tool operations, chemical processes, analysis of sequencial switching, etc.

2

1.2

04

0.04

0.004

The instrument is primarily designed for switchboard mounting; due to its light weight and sturdy construction it can equally well be used as a portable instrument. Each channel consists of a 12 V rotary relay to which a syphon pen with large ink reservoir is fitted. Current consumption is approximately 120 mA per pen.

Non-perforated strip chart is positively driven by a 220-250 V a.c. synchronous motor through a train of gears.

Chart speeds of 20-60-180-600-1,800-5,400 mm per hour are obtainable by means of change gears.

Instrument is supplied complete with two sets of change gears, two bottles of ink, 10 spare rolls of paper, pen blower, pen filler, two spare movements with pens and instructional manual. Overall Dimensions: 160 x 160 x 255 mm.

Dimensions of Hole for Switchboard Fixing: 152 x 152 mm.



**PRICE £52.00** 

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The instruments are

spare recording movement, spare fuses, con-H320-3 necting cables and spare pens.

**TYPE H30** 

# LIGHT SENSITIVE DEVICES

#### L14B (2N5777) PHOTO-DARLINGTON AMPLIFIER



detector and NPN Amplifier stage combined. 12 volts maximum voltage. Light current 100 mA. Power dissipation 150 mW. Rise time 250 µ sec. VCEO 12, VCBO 18, VEBO 8 volts.

PRICE 75p

Low cost, high gain light



L14B

# MULLARD RPY13

Unit containing four light dependent resistances and operating lamp fitted into B9A tube. Designed for up to four channel Audio, DC etc. Control. PRICE £1.10 Supplied with base.



# MULLARD TYPE BPY10 SILICON CELL

(Size 88 x 86 x 250 thou.) Current output 150 microamp. For loads of 1 ohm to 1K ohm at 10,000 lux, up to 400 mV.

PRICE £1.50

### MULLARD OCP71 PHOTOTRANSISTOR

Average gain 50: Max.volts -25 Max. current 20mA Spectral response: 1.55µ Cut off: 2µ Dissipation: 100 mwatt 20°C Sensitivity 1.5 to 4mA with 75ft. candle at -2v. Vc. PRICE 97p



### LIGHT DEPENDENT RESISTANCE

TYPE ORP12/ or Equivalent Approx. size 1/2" Diam. x 5/16" thick. Max. voltage 110, Max. dissipation 0.2 watts (200mW). Dark resistance up to 10 megohms. Minimum resistance with full light 75 to 300 ohms. For use with light from 450 nm up to 700-800 nm (Infra red). PRICE 50p

**DD190** 

Experimenters pack. Contains 4-selenium cells with outputs of  $\frac{1}{3}$  to  $\frac{1}{2}v$ up to 2-3 mA in bright sunlight. Complete with 24 page experimenters manual.

PRICE 60p



EXPERIMENTER'S

ORP60 and ORP61 LDR Dissipation 70 mW max. Voltage 350 v max. Resistance at 50 lux. 2700° colour temp. 60K ohms. Size 16.5mm body length, 5.2 mm diam. ORP60 end on or P61 side on. For use up to Infra Red. ORP60 40p ORP61 42p

# FERRANTI MS2BE SILICON PHOTOVOLTAIC CELL

Stud mounting for high dissipation. Top size %" x %". Overall height including stud %". Active area 0.34 sq. ins. Typical operation at 25°C.

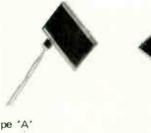
Volts open circuit 550mV Current short circuit 34mA O/P 22½mA into 15 ohms



Volts open circuit 400mV Current short circuit 34mA lumens O/P 1.35mA into 150 ohms ) per sq.ft.



PRICE £1.25





Type 'A'

Type 'B'

#### PHOTO EMISSIVE CELLS

- 'A' 112" x 1" approx. 100µA into 1K load. PRICE 60p
- 'B' 1%" x 1¼" tapering to %" approx. 250 µÅ into .1K load PRICE 75p

Encapsulated cells with firm lead anchoring.

#### B3M SELENIUM CELL

In moulded case 11/8" x 11/8" x 3/16" O/P 0.2 to PRICE £0.95 0.4 volts 11/2-21/2 mA.

S1M Silicon cell in case  $1\frac{1}{8}$ " x  $1\frac{1}{6}$ " x  $\frac{1}{16}$ ". O/P 0.3 to 0.4 volts. 10 to 16 mA. £1.25

#### COY12B (CAY12B)

GA Detector in TO5 case. Peak wavelength 8750 Angstrom units. Supplied complete with data. **PRICE £1.47** 



# HENRY'S LOW COST INTEGRATED CIRCUITS

BY TEXAS FAIRCHILD I.T.T. NATIONAL

We offer from stock an exclusive range of brand new, ceramic or plastic, full specification, low cost TTL 74 series integrated circuits.

Key: \* = 16 pin += 14 pin. PRICES IN NEW PENCE

Part Number		DESCRIPTION	1-11	12-24	25-99	100+	250+	500+
7400	(FJH131)	Quadruple 2-input NAND gates	20	18	16	14	12	10
7401	(FJH231)	Quadruple 2-input open collector NAND gates+	20	18	16	14	12	10
7402	(FJH221)	Quadruple 2-input NOR gates+	20	18	16	14	12	10
7403	(FJH291	Quadruple 2-input open collector NAND gates+	20	18	16	14	12	10
7404	(FJH241)	Hextuple inverters +	20	18	16	14	12	10
7405	(FJH251)	Hextuple inverters with open collector outputs +	20	18	16	14	12	10
74 10	(FJH121)	Triple 3-input NAND gates +	20	18	16	14	12	10
7413	(FJL131)	Dual 4-input Schmitt triggers +	30	27	25	22	20	18
7420	(FJH111)	Dual 4-input NAND gates	20	18	16	14	12	10
7430	(FJH 101)	Single 8-input NAND gates+	20	18	16	14	12	10
7440 7441	(FJH141) (FJL101)	Dual 4-input NAND buffer gates + BCD-Decimal decoder/Nixie driver*	20	18	16 70	14	12	10
7441	(FJH261)	BCD-Decimal decoder (4-line to 10-line) TTL outputs *	75 75	72 72	70	60 60	55 55	50 50
7443	(1311201)	Excess 3-Decimal decoder TTL outputs *	1.00	95	90	80	70	60
7447		BCD-Decimal seven segment decoder/indicator driver*	1.00	95	90	80	70	60
744.8		BCD-Decimal seven segment decoder/driver TTL outputs*	1.00	95	90	80	70	60
7450	(FJH151)	Expandable dual 2-input AND-OR-INVERT gates+	20	18	16	14	12	10
7451	(FJH161)	Dual 2-wide 2-input AND-OR-INVERT gates+	20	18	16	14	12	10
7453	(FJH171)	Quadruple 2-input expandable AND-OR-INVERT gates+	20	18	16	14	12	10
7454	(FJH181)	4-wide 2-input AND-OR-INVERT gates +	20	18	16	14	12	10
7460	(FJY101)	Dual 4-input expanders+	20	18	16	14	12	10
7470	(FJJ101)	Single J-K flip-flop (gated inputs)+	30	27	25	22	20	18
7472	(FJJ111)	Single J-K flip-flop (gated inputs)	30	27	25	22	20	18
7473 7474	(FJJ121) (FJ <b>J131</b> )	Dual J-K flip-flop+	40	37	35	33	30 30	27 27
7475	(FJJ181)	Dual D flip-flop + Quadruple bistable latch*	40 45	37 42	35 40	33 35	30	30
7476	(FJJ191)	Dual J-K flip-flops with Preset and Clear *	40	37	35	33	30	27
7480	(FJH191)	Gated Full Adder+	75	72	70	60	55	50
7481	(, 511.01)	16-bit read/write memory*	1.25	1.15		1.00	90	80
7482	(FJH201)		87	80	70	65	57	52
7483		4-bit binary Full Adder*	87	80	70	65	57	52
7484		16-bit RAM with gated write inputs *	85	80	75	70	65	60
7486		Quadruple 2-input Exclusive OR gates	33	30	27	24	20	18
7490 7491 AN	(FJJ141)	BCD decade counter +	75	70	65	60	55	50
7491 40	(FJJ251)	8-bit shift register+ Divide twelve counter +	1.00	95 70	90	80 60	70 55	60 50
7493	(FJJ211)	4-bit binary counter+	75 75	70	65 65	60	55 55	50
7494	(, 00211)	Dual entry 4-bit shift register *	80	75	70	65	60	55
7495		4-bit up-down shift register	80	75	70	65	60	55
7496	(FJJ241)	5-bit parallel/serial in, parallel/serial out shift register *	87	80	70	65	57	52
74100	(FJJ291)	8-bit bistable latch	1.50	1.40	1.30	1.10	1.00	90
74118	(FJK101)	Hextuple Set-Reset latches *	1.00	95	90	80	70	60
74121		Monostable multivibrators *	50	45	40	35	32	30
74141		BCD-Decimal decoder/Nixie driver*	1.00	95	90	80	70	60 90
74145 74150		BCD-Decimal decoder (4 line to 10 line) TTL outputs* 16-bit data selector/multiplexer	1.50	1.40	1.30	1.10	1.00	
75151		8-bit data selector/multiplexer*	85 1.00	80 95	75 90	70 80	65 70	60 60
74153		Dual 4-line data selector/multiplexer*	1.00	- 95 - 95	90	80	70	60
74 154		16-bit decoder/demultiplexer	95	90	85	75	65	55
74 155		Dual 2-line to 4-line decoder/demultiplexer *	75	70	65	60	55	50
74156		Dual 2-line to 4-line decoder/demultiplexer *	75	70	65	60	55	50
74190		Synchronous decade up-down counter, 1-line mode*	1.50	1.40		1.10	1.00	90
74191		Synchronous 4-bit up-down counter, 1-line mode *	1.80	1.65		1.40	1.30	1.20
74192		Synchronous decade up-down counter, 2-line mode*	1.75	1.65		1.40	1.30	1.20
74193 74196		Synchronous 4-bit up-down counter, 2-line mode*	1.75 1.50	1.65	1.50 1.30	1.40 1.10	1.30	1.20 90
74196		Asynchronous presettable decade counter+ Asynchronous presettable 4-bit binary counter+	1.50	1.40	1.30	1.10	1.00	90 90
		Hoynonionous presettable 4-bit bindly counter	1.50	1.40	1.50		1.00	

Devices may be mixed to qualify for quantity price. Larger quantity prices - Extn. 4

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FOR ADDITIONS TO THE RANGE SEE GENERAL LIST. Data available for above series in booklet form. (Ref.no: 29A) Price 15p

#### INTEGRATED CIRCUIT GUARANTEE (For TTL 14 and 16 pin devices)

Dual Inline 14 pin sockets 25p each, 16 pin 30p each.

As I.C's are extremely sensitive to heat we strongly recommend the use of our plug in sockets when using these devices. The normal guarantee will apply when sockets have been used. If, however, a device is suspect and has been soldered into the circuit, it will not be replaced until a test report has been received from the manufacturer. Their decision will be final.



NEW SOLID	STATE 20	watt	AMPLIFIER	AND	PREAMPLIFIER
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mm	20 v	watt Amplifier	TH9013P	PRICE	£4.57
HULD	Prea	amplifi <b>er</b>	TH9014P	PRICE	£1.50
size)	Data sheets and sugg	ested circuits	Ref. no: 42	PRICE	10p



#### TRANSISTOR PRICE LIST

No. 36 2nd Edition 1971

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GERMANIUM AND SILICON TRANSISTORSRECTIFIERSZENERSSCR'sFIELD EFFECTPOWER DEVICESTRIACSINTEGRATED CIRCUITSSILICON BRIDGESLIGHT DEVICESBY ATES.EMIHUS.FAIRCHILD.FERRANTI.GENERAL ELECTRIC.GENERAL INSTRUMENT.MOTOROLA.MULLARD.ITT.IR.NEWMARKET.PHILIPS.R.C.A.S.G.S.TEXAS.TRANSITRON.

ITEM	_	PRICE	ITEM		PRICE	ITEM		PRICE	ITEM		PRICE	ITEM	_	PRICE
AA119		7p	AF121		30p	BC138		20p	BD115		75p	BFX30		25
AA 129		20p	AF124		25p	BC147		12p	BD121		65p	BFX84		25
AA 178		42p	AF 125		20p	BC148		10p	BD123		85p	BFX85		30
AAY11		10p	AF126		20p	BC149		12p	BD124		80p	BFX86		25
AAY30		100	AF127		20p	BC153		20p	BD131	• • •	75p	BFX87		250
AAY42	•••		AF139		30p		•••	20p				BFX88	•••	20
		15p	AF178		55p	BC154	•••		BD 132		80p			£1.00
AAZ12		40p	AF179		60p	BC157	•••	15p	BD145		50p	BFY10	••••	
AAZ13		10p	AF180		50p	BC158	•••	12p	BD153		65p	BFY18		25p
AAZ15		10p	AF181		45p	BC159		15p	BD156		60p	BFY19	•••	25p
4AZ17		10p	AF185		50p	BC167		15p	BDY10		£1.25	BFY29		40¢
0.107		26.4	AF186		40p	BC169		12p	BDY11		£.150	BFY30		40p
AC107		35p	AF239	•••	40p	BC169C		15p	BDY17		£1.50	BFY44		£1.00
AC126		20p	AFZ11	•••	85p £1.25	BC171		15p	BDY18		£1.75	BFY50		20
AC127		25p	AFZ12 AL102	• • •	60p	BC177		20p	BDY19		£1.95	BFY51		200
AC127Z		50p		••••	250	BC178		20p	BDY20		£1.25	BFY52		20
AC128		20p	ASY26	***		BC179		20p	BDY38		65p	BFY53		150
AC153		20p	ASY 27	•••	30p		•••	100	BDY60	•••	£1.00	BFY64	•••	500
AC154		15p	ASY28		25p	BC182	•••	- 1						
AC169		15p	ASY29		30p	BC182L		10p	BDY61	•••	£1.10	BFY90		65p
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AC187	• • •	25p	ASY51		40p	BC183L		10p	BF115		25p	BLY10		£2.35
			ASY67		50p	BC184		12p	BF152		20p			
AC188	• • •	25p	ASZ21		55p	BC184L		12p	BF154		20p	BPY10		£1.50
ACY17		30p	AU101		£1.50	BC186		25p	BF158		15p			
ACY18		25p	AU104		£1.00	BC187		25p	BF159		35p	BSW70	•••	25
ACY 19		25p	AUY 10 (			BC212		10p	BF 160		25p	BSX20		15p
ACY20		20p	AUTION	A0104/	1.1.00			12p	BF 162		25p	BSX21		20
ACY21		20p	B3M		97p	BC212L			BF163		20p	BSX26		25
ACY22		10p	BA100		15p	BC213	•••	12p	BF167		25p 35p	BSX29		35
ACY28		17p	BA 102		30p	BC213L	•••	12p	BF170		25p	BSX41		20
ACY34		200	BA110		250	BC214		15p	BF 173		25p	BSX44		20
			BA115		7p	BC214L		15p	BF177 BF178		20p			25
ACY39		55p				BCY30		35p	BF179		25p	BSX66		
ACY40		20p	BA 164	•••	10p	BCY31		40p	BF 180		35p	BSX67		25
ACY41		20p	BAX13	•••	5p	BCY32		60p	BF181		35p	BSX76		15p
ACY44		30p	BAX16		7p	BCY33		30p	BF182		30p	BSX77	• • •	20
AD 140		50p	BAY31		7p			35p	BF184		20p	BSX78		25
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AD143	• • •	45p	00107		40.	BCY38	•••	45p	<b>BF194</b>		15p	BSY29		25
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AD161	• • •	35p	BC108	•••	10p	BCY40		50p	BF196		15p	BSY42		50
AD 162		35p	BC109		10p	BCY41		20p	BF197		15p	BSY43		50
ADT 140		35p	BC109C		12p	BCY42		30p	BF200		35p	BSY65		15
ADZ11		£1.22	BC113		15p	BCY43		25p	BF262		30p	BSY95A		
ADZ12		£1.47	BC114		20p	BCY58		20p	BF263		30p			12
		50	BC115		20p	BCY59		20p	BF264		35p	BSY95		12
AEY11	•••	50p	BC116		20p	BCY70		150	BF274		35p	BT101/10	UR	35p
AEY12		55p	BC116A		250	BCY71		20p	BFW87		25p	BTY42		90
AF102		62p	BC117	•••	20p	BCY72		150	BFW88		23p	BTY 79/10	OR	75
AF106		30p		•••				25p			200	BTY79-4		£1.2
	•••		BC118	•••	20p	BCY78	•••			•••		BTY80-2		50
AF114	• • •	25p	BC119		30p	BCY79	•••	25p	BFW90	•••	22p	BTY84		45
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ITEM	PRICE	ITEM	PRICE	ITEM	P	RICE	ITEM	P	RIĈE	ITEM		PRIC
BY 100	15p	CR71	. 50p	JK60A		97p	NKT678		30p	OC57		50
BY 114	20p	CR72	<b>C</b> 7	JK601B	•••	75p	NKT713 (A	C127)	25p	OC58		50
BY 122	50p	CR73	C2-				NKT773		25p	OC59		50
3Y126	12p	CR74	76	KS35A	•••	25p	NKT20329		40p	OC70		12
BY 127	15p	00.40	62 50	KS43A		25p				OC71		12
3Y182	90p		C1 25	L14B (2N5	7774)	55p	OA5		25p	OC72		20
BY187	75p	CS120	. <b>LI.2</b> 5	L 140 (2143		550	OAG		12p	OC73		30
3Y237	25p	FST3/0	. 15p	M3		15p	OA7	•••	15p		•••	30
3YX20/200	40p	FST3/8	. 20p	MAT100		20p	OA9	•••	10p 25p	0C74		
3YX22/200	25p	FST3/05AF	10.	MAT101		25p	OA 10			OC75		25
3YX22/600	25p			<b>MAT120</b>		20p	OA47		10p	OC76	•••	25
3YX26/60	15p	D28C2		MAT121		25p	0A70		10p	OC77	•••	40
3YZ10	35p	DD058	. 25p	MC140		20p	QA71 (CV	448)	10p	OC78	•••	25
3YZ11	30p	DD190	. 62p	MC724P	***	50p	0A73		10p	OC78D		25
3YZ12	30p	DD226A	. 25p				OA74 (CV	425)	10p	OC79		25
3YZ13	25p	DD262A	17-	MC1303 (10		£2.00	OA79		10p	OC81		- 20
NY TAE	£1.00	DK10	16.	MC1304 (I		£2.25	OA81		8p	OC81D		20
		01/110	E.	MFC4000P		55p	OA85		12p	OC81Z		40
BYZ16	60p			MFC4010	1C)	60p	0A86		15p	OC82		25
3Z 101	20p	DT3201	42p	MJ400		75p	0A90		8p	OC82D	•••	25
3ZX61c75	20p	GD4	. 5p	MJ420		80p					***	
3ZY78	£1.00	GD12	<b>C</b>	MJ421		80p	0A91	•••	7p	OC83	•••	25
BZY88C3V3	12p	0040	<b>E</b>	MJ430		80p	OA 95		7p	OC84	•••	25
3ZY88C3V6	12p	0044	<b>C</b>	MJ440		70p	OA200	***	7p	OC122		60
3ZY88C3V9	12p	GD14			•••	70p	OA 202		10p	OC123		79
BZY88C4V3	12p	GD15		MJ480			OA 210 (O	A211)	25p	OC139		25
BZY88C4V7	12p	GD16		MJ481	•••	£1.00	OA211		30p	OC140		40
BZY88C5V1	12p	GD17A	5p	MJ490		75p	0AZ200		55p	OC141		6
	•	GD19	E	MJ491		£1.10	OAZ 201		50p	OC169		20
BZY88C5V6	12p	GET7	. 25p	MJ2801		£1.10			45p	OC170		25
BZY88C6V2	12p	GET16 (per pa		MJ2901		£1.50	OAZ202				•••	
BZY88C6V8	12p	057400	25-	MJE340		50p	OAZ203		45p	0C171		30
BZY88C7V5	12p			MJE 370		70p	OAZ204		40p	OC200	•••	40
3ZY88C8V2	12p	GET103		MJE371		80p	OAZ205		4 <b>0</b> p	OC201		7
3ZY88C9V1	12p	GET105 .		MJE520		75p	OAZ 206	* * *	45p	OC 202		80
3ZY88C10	12p	GET106 .	45p		•••		OAZ207		450	OC203		45
71/00/044	12p	GET110	., 35p	MJE521	•••	70p	OAZ208		35p	OC204		4
		GET111 .	. 45p	MJE 2955		£1.10	OAZ209		35p	OC205		85
3ZY88C12	12p	057440	. 25p	MJE3055		75p			35p	OC206		95
BZY88C13	12p	OFTAAA	20-	MPF 102		40p	OAZ210				•••	95
BZY88C15	12p	CET11E	FOr	MPF103 (2	N5457	) 30p	OAZ211		35p	OC207	••••	
BZY88C16	12p		CC	MPF104 (2			OAZ212		35p	OC307		35
BZY88C18	12p	GET116	40-	MPF105 (2			OAZ213		35p	OC700		45
BZY88C20	12p	GET120 .	FO	MPS3704		15p	OAZ222		45p	OC700A		50
BZY88C22	12p	GET571 .				25p	OAZ223		45p	OC701		50
BZY88C24	12p		25p	MPSA06	•••		OAZ224		45p	OC702		50
71/00007	12p		45p	MPSA56	•••	20p	OAZ225		45p	CC703		45
71/00000	12p	GET881	25p	MPSA70	•••	15p	OAZ228		45p	OCP70		50
		GET882 .	30p	MPSU06		50p	OAZ229		45p	OCP71		97
BZY88C33	12p	GET883 .	20p	MPSU56		55p	0AZ230		45p	ORP12		5
BZY91C22R	75p	GET885 .	25p								•••	
C20B	£1.00	OF TOOT	20p	NKT72	•••	20p	OAZ231	***	45p	ORP60		40
	£1.10	CETOOO	20-	NKT121	•••	25p	OAZ 233	•••	45p	ORP61		4(
C20D			25.	NKT128		35p	OAZ234	***	45p	P346A		20
C22U	50p			NKT211		25p	OAZ236		45p	PA 230 (IC)	• • •	£1.
C106B	50p	1	25p	NKT213		25p	OAZ 238		45p			
C106D	60p		25p	NKT214		20p	OAZ240		20p	PA234 (IC)		£1.0
	65p 25p		30p	NKT216		35p	OAZ241		25p	PA237 (IC)		£1.1
C407	25p		15p	NKT217	••••	35p	OAZ244		25p	PA246 (IC)	•••	£1.5
CA3014 (IC)	£1.24	GEX54 .	20p		•••		0AZ272		25p	PA424 (IC)		£1.9
CA3018 (IC)	£1.10	CEVCA	25p	NKT222		20p	OC 16		50p	PL4001		
CA3020 (IC)	£1.26	OFVCC	. £1.50	NKT224	• • •	25p		•••		PL4002		
CA3028 (IC)	£1.00	OF V31	10p	NKT226	•••	35p	0019		45p	PL4003		1
CA3036 (IC)	72p	OFVEAT	76.	NKT271	•••	25p	OC20		85p	PL4004		1
CA3048 (IC)	£2.04	OF YOAL	26-	NKT272		25p	OC22	•••	50p	PL4005		i
CA3090E (IC)	£4.00			NKT273 (	GET11	4) 20p	OC23	•••	60p	PL4006		1
CK707	10p		40p	NKT274		20p	OC24		60p	PL4007		1
CQY12B	£1.47		30p	NKT275		25p	OC 25		35p			1
0001/05	25p		<b>25</b> p	NKT277		20p	OC26		25p	PL7001		
	25p		40p	NKT278		25p	OC28		60p	PL7002	•••	1
CRS1/10		GM378A .	55p	NKT279A	•••	15p	OC29		60p	PL7003	***	1
CRS1/20	35p	U11	07-		•••	50p			50p	PL7004	•••	2
CRS1/30	40p	1101010	97p	NKT301	•••				'	PL7005		2
CRS1/40	45p		12p	NKT304	•••	75p	0C36		60p	PL7006		2
CRS3/025AF	25p	HS3132 .	15p	NKT403	• • •	75p	OC41		30p	PL7007		2
CRS3/05	40p	1012/101	63 E0	NKT404		55p			40p			
CRS3/10	40p	117740	. £2.50	NKT449		50p	OC43		50p	RAS310AF		3
CRS3/40	50p		25p	NKT450		45p	OC44		15p	RAS508AF	•••	4
CRS25/025	75p	IZ5.1 .	25p	NKT453		40p			12p	RAS508CF		5
CRS400/40	£1.97	JK10B .	50p	NKT612		25p			27p	RS21A		1
		1 3 1 1 1 2 3	<b>SUP</b>	1			1 0 0 10			1		

DISCOUNTS 10% – 12+. 15% – 25+. 20% – 100+ ANY ONE TYPE New Types are arriving daily – enquiries invited for types not listed. ATES. EMIHUS. FAIRCHILD. FERRANTI. GENERAL ELECTRIC. GENERAL INSTRUMENT.

TEM	P	RICE	ITEM	P	RICE	ITEM		PRICE	ITEM	_	PRICE	ITEM	Р	RIC
SZZAF		15p	TIP32B		75p	ZB3.9		15p	5% Zeners	10 v	att ZS	1N21		25
S25AF			TIP32C		80p	ZB9,1		15p				1N21A		25
S26A .		17p	TIP33A	1	E1.00	ZB13		15p	ZS4.7 volt	•••	40p	1N22		25
S27AF		17p	TIP33B	1	E1.10	ZB16		15p	ZS5.1 volt		40p	1N23		25
S28AF		20p	TIP33C	f	E1.20	ZB22		15p	ZS5.6 volt	• • •	40p	1N34A		10
S53RF		22p	TIP 34A	1	£1.50	ZOB5.6		35p	ZS6.2 volt		40p	1N43	•••	10
S54RF		25p	TIP34B	1	E2.15	ZOB9.1		35p	ZS6.8 volt	•••	40p	1N205	•••	15
S55RF		25p	TIP34C	1	£2.25	ZR11	•••	35p	ZS7.5 volt	** *	40p	1N277		12
S56RF		25p	TIP35A	1	E2.50	ZR21R		50p	ZS8.2 volt	•••	40p	1N339		20
RS57RF		27p	TIP35B		£2.70	ZS108		20p	ZS9.1 volt	•••	40p	1N458A		22
RS58RF			TIP35C		£2.85	ZS20B		20p	ZS10 volt	•••	40p	1N459	•••	25
IS220AF		20p	TIP36A		£3.00	ZS21		20p	ZS11 volt	••••	40p	1N914		7
RS240AF		20p	TIP36B		£3.25	ZS22 (CV4)		20p	ZS12 volt		40p	1N916		10
RS260AF		20p	TIP36C	1	£3.50	ZS31 (CV7	119)	20p	ZS13 volt	• • •	40p	1N3196		22
RS801 .	. 1	E1.75	TIS43		40p	ZS51		15p	ZS15 volt		40p	1N3754		18
4AR2 .		45p	TIS44		8p	ZS132		7p	ZS16 volt	•••	40p	1N3960		35
C35A TRIAC		80p	T1S45		10p	<b>ZT44</b>		65p	ZS18 volt		40p	1N4001		6
C35B TRIAC		85p	TIS46		10p	ZT45		45p	ZS20 volt		40p	1N4002		7
		90p	<b>TIS47</b>		10p	ZT81		45p	ZS22 volt		40p	1N4003		8
C35D TRIAC		90p	TIS48		10p	ZT84		50p	ZS24 volt		40p	1N4004		8
		E1.00	TIS49		10p	ZTX107		15p	ZS27 volt	***	40p	1N4005		10
C40B TRIAC			TIS50		12p	ZTX108		12p	ZS30 volt		40p	1N4006		1:
C40D TRIAC		E1.05	TIS51		10p	ZTX109		15p	ZS33 volt	•••	40p	1N4007		19
C40E TRIAC		£1.25	TIS52		10p	ZTX300		12p	ZS36 volt		40p	1N4009		
C45A TRIAC		£1.05	74553		15p	ZTX301		15p	ZS39 volt	- • •	40p	1N4148		
C45B TRIAC		£1.15	T1S54		16p	ZT X302		18p	ZS43 volt	•••	40p	1N4785	4.4.4	7
C45D TRIAC		£1.25	TIS55		10p	ZTX303		18p	ZS47 volt		40p	1N5399		2
C45E TRIAC		£1.45	TIS60		18p	ZTX304		25p	ZS51 volt	*	40p	1044		
C50A TRIAC		£1.35	TIS61		20p	ZTX500		15p	ZS56 volt		40p	1544		2
C50B TRIAC		£1.45	T1S62		25p	ZTX501		15p	ZS62 volt		40p	15001		2
C50D TRIAC		£1.75	TK20		25p	ZTX502		20p	ZS68 volt		40p		(CV5301)	2
C50E TRIAC	:	£1.95	TK22C		25p	ZTX503		17p	ZS75 volt		40p	15005		2
CR51 .		45p	TK25C		25p	ZTX504		40p	ZS82 volt		40p	15020		1
CR71 .		50p	TK30C		25p	ZTX531		25p	ZS91 volt		40p	1\$100		1
D2 DIAC .		25p	TK5509		25p	ZX11		35p	ZS100 volt	s	40p	15130		1
D94 .		20p				ZX18		35p				15203		2
		25p	UL900 (IC)		40p	ZX56		35p	3TZ 5% 3	watt 7	eners	1S401R		- 40
1102		25p	UL914 (IC)		40p	2/100		oop	Replaces 3			1\$405		50
SL403D (IC)		£1.50	UL923 (IC)		40p				3TZ 4.7 vo		30p	<sup>1</sup> S417		2
		15p	V15/30P		50p				3TZ 5.1 vo		30p	<b>1S420</b>	***	2
T141 .		20p	V30/201P		75p	5% Zeners	1/2 1	watt ZL	3TZ 5.6 vo		30p	1\$421		2
X51 .		50p	V60/201P		75p	ZL3.3 volt		25p	3TZ 6.2 vo		30p	15916 (	CV5396)	1
X56		50p	V405A		25p	ZL3.9 volt	••••	25p	3TZ 6.8 vo		30p	1\$921		
		50p	VR35 (CV71		35p	ZL4.3 volt		25p	3TZ 7.5 vo		30p	15922		
		30p	VR525 (CV7		35p			25p	3TZ 8.2 vo		30p	1\$923	×	1
NICOF.		40p			35p	ZL4,7 volt	•••	25p	3TZ 9.1 vo		30p	1\$7043		5
		50p	VR575 (CV)	11/31	aph	ZL5,1 volt	•••		3TZ 9.1 VO		30p		(CV7102)	) 2
X641 (CV40		55p	W005 Bridge		30p	ZL5.6 volt	•••	25p					(CV7104	
		60p	W01 Bridge		30p	ZL6.2 volt	•••	25p	3TZ 11 vol		30p	-		
		70p	W02 Bridge		35p	ZL6.8 volt		25p	3TZ 12 vol		30p	2C111	•••	£1.
X644 (CV40		75p	W06 Bridge		45p	ZL7.5 volt		25p	3TZ 15 vol		30p	2G110		£2.
		75p	WX6		20p	ZL8.2 volt		25p	3TZ 16 vol		30p	2G210		£1.
	 201	50p				ZL9.1 volt		25p	3TZ 18 vol		30p	2G240		£3.
X754 (CV54 X781		75p	XA703	•••	25p	ZL10 volt	•••	25p	3TZ 20 vol		30p	2G 301		2
	••	75p	XB102		20p	ZL11 volt	•••	25p	3TZ 22 vol		30p	2G301		3
			XB103		25p			25p			30p	00000		3 33
Z39A (CV70		50p	XB113		20p	ZL15 volt	•••	25p	3TZ 27 vo		30p	2G303 2G306		1
Z56A (CV70		50p	XS101	• • •	25p	ZL18 volt		25p	3TZ 30 vo		30p	2G308		1
	••	50p	XS104		25p	ZL20 volt		25p	3TZ 33 vo		30p	2G308		100
	••	50p	XU604		22p	ZL22 volt		25p	3TZ 36 vo	lt	30p	2G303		100
Z150A	••	50p	Z2A24CF		20p	ZL24 volt		25p	3TZ 39 vo	lt	30p			
AA263 (IC)		75p	Z2A27CF		20p	ZL27 volt		25p	3TZ 47 vo	lt	30p	2G374		3 2
AD100 (IC)		£1.50	Z2A30CF		20p	ZL30 volt		25p	3TZ 56 vo	lt	30p	2G417	•••	4
AD110 (IC)		£1.50	Z2A36CF		20p	ZL33 volt		25p	3TZ 62 vo	lt	30p	2N173		8
		50p	Z2A43CF		20p	ZL36 volt		25p	3TZ 68 vo	lt	30p	2N174		£1
		55p	Z2A120CF		20p	ZL39 voit		25p	3TZ 75 vo		30p	2N250		5
10000		60p	Z2A130CF		20p	ZL43 volt		25p	3TZ 82 vo		30p	2N270		2
		60p	Z3B180BF		25p	ZL47 volt		25p	3TZ 91 vo		30p	2N353		4
10000		65p	Z3B270CF		30p	ZL56 volt		25p	3TZ 100 v		30p	2N404	•••	1
		70p	Z3B300CF		30p	ZL62 volt		25p	0.12 100 4		oop	2N456		
			Z3B330CF		30p	ZL68 volt		25p				2N450 2N457		£1
		60p	Z3B360CF		25p	ZL75 volt		25p	18003	1.0	42p			
	•••	65p	Z5D270AF		30p			25p	1B4520A	•••	87p	2N458	•••	£1
		70p	ZA13		17p	ZL82 volt ZL91 volt	• • •	25p	184520A		£1.12	2N503		7
rip32A		70p	2413	•••	.,,	L'SI VOIT		zop	1040200		-1.12	2N526		3

NEW TYPES ARE ARRIVING DAILY - ENQUIRIES INVITED FOR TYPES NOT LISTED. MOTOROLA. MULLARD. ITT. IR. NEWMARKET. PHILIPS. R.C.A. S.G.S. TEXAS. TRANSITRON.

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ITEM		PRICE	ITEM		PRICE	ITEM		PRICE	ITEM		PRICE	ITEM		PRIC
2N527		<b>35</b> p	2N 2614		40p	2N4060		10p	2\$703		65p	40411		£2.2
N 546		37p	2N2646		40p	2N4061		12p	2S711		65p	40412	•••	5
N601		35p	2N2784		50p	2N4062		12p	2\$724		£2.50	40467A		5
N696		15p	2N2846		£1.50	2N4069		60p	2\$733		47p	40468A		з
N697		15p	2N 2848		42p	2N4284		12p	2S743		£2.50	40528		7
N698		30p	2N2894		350	2N4285		12p	2\$745A		£1.50	40543		6
N699		30p	2N2904		20p	2N4286		12p	2\$3030			40594		£1.
N706		10p	2N2904A		25p	2N4287		12p			37p	40595		£1.
2N 706A		12p	2N2905			2N4288		12p	2S3040	•••	60p			
2N707		40p	2N2905A		25p	2N4289		12p	2\$3210		42p	40600	•••	5
2N 708		15p	2N 2906		25p		•••		2X106		20p	40603	•••	5
	•••				20p	2N4290	••••	12p	2X107		20p	40636		£1.
2N 709		40p	2N 2906A		25p	2N4291		12p	2X108		20p	40430 TRIA	AC	£1.
2N 711		50p	2N 2907	•••	23p	2N4292		12p	16FR10		42p	7400 (IC)		2
2N711A		55p	2N2907A		25p	2N4871		35p			420	7401 (IC)		2
2N914		22p	2N 2925		15p	2N5135		15p	359M		15p	7402 (IC)		2
2N916		20p	2N2926 (all (	celou	ars) 10p	2N5136		15p	333141		1.Jp	7403 (IC)		2
2N918		45p	2N3011		20p	2N5138		15p	702C (T05	i)	75p	7404 (IC)		2
2N919		50p	2N3053		20p	2N5179		50p	709C (T05		45p	7405 (IC)		2
2N920		45p	2N3054		50p	2N5191		50p	709C (D.I.		45p	7410 (IC)		2
2N929		20p	2N3055	•••		2N5194	•••		723C (TO		£1.00	7413 (IC)		3
	•••			•••	75p			55r						
2N930		20p	2N3108		£1.00	2N5296		50p	741C (T05		80p	7420 (IC)	***	2
2N 961		50p	2N3133	•••	25p	2N5305		20p	741C (D.I.		75p	7430 (IC)	•••	2
2N985	• • •	45p	2N3135		25p	2N5457		30p	747C (D.I.	L.)	£1.75	7440 (IC)		2
2N 987		40p	2N3136		25p	2N 5458		35p	Silicon Bri	dage 1/	x1/2 x 3/2	7441 (IC)		7
2N 1090		35p	2N3232		75p	2N5459		40p				7442 (IC)		7
2N 1091		40p	2N3233		75p	2N5777A		55p	5002 50v 2		50p	7443 (IC)		£1.
2N1131		25p	2N3250		70p	LINSTITA		0.06	1002 100v		55p	7447 (IC)		£1.
2N 1132						20.001			2002 200v		65p	7448 (IC)		£1.
	• • •	25p	2N3251	•••	80p	2\$001	***	6 <b>0</b> p	4002 400v	2A	75p	7450 (IC)		2
2N 1184	• • •	50p	2N3302		50p	2\$002		75p	6002 600v	2A	80p		•••	
2N 1302	• • •	18p	2N3440		£1.00	2S003		75p	1004 100v		65p	7451 (IC)		2
2N 1303		18p	2N3442		£1.50	2S004		95p	2004 200		70p	7453 (IC)	•••	2
2N1304		22p	2N3525		£1.00	2S005		£2.00				7454 (IC)		2
2N1305		22p	2N3614		55p	2\$012		£2.75	4004 400		75p	7460 (IC)		2
2N 1306		25p	2N3663		15p	2S012A			6004 600v		80p	7470 (IC)		3
	***		2N3702		10p			£2.62	1006 100		70p	7472 (IC)		3
2N 1307		25p				2\$013		£2.0C	2006 200v	6A	75p	7473 (IC)		4
2N1308	•••	25p	2N3703		10p	2S013A		£2.25	4006 400	6A	£1.00			
2N1309		25p	2N3704		10p	2S017		£2.00	6006 600	6A	£1.10	7474 (IC)	••••	4
2N1545		60p	2N3705		10p	2S018		£2.25				7475 (IC)		4
2N 1553		50p	2N3706		10p	2\$020		£2.50	40050	•••	55p	7476 (IC)		4
2N 1554		50p	2N3707		12p	2S024		£2.50	40250	•••	50p	7480 (IC)		79
2N 1613		20p	2N3708		10p	2\$026		£5.00	40251		30p	7481 (IC)		£1,:
2N 1614		35p	2N3709	•••	10p	2\$034			40309	•••	30p	7482 (IC)		87
2N1711		20p	2N3710		10p			60p	40310		45p	7483 (IC)		8
	•••					2S102	•••	25p	40311		35p	7484 (IC)		8
2N 1740	***	47p	2N3711		10p	2S103	•••	35p	40312		45p	7486 (IC)		33
2N 1893	•••	<b>3</b> 5p	2N3713		£1.50	2S104	•••	35p	40314		35p	7490 (IC)	•••	7
2N 1986		50p	2N3714		£2.00	2S131		37p		••••		7491 (IC)	•••	£1.
2N1990		40p	2N3715		£2.20	2S301		50p	40315		35p	7492 (IC)	•••	7
2N 2060		£2.50	2N3716		£2.85	2S302		50p	40316		45p	7493 (IC)	•••	7
N2147		75p	2N3724		50p	2\$302A		40p	40317		35p	7494 (IC)		8
N2217		25p	2N3725		60p	2\$303		60p	40319		<b>5</b> 5p	7495 (IC)		8
			2N3730		50p	2\$304	***		40320		45p	7496 (IC)		8
2N2218	•••	20p						75p	40323		30p	74100 (IC)		£1.5
2N2218A	••••	25p	2N3731		55p	2\$305	***	85p	40324		45p	74118 (IC)	•••	£1.0
N2219		20p	2N3771		£2.00	2S306	••••	90p				74121 (IC)		50
2N2219A		25p	2N3772		£2.05	2\$307		£1.00	40326	••••	35p	74141 (IC)		£1.0
N2220		25p	2N3773		£2.35	2\$320		50p	40329		30p	74145 (IC)		£1.
N2221		20p	2N3791		£2.75	2S321		55p	40344		25p	74150 (IC)		8
N2221A		25p	2N3794		12p	2S322		60p	40347	***	55p	74151 (IC)		£1.
N2222		20p	2N3819 FET		35p	2\$323		65p	40348		50p	74153 (IC)		£1.0
N2222A		25p	2N3820 FE		55p	25324	•••	75p	40360		40p	74154 (IC)		- 99
N2297						2S325			40361		40p	74155 (IC)		7!
	***	20p	2N3823 FET		50p			£1.25	40362		50p	74156 (IC)		7
N2303		£1.00	2N3824 FET		95p	2S501	•••	37p	40370	••••	32p	74190 (IC)		£1.
N2369		15p	2N3903	•••	20p	2\$502		42p				74191 (IC)		£1.
N2369A		15p	2N3904		20p	2S503		47p	40406		55p	74192 (IC)		£1.1
N2398		97p	2N3905		25p	2S512		25p	40407		40p	74193 (IC)		£1.7
N2411		55p	2N3906		25p	2\$701			40408		50p	74195 (IC)		£1.
N2484		35p	2N4058		12p	2\$702		45p	40409		55p			
112404		aph	214030	10.0	- 12p	23/02		55p	40410		60p	74196 (IC)		£1.
				_							+*	74197 (IC)		£1.
	-	0%	12+.		1	5% 25			20%		100+	ANY O	NE	TY
SCOUNT														

LARGER QUANTITY QUOTATIONS FOR TRANSISTORS AND DEVICES CONTACT US ON (01) 402 4891 Extn 16 ATES. EMIHUS. FAIRCHILD. FERRANTI. GENERAL ELECTRIC. GENERAL INSTRUMENT. MOTOROLA. MULLARD. ITT. IR. NEWMARKET. PHILIPS. R.C.A. S.G.S. TEXAS. TRANSITRON.

# TRANSISTOR IDENTIFICATION

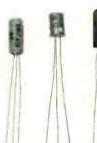




















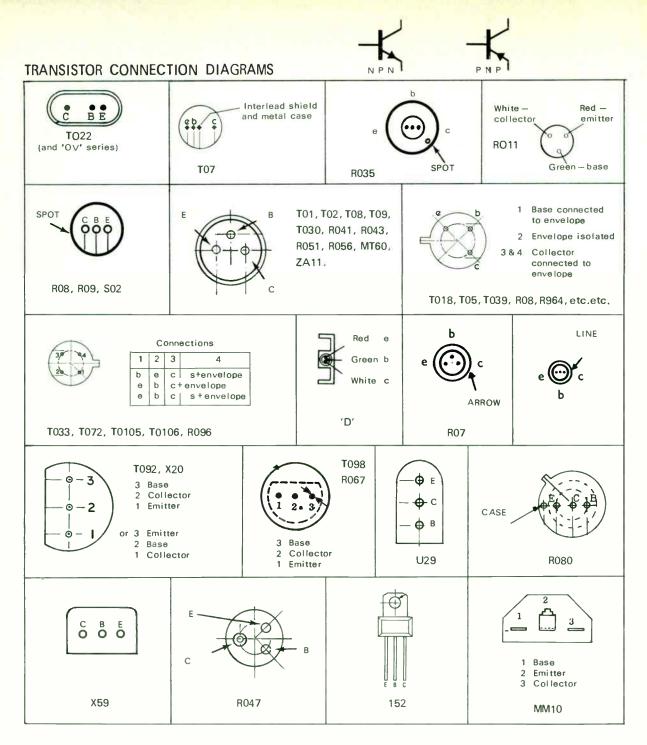




COOLERS, CLIPS AND HEAT SINKS

IN STOCK AS REQUIRED

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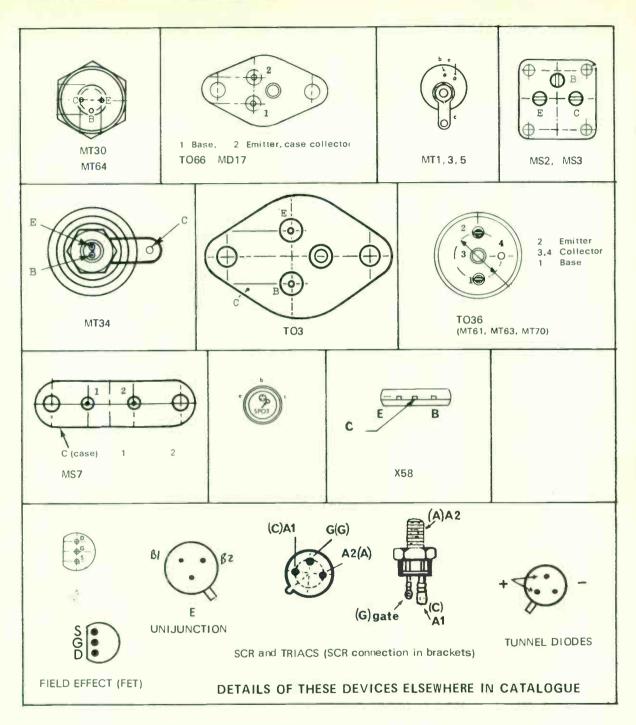


NOTE CONNECTION DIAGRAMS ARE GIVEN AS A GUIDE ONLY AS SOME VARIATIONS CAN BE EXPECTED DUE TO MANUFACTURING CHANGES. CHECK BEFORE USING. ILLUSTRATIONS ARE NOT TO SCALE AND REPRESENT THE GENERAL LEAD CONFIGURATION ONLY. ALL CONNECTIONS ARE WITH THE LEADS, PINS OR TAGS FACING UPWARDS.

MULLARD, TEXAS, FERRANTI, GENERAL ELECTRIC, NEWMARKET, STC, AEI, MOTOROLA, BRUSH, THORN, FAIRCHILD, PHILIPS, SIEMENS, ETC. ETC.

QUALITY DEVICES AVAILABLE FROM HENRY'S

# TRANSISTOR CONNECTION DIAGRAMS



See note on facing page concerning connection diagrams.

TRANSISTORS OF EVERY DESCRIPTION FOR EVERY PURPOSE SPECIAL PRICES FOR QUANTITIES OF ANY TYPE

# GENERAL TRANSISTOR DATA

-		Out-	Max.	-						Time	Out-	Max.	Freq.	V	H	At	Notes
Item	Type	line	Diss.	Freq.	V CBO	H <sub>FE</sub>	Atic	Notes	Item	Туре	line	Diss. 150 m.d	6.0 MHz	C80 40	FE 20	30 mA	Low power
2G 210	G/PNP	T03	-	400 KHz	-60	25-90 40-70	5.0 amp 0.5 amp	High Power High Power	2N377A 2N388A	G/PNP G/PNP	T05 T05	150 mW	8.0 MHz	40	60	30mA	Low power
2G 240 2G 301	G/PNP G/PNP	TO3 502	150 mW	15 MHz 3 MHz	-80	60	100 mA	Low Power	2N404	G/PNP	TO5	150 mW	4.0 MHz	25	40	12mA	Low power
2G 302	G/PNP	SO2	150mW	7 MHz	-20	90	100mA	Low Power	2N456	G/PNP G/PNP	TO3 TO3	50 W 50 W	-	40 80	10-30 10-30	5.0amp	High power High power
2G 303	G/PNP	SO2	150 mW	3.0 MHz	-30	60	100mA 100mA	Low Power High Gain	2N458 2N503	G/PNP	TO3	25 mW	350 MHz	20		2.0mA	Low power
2G 306 2G 308	G/PNP G/PNP	SO2 SO2	150 mW 200 mW	12.0MHz 3.0 MHz	-20	100	1mA	Low noise	2N599	G/PNP	TO5	250 mW	10 MHz	30		200 mA	Low power
2G 308	G/PNP	SO2	200 mW	12.0MHz	-20	180	1mA	Low noise	2N601	G/PNP	MT60	750 mW	10 MHz	30 +60	175 20	100 mA 5,0 mA	Low power
2G 374	G/PNP	SO2	200 mW	1 MHz	20	75	1mA	Gen.purpose	2N696 2N697	S/NPN S/NPN	T05 T05	600 mW 600 mW	64 MHz 80 MHz	+60	40	150 mA	Low power
2G 381	G/PNP G/PNP	R051 R051	250 mW	1 MHz 1.0MHz	-20 -30	30	300mA 1.0mA	Low power Low power	2N698	S/NPN	T05	800 mW	40 MHz	+ 120	15	1.0 mA	Low power
2G 382 2G 401		TO5	200mW	80.0 MHz	-20	100	1.0 mA	Low power	2N706	S/NPN	TO 18	300 mW	320 MHz	+25	50	10 mA	Low power
2G 402	G/PNP	T05	200 mW	80.0MHz	-20	100	1.0mA	Low power	2N 706 A 2N 70 7	S/NPN S/NPN	TO18	300 mW	200 MHz 400 MHz	+25 56	20 12	10 mA 10 mA	Low power
2G 414	G/PNP	TO18	100 mW 100 mW	120 MHz 120 MHz		50 50	1.0 mA	Low power Low power	2N708	S/NPN	TO 18	360 mW	480 MHz	40	30	10 mA	Low power
2G 415 2G 416	G/PNP G/PNP	TO 18 TO 18	100 mW	120 MHz	-20	50	1.0 mA	Low power	2N711	G/PNP	TO 18	300 mW	300 MHz	12	30	10 m A	Low power
2G 417	G/PNP	TO18	100 mW	90.0MHz	-20	50	1.0 mA	Low power	2N711A 2N721	G /PNP S/PNP	TO 18 TO 18	150 mW 400 mW	150 MHz 50 MHz	50	25 15	10 mA 1.0 mA	Switching Low power
2N 174	G/PNP	TO36	50 W	10 KHz	-80	25-50	5 amp 500 mA	High power High power	2N721 2N743	S/NPN	TO18	300 mW	400 MHz	20	40	10 mA	Low power
2N 250 2N 257	G/PNP G/PNP	TO3 TO3	25 W 45 W	5.0 KHz		40	2 amp	High power	2N744	S/NPN	TO18	300 mW	400 MH z	20	80	10 mA	Low power
2N2578	G/PNP	TO3	45 W	5.0 KHz	-40	50	2 amp	High power	2N753	S/NPN S/PNP	TO 18	300 mW	400 MHz 52 MHz	25	80 75	10 mA 5,0 mA	Low power
2N279A		т03	125 mW	300 KHz	-80	40-100		High power	2N865 2N914	S/NPN	RO64	150 mW 360 mW	480 MHz	40	55	10 mA	Low power
2N 303 2N 335	G/PNP S/NPN	0V4 TO5	.40 mW 1.0 mW	14.0MHz 11.0MHz	-30 45	75 90	1 amp 1.0 mA	High power Low power	2N918	S/NPN	X20G	200 mW	600 MHz	30	20	3.0 mA	Low power
2N 457	G/PNP	TO3	50 W	-	60	30	5.0 amp	High power	2N919	S/NPN	TO 18	360 mW	400 MHz	25	4.0	10 mA	Low power
2N 546	S/NPN	TO5	600mW	-	30	15	500 mA	Low power	2N920 2N922	S/NPN S/NPN	T018	360 mW 360 mW	400 MHz 400 MHz	25: 50	4.0 4.0	10 mA 10 mA	Low power Low power
2N 699	S/NPN S/NPN	TO5	600mW 300 mW	50 MHz 800 mHz	120	35	1.0 mA	Low power		1	1			1	200- 600	10 mA	Low noise
2N 709 2N 719	S/NPN	TO 18 TO 18	400 mW	64 MHz	120	20	150 mA	Low power	2N930 2N1090	S/NPN G/NPN	TO 18 TO 9	300 mW	80 MHz 7,0 MHz	+45	50	20 mA	Low power
2N719A		TO 18	500 mW	64 MHz	120	20	150 mA	Low power	2N 1091	G/NPN	T09	120 mW	13 MHz	25	70	20 mA	Low power
2N 720	S/NFN	TO 18	400 mW	80 MHz	120	80	150 mA	Low power	2N1131	S/PNP	T05	600 mW	50 MH z	-50	20-45	1 <b>50</b> mA	H.F. ampl.
2N720A	S/NPN S/PNP	TO 18 TO 18	500 mW 400 mW	80 MHz 60 MHz	120 50	40	150 mA	Low power			TOF	C00W	COMUS	-5α	60	150 mA	& switching Low power
2N 722 2N 985	G/PNP	TO 18	150 mW	300 MHz	15	60	100 mA	Low power	2N1132 2N1136	S/PNP G/PNP	T05 T03	600 mW	60 MHz	-50 60	50-100	3amp	High power
2N1184	G/PNP	TO8	7.5 W	500 KHz	45	120	400 mA	High power	2N1137	G/PNP	TO3	-	-	60	75-150	3 amp	High powe
2N 1554	G/PNP	TO3	90 W	6.0 KHz	60	60	10 amp	High power	2N11378		TO3	- 1	-	100	75-150	3 amp	High power
2N1614 2N1711		RØ32 TØ5	240 mW 800 mW	3.0 MHz 70 MHz	65	32	20 mA	Low power	2N1138	G/PNP	тоз	-	-	-	100 200	3 amp	High power
2N2217		T05	800 mW	250 MHz	60	12	1.0 mA	Low power	2N1162	G/PNP	TO3	90 W	4 KHz	50	15-65	25 amp 25 amp	High powe High powe
2N2218	S/NPN	TO5	800 mW	250 MHz	60	25	1.0 mA	Low power	2N1163 2N12044	G/PNP G/PNP	TO41 TO39	90 W 200 mW	4 KHz 220 MHz	5C 20	15-65	20 mA	Low power
2N2219 N2219A	S/NPN	T05	800 mW	250 MHz 250 MHz	60	50 50	1.0 mA	Low power Low power	2N1302	G/NPN		150 mW	10 MHz	+25	50	10mA	Low power
2N2219A	S/NPN S/NPN	T05 T05	800 mW 500 mW	250 MHz	75 60	12	1.0 mA	Low power	2N1303	G/PNP	T05	150 mW	-	30	20	10 mA	Low power
2N2221	S/NPN	T05	500 mW	250 MHz	60	25	1.0 mA	Low power	2N 1304	G/NPN	T05	150 mW	15 MHz	+25	40-100	10mA	G.P. Industrial
2N2221A	S/NPN	TO 18	500 mW	250 MHz 250 MHz	75 60	30	1.0 mA	Low power Low power	2N1305	G/PNP	T05	150 mW	5 MHz	-30	40-200	10 mA	Switching & G.P.
2N2222 2N2222A	S/NPN S/NPN	TO5 TO18	500 mW	250 MHz	75	50	1.0 mA	Low power		}						1	Computers
2N2848	S/NPN	T05	800 mW	250 MHz	60	40	150 mA	Low power	2N1306	G/NPN	105	150 mW	20 MHz	+25	60-200	10mA	& G.P.
2N2904A		T05	600 mW		60	40	1.0 mA	Low power	2N1307	G/PNP	тоз	150 mW	10 MHz	-3G	60-300	10 mA	Switching £ G.P.
2N2905A 2N2906	S/PNP S/PNP	T05	600 mW		60 60	100 25	1.0 mA	Low power Low power									Computers
2N2906A	S/PNP	TO 18	200 mW		60	40	1.0 mA	Low power	2N1308	G/ NPN	T05	150 mW	30 MHz	+25	80-300	10 mA	& G.P.
2N2907	S/PNP	TO 18	200 mW		60	30	1.0 mA	Low power	2N1309	G/PNP	T05	150 mW	15 MHz	-30	80	10 mA	Computers
2N2907A	S/PNP S/NPN	TC 18 TO 18	200 mW 300 mW	200 MHz 600 MHz	60	100	1.0 mA	Low power Low power		1				1		150 mA	& G.P. Low power
2N3010 2N3011	S/NPN	TO18	360 mW	400 MHz	30	30	10 mA	Low power	2N1420 2N1483	S/NPN S/NPN	T05	600 mW 25 W	50 MHz 1250KHz	60 60	100 20-60	750 mA	High power
2N3013	S/NPN	TO52	360 mW	350 MHz	40	30	30 m A	Low power	2N1535	G/PNP	TO3	125 W	2.0 KHz		35-70	3amp	High powe
2N3014	S/NPN	T052	360 mW		40	30	30 mA	Low power	2N1537	G/PNP	TO3	125 W	2.0 KHz		35-70	3amp	High powe
2N3019 2N3135	S/NPN S/PNP	T05 T018	800 mW		140	80	1.0 mA	Low power	2N1539	G/PNP G/PNP	T03	125 W	1.0 KHz		50-100	1 amp	High powe
2N3250	S/PNP	TO 18	360 mW		50	50	1.0mA	Low power	2N 1540 2N 1542	G/PNP G/PNP	TO3	125 W 125 W	1.0 KHz		50-100		High powe
2N3302	S/NPN	TO 18	360 mW	250 MHz	60	50	110 mA	Low power	2N1545	G/PNP	тоз	90 W	4.0 KH2	60	75-150	3amp	High powe
2N3724	S/NPN	T05	800 mW		80	60	110 mA	Low power	2N1549	G/PNP	TO3	90 W	10 KHz	40	10-30	10amp	High powe
2N3725 2N3903	S/NPN S/NPN	T05 T092	300 mW		50 60	60 50	100 mA	Low power	2N 1533 2N 1544	G/PNP G/PNP	TO3	125 W 90 W	2.0 KHz		20-40	3,0amp	High powe
2N3904	S/NPN	TO92				100	1.0 mA	Low power	2N1544 2N1557	G/PNP	TO3	90 W	5.0 KH2		50-100	10amp	High powe
2N3905	S/PNP	T092				50	1.0 mA	Low power	2N1613	S/NPN	T05	800 mW			30	1.0 mA	Low power
2N3906	S/PNP		310 mW			100	1.0 mA	Low power	2N1692	G/PNP	MT30	350 mW			-	2000	Low power
2N4069 2N4290	S/NPN S/PNP	TO 18	1.0 W 250 mW	50 MHz 100 MHz		30 600	.03A 1.0 mA	High power Low power	2N1745 2N1748	G/PNP G/PNP	TO9 TO9	60 mW			10	2.0 mA	Low power
2N5135	S/NPN	T010	5 300 mW			50	10 m A	Low power	2N1748 2N1755	G/PNP	MS7	28 W	15 KH2		30-75	500 mA	High powe
2N5136	S/NPN	T0105				20	150 mA	Low power	2N1758	G/PNP	MS7	28 W	15 KH2		30-75	500 mA	High powe
2N5138	S/PNP	T0106 T072	200 mW 200 mW			40	1.0 mA	Low power Low power	2N 1890	S/NPN S/PNP	T05 T05	800 mW 800 mW			90 30	5.0 mA	Low power
2N5179 2N5191	S/NPN S/NPN		40 W	2 MHz		100	1.5 amp		2N 1893 2N 1990	S/PNP S/NPN		600 mW		100	20	30 mA	Low power
2N5194	S/PNF	X58	40 W	2 MHz	60	100	1.5 amp	High power	2N1950 2N2060	S/NPN	L2G	540 mW		100	50	1.0 mA	Low power
2N5296	S/NPN	X75	36 W	800 KHz		120	1.0 amp		2N2062	G/PNP	т03	75 W		20	20	2.0amp	
2S034	S/NPN	ZA11	4.0 W 300 mW	15 M 800 KHz	100	200	1.0 amp 0.1 mA	Low power		AG/PNP		90 W	5.0 KHz 1.0 KHz		20-60		
			1200 1144	1000 112			1.0 mA	Low power	2N2064 2N2067	AG/PNP G/PNP		90 W 10 W	7.0 KH2		20	500 mA	
2\$302A	S/PNP S/PNP		50 m₩	1,5 MHz	: 6.0	180											
	S/PNP S/PNP	T05 ZA11	50 mW 300 mW			80 39	0.1 mA	Low power		-		10 W	7 KH2		20	500 mA	-
2\$302A 2\$306 2\$3040 40250	S/PNP S/PNP S/NPN	TO5 ZA11 TO66	300 mW 29 W	3.5 MHz 1 MHz	15 50	39 100	0.1 mA 1.5amp	Low power High power	2N2068 2N2147	G/PNP G/PNP	MS7 TO3	10 W 12,5 W	7 KH2 4 MH2	z -80 z -75	20 150	500 mA 1 amp	-
2\$302A 2\$306 2\$3040	S/PNP S/PNP	TO5 ZA11 TO66	300 mW	3.5 MHz	15 50	39	0.1 mA	Low power High power High power	2N2068	G/PNP G/PNP S/NPN	MS7 TO3 TO5	10 W	7 KH2 4 MH2 250 MH2	2 -80 2 -75 2 60	20	500 mA	Low power

NOTES DATA IS GENERAL ONLY AND NO GUARANTEE AS TO ACCURACY CAN 8E GIVEN. OUTLINE DETAILS CAN BE FOUND ON PREVIOUS PAGES 8UT ALWAYS CHECK BEFORE USING. VARIATIONS ARE SOMETIMES TO BE FOUND DEPENDING UPON THE MANUFACTURER OF THE DEVICE AVAILABLE. A PRICE LIST OF THE TYPES IN STOCK AT THE TIME OF GOING TO PRESS CAN BE FOUND ON PREVIOUS PAGES. LATEST PRICE LIST AVAILABLE FREE ON REQUEST, Ref. no.: 36.

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# GENERAL TRANSISTOR DATA

Item	Туре	Out- Line	Max. Diss.	Freq.	V <sub>C80</sub>	HFE	At <sub>ic</sub>	Notes	Item	Туре	Out- Line	Max. Diss.	Freq.	V <sub>CBO</sub>	HFE	Atic	Notes
2N2237	S/NPN	T05	600 mW	100 MHz	40	46	100 mA	Low power	2\$ 036	SINPN	TO3	4 W	15 MHz	150	60-200	1 amp	High power
N2257	S/NPN	TO 18	300 mW	250 MHz	7.0	50	10 mA	Low power	2S 102	S NPN	1018	400 mW	120 MHz	· 60	40	10 mA	High
N2287	G/PNP	TO3	100 W	600 KH2	120	35-140	10 amp	High power	2S 103	S/NPN	TO 18	400 mW	135 MH2	· 60	70	5mA	frequency
N2297	S NPN	105	800 mW	60 MHz	80	40	150 mA	low power	2S 104	S/NPN	TO 18	400 mW	150 MHz	• 60	140	5 mA	amplifiers
2N 2398	G/PNP	TO 12	60 mW	1600MH2		33	2.0 mA	Low power	2S 131	S/NPN	TO 18	300 mW	350 MHz	15	40	10 mA	Low power
2N2484	S NPN	TO18	360 mW	-	60	150	1.0mA	Low power	2\$ 301 2\$ 302	S PNP	T05 T05	300 m₩ 300 m₩	0.70MHz	80 40	18 20	1.0 mA	Low power
N2784	S/NPN	TO 18	300 mW	1000MHz	15	120 40	10 mA	Low power	25 302	S PNP	105	300 mW	1.25MHz	25	35	1.0mA	Low power
2N2894 2N2904	S PNP	TO 18 TO 5	360 mW	400 MHz 200 MHz	12 60	25	30 mA	Low power	25 303	S PNP	TO5	300 mW	3.50MH2	15	75	1.0 mA	Low power
					1 1			High speed	2S 305	S/PNP	TOS		0.70MHz	125	15	1.0 mA	Low power
N2905	S NPN	T05	600 mW	200 MHz	- 60	100-300	150 mA	switching	25 3 20	S/PNP	R051						
N 2925	S NPN	RO 67	200 m.W	200 MHz	25	235	2.0 mA	Low power	2S 321	S/PNP	R051	300 mW	1.0 MHz	80	15	1.0 mA	Low power
N2926	S NPN	RO67	200 mW	200 MHz	+ 18	470	2 mA	V.H.F.	25 322	S/PNP	RO51	300 mW	1.0 MHz	40	20	1.0 mA	Low power
N3011	S NPN	1018	400 m₩	400 MHz	30	30	10 mA	Low power	2\$323	S PNP	RO51	300 mW	2.0 MHz	25	35	1.0mA	Low power
N3053	S'NPN	TO5	5 W	100 MHz	+60	50-250	150 mA	Switching	25 324	S/PNP	R051	300 mW	3.0 MHz	15	75	1.0 mA	Low power
N3054	S/NPN	1066	25 W	30 KHZ	90	25 - 100	500 mA	High power	2S 501	S NPN	TO 18	300 mW	30 MHz	25	40	0.01mA	Low power
N3055	S NPN	TO3	115 W	800 KH2	+ 100	20.70	4 amp	G.P. power	2S 502 2S 503	S NEN	TO 18 TO 18	300 mW	30 MHz 30 MHz	25	100	0.01 mA	Low power
N2484	S'NPN	TO 18	360 mW		60	150	1 m A	Low power	25 503 28 512	S'NPN	TO 18	300 mW	250 MHZ	25	50	10mA	Low power
N3133	S PNP	105	600 mW	200 MHz	- 50	40-120	150 mA	Industrial	25 701	S/NPN	1018	100 mW	8,0 MHz	25	30	1mA	Low power
	0.000	7010	100-14	200 101-	1 50	100	150-0	& switching Low power	23 701	3.141.14		100111	0.0 0012	25	1	1.000	5 MHz
N3136	S PNP S'NPN	TO18 MT46	400 mW 25 W	200 MHz 10 MHz	50 65	100	150 mA 1amp	High power	2S 702	S/NPN	TO5	100 mW	8 MHz	+ 25	30-90	1 mA	switching
N3142	S/NPN	TO66	117W	1 MHz	80	18-55	3.0amp	High power	2S 724	S/NPN	MS3	85 W	3 MHz	100	40-120	1 amp	High power
N3232	S NPN	T066	117 W	1 MHz	110	18-55	3.0 amp	High power									G.P. &
N3235	S NPN	1066	117 W	1 MHz	65	20-70	4.0 amp	High power	2S 731	S/NPN	TO 18	400 mW	120 MHz	.30	40	5 mA	switching
N3702	S/PNP	10 92	360 mW	100 MHz	40	60	50 mA	Low power	2S 732	S'NEN	TO18	400 mW	120 MHz	30	60	5 mA	Low power
N3703	S PNP	TO92	300 mW	100 MHz	· 50	30-150	50 mA	Med. power	25 733	S/NPN	1018	400 mW	120 MHz	30	100	5mA	Low power
								Med.power	25 743								
N3704	S NPN	TO92	360 mW	100 MHz	+ 50	300	50 mA	AmpL	2S745A	S'NPN	TO 13	300 mW	-	75	20	3 mA	Low power
N3705	S'NPN	1092	360 mW	100 MHz	50	150	50 mA	Low power	2S 3020	S/NPN	ZA11	300 mW	800 KHz	40	11	0.10 mA	Low power
N3707	S NPN	TO92	250 mW	-	+30	100-400	0.1 mA	Low noise	2S 3210	S'PNP	RO51	300 mW	100 KHz	4C	10	10 mA	Low power
N3709	S'NPN	TO92	250 mW		+30	45-165	1 mA	Low level	AC 107	G PNP	RO9	75 mW	2 MHz	- 15	60	300 mA	Low noise
					1			Ampl.	AC 126	G/PNP	TO1	500 mW	1.7 MHZ	- 32	100	2 mA	
N3710	S NPN	TO92	360 mW	_	30	90	1.0 mA	Low power	AC 127	G/PNP	TOI	340 mW	2.5 MHz	+ 32	50	500 mA	Class 'B'
N3711	S NPN	1092	360 mW		30	180	1.0 mA	Low power	40 127	G/PNP	701	240	D. C. MALL-	100	50	500 mA	output Class IP
N3730	G PNP	T03	tow	1000KH2		10-200	50 mA	High power	AC 127	GZENE	TOI	340 mW	2.5 MHz	+60	50	500 mA	Class 'B' Class 'A'or
N3731	G/PNP	T03	5 W	-	320	15	6.0 amp	High power Low power	AC 128	G/PNP	TOI	700 mW	1 MHz	° 32	80	1 amp	18.
N4058 N4061	S PNP	TO92 TO92	360 mW 360 mW		30	100	.10 mA	Low power	AC 153	G/PNP	TOI	1.1 W	1.5 MHz	32	90	300	Low power
N4286	S NPN	U29	250 mW	40 MHz		600	1.0 mA	Low power				1	i				Class 'A'
N4288	S PNP	U 29	250 mW	40 MHz		600	1.0mA	Low power	AC 176	G/NPN	TOI	700 mW	1 MHz	+32	80	1 amp	or 'B'
N4289	S PNP		250 mW	30 MHz		300	1.0 mA	Low power	AC 188	G'PNP	R051	800 mW	1.5 MHz	25	200	300	Low power
		TOF				20		Low Gain	ACY 17	G/PNP	TO5	180 mW	1 MHz	- 60	100	300 mA	Low freq.
28002	S NPN	105	150 mW	8 MHz	+45	30	1 mA	G.P.	ACT IT	Greine	103	180 111	1 101112	1 00	100	300 114	G.P.
25003	S NPN	TO5	150 mW	14 MHz	+45	30	1 mA	Low Gain	ACY 18	G/PNP	T05	180 mW	1,1 MHz	- 50	40-120	300 mA	Low freq.
23003	3 141 14	105	1.30	14 10 12	40	30	1 1113	G.P.									G.P.
25004	S NPN	T05	150 mW	9 MHz	+45	60	1 mA	High gain	ACY 19	G/PNP	TO5	180 mW	1.5 MHz	- 50	160	300 mA	Low freq.
20001								G.P.					1				G.P.
2S005	S NPN	105	124 mW	30 MHz	• 30	75	10 mA	H.F. Ampl. & switching	ACY 20	G PNP	TO5	180 mW	1.1 MHz	- 50	50-130	50 m A	Lov freq. G.P.
	CONDA	1400	22 5 14	10.000	1.00	10	10-00				1		1	1			Low freq.
2\$012	SINPN	MS3	37.5 W	10 MH2	+60	10	1amp	G.P. power High power	ACY 21	G PNP	T05	180 mW	1.6 MHz	- 40	90-250	50 mA	G.P.
2S012A	S NPN	MS3	60 W	5 MHz	+70	35	1,5amp	output									Low freq.
25013								barpor	ACY 22	G PNP	T 05	180 mW	1,1 MHz	- 40	30.300	300 mA	G.P.
25013A	S/NPN	MS3	4.0 W	5 MHz	-	15-50	1.5amp	High power	ACY 34	G/PNP	R047	200 mW	200 KH2	30	20	.5mA	Low power
25017	SINPN	TO5	2.0 W	4.7 NH2		12-36	200 mA	High power	ACY 36	G'PNP	RC 4	200 mW	.35 MHz	32	30	80 mA	Low power
	_		1				200 - 4	H.V.med.	ACY 39	G /PNP	TO5	260 mW	1.0 MHz	110	85	1.0 mA	Low power
S018	S NPN	105	2 W	4.5 MHz	+ 100	24	200 m A	gain	ACY 40	G PNP	TO5	260 mW	80 KHZ	32	45	1.0 mA	Low power
SO 20	S NPN	TO5	2.0 W	4.7 MHz	100	30-90	200 mA	High power	AD 140	G/PNP	TO3	35 W	4.5 KHz	- 55	65	1 amp	A.F. output
2N961	G PNP	TO 18	150 mW	300 MHz		20	10 mA	Low power	AD 149	G PNP	TO3	22.5%	10 KHz	- 50	65	1 amp	Audio
G110	G/PNP	T05	300 mW	200 MHz		15	50 m A	Low power									class '8'
N 1742	G/PNF	TC9	60 mW	10 MHz		10	2 mA	Low power	AD 161	G NPN	TO3	4 W	3 MHz	+32	80-320	500 mA	Output stage
2N 1986	SINPN	TO5	600 mW	40 MHz	00	60	150 mA	Low power	AD 162	G PNP	TO3	6 W	1.5 MHz	- 32	80-320	500 mA	Output stage
2N2614	G/PNP	TÜT	120 mW	4 MHz		100	1mA	Low power	ADZ 11		1						High power
2N2369	S NPN	TO 18	360 mW	800 MHz		80	10mA	Low power	ADZ 12 AF 102	G'PNP	T07	50 mW	180 MHz	- 25	20	1 mA	High power Mixer/Osc.
2N2848	S/NFN S NPN	T05	800 mW	250 mHz 60 MHz	60	40 20	150 mA	Low power	Ar 102	GENT	107	50110	100 1012	1.20	20	1 104	260 MHz
2N3108 2N2846		105	800 mW	250 MHZ		30	150 mA	Low power						1			100 MHz
2N3808	S NFN	105	500 mW	100 MHz	1	150	1mA	Low power	AF 114	G PNP	TO 7	50 mW	75 MHz	- 25	150	1 mA	R.F. ampl.
2N3794		U29	250 mW	100 MHz	40	35		Low power									AM EN
2N4291		u29	250 mW			600		Low power	AF 115	G PNP	T07	50 mW	100 MHz	- 20	150	1mA	Mixer Osc.
2N4292			200 mW			20		Low power	AF 116	G PNP	107	50 mW	75 MHz	- 20	150	1 mA	10.7 MHz L.F.
2N3135	S/PNP	TOIS	400 mW	200 MHz		40	150 mA	Low power						1			Mixer Osc.
2N929	S/NPN		300 mW	30 MHz		60	1 mA	Low nower	AF 117	G PNP	107	50 mW	75 MHz	- 20	150	1 mA	IF & RF Ampl.
2N5457			310 mW	-	-		-	'N' Channel	1	1					1		for MW LW
2N 54 58	S/F.E.T	TO92	310 mW	-				'N' Channel	AF 118	G PNP	107	50 mW	175 MHz	- 70	180	10 mA	
28001	S/NPN	105	150 mW	4 MHz		14	1 mA	Low power	AF 124	G PNP	TO72	60 mW	75 MHz	- 20	150	1mA	AM/FM up
25712	S/NPN		600 mW	5 MHz		40	200 mA	Low power	21 124	G	1012	30	1.3.1.12	1.20	130		TO TOUMH2
25703	S/NPN		100 mW	16 MHz		120	1 mA	Low power	AF 125	G PNP	1072	60 mW	75 MHz	- 20	150	1mA	Mixer Osc.
25711	S/NPN		600 mW	5 MHz		20	200 mA	10w power			I		1				POLAM FM SV
\$3030	S/PNP	ZA11	300 mW			19	0.1mA	Low power	AF 126	G PNP	T072	60 mW	75MHz	- 20	150	1mA	IF Ampl.for FF
2G110	G PNP		300 mW	200 MHz		15	50 mA	Low power	45 135	C Buc	TOTO	60 - 10	75 1411	20	150	1	Mixer Osc. &
2S024	S NPN		100 W	12 MHz		20-30		High power	AF 127	G PNP	1072	60 mW	75 MHz	- 20	150	ImA	LW receivers
2S025 2S026	S/NPN S/NPN		100 W	12 MHz		20-30		High power	AF 120	CIPNE	1072	60	EEO MU-	22	50	1.5.00.4	
		IV 53	100 W	12 MHz	200	20-30	j 2.0 amp	High power	AF 139	G 'PNP	1072	60 mW	550 MHz	22	50	1.5mA	Low power

Note See Notes concerning the above table on previous page.

# GENERAL TRANSISTOR DATA

Item	Туре	Out-	Max.	Freq.	Vana	Her	At IC	Notes	1		Out-	Max.	1.	1.	1		
1		line	Diss.	-	VCBO	HFE		Mixer/osc.	BF 177	S/NPN	TO5	Diss. 600 mW	Freq.	V <sub>CBO</sub> 85	1 HFE 20	At ic	Notes
AF 178	G/PNP	T012	75 mW		• 25	20	1mA	for 260 MHz	8F 178	S/NPN	TOS	600 mW	120 MHZ	145	20	30 mA	Low power
AF 181	GPNP	1012	140mW	350 MHz	30	27	12mA	Low power	8F 179	S/NPN	T05	600 mW	120 MHz	225	20	20 mA	Low power
AF 186	G/PNP	R096	90 mW	-	- 25	-	- 1	Mixer/osc. for 900 MHz	8F 182 8F 184	S/NPN S/NPN	T072		650 MHz	25	-	-	Low power
AF 239	G/PNP	TO18	60 mW	650 MHz	- 15	33	2 mA	U.H.F.	8F 185	S/NPN	T072		220 MHz	30	75	1.0 mA	Low power Low power
AFY 19	G/PNP	1039	800 mW	350 MHz	- 32	-	-	500 mW R.F.	BF 194	S/NPN	MM10	220 mW	260 MHz	30	115	1.0mA	Low power
AFZ 11	G/PNP	T072	83 mW		- 20	70	1 mA	160 MHz P/A Low noise VHF	BF 195	S/NPN	MM10		200 MHz	30	67	1.0 mA	Low power
AFZ 12	G/PNP	T072	83 mW	180 MHz	- 20	70	1 mA	Low noise VH	8F 196 8F 197	S/NPN S/NPN	MM 10 MM 10		400 MHz 550 MHz	40	80	4.0 mA	Low power Low power
ASY 26	G/PNP	TO5	150 mW	4 MHz	- 30	30-80	20 m A	Switching	8F 200	S/NPN	TO72		550 MHz	30	16	3.0 mA	Low power
ASY 27	G/PNP G/NPN	T05	150 mW	6 MHz	- 30	50-150	20 mA	Switching	8F 257	S/NPN	TO5	800 mW	110 MHz	160	25	30 mA	Low power
ASY 28 ASY 29	G/NPN		125 mW 125 mW	4 MHz 6 MHz	+30+25	55 50-150	20 mA	Switching Switching	8F 258	S/NPN	TO5	800 mW	110 MHz	250	25	30 mA	Low power
AC 187	G/NPN		800 mW	1.5 MHz	25	200	300 mA	Low power	BF 259 8FW 60	S/NPN S/NPN	TO5 MM10	800 mW 300 mW	80 MHz	300	25	30 mA 10 mA	Low power
AF 106	G/PNP	TO72	60 mW		25		1.0 mA	Low power	BFX 13	S/PNP	TO 18	300 mW	230 MHz	20	50	10 mA	Low power
AF 179 AF 180	G/PNP G/PNP	TO12 TO12	150 mW 150 mW	270 MHz 250 MHz	25	30	3.0 mA	Low power	BFX 29	S/PNP	T05	500 mW	100 MHz	60	50	10 mA	Low power
AL 102	G/PNP	TO3	30mW	4 MHz	25 130	14 250	14 m A 1.0 amp	Low power High power	8FX 37	S/PNP	T018	360 mW	40 MHz	60	200	1.0 mA	Low power
BC 114	S/NPN		4 200mW	20 MHz	30	200	50 mA	Low power	8FX 63 8FX 84	S/NPN S/NPN	T033 T05	250 mW 800 mW	50 MHz	100	20	10mA	F.E.T. Low power
BC 115	S/NPN	RO97	300 mW	40 MHz	40	200	10 mA	Low power	8FX 85	S/NPN	TOS	800 mW	50 MHz	100	50	10mA	Low power
BC116A BC 119	S/NPN	TOP	200 a.W	AO MU-	60	40	150 - 4		8FX 86	S/NPN	T05	Wrn 008	50 MHz	40	50	10 mA	Low power
BC 119 BC 153	S/PNP	T05 R097	800 m₩ 200 m₩	40 MHz 40 MHz	60 40	40	150 mA	Low power Low power	8FX 87	S/PNP	TOS	600 mW	100 MHz	50	40	10 mA	Low power
BC 154	S/PNP	R097	200 mW	40 MHz	40	330	1.0 mA	Low power	8FY 18 8FY 19	S/NPN S/PNP	T05 T018	300 mW 300 mW	245 MHz 400 MHz	40 30	64 110	10 mA	Low power
BC 157	S/PNP	MM 10	220 mW	200 MHz	-	50	2.0 mA	Low power	8FY 44	S/NFN	1039	5 W	210 MHz	80	5	500 mA	High power
BC 158 BC 159	S/PNP S/PNP	MM10 MM10	220 mW	200 MHz	-	50	2.0 mA	Low power	8SW 70	S/NPN	TO 18	250 mW	-	100	50	20 mA	Low power
BC 159 BC 177	S/PNP	TO18	220 mW 300 mW	200 MHz 200 MHz	45	240	2.0 mA	Low power	85X 29	S/PNP	TO 18	360 mW	700 MHz	12	40	100 mA	Low power
BC 178	S/PNP	TO18	300 mW	200 MHz	20	240	2.0 mA	Low power	85X 77 85X 78	S/NPN S/NPN	TO 18	300 mW	250 MHz 285 MHz	40	80	10mA	Low power
BC 179	S/PIvP	TO 18	300 mW	200 MHz	20	240	2.0 mA	Low power	8U 105	S/NPN	103	8 watt	203 141112	1500	-	10 mA	Low power High power
BC 186 BC 187	S/NPN	1018	300 mW	60 MHz	40	40	2.0 mA	Low power	GET 881	G/PNP	105	120 mW	6.5 MHz	20	150	5 mA	Low power
BC 187 BCY 40	S/PNP	TOS	410 mW	2.5 MHz	32	50	10 mA	Low power	MJ 2801	S/NPN	103	120 W	4 MHz	50	60	8 amp	High power
BCY 58	S/NPN	TO 18	260 mW	50 MHz	32	100	10mA	Low power	MJ 2901 MJE370	S/PNP S/PNP	TO3 X58	120 W	4 MHz	50 30	60 25	8 amp 1 amp	High power High power
BCY 59	S/NPN	TO 18	260 mW	50 MHz	45	100	10 mA	Low power	MJE371	S/PNP	X58	25W		40	40	1 amp	High power
8CY 79 8CY 72	S/PNP S/PNP	TO18- TO18	300 mW 350 mW	200 MHz 200 MHz	-	125	2.0 mA	Low power	MJE520	S/NPN	X58	25 W		30	25	1 amp	High power
BCY 78	S/PNP	TOIR	300 mW	200 MHz	25	50 125	10 mA	Low power Low power	MJE521 MJE3055	S/NPN	×58 ×58	25 W 90 W	2 MHz	40	40	1 amp	High power
8CY 79	S/PNP	TO18	300 mW	200 MHz	-	125	2.0 mA	Low power	MJE2955		X58	90 W	2 MHz	60 60	20-70	10 amp 10 amp	High power High power
BCZ 10	S/PNP	808	250 mW	1.0 MHz	25	20	1.0mA	Low power	MPSA 06	S/NPN	TO92	800 mW	200 MHz	80	150	100 mA	Med. power
BD 112 BD 115	S/NPN S/NPN	TO3 TO39	20 W 6.0 W	30 MHz 65 MHz	80 220	730 35	1.0 amp 50 m A	High power High power	MPSA56	S/PNP	1092	800 mW	100 MHz	80	125	100 mA	Med, power
BD 121	S/NPN	TO3	45 W	95 MHz	60	25	4.0 amp	High power	MPSA70 MPSU06	S/PNP S/NPN	TO92	300 mW 5 watt	125 MHz 150 MHz	-	40-400 90	5mA	Switching
8D 123	S/NPN	TO3	45 W	85 MHz	90	25	4.0 amp	High power	MPSU56	S/PNP	152	5 watt	125 MHz	80 80	90	500 mA	Med.power Med.power
8D 124 8D 131	S/NPN \$/NPN	TO3	15 W	60 MHz	70	150	500 mA	High power	8CY 10	S/PNP	RO8	312 m₩	1.5 MHz	32	40	10 mA	Low power
8D 131 8D 132	S/PNP	X58 X58	11W 11W	60 MHz 60 MHz	70 45	75	500 mA	High power High power	8CY 12	S/PNP	RO8	312 mW	2.0 MHz	. 32	40	10 m A	Low power
ASY 50	G/PNP	RO47	200 mW	500 KHz	20	15	5 m A	Low power	8CY 30	S/PNP	TO5	300 mW	250 KHz	- 64	10-35	20 m A	Switching & G.P.
ASY 51	G/PNP	RO47	150 mW	500 KHz	60	30	10 mA	Low power	8CY 31	S/PNP	TOF	200	250 KU				Switching
ASY 54 ASY 55	G/PNP G/PNP	RO47 RO47	200 mW 200 mW	6 MHz 11 MHz	- 30	15	100 mA	G.P.			TO5	300 mW	250 KHz	- 64	15-60	20 mA	& G.P.
ASY 63	G/PNP	RO47	200 mW		20 26	50 25	100 mA 3 mA	Low power Low power	8CY 32	S/PNP	TO5	250 m₩	2.5 MHz	64	55	1.0mA	Low power
ASY 67	G/PNP	TO12	100 mW	150 MHz	50	50	10 mA	Low power	8CY 33	S/PNP	TO5	300 mW	400 KHz	~ 32	10-35	20 mA	Switching & G.P.
ASZ 20	G/PNP	T07	83 m₩	100 MHz	- 40	45	1 mA	Switching	8CY 34	S/PNP	TO5	200 - 14	600 KU-				Switching
ASZ 21 ASZ 23	G/PNP G/PNP	TO 18 TO 7	60 m₩ 83 m₩	450 KHz	- 20	75	30 mA 100 mA	Switching	l i			300 m₩	600 KHz	- 32	15-60	20 mA	& G.P.
AUY 10	G/PNP	TO3	4.5 W	120 MHz	70	40	600 mA	High power	8CY 38	S/PNP	TO5	410 mW	1.5 MHz	32	27	10mA	Low power
AU 101	G/PNP	т03	10 W	400 KHz	120	30	5 amp	High power	8CY 39	S/PNP	T05	410 mW	450 KHz	- 64	10-50	150 mA	Switching & G.P.
8C 107	S/NPN	TO 18	300 mW	300 MHz	+50	125-500	2 mA	Low noise pre-	8CY 40	S/PNP	TO5	410 mW	2.5 MHz	32	50	10 mA	Low power
		_						amp.&driver Low noise pre-	8CY 42	SZNEN SZNEN	T05	300 m₩	100 MHz	40	45	1mA	Low power
8C 108	S/NPN	TO 18	300 mW	300 MHz	+30	125-500	2 mA	amp. & driver	8CY 43 8CY 70	S/PNP	TO 18 TO 18	300 mW 350 mW	100 MHz 250 MHz	40 50	75 50	1 mA	Low power Low power
BC 109	S/NPN	TO 18	300 m₩	300 MHz	+30	240-900	2 mA	Low noise pre-		S/PNP	RO8		850 KHz	- 25	25-60	1mA	Audio Ampl
8C 113			200 mW	60 MHz				amp. & driver		S/NPN	т066	10 W	70 MHz	300	40-240		High power
8C 116	S/PNP		300 mW	200 MHz	30 45	330 20	1 mA 0,1 mA	Low power Low power	1		тоз	15 W	60 MHz	70	35-150	500 mA	High power
BC 118	S/NPN	RO97	200 mW	200 MHz	+45	110	5 mA	-	8F 115	S/NPN	т072	145 mW	230 MHz	+50	160	1 mA	AM/FM circuits
8C 134	S/NPN		200 m₩	200 MHz	45	230	5 mA	Low power			RO97		400 MHz	30	50	10 mA	Low power
8C 135 BC 136			200 mW 300 mW	200 MHz 80 MHz	45 60	110 85	5 mA 10 mA	Low power					800 MHz	30	50	1 .	Low power
8C 137	S/PNP		300 mW	60 MHz	40	85	10 mA	Low power Low power					800 MHz 600 MHz	40 40	50 70		Low power
8C 138		TO5	800 mW	40 MHz	60	100	10 mA	Low power					350 MHz	+40	57	4 mA 4 mA	Low power TV Video IF
8D 153	S/PNP	X58	40 W	2 MHz	60	30-150	1 amp	= 2N 5194		S/NPN			550 MHz	+40			Video IF
BD 156 8DY 10	S/NPN S/NPN	X58 TO3	40 W 150 W	2 MHz 10 KHz	60 50	30-150 50	1 amp 2 0 amp	= 2N 5191			I I				50		output
8DY 11		TO3	150 W	10 KHz	100	50 50		High power High power					675 MHz 600 MHz	30 30	_		Low power
8DY 17	S/NPN	тоз	115W	1 MHz	80	10	6.0 amp	High power				500 mW	500 WITZ	30 65			Low power Low power
8DY 18			115 W	1 MHz	120	10		High power					100 MHz				G.P.
8DY 19			115 W 115 W	1 MHz 1 MHz	150 100	10 100		High power						- 40	125	IUMA	Industrial
8DY 20 1				1.01112	,00	100		High power			105	150 mW	60 MHz	+45	40-125	10 m A	R.F. Amps.
8DY 20 8F 152		RO97	200 mW	800 MHz	30	50	3.0 mA	Low power	8FY 17	S/NPN I	TOF	600 mW I	245 MU-	+ 40	26.110	10 - 4	MULE & DOC
8F 152 8F 160	S/NPN S/NPN	RO97	200 mW	800 MHz 600 MHz 600 MHz	30 30 40			Low power Low power Low power	8FY 18				245 MHz 245 MHz	+40 +40	35-110 35-110		VHF & DC Amplifiers.

Note See Notes concerning the above table on previous page

ZENER         DIODES           400         M/W 5% BZY88 RANGE           3.3         Volts to 33 volts           D07         Case           L.         7.62 mm         2.72 mm diam.	1.5 WATT 5% ZL RANGE TUBULAR WIRE ENDED TOP HAT Type Voltage	3 WATT 5% 3TZ RANGE TUBULAR WIRE ENDS ZENERS Type 3TZ	10 WATT 5% ZS RANGE STUD MOUNTING ZENERS D04 Case Type Voltage
Type         Voltage           BZY88         C3V3         3.3V'           BZY88         C3V9         3.9           BZY88         C4V3         4.3           BZY88         C4V7         4.7           BZY88         C5V1         5.1           BZY88         C6V2         6.2           BZY88         C6V2         6.2           BZY88         C6V2         6.2           BZY88         C6V2         7.5           BZY88         C8V2         8.2           BZY88         C1V5         7.5           BZY88         C10         10           BZY88         C12         12           BZY88         C13         13           BZY88         C15         15           BZY88         C16         16           BZY88         C20         20           BZY88         C22         22           BZY88         C23         33           BZY88         C33         33	ZL $3.3$ $3.3\vee$ ZL $3.9$ $3.9$ ZL $4.3$ $4.3$ ZL $4.7$ $4.7$ ZL $5.1$ $5.1$ ZL $5.6$ $5.6$ ZL $6.2$ $6.2$ ZL $6.8$ $6.8$ ZL $7.5$ $7.5$ ZL $9.1$ $9.1$ ZL $10$ $10$ ZL $11$ $11$ ZL $12$ $12$ ZL $13$ $13$ ZL $12$ $12$ ZL $13$ $13$ ZL $15$ $15$ ZL $16$ $16$ ZL $12$ $22$ ZL $24$ $24$ ZL $27$ $27$ ZL $30$ $30$ ZL $32$ $33$ ZL $26$ $56$ ZL $27$ $27$ ZL $30$ $30$	3TZ       4.7       4.7 volt         3TZ       5.1       5.1 volt         3TZ       5.6       5.6 volt         3TZ       6.8       6.8 volt         3TZ       7.5       7.5 volt         3TZ       7.8       7.5 volt         3TZ       9.1       9.1 volt         3TZ       10       10 volt         3TZ       11       11 volt         3TZ       13       13 volt         3TZ       13       13 volt         3TZ       13       13 volt         3TZ       13       10 volt         3TZ       14       18 volt         3TZ       15       volt         3TZ       20       20 volt         3TZ       22       22 volt         3TZ       23       30 volt         3TZ       33       33 volt         3TZ       33       33 volt         3TZ       47       47 volt         3TZ       56	ZS $4.7$ $4.7V$ ZS $5.1$ $5.1$ ZS $5.6$ $5.6$ ZS $6.2$ $6.2$ ZS $6.8$ $6.8$ ZS $7.5$ $7.5$ ZS $8.2$ $8.2$ ZS $9.1$ $9.1$ ZS $10$ $10$ ZS $11$ $11$ ZS $15$ $15$ ZS $16$ $16$ ZS $13$ $13$ ZS $16$ $16$ ZS $12$ $12$ ZS $16$ $16$ ZS $13$ $13$ ZS $16$ $16$ ZS $20$ $20$ ZS $22$ $22$ ZS $27$ $27$ ZS $30$ $30$ ZS $32$ $33$ ZS $43$ $43$ ZS $51$ $51$ ZS $56$ $56$
100+ op ea. 1000+ op	PRICE 25p each QUANTITY PRICES- any one type 25+ 22p 500+ 17p ea. 100+ 20p 1000+ 15p ea.	25 27p each 100 25p each 500+ 22p each 1000+ 20p each	QUANTITY PRICES- any one type 25+ 37p each 100+ 35p each.
TRANSPACKS NEW	- NEW - NEW	RECTIFIER-PACKS	NEW NEW - NEW
PACK OF 25 STANDARD PRO AND SILICON PNP AND NPN A GOOD SELECTION OF GEI Includes: Pair 3 watt output t	I TRANSISTORS OFFERS	AND DIODES OFFERS GENERAL PURPOSE TYPI Includes: 8-1 amp silicon IN4000	
OUR PRICE <b>£1</b> OVER £3	per pack Post 10p EXPERIMENTER	VALUE OVER £3 IDEAL FOR TH	perpack Post 10p HE HOBBYIST
SPECIAL OFFER	R One EACH Rectifier	Pack and Transpack £	1.50 post 10p

We respectully ask customers to order £1 minimum. It helps to plan ahead and saves postage as well!

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# SILICON ZENER DIODES 230 mW to 1 watt

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SYMBOL	TYPE 1	TYPE 2	TYPE 3		TYPE 4	TYPE 5 TYP	'E 6	
TYPE 2		230 mW	TYPE 2		400 mW	TYPE 6		1 WATT
OAZ241	5.1V	5%	ZF8.2	8.2V	5%	SZ13c	13V	5%
OAZ242	5.6V	5%	ZFA33	33V	1%	SZ39A	3.9V	5%
<b>OAZ243</b>	6.2V	5%	ZFA11	11V	1%	SZ56A	5.6V	5%
<b>OAZ244</b>	6,8V	5%				SZ68A	6.8V	5%
OAZ245	7.5∨	5%	TYPE 2	214	400 mW	SZ82A	8.2∨	5%
OAZ246	8.2∨	5%	ZF3	3V	5%	SZ100 A	10V	5%
OAZ247	9.1V	5%	ZF4.7	4.7V	5%	SZ150A	15V	5%
0AZ272	9.1∨	20%	ZF9.1	9.1V	5%			
TYPE 1		230 mW	ZF12	12V	5%	TYPE 5		1 WATT
SX15c	15∨	5%	ZF15 ZF30	15∨ 30∨	5%	EVR 3.3B	3.3∨	5%
SX150	5.1V	10%	2F30	30 V	5%	E∨R 3.9B	3.9∨	5%
SX56	5.6V	10%	TYPE 2		400 mW	EVR 4.3B	4.3∨	5%
SX62	6.2V	10%	BZY88c3v3	3.3V	5%	EVR 4.7B	4.7∨	5%
SX68	6.8V	10%	BZY88c3v9	3.9V	5%	E∨R 5.1B	5.1V	5%
3400	· 0.6V		BZY88c4v3	4.3V	5%	EVR 5.6B	5.6∨	5%
TYPE 3		250 mW	BZY88c4v7	4.7V	5%	EVR 6.2B	6.2V	5%
0AZ200	4.7∨	5%	BZY88c5v1	5.1V	5%	EVR 6.8B	6.8V	5%
0AZ201	5.1V	5%	BZY88c5v6	5.6V	5%	EVR 7.5B	7.5∨	5%
0AZ202	5.6V	5%	BZY88c6v2	6.2V	5%	EVR 8.2B	8.2∨	5%
0AZ203	6.2V	5%	BZY88 6v8	6.8v	5%	E∨R 9.1B	9.1V	5%
0 A Z 2 0 4	6.8V	5%	BZY88 7v5	7.5V	5%	EVR 10B	10∨	5%
0AZ205	7.5V	5%	BZY88 8v2	8.2∨	5%	E∨R 11B	11V	5%
0AZ206	8.2∨	5%	BZY88 9∨1	9.1V	5%	EVR 12B	12V	5%
0AZ207	9.1V	5%	BZY88c10	10V	5%	EVR 13B	13∨	5%
0AZ208	4.3∨	15%	BZY88c11	11V	5%	EVR 15B	15V	5%
0AZ209	5.1V	15%	BZY88c12	12V	5%	EVR 16B	16∨	5%
0AZ210	6.2V	15%	BZY88c13	13V	5%	EVR 18B	18∨	5%
0AZ211	7.5V	15%	BZY88c15	15V	5%	EVR 20B	20∨	5%
0AZ212	9.1V	15%	BZY88c16	16V	5%	EVR 22B	22	5%
0AZ213	12∨	15%	BZY88c18	18∨	5%	EVR 24B	24∨	5%
TYPE 2		240 mW	BZY88c20	20∨	5%	EVR 27B	27V	5%
BZY78	5.35V	5%	BZY88c22	22∨	5%	EVR 30B	30V	5%
	0.00 *		BZY88c24	24∨	5%	EVR 33B	33V	5%
TYPE 2		250 mW	BZY88c27	2 <b>7</b> V	5%	EVR 36B	36V	5%
IN703A	3.5V	-	BZY88c30	30V	5%	EVR 39B	39V	5%
TYPE 1		250 mW	BZY88c33	33∨	5%	EVR 43B	43∨	5%
ZA13	13∨	5%	TYPE 2		400 mW	EVR 47B	47V	5%
ZB3.9	3.9∨	5%	1\$202	<b>4</b> .7∨	10%	E∨R 56B E∨R 62B	56∨ 62∨	5%
ZB9,1	9.1V	5%	15202	5.1V	10%	EVR 68B	62 V	5%
ZB13	13V	5%	1\$2082	8.2V	10%	EVR 75B	75V	5% 5%
ZB16	16∨	5%	IS7043A	4.3V	5%	EVR 82B	82V	5%
ZB22	22V	5%	157062	6.2V	5%	EVR 91B	91V	5%
ZC6.8	6.8V	15%	1\$7075	7.5V	5%	EVR100B	100	
ZC8.2	8.2V	15%		7.01			100 V	5%
ZC11	11V	15%	TYPE 2		400 mW	TYPE		1 WATT
ZC 12	12V	15%	IN746A	3.3V	5%	IZ5.1	5.1V	-
ZC15	15∨	15%	1N750A	4.7∨	5%	IZ20	20V	
ZC20	20V	15%	IN751A	5.1V	5%			
ZE4.7	4.7∨	10%	IN752A	5.6V	5%	DDIOTO		
ZE6.2	6.2∨	10%	IN754A	6.8V	5%	PRICES		5.00
ZE8.2	8.2∨	10%	IN755A	7.5V	5%	SEE SEPARA		
ZE9.1	9.1V	10%	IN756A	8.2V	5%	SEMICOND		
ZE22	22∨	10%	IN757A	9.1V	5%	IN THIS CA	TALOGUE	
			IN758A	10V	5%	QUOTATIO	NS FOR OL	ANTITY
TYPE 1		250 mW	1N759A	12V	5%	ON REQUES		
Z4	4∨	5%	IN965A	15V	5%			
Z6	6V	5%	IN966B	16V	5%	NOTE: The	chart is a	guide only
ZC6.2	6.2V	15%	1N5243B	12V	5%	-type supp	lied deper	ids upon
ZC 18	18∨	15%	TYPE 4		1 WATT	stocks held	l at time of	order.
TYPE 1		300 mW	Z2A 24CF	2.4V	5%			
K\$30 A	3.3∨	5%	Z2A 27CF	2.7V	5%	HENRY'S	SUPPLY	,
K\$35A	5.1V	5%	Z2A 30CF	3V	5%			
K\$43A	11V	5%	Z2A 36CF	3.6V	5%	SEMICON	DUCTOR	S.
K\$68	6.8V	5%	Z2A 43CF	4.3V	5%			
1000	0.01		Z2A 130CF	13V	5%	ALL ARO	UND THE	WORLD
			Z2A 150F	15V	15%			
			Z2A 160F	16V	15%			
-								

# 142

SILICON ZENER DIODES 1.5 WATT TO 10 WATT







SYMBOL TYPE B TYPE 7 TYPE 9 TYPE 9 8 WATT IS5075RA 75V 10 **KR54** 33V 10% TYPE 7 1.5 WATT TYPE 8 3 WATT **KR5**6 47V 10% VR98 9V 15% 3VR6 6.8 V 5% 91 5% 3VR7 VR9F 7.5V 5% TYPE 9 10 WATT VRIOF 10 5% 3VRB 8.2V 5% OAZ222 5.6V 5% **VR35** 3.5V 15% 3VR9 9.1V 5% OAZ223 6.2V 5 /0 5.25V 15% VR525 3VR10 10V 5% OA7224 6 8V 5% VR575 5.75V 15% 3VR11 111 5% OAZ225 7.5V 5% ZL3.9 3.9V 5% 3VR12 12V 5% OAZ229 11V 5% 4.7V 5% 3VR13 13V 5% ZL4.7 OA7231 13V 5% ZL5.1 5.1V 5% 3VR15 15 V 5% OAZ238 27V 5% 5% 5% 3VR16 ZL5.6 5.6V 16V OAZ290 OAZ291 6.2\/ 15% ZL6.2 6.2V 5% 3VR18 1BV 5% 15% 7.5V ZL6.8 6.8 5% 3VR20 20V 5% OAZ292 9.1V 15% 7 5% 22V 3VR22 5% ZL7 OAZ228 10V 5% ZL7.5 7.5V 5% 3VR24 24∨ 27∨ 5% OAZ226 B.2V 5% 5% ZLB 8 3VR27 5% O AZ 227 9.1V 5% 8.2V 5% 5% ZLB.2 3VR30 30V OAZ236 22V 5% ZL9.1 9.1V 5% 3VR33 3VR36 33V 5% TYPE 9 10 WATT 10V 5% ZL 10 36V 5% ZO85.6 5.6V 5% 111 5% 3VR39 39V 5% ZL11 6.8V 9.1V ZOB6.B 5% ZL 12 12V 5% 3VR43 43V 5% ZOB9.1 ZL13 13V 5% 3VR47 47∨ 5% 5% ZOB27 27V 5% ZL15 15V 5% 3VR56 56V 5% ZOC6.2 6.2V 15% ZL 16 16V 5% 3VR62 62V 5% ZOE 10 10V 0% 18V 5% 3VR6B 5% ZL 18 68V ZOE5.6 5.6V 10% ZL20 20 V 5% 3VR75 75V 5% 15% ZOCB.2 8.2V ZL 22 22V 5% 3VR82 B2∨ 5% 24V 5% 91V 5% TYPE 9 3VR91 10 WATT ZL24 ZL 26 26V 5% 3VR100 100V 5% ZX3.9 3.9V 5% 27V 5% ZI 27 ZX4.7 4.7V 5% TYPE 9 7 WATT ZL30 30 V 5% 4.7V ZX5.1 5.1V 5% ZS4.7 5% 5% ZL33 33V ZX5.6 5.6V 5% ZS5. 5.1V 5% 5% ZI 36 36V ZX6.2 6.2V 5% ZS5.6 5 61/ 5% ZL40 40 V 5% 5% ZX6.B 6.BV 5% 6.2V ZS6.2 ZL45 45V 5% ZX7.5 7.5V 5% ZS6.B 6.8V 5% 50V ZL 50 5% ZX11 11V 5% 757 5 7.5V 5% 5.1V 5% ZNB5 ZX12 12V 5% ZSB.2 8.2V 5% ZNB6.B 6.BV 5% ZX 18 Z\$9. 9.1V 5% 1BV 5% 5% 7.5V ZNB7.5 ZX36 36V 5% 5% 5% ZS 10  $10 \vee$ 10 V 5% ZNB10 ZX47 47V 5% ZS11 11V **ZNB15** 15V 5% ZX56 5% 56V ZS12 5% 120 20V 5% ZNB20 ZX62 62V 5% 7513 13V5% ZNB27 27 V 5% ZS 15 15V 5% ZX75 75V 5% ZXB2 B2∨ 5% TYPE 7 1.5 WATT ZS16 16 V 5% ZX91 91V 5% Z38 270CF 27V **ZS1B** 18V 5% ZX100 100V 5% Z38 300CF 30V 5% ZS20 20V 5% ZX110 110V 5% Z3B 330CF 33V 5% ZS22 22 5% Z38 360CF 36V 5% ZX120 120 V 5% ZS24 24V 5% ZX130 130V 5% Z38 510CF 51V 5% ZS27 27 V 5% ZX150 150 V 5% 15% Z38 33AF 3.3V ZS30 30 V 5% Z3B6BBF 6.BV 10% Z\$33 ZX160 160V 5% 33V 5% ZX180 180V 5% Z38758F 7.5V 10% ZS36 36V 5% ZX200 200V 5% 10% 738628F 6.2V 7539 39V 5% 155038 Z38478F 4.7V 10% ZS43 43V 5% 38V 10% Z5D 100BI 10V 10% Z38828F B.2∨ 10% ZS47 47V 5% Z5D120BF 12V 10% 10% Z385108F 5% 51V Z\$51 51V Z38620AF 62V 15% ZS56 56V 5% Z501308F 13V 10% Z5D2208F 22V 10% Z381008F 10V 10% ZS62 62V 5% Z5D270AF 27V 15% 10% 5% Z386808F 6BV ZS68 68 V Z5DB20BF Z381208F 12V 10% Z\$75 75V 5% B2V 10% Z5D56BF 5.6V 10% Z3B160BF 16 V 10% 7582 B2V 5% Z5D680BF 68V 10% 10% ZS91 91V Z381808F 5% 18V Z5D3308F Z382008F 20V 10% ZS100 100V 5% 33V 10% Z5D 1808 F 18V 10% Z383008F 30V 10% Z5D3008F 30V 10% 36V 10% Z3B360BF Z5D360BF Z38390AF 39V 15% ZENER DIODES FOR ALL 36V 10% Z5D470AF 47V 15 . Z 384708F 47V 10% Z385608F 56V 75D470BF 47V 10% 10% VOLTAGE CONTROL APPLICATIONS Z5D5608F 10% Z3810008F 100V 10% 56V Z5D 1000BF 10% 100V (+) NPM USING A ZENER DIODE (+) LOAD TO CALCULATE R. IL (+) (+) R. ν,  $(V_1 - V_2)$ R<sub>1</sub> -1000 µF 1 (IZD + IL)ŧ ZD, V2 IZD R, to be such that ZDI t IZD. V, < Rated watage (-) of Zener (-)1-1

USING A ZENER DIODE WITH A TRANSISTOR



# SILICON RECTIFIERS



Type PI		@ Temp	oungettet	Shape Ref.		ype lo.	PIV (volts)	Max. Current	@ Temp (°C)	Max. Surge (Ic)	Shape Ref.
IN91         11           IN255         33           IN343         34           IN457         36           IN457         37           IN457         36           IN457         37           IN457         36           IN457         37           IN457         37           IN457         37           IN4645         2           IN6465         2           IN1614         2           IN3294         10           IN377         1           IN396         8           IN396         8           IN396         8           IN397         2           IS001         2           IS0021         2           IS025         6           IS105         6           IS105         6           IS105         6           IS105         6           IS105         6           IS105         6           IS104         4           IS105         6           IS11         2           IS420         1	20         3 mA           150 mA         150 mA           30         400 mA           100         400 mA           100         20 mA           100         400 mA           100         20 mA           100         400 mA           100         70 mA           100         400 mA           100         500 mA           100         500 mA	25         25           50         50           525         255           255         255           255         255           255         255           255         255           255         255           255         600           50         600           50         500           50         500           50         500           50         500           50         500           50         500           50         500           50         500           50         500           50         500           50         500           500         500           500         500           500         500           500         500           500         2500           500         300           500         300           500         300           500         300           500         300           500         300           500         300           500         300<	(amps) (a	R91. R99 R99 R99 R91 R310 R33 R1 - 2 - R8 - 189 P99 P89 P99 P91 11 - 11 188 P89 P99 P99 P11 1 - 11 188 P11 B18 P18 P18 P18 P18 P18 P18 P18 P18 P18 P	<u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>	S27AF S28AF S28AF S28AF S28AF S28AF S28AF S28AF S280 S553 S554 S555 S555 S555 S555 S555 S555	7000           800           500           100           150           2000           300           400           500           600           7000           800           2000           3000           400           500           600           700           800           200           300           400           1000           400           1000           400           1000           400           1000           200           500           200           3000           400           1000           200           200           200           200           200           200           200           200           100           200           300           400           500           200           300           4000	500 mA 500 mA 500 mA 1 amp 1 amp 1 amp 1 amp 5 amp 120 amp 120 amp 120 amp 120 amp 120 amp 5 ama 4 290 mA 1.25 amA 290 mA 1.25 amA 200 mA 1.26 mA 500 mA 1.26 mA 500 mA 1.5 amp 500 mA 1.5 amp 500 mA 1.5 amp 3 amp 500 mA 1.5 amp 3 a	30         30	5 R	R111 R277 RR18888888888888888888888888888888888

NOTE EVERY EFFORT HAS BEEN MADE TO ENSURE ACCURACY OF DETAIL, BUT DUE TO STOCK CHANGE AND SPECIFICATION CHANGES FROM TIME TO TIME NO GUARANTEE OF ACCURACY CAN BE MADE. ALWAYS CHECK POLARITY OF DEVICE USED BEFORE USING IN EQUIPMENT.

# SEMI-CONDUCTORS LOOK AT THESE PRICES FOR QUANTITIES FROM STOCK ALL GUARANTEED

SEIVIN	UNDUC	10K3 "	IOK AT THESE PAIL	ES FOR QUANTITI	ES FRUM STUCK	ILL GUAN	ANTEEL
2N930 20p 25 + 17p 100 + 15p 500 + 12p 1000 + 10p	25 + 6p 100 + 7p 500 + 6p 1000 + 5p	2N2926         10p           All colours         25 +         9p           100 +         8p         500 +         6p           1000 -         5p         5p         5p	25 + 30p 100 + 25p 500 + 22p 1000 + 18p	TIP29A Texas 50p 25 + 45p 100 + 40p 500 + 35p 1000 + 30p	25 + 1.50 100 + 1.25 500 + 1.10 1000 + 950	2N3702 Texas 10p 25 * 8p 100 + 7p 500 + 6p 1000 + 5p	8FY50 s.g.s. 20p 25 + 18p 100 + 15p 500 + 12p 1000 + 10p
OC72 Mullard 20p 25 + 17p 100 + 15p 500 + 12p 1000 + 10p	2N3906 25p Motorola 25 + 22p 100 + 20p 500 + 18p 1000 + 15p	2N3819 Texas 35p 25 + 30p 100 + 25p 500 + 20p 1000 + 15p	0A47 10p 25 + 8p 100 + 7p 500 + 6p 1000 + 5p	TIP318 Texas 65p 25 + 60p 100 + 55p 500 + 50p 1000 + 45p	ZTX300 12p Ferranti 25 + 10p 100 + 9p 500 + 8p 1000 + 7p	AC 107 Mullard 35p 25 + 30p 100 + 25p 500 + 22p 1000 + 20p	8FY52 s.c.s. 20p 25 + 18p 100 + 15p 500 + 12p 1000 + 10p
OC83 25p 25 + 20p 100 + 17p 500 + 15p 1000 + 13p	2N4061 Texas 12p 25 + 10p 100 + 9p 500 + 8p 1000 + 7p	8C109 10p Alimakes 25+8p 100⊧7p	OA91 7p 25 + 6½p 100 + 6p 500 + 5p 1000 + 4p	SC358 Triac 85p 25 + 80p 100 + 75p 500 + 70p 1000 + 65p	ZTX503 Ferranti 17p 25 + 15p 100 + 12p 500 + 10p 1000 + 9p	AC176 Mullard 20p 25 + 18p 100 → 15p 500 - 12p 1000 + 10p	25 + 10p 100 + 9p 500 + 8p 1000 + 7p
OC84 25p 25 + 20p 100 + 17p 500 + 15p 1000 + 13p	2N5305 20p General Electric 25 + 18p 100 + 15p 500 + 12p 1000 + 10p	500 + 6p 1000 + 5p 40361 40p 25 + 35p 100 + 32p	OA95 7p 25 + 6½p 100 + 6p 500 + 5p 1000 + 4p	2N3055 Ates 75p 25 + 65p 100 + 55p 500 + 45p 1000 + 35p	IN4148 Texas 7p 25 + 6 <sup>1</sup> 2p 100 + 5 <sup>1</sup> 2p 500 + 4 <sup>1</sup> 2p 1000 + 3 <sup>1</sup> 2p	ACY17 Mullard 30p 25 + 27p 100 + 25p 500 + 22p 1000 + 20p	CRS1/10 25p 100 PIV 1 amp SCR 25 + 22p 100 + 20p 500 + 18p 1000 + 15p
OC45 Mullard 15p 25 + 13p 100 + 12p 500 + 10p 1000 + 8p	25001 Texas 60p 25 + 55p 100 - 50p 500 + 45p 1000 + 40p	500 + 28p 1000 + 25p 40362 50p 25 + 45p 100 + 40p	25 + 692p 100 + 6p 500 + 5p 1000 + 4p	8FX88 S.G S. 20p 25 + 18p 100 + 15p 500 + 12p 1000 + 10p	IS921 Техаз 7р 25 + 6½р 100 + 5½р 500 + 4½р 1000 + 3½р	AF139 30p 25 + 25p 100 + 20p 500 + 18p 1000 + 15p	CRS1/40         45p           400 PLV 1 amp SCR         25 + 40p           100 + 35p         500 + 30p
OC75 Mullard 25p 25 + 21p 100 + 17p 500 + 15p 1000 + 13p	25034 Texas 60p 25 + 55p 100 + 50p 500 + 45p	500 + 35p 1000 + 30p 2\$303 Tuxas 60p 25 + 55p 100 + 50p	1000 + 65p	$\begin{array}{cccc} 8Y100 & 15p \\ 25 + & 13p \\ 100 + & 12p \\ 500 + & 10p \\ 1000 + & 9p \end{array}$	2N697 Mullard 15p 25 + 13p 100 + 11p 500 + 10p	100 + 10p 500 + 8p	1000 + 25p GET113 25p Mullard 25 + 22p 100 + 20p
OC44 Mullard 15p 25 + 13p 100 + 11p 500 + 10p 1000 + 8p	1000 + 40p 2\$302 Texas 50p 25 + 45p 100 + 40p 500 + 35p	35p each		8DY60 Mullard 1.00 25 + 90p 100 + 80p 500 + 70p 1000 + 60p	1000 + 9p 2N706 I.T.T 10p 25 + 8p 100 + 7p 500 + 6p	MJE2955 £1.10 Motorola 25 + 1.00 100 + 90p 500 + 80p 1000 + 70p	GET882 30p Mullard 25 + 27p
OC81 Mullard 20p 25 + 17p 100 + 15p 500 + 12p 1000 + 10p	1000 + 30p 40250 50p 25 + 45p 100 + 40p 500 + 35p	100 + 28p **           500 + 28p **           1000 + 28p **           1000 + 28p **           8CY71         20p           25 + 18p           100 + 15p	T1P30A Texas 60p 25 + 55p 100 + 50p 500 + 45p 1000 + 40p	AD149 Mullard 50p 25 + 45p 100 + 42p 500 + 38p 1000 + 33p	1000 + 5p 2N1302 Mullard18p 25 + 15p 100 + 13p 500 + 12p 1000 + 10p	ASY26 Mullard 25p	25 + 27p 100 + 25p 500 + 22p 1000 + 20p 8F194 Mullard 15p
AF114 Mullard 25p 25 + 20p 100 + 17p 500 + 15p 1000 + 12p	1000 + 30p 7400 (IC) I.T.T.20p 25 + 18p 100 + 15p 500 + 10p	500 + 12p 1000 + 10p 8T101/100R 35p Zamp 100PLV SCR	<b>TIP31A</b> Texas 60p 25 + 55p 100 + 50p 500 + 45p 1000 + 40p	AC128 Mullard 20p 25 + 18p 100 + 15p 500 + 12p 1000 + 10p	2N1304 22p Mullard 25 + 20p 100 + 18p	ASY27 Multard 30p 25 + 27p 100 + 25p 500 + 22p 1000 + 20p	25 + 13p 100 + 11p 500 + 9p 1000 + 8p
AF116 Mullard 25p 25 ÷ 20p 100 + 17p 500 + 15p 1000 + 12p	1000 + 9p 7490(IC)I.T.T. 75p 25 + 70p 100 + 60p 500 + 50p	35 +         30p           100 +         25p           500 +         20p           1300 +         18p           8TY80         50p	TIP32A         70p           25 +         65p           100 +         60p           500 =         55p           1000 +         50p	ACY22 NKT 10p 25 + 9p 100 + 8p 500 + 7p 1000 + 6p	500 + 15p 1000 + 13p 2N1305 22p Multard 25 + 20p	ASY28 Mullard 25p 25 + 22p 100 + 20p 500 + 18p 1000 = 15p	8FX29 s.G.S. 25p 25 + 22p 100 + 20p 500 + 18p 1000 + 15p
8FY90 65p 1000 MC/S 25 + 60p 100 + 55p 500 + 50p	0C170 Mullard 25p 25 + 20p 100 + 18p 500 + 15p	1000 + 30p	TIP33A Texas £1.00 25 + 90p 100 + 85p 500 + 75p	2N4871 35p Matorola 25 + 32p 100 + 30p 500 + 25p	100 + 18p 500 = 15p 1000 + 13p 2N1307 25p Mullard	ASY 29 Mullard 30p 25 ± 27p 100 + 25p 500 + 22p 1000 + 20p	SC40D Triac £1.05 25 + 90p 100 + 85p 500 + 80p
AF139 30p Stemens V.H.F. 25 + 25p 100 + 22p	1000 + 13p AF239 Stemens40p 25 + 35p	NKT404 NKT 55p 25 + 50p 100 + 45p 500 + 40p 1000 + 35p	1000 + 65p TIP34 A Texas £1.50 25 + 1.25 100 + 1.15	1000 + 20p	25 22p 100 20p 500 18p 1000 15p 2N1309 25p	8C169C 15p Siemens 25 + 13p 100 + 11p 500 + 9p	1000 + 70p 2N3614 55p Motorola
500 + 19p 8C113 sGs 15p 25 + 13p 100 + 11p 500 + 9p	100 + 30p 500 + 25p 1000 + 20p 8YZ 13 Mullard 25p 25 + 20p 100 + 17p	IN4007 I.T.T. 15p 25 + 12p 100 + 10p 500 + 9p 1000 + 8p	500 + 1.00 1000 + 90p V.405A s.g.s 25p 25 + 20p 100 + 17p	1000 + 5p 8C183 Texas 10p 25 + 8p 100 + 7p	200309 250 Mullard 25 + 22p 100 + 20p 500 + 18p 1000 + 15p	1000 r 8p 8CY40 50p 25 + 45p 100 + 40p 500 + 35p	25 + 50p 100 + 45p 500 + 40p 1000 + 35p TIP31C Texas 70p
AF115 25p Mullard 25 + 20p 100 ⊦ 17p	500 + 15p 1000 + 12p 8Y127 Mullard 15p 25 + 12p 100 + 10p	2N3053 s.G.s. 20p 25 + 18p 10D + 15p 500 + 12p 1000 + 10p	500 + 15p 1000 + 12p TIP298Texas 55p 25 + 50p 100 + 45p	500 + 6p 1000 + 5p 8C184 Texas 12p 25 + 10p 100 + 9p	2N2222A S.G.S 25p 25 + 22p 100 + 20p 500 + 18p 1000 + 15p	8CY70 15p All makes 25 + 13p 100 + 11p	25 + 65p 100 + 60p 500 + 55p 1000 + 50p
500 + 15p 1000 + 12p AF 117 Mullard 20p 25 + 17p 100 + 15p	500 + 9p 1000 + 8p OA202 10p 25 + 8p 100 + 7p	8FY51 s.G.s. 20p 25 + 18p 100 + 15p 500 + 12p 1000 + 10p	500 + 40p 1000 + 35p TIP29C Texas 60p 25 + 55p 100 + 50p	500 + 8p 1000 + 6p 8C213 Texas 12p 25 + 10p 100 + 9p	2N2646 40p Motorola 25 + 35p 100 + 32p 500 + 28p	500 + 9p 1000 + 8p 8CY72 15p 25 + 13p	MJE3055 75p Motorola 25 + 70p 100 + 65p 500 + 60p 1000 + 55p
500 + 12p 1000 + 10p AF186 40p Mullard V.H.F. 25 + 35p	0C35 Mullard 50p 25 + 45p 100 + 40p	2N3704 Texas 12p 25 + 10p 100 + 9p 500 + 8p 1000 + 6p	100 + 45p 1000 + 40p TIP308 Texas 65p 25 + 60p 100 + 55p	500 + 8p 1000 + 6p 8C214 Texas 15p 25 + 12p 100 + 10p	2N2907ASG \$ 25p 25 + 22p 100 + 20p 500 + 18p	100 + 11p 500 + 9p 1000 + 8p 8F154 s.g.s. 20p 25 + 18p	SC45D Trrac 1.25 25 + 1.10 100 + 1.00
100 + 30p 500 + 25p 1000 + 22p	500 + 35p 1000 + 30p OC28 Mullard 60p	MC724P(IC) 50p	500 + 50p 1000 + 45p TIP30C Texas 70p	500 + 9p 1000 + 8p WOI BRIDGE 30p G.I.	1000 + 15p 2N3054 50p Fairchild	100 + 15p 500 + 12p 1000 + 10p 8F173 Mullard 25p	500 + 95 1000 + 90 ORP12 Mullard 50p
OCP71 97p Mullard Photo 25 + 85p 100 + 80p 500 + 75p	25 + 55p 100 + 50p 500 + 45p 1000 + 40p	25 + 45p 100 + 42p 500 + 40p 1000 + 35p	25 + 65p 100 + 60p 500 + 55p 1000 + 50p	25 + 27p 100 + 25p 500 + 22p 1000 + 20p	25 + 45p 100 + 40p 500 + 35p 1000 + 30p	8F173 Mullard 25p 25 + 22p 100 + 20p 500 + 18p 1000 + 15p	25 + 45p 100 + 40p 500 + 30p 1000 + 25p

PLEASE NOTE: WE WILL ALWAYS ENDEAVOUR TO SUPPLY THE NAMED MANUFACTURER ON THE ABOVE LIST: HOWEVER, DUE TO VARIATION OF SUPPLY POSITION THIS WILL NOT ALWAYS BE POSSIBLE

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# SEMICONDUCTORS, HEAT SINKS, COOLERS and ACCESSORIES

TYPE No			TYPE No		PRICE
H1	For T05 type transistor <sup>15</sup> / <sub>16</sub> " diam x <sup>3</sup> / <sub>6</sub> ". 0.01°C/MW	38p	H13	Transistor or diode metal mounting or cooling clip	<b>2½</b> p
H2	For T05 type transistors etc. ¾" diam x ½".0.05°C/MW	9p	H13A	Twin version of above for two transistors.	4p
H3	For two T05 types. Size ¾" x ¾" x 1¼". 0.02°C/MW	34p	H14	Transistor socket 3 to 4 pin	5р
H4	For T018 type transistors, Size	·	H14A	Pack of 10 H14's Ref.no: TS10	50p
LIE .	34" diam x 5/6". 0.04°C/MW	23p	H15A H16	3 pin transistor socket T03 power transistor insulator	5р
H5	For T018 types. Size %," diam x ½" long. 0.05°C/MW	9p	1110	or mounting socket	11p
H6	Two T018 transistors. Size ¼" x ½" x 1". 0.02°C/MW	34p	H17	T03 power transistor mica insulator and 2-bushes. set	<b>5</b> p
H7	For two S01 or T01 transistor types. Size ¾ " x ⅛" x 1%,6".0.04°C/MW.	24p	H17A	T066 power transistor Mica insulator and 2 bushes. set	5p
H8	For single SO1 or TO1 transistors. Size ¾" x ½" x 1". 0.04°C/MW	25p	H18	Approx. 3 gram contains silicon grease.	15p
H9	Single T03 power transistor for use either by itself or mounted.	05	H19	Thermopath 167 silicon grease and dispenser	35p
H10	Size $1\frac{3}{4}$ " x $2\frac{3}{4}$ " x $\frac{9}{46}$ ". 3.8°C/Watt. Single T03 power transistor. Size $4\frac{12}{2}$ " x 2" x 1". 3.5°C/Watt.	25p	H20	Pack of 4 T03 transistors mica insulator and paxolin mounting sockets. Ref no: PTS.4	40p
H10A	Single T03 power transistor. Size 4½"x 4"x 1". 2.5°C/Watt.	50p	H21		
H11	As H10A, but for one or two T03 type transistors.	55p	H22	Polythene transistor or diode mounting clip Per 10	5p
H12	For two T07 (AF118 etc.) types. Size ½" x ½" x 1³/, <sub>6</sub> ". 0.04°C/MW	23p	H23	PTFE transistor socket with silver plated contacts for VHF.	<b>1</b> 5p
H27	T066 power transistor cooler. Size $1\frac{1}{2}$ x $1\frac{1}{4}$ x 1" high and	25-	H24	Transistor or diode metal mounting clip. Per 10	20p
H28	protector. Black matt finish. Black finish heat sink one centre	25p	H25	Mounting pad or spacers for T018 or T05 transistors. Per 10	10p
1120	hole drilling for power rectifiers or plastic power transistor. Also will take T03 if drilled.		H26	Dual in line socket for 14 pin integrated circuits.	27p
	Size 5" x 3" x 1¼". 1.5°C/Watt.	40p	H26A	16 pin version	32p
H28A	As H28 but for up to two devices. Size 5" x 4" x 1¼". 1.3°C/Watt	55p	H29	Cooling clip for T05 type transistors.	4р
			H30	8 pin socket for TO5 type 8 lead integrated circuits	27p
			H31	10 pin type	32p
TUT			H32	12 pin type	<b>5</b> 0p
H30	H31 H32			s Page 2 of catalogue excepting 11, 28 and 28A — Post 15p for 1 to 4 inclus	sive.

\* ALL PRICES SUBJECT TO 10% DISCOUNT FOR 10 OR MORE OF ONE TYPE OR PACK \*

SEE PAGE 2 FOR POST AND PACKING CHARGES.

# TRANSISTOR COOLERS, HEAT SINKS AND ACCESSORIES

(NOTE: ILLUSTRATIONS ARE NOT NECCESARILY TO SCALE)





H2





**H**4



H1

H3

H5





Η7



H8



Н9



H10, H10A





H12







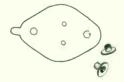


H14, H14A

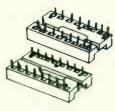








H17, H17A



H26 H26A



H27



H23

H24



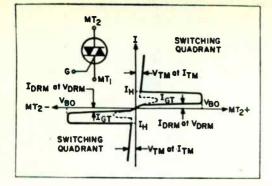


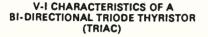
H29

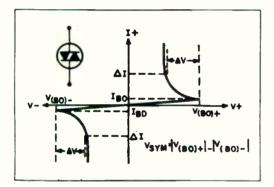
147

H28, H28A

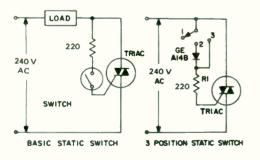
# SUGGESTED CIRCUITS USING TRIACS



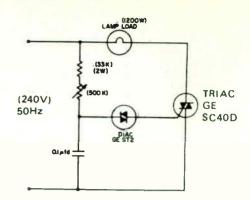




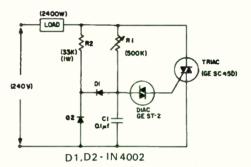
V-I CHARACTERISTICS OF A BI-DIRECTIONAL TRIGGER DIODE (DIAC)



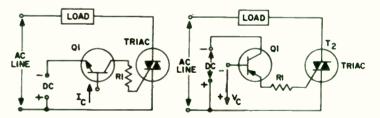
STATIC AC SWITCHING APPLICATIONS OF THE TRIAC



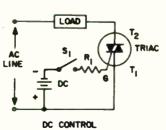
FULL-WAVE PHASE CONTROL

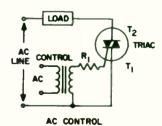






TRANSISTOR GATING CONTROL





ELECTRICALLY ACTUATED AC STATIC SWITCHES

148

**BI-DIRECTIONAL TRIODES FOR** 2 Amp, 3 Amp, 6 Amp TRIACS GATE-CONTROL OF AC POWER 10 Amp and 15 Amp. A2 T048 T066 T05 gate RMS GATE gate TYPE MAX. VOLTS PEAK GATE A1 CURRENT AT °C REQUIREMENTS CASE AT °C (T.) DISSIPATION No. 2 Amp ± 3volts, ± 10mA 7 watts ± 400 T05 3amp at 75°C IG± 50mA SC35A ± 100 at 100°C 10 watts T048 11 n 11 VG ± 3 volts \*\* ..... A2 (case) SC35B 11 ± 200 " ..... TJ 25°C 11 11 11 11 11 SC35D 11 + 400 " 99 IG ± 25mA 40430 TO66 ± 400 at 100°C 20 watts 6 amp at 75°C VG ±2.5volts T.I 25°C A1 G IG ±50mA SC40A T048 ± 100 ± 200 VG ±3 volts SC40B 'n. at 6 amp at 75°C 10 watts TJ 25°C 100°C SC40D 11 SC40E .0 + 500 IG ± 50mA A2 SC45A T048 ± 100 (case) VG ±3volts SC45B 11 A1 = ANODE 1 ± 200 at 10amp @ 75°C 10 watts A2 = ANODE 2 TJ 25℃ 100°C SC45D 11 ± 400 G GATE SC45E 11 ± 500 IG ± 50mA SC50A T048 ± 100 TRIAC VG ± 3 volts SC50B ... + 200 at 10 watts 15 amp @ 75°C DIA 100°C TJ 25°C SC50D - 11 + 400 SC50E 11 1 500

### DIAC - BI-DIRECTIONAL TRIGGER DIODES for gate trigger of TRIACs

G-E Type Number	Break Volt Min.		Breakover Current I (BR)	Pulse Output TA = 50°C ep	Peak Current TA = 50°C Ip
ST2	±28V	± 36V	± 36V	± 3 V*	* 2 Amps Max * *

\* Peak Minimum, across 20 ohm loac resistor when discharging 0.1 µf capacitor.

\*\* 10 µsec. duration, 120 cps repetition rate.

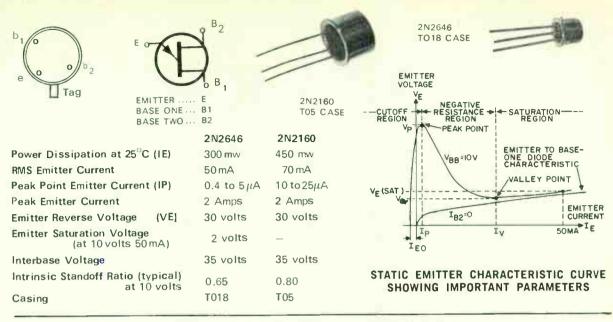
149

World Radio History

DIAC PROFILE

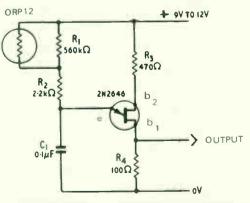
SILICON RECTIFIERS		1	PLESSEY SL403D
1 amp miniature wire e			INTEGRATED 3 WATT
P.I.V. 1-49 IN4001 50 6		500+ 1000+	AUDIO AMPLIFIER
IN4002 100 7	5 <sup>1</sup> <sub>2</sub> 5 6 5 <sup>1</sup> <sub>2</sub>	4 3 4 <sup>1</sup> <sub>2</sub> 3 <sup>1</sup> <sub>2</sub>	WITH CIRCUIT DATA AND
IN4003 200 8 IN4004 400 8	7 6	5 4	APPLICATION MANUAL. ONLY £1.50 pp. 100
IN4004 400 8 IN4005 600 10	7 6 <sup>1</sup> 2 9 8 <sup>1</sup> 2	6 5 8 6	
IN4006 800 12	11 10	9 7	MANUAL SEPARATELY, No.47. 100
IN4007 1000 15		10 8	AS SPECIFIED IN CONSTRUCTIONAL CIRCUITS
1.5 amp miniature wire			
P.I.V. 1-11 PL4001 50 8	12-99 100+ 9 7 6	500+ 1000+ 5 4 <sup>1</sup> 2	IN THE POPULAR MAGAZINES.
PL4002 100 9	8 7	6 5	THIS IS AN EXCEPTIONAL SPECIAL OFFER
PL4003 200 10 PL4004 400 10	9 8 9 8	7 6 7 6	TRIACS ALL STUD MOUNTING WITH ACCESSORIE
PL4005 600 12	10 9	8 7	Type PIV Current 1–
PL4006 800 15 PL4007 1000 16	13 10	9 8	SC35A 100 3A 8
		10 9	SC35B         200         3A         8           SC35D         400         3A         9
3 amp plastic wire ende P.I.V. 1−11		500+	SC40A 100 6A 9
PL7001 50 15		10	SC40B 200 6A £1.
PL7002 100 15		11	SC40D 400 6A £1. SC45A 100 10A £1.
PL7003 200 16 PL7004 400 20	14 13 17 15	12 13	SC45B 200 10A £1.
PL7005 600 21		14	SC45D 400 10A £1. SC50A 100 15A £1
PL7006 800 23 PL7007 1000 25		15	SC50A 100 15A £1. SC50B 200 15A £1.
PL7007 1000 25	21 18	16	SC50D 400 15A £1.
RECTIFIERS STUD 15 an		07UD 10	SC40E         500         6A         £1.           SC45E         500         10A         £1.
Type Pric		STUD 10 amp Price	SC50E 500 15A £1.
SL10 100 PIV 50p		PIV 45p	Quantity Prices;
SL20 200 PIV 55		PIV 50p	12+ Less 10% 25+ Less 15% 100+ Less 20%
SL40 400 PIV 60p SL60 600 PIV 70p		)PIV 55p )PIV 60p	
SL80 800 PIV 80p		) PIV 75p	
Discounts of Co. Lo.			TO 65
Discounts of Stud Recti	iers - any one type		TO 66 TO 48
109	iers - any one type 12+ 15% 25+	20% 100+	
109			1048
BRIDGE RECTIFIERS	6 12+ 15% 25+	20% 100+	1048
BRIDGE RECTIFIERS Miniature wire ends 1	6 12+ 15% 25+ amp ¼″dia.x¼″d	20% 100+	
BRIDGE RECTIFIERS Miniature wire ends 1 Type Pric	6 12 ← 15% 25 ⊢ amp ¼"dia.x¼"c e	20% 100+	
BRIDGE RECTIFIERS         Miniature wire ends       1         Type       Pric         W005       50 Pl∨       30	6 12+ 15% 25+ amp ¼" dia.x¼" d	20% 100+	
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         30           W01         100 PIV         30           W02         200 PIV         35	amp ¼" dia. x ¼" d	20% 100+	
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         301           W02         200 PIV         351	amp ¼" dia. x ¼" d	20% 100+	
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         300           W02         200 PIV         351           W06         600 PIV         451	6 12+ 15% 25+ amp ¼" dia. x ¼" d e b b b b	20% 100+	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         301           W02         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLEI         51	6 12+ 15% 25+ amp ¼" dia. x ¼" d e b b b D RECTIFIERS	20% 100+	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks).
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         30           W01         100 PIV         30           W02         200 PIV         35           W06         600 PIV         45           SILICON CONTROLLEI         Type         PIV           C20B         200         200	6 12+ 15% 25+ amp ¼" dia. x ¼" d e b b b b	20% 100+	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50         PIV         301           W005         50         PIV         301           W002         200         PIV         351           W06         600         PIV         451           SILICON CONTROLLEI           Type         PIV         C208         200           C200         400         400         400	6 12 + 15% 25+ amp ¼" dia. x ¼" d e b b b b b c c c c urrent 7.4 amp 7.4 amp	20% 100+ depth Price £1.00 £1.10	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks).
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50         PIV         301           W01         100         PIV         301           W02         200         PIV         351           W06         600         PIV         451           SILICON CONTROLLEE           Type         PIV           C20B         200         200           C20D         400         220           C20U         25         25	amp ¼" dia. x ¼" de e b b b c c c c c c c c c c c c c c c	20% 100+ depth Price £1.00 £1.10 50	A2 gare A1 gare A2 gare A2 gare A2 G-GATE Case G-GATE Case G-GATE Case G-GATE Case A2 Case A3 Case Ca
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         300           W02         200 PIV         358           W06         600 PIV         459           SILICON CONTROLLED         Type         PIV           C20B         200         2200           C20D         400         2200           C20U         25         2106B           C106B         200         200	6 12 + 15% 25+ amp ¼" dia. x ¼" d e b b b b c c c c c urrent 7.4 amp 7.4 amp	20% 100+ depth Price £1.00 £1.10	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         300           W02         200 PIV         358           W06         600 PIV         459           SILICON CONTROLLED           Type         PIV           C20B         200           C20D         400           C20U         25           C106B         200           C106D         400	amp ¼" dia. x ¼" d e b b b b c c c c c c c c c c c c c c c	20% 100+ depth Price £1.00 £1.10 £1.10 50 50	A2 gare A1 gare A2 gare A2 gare A2 G-GATE Case G-GATE Case G-GATE Case G-GATE Case A2 Case A3 Case Ca
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         300           W02         200 PIV         358           W06         600 PIV         459           SILICON CONTROLLED           Type         PIV           C20B         200           C20D         400           C20U         25           C106B         200           C106D         400	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" de</li> <li>amp ¼" dia. x ¼" de</li> <li>b</li> <li>c</li> <lic< li=""> <lic< li=""> <li>c</li></lic<></lic<></ul>	20% 100+ depth Price £1.00 £1.10 £0 50 60 20% 100+	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS
Image: 10%           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         30           W01         100 PIV         30           W02         200 PIV         35           W06         600 PIV         45           SILICON CONTROLLEI         Type         PIV           C20B         200         C200         400           C20U         25         C106B         200           C106D         400         Quantity prices: Less 1	amp ¼" dia. x ¼" d e b b b b c c c c c c c c c c c c c c c	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS
Type         Pric           W005         50         PIV         30           W005         50         PIV         30           W002         200         PIV         30           W02         200         PIV         35           W06         600         PIV         45           SILICON CONTROLLEI         Type         PIV           C208         200         C200         400           C200         400         25         C106B         200           C106D         400         Quantity prices:         Less 1           BRIDGE RECTIFIERS         BRIDGE RECTIFIERS         D         D	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES	A2 gare A1 gare A2 gare A2 G-GATE C-CATE C-GATE
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         30           W01         100 PIV         30           W02         200 PIV         35           W06         600 PIV         45           SILICON CONTROLLEI         7           Type         PIV           C20B         200           C20D         400           C20D         400           C106B         200           C106D         400           Quantity prices:         Less 1           BRIDGE RECTIFIERS         Type           Type         PIV           1002         100	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" dia.</li> <li>amp ¼" dia. x ¼" dia.</li> <li>b</li> <li>current</li> <li>7.4 amp</li> <li>7.4 amp</li> <li>7.4 amp</li> <li>7.4 amp</li> <li>2 amp</li> <li>0% 12+ 15% 25+</li> <li>MINIATURE PO</li> <li>All Size: ½ x ½</li> </ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES a X 1/6"	DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         300           W01         100 PIV         300           W02         200 PIV         35;           W06         600 PIV         45;           SILICON CONTROLLEI         Type         PIV           C20B         200         C20U         25           C106B         200         C106B         200           C106D         400         Quantity prices:         Less 1           BRIDGE RECTIFIERS         Type         PIV         1002         100           2002         200         200         200         200         200	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 20% 100+ TTED TYPES x 1/6." Price 55p 65p	A2 gare A1 gare A2 gare A2 G-GATE C-CATE C-GATE
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W01         100 PIV         300           W02         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLED           Type         PIV           C20B         200           C20D         400           C20U         25           C106B         200           C106D         400           Quantity prices:         Less 1           BRIDGE RECTIFIERS         Type           Type         PIV           1002         100           2002         200           4002         400	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 £1.10 50 50 60 20% 100+ TTED TYPES * * 1/6" Price 55p 65p 75p	A2 gare A1 gare A2 gare A2 G-GATE C-CATE C-GATE
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         300           W01         100 PIV         301           W02         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLED         7ype         PIV           C20B         200         200           C20D         400         200           C20D         400         200           C106B         200         200           C106D         400         00           Quantity prices:         Less 1           BRIDGE RECTIFIERS         Type         PIV           1002         100         2002           2002         200         400           2002         200         200	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 20% 100+ TTED TYPES x 1/6." Price 55p 65p	A2 gare A1 gare A2 gare A2 G-GATE C-CATE C-GATE
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         301           W002         200 PIV         355           W06         600 PIV         459           SILICON CONTROLLEI         Type         PIV           C208         200         C200           C200         400         C20U         25           C106B         200         C106B         400           Quantity prices:         Less 1         BRIDGE RECTIFIERS           Type         PIV         100         2002         200           4002         400         200         200         200	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES x 3/4.** Price 55p 65p 75p 80p 65p 70p	A2 gaie A1 DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS (Protects the IC and your Guarantee) (16 Lead D.I.L.) 30p (14 Lead D.I.L.) 25p
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         300           W01         100 PIV         301           W02         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLED         Type         PIV           C20B         200         200           C20D         400         225           C106B         200         C106D         400           Quantity prices:         Less 1         1           BRIDGE RECTIFIERS         Type         PIV           1002         100         2002         200           2002         200         400         200           2002         200         100         2002         200           2002         200         400         6002         600           1004         100         2004         200         400	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.00 £1.00 50 50 60 20% 100+ TTED TYPES * * %. Price 55p 65p 75p 80p 65p 75p 80p 75p 80p 75p	A2 gare A1 gare A2 gare A2 G-GATE C-CATE C-GATE
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         30           W01         100 PIV         30           W02         200 PIV         35           W06         600 PIV         45           SILICON CONTROLLEI         7           Type         PIV           C20B         200           C20D         400           C20D         400           C20D         400           C20D         400           C106B         200           C106B         200           Quantity prices: Less 1           BRIDGE RECTIFIERS           Type         PIV           1002         100           2002         200           1002         100           2002         200           4002         400           6002         600           1004         100           2004         200           6004         600	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES X 3/4.** Price 55p 65p 75p 80p 65p 70p	A2 gaie A1 DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS (Protects the IC and your Guarantee) (16 Lead D.I.L.) 30p (14 Lead D.I.L.) 25p
Initiature wire ends         1           Type         Pric           W005         50 PIV         301           W002         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLEI         Type         PIV           C20B         200         C200         25           C106B         200         C20U         25           C106B         400         C106D         400           Quantity prices:         Less 1         ERIDGE RECTIFIERS           Type         PIV         100         2002           2002         200         400           Guantity prices:         Less 1         100           2002         200         400           G002         600         100           2004         200         400           G002         600         1000           2004         200         400           G002         600         1000           1004         100         200           2004         200         200	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES ** */1* Price 55p 65p 75p 80p 65p 75p 80p 75p 80p 75p 80p 75p	A2 gaie A1 DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS (Protects the IC and your Guarantee) (16 Lead D.I.L.) 30p (14 Lead D.I.L.) 25p
109           BRIDGE RECTIFIERS           Miniature wire ends         1           Type         Pric           W005         50 PIV         300           W01         100 PIV         301           W02         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLEI         Type         PIV           C20B         200         200           C20D         400         200           C20D         400         200           C106B         200         200           C106D         400         000           Quantity prices:         Less 1           BRIDGE RECTIFIERS         Type         PIV           1002         100         2002           2002         200         400           2002         200         100           2002         200         100           2002         200         100           2004         200         400           4004         400         600           2004         200         200           2006         200         200 <tr< td=""><td><ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul></td><td>20% 100+ depth Price £1.00 £1.10 £1.10 50 50 60 20% 100+ TTED TYPES 55p 65p 75p 80p 65p 75p 80p 75p 80p 75p 80p 75p £1.00</td><td>A<sup>2</sup> Jar Control Cont</td></tr<>	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 £1.10 50 50 60 20% 100+ TTED TYPES 55p 65p 75p 80p 65p 75p 80p 75p 80p 75p 80p 75p £1.00	A <sup>2</sup> Jar Control Cont
Initiature wire ends         1           Type         Pric           W005         50 PIV         301           W002         200 PIV         351           W06         600 PIV         451           SILICON CONTROLLEI         Type         PIV           C20B         200         C200         25           C106B         200         C20U         25           C106D         400         C106D         400           Quantity prices:         Less 1         ERIDGE RECTIFIERS           Type         PIV         100         2002           2002         200         400           Guantity prices:         Less 1         100           2002         200         400           G002         600         100           2004         200         400           G002         600         1000           2004         200         400           G002         600         1000           1004         100         2004           2004         200         200	<ul> <li>12+ 15% 25+</li> <li>amp ¼" dia. x ¼" d</li></ul>	20% 100+ depth Price £1.00 £1.10 50 50 60 20% 100+ TTED TYPES ** */1* Price 55p 65p 75p 80p 65p 75p 80p 75p 80p 75p 80p 75p	A2 gaie A1 DATA BOOKS Two books available (29A) ATTL DATA 'SN' SERIES (Includes circuits for 12 and 24 hour clocks). PRICE 15p (30) IC GENERAL DATA PRICE 10p SOCKETS FOR USE WITH INTEGRATED CIRCUITS (Protects the IC and your Guarantee) (16 Lead D.I.L.) 30p (14 Lead D.I.L.) 25p

# UNIJUNCTION TRANSISTORS FOR OSCILLATORS AND SCR TRIGGERS



# SUGGESTED UNIJUNCTION CIRCUITS FOR THE EXPERIMENTOR

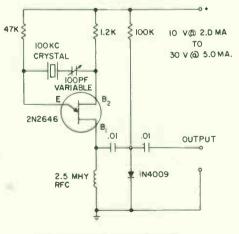
METRONOME (AUG 1970 PW) SW1 VR1 500ka log www R2 4.7kΩ 39kΩ ≷ LS 3--10A b2 Tr1 2N2646 94 ь1 Tr2 BC108 etc. 2N2926 C1 R3 ≷ 10µF 1000 12v



LIGHT INTENSITY - FREQUENCY CONVERTOR

DIFFERENT FREQ'S FRONT SIDE BACK DOOR DOOR DOOR + 30 V ≦1.вк IRK ≥5.6K £80Ω 82 2N2646 B lμfd **33**κ REMOTE SPEAKERS 25V -H

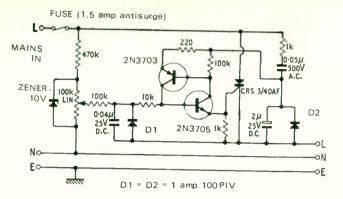
### UNIJUNCTION HOME SIGNAL SYSTEM



100 KC CRYSTAL STANDARD

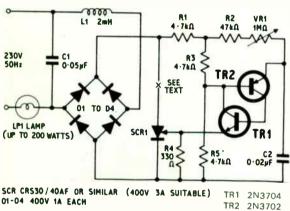
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# SUGGESTED EXPERIMENTORS CIRCUITS USING SILICON CONTROLLED RECTIFIERS

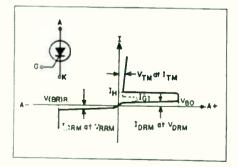


Complete circuit of thyristor motor speed regulator. Similar types of diode, thyristor, and transistor can be used in place of those suggested. Thyristors with less sensitive gates should not however be used.

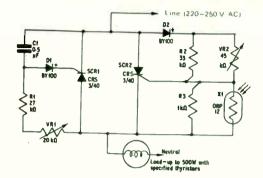
ELECTRIC DRILL CONTROLLER (WIRELESS WORLD 1967)



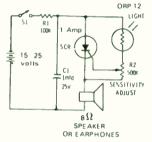
FULL WAVE LAMP DIMMER (STC. PRACT.ELEC. 1970)



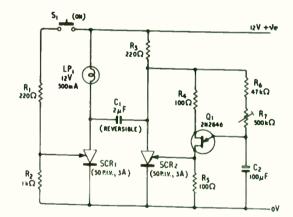




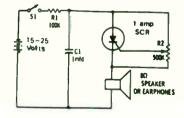
AUTOMATIC SPOTLIGHT CONTROL SWITCH ALSO 'STROBE' EFFECTS CIRCUIT



LIGHT TRIGGERED ALARM



AUTOMATIC TURN-OFF CIRCUIT, GIVING SWITCH-OFF DELAY OF 8-80 SEC-



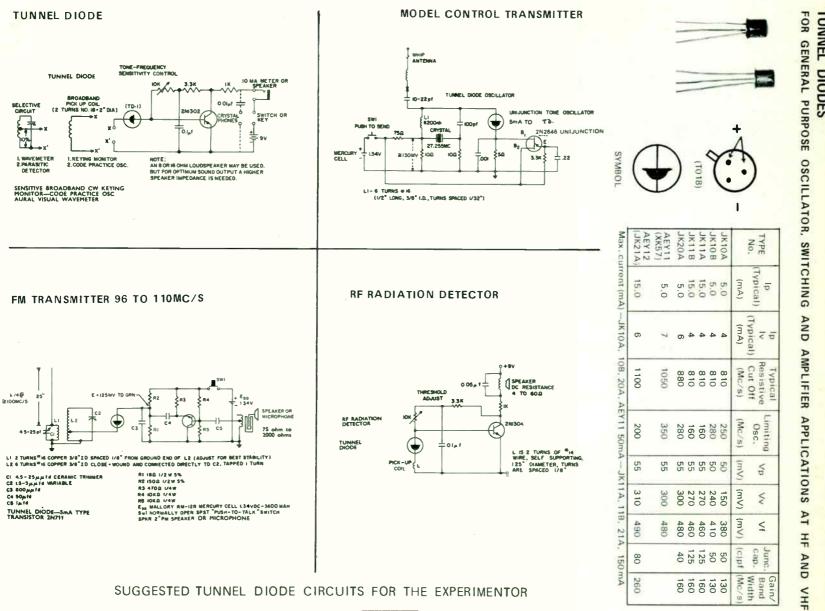
SWITCH TRIGGERED ALARM

SILICON	CONTROLL	ED RECTIFI	ERS				Cathode
1	то5	10	06 00 M	F 2		PRESS FIT	gate Anode
P.	٩	TO48(1) Max.working	9		TO66		Cathode Gate 35A Anode (Case)
TYPE No.	Case Size	Voltage	Max. P.I.Volts	Max. RMS Current	Typica Volts	al Gate Current	-
CRS1/05 CRS1/10 CRS1/20 CRS1/20 CRS1/30 CRS1/40	T05	50 100 200 300 400	55 110 220 330 440	1 Amp (5 amp peak)	3 Volts (min)	10 mA (min)	Anode
CRS3/05 CRS3/10 CRS3/20 CRS3/30 CRS3/40	T064	50 100 200 300 400	55 110 220 330 440	3 Amp (15 amp peak)	3 Volts (min)	20 mA (min)	Gate
C106B C106D	Flat Pack	200 400	200 400	4 Amp (25 amp peak)	0.4 to 1 Volt	0.03 to 0.5 mA	Cathode Anode Cathode
2N3525	T066	400	400	5 Amp	2 Volt	15 mA	Gate O
BT479/ 100R	S035A	100	100	6.6 Amp	3 Volts (min)	20 mA	\ \•.•}
CR71 CR72 CR73 CR74	T048 (1)	100 200 300 400	100 200 300 400	7 Amp	3 Volts (min)	25 mA (min)	Anode (Case)
C20B C20D	T048 (2)	200 400	200 400	7.4 Amps	1.5 to 3 volts	20 to 40 mA	Gate Cathode
C224	Press Fit	25	25	7 <mark>.4</mark> Amps	1.5 to 3 volts	20 to 40 mA	<b>U</b>
SCR51 SCR71	T048 (1)	25 25	25 25	10 Amp 16 Amp	3 volts	20 mA 10 mA	
ВТҮ84 ВТҮ88		100 100	100 100	12 Amp 16 Amp	3 volts	10 mA (min)	Anode
CRS25/025 CRS70/025 CRS400/40	T048 T049 T049	25 25 400	25 25 400	25 Amp	3 Volt (min)	50mA (min)	

SEE SEPARATE PAGES FOR PRICES OF ALL SEMICONDUCTOR DEVICES

World Radio History

**TO**49

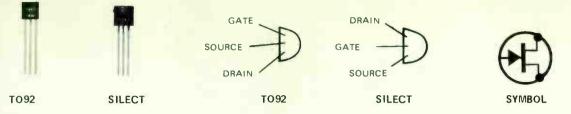


World Radio History

TUNNEL DIODES

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# FIELD EFFECT TRANSISTORS



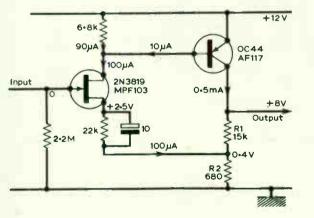
'N' CHANNEL GENERAL PURPOSE AUDIO (TO92)

ТҮРЕ	Vds	Vdg	VGS(r)	lg	Po	Yfs	Yos	Ciss	Crss	IDSS
MPF102 2N5457 (MPF103) 2N5458 (MPF104) 2N5459 (MPF105)	25 v	25 v	25∨	10mA	310 mW	5000 3000 4000 4500 (demhos)	(µmhos)	4.5 pf	1.5 pf	 3mA 6mA 9mA

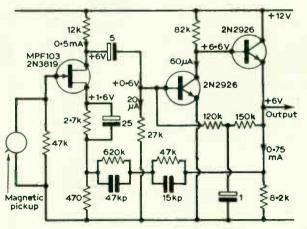
TYPE (SILECT)	Channel	Vdg	lg	Ртот	loss	Vds	Yfs	Ciss	Igss	Vgs
2N3820 2N3819	' P' ' N'	20 v 25 v	10 mA 10 mA	200mW 200mW	0.3–15 2 <i>–</i> 20		800-5000 2K- <b>6.5</b> K	32 pf 8 pf	20 mA 2 mA	10 v 15 v
2N3823 (TIS34)	'N'	30 v	10 mA	300mW	4-20	15 v	3.5К— 6.5 К	6 pf	0.5mA	20 v

2N3820 and 2N3819 General Purpose. TIS34 Low noise 2.5 dB at 100 MHZ. 6yfs min 3.2 at 200 MHZ.

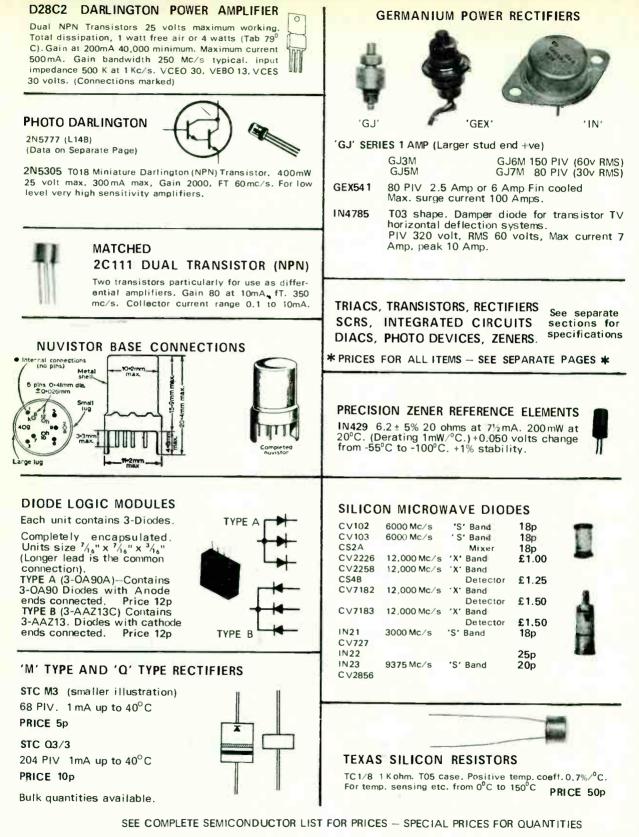
Suggested Circuits using FET Transistors.



A high input impedance/low output impedance preamplifier.



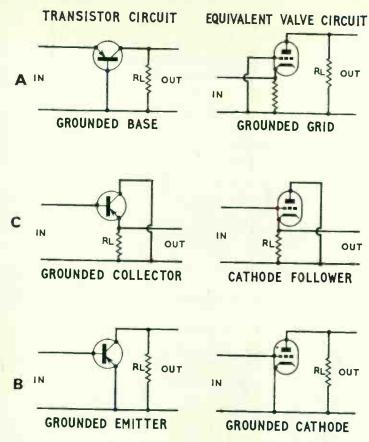
Magnetic Pickup Preamplifier.



FOR POST AND PACKING CHARGES SEE PAGE 2

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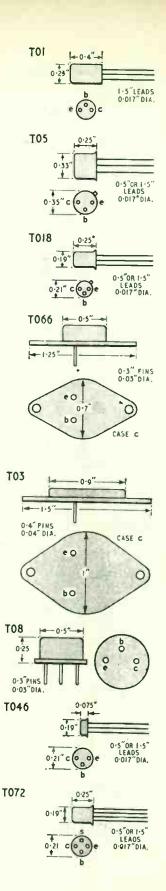
# **TRANSISTOR DETAIL**



# **GENERAL CHARACTERISTICS OF TRANSISTOR CONFIGURATIONS**

	Circ	uit Configuratio	n		
Current Gain	A <1 (.98)	B High (50)	C High (50)		
Voltage Gain	High	High	<1		
Input Impedance	Low (40)	Medium (2K ohms)	High (100K ohms)		
Output Impedance	High (1 Megohm)	Medium (30K ohms)	Low (IK ohm)		
Power Gain	Medium (30dB)	High (40db)	Low (16db)		
Cut-off Frequency	High	Low	depends on R <sub>L</sub>		
Voltage Phase Shift (L.F.)	<zero< td=""><td>&lt;180°</td><td><zero< td=""></zero<></td></zero<>	<180°	<zero< td=""></zero<>		

(Typical figures in brackets)



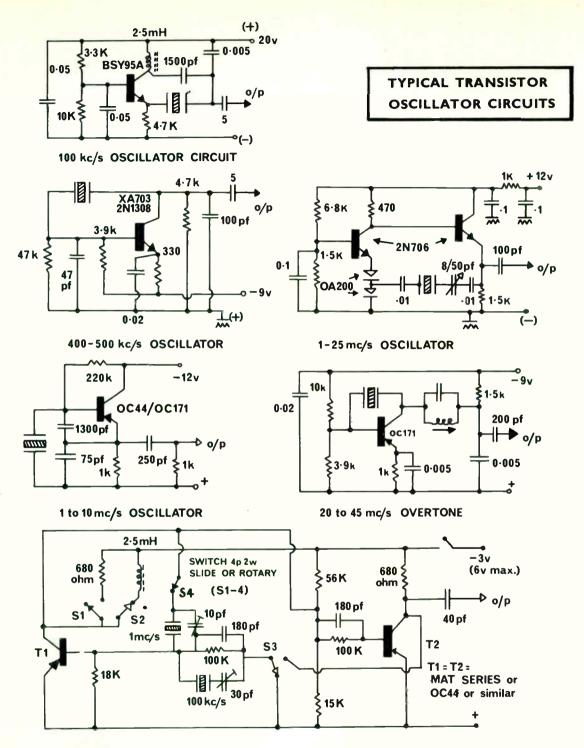
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RLS OUT

OUT

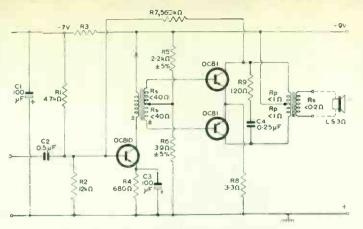
3 RL

OUT



OSCILLATOR CIRCUIT USING 100 kc/s + 1mc/s TWIN CRYSTAL

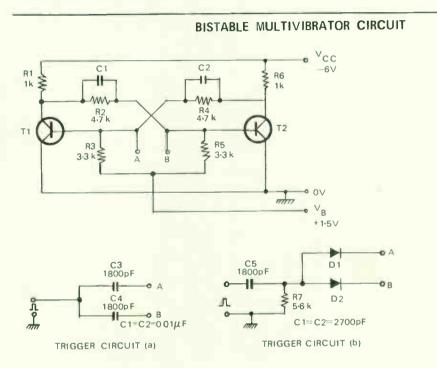
**NOTE.** Above circuits are suggested circuits only.

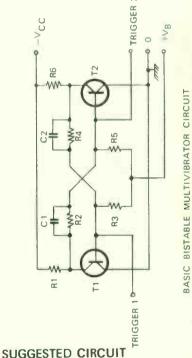


# MULLARD 1watt Amplifier

USING TRANSFORMERS SPECIFIED ON LATER PAGES OF THIS CATALOGUE

Common-emitter 1W push-pull amplifier. The input current (r.m.s.) for full output is 16.5 to  $26.5\mu$  A. The transistors must be mounted on heat sinks of 5 x 7 cm of 16 s.w.g. aluminium. The transistor is bolted down to its heat sink by means of a close-fitting cooling clip.





Transistors GET113, OC42, OC44

D1 and D2, OA202.

2

### PERFORMANCE

Typical figures obtained using two cascaded circuits of the type shown in Fig.1 are given below.

RESULTS	For Trigger Circuit (a)	For Trigger Circuit (b)
Frequency Range (20°C)	0 to 30 kc/s	0 to 75 kc/s
Trigger pulse amplitude	5 Volts	5 Volts
Operating temperature	-20 to +70°C	−20 to +70 °C
Binary Rise Time	> 3.0 µS	> 2.0 µS
Interstage delay time	> 2.4 μS	≯ 2.8 μS
Trigger pulse rise time	2 μS	2 μS

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# GENERAL TRANSISTOR DATA

Item	Туре	Out-	Max. Diss.	Freq.	V <sub>CBO</sub>	HFE	At ic	Notes	Item	Type	Out	Max. Diss.	Freq.	VC30	HFE	Atic	Notes
BFY 25	S/NPN S/NPN	T05	600 mW	200 MHz	60	30	10 mA	Low power	NKT304	G/PNP	RO56		1 MHz	30	50	50 m A	Med. power
BFY 37 BFY 50	S/NPN	TO 18	300 mW 800 mW	200 MHz 60 MHz	25 +80	35	10 mA 150 mA	Low power General	NKT352	G/PNP	T08	75 mW	-	15	20	1 amp	
BFY 51	S/NPN		800 mW	50 MHz	+60	60	10 mA	Industrial	NKT403 NKT404	G/PNP G/PNP	MO17 MO17		430 KHz	80	50-150	1 amp	
BFY 52	S/NPN	T05	800 mW	50 MHz	+40	60	150 mA	applications	NKT404	G/FINP	MOI	1.3 W	430 KHz	60	50-150	1 amp	High power
BFY 53	S/NPN	TO5	800 mW	50 MHz	30	30	150 mA	Low power	NKT451	G/PNP	MO17	1.3W	-	36	50-150	1 amp	High power
BFY 64 BLY 10	S/NPN S/NPN	T05 T03	700 mW	250 MHz 50 MHz	40	200	10 mA	Low power	NKT452	G/PNP	MO 17		-	36	30-90	1 amp	
BLY 11	S'NEN	TO3	10 watt	100 MHz	40	20	20 mA	HF power	NKT453	G/PNP	MO17		75 1411-	36	15-45	1 amp	High power
BSX 20	S/NPN		360 mW	500 MHz	40	40	10 mA	Low power	NKT675 NKT677	G/PNP G/PNP	TO1	80 mW	75 MHz 75 MHz	20	40	1mA 1mA	Low power
BSX 21	S. NPN		300 mW	60 MHz	120	40	4 mA	Low power	NKT713	G/NPN		160 mW	2 MHz	30	50	50 mA	Low power
BSX 76 BSY 24	S/NPN S/NPN	TO 18	300 mW	250 MHz 90 MHz	20	80 30	10 mA	Low power	NKT773	G/NPN		150 mW	-	15	50	50 m A	Low power
BSY 26	S/NPN		300 mW	200 MHz	+20	15-60	20 mA 10 mA	U.H.F.	NKT12329		TO 18		200 MHz	30	40	0.10 mA	Low power
BSY 27	S/NPN	TO 18	300mW	200 MHz	+20	10-120	10 mA	Fast	NKT12429 NKT13329		TO 18	500 mW 30 mW	200 MHz 300 MHz	30 30	80 40	0.10 mA	Low power
BSY 28	S/NPN	TO 18	300 mW	300 MH/	+15	10-60	50 m A	switching	NKT20325		TO 18		100 MHz	30	60	.01 mA	Low power Low power
BSY 29	S/NPN S/NPN	1018	300 mW	380 MHz	15	54	10 mA	Low power	NKT35219	S/NPN	T072	200 mW	500 MHz	20	20	1 mA	Low power
BSY 38 BSY 40	S/PNP	TO 18	300 mW 300 m V	350 MHz 2 10 MHz	20	30	10 mA	Low power	OC 16	G/PNP	MT34	10 W	200 KHz	-32	10.56	2amp	
BSY 51	S/NPN	TOS	800 m V	100 MHz	60	40	150mA	Low power	OC 19 OC 20	G/PNP G/PNP	T03	10 W 30 W	200	-30	10-56	2 amp	
BSY 53	S/NPN	TO5	800 mW	100 MHz	75	40	150 mA	Low power	OC 20	G/PNP	TO3	15 W	250 KHz 2 MHz	-32	25-75	1 amp 1 amp	G.P. power
8SY 65	S/NPN	TO18	300 mW	100 MHz	+15	20	10 mA	VHF & fast	OC 23	G/PNP	TO3	15 W	2.5 MHz	-55	150	1 amp	H.F. power
BSY95A	S/NPN	TO 18	300 mW	200 MHz	1.20		10 - 4	switching	OC 24	G/PNP	TO3	15 W	2.5 MHz	-47	150	1 amp	H.F. power
BSY 95	S/NPN	TO 18	15 mW	200 MHz	+20 20	50-200 50	10 mA 10 mA	GP switching Low power	OC 25	G/PNP	TO3	22.5 W	-	-40	15-80	tamp	
BUY 10	S/NPN	TO3	2.5 W	90 MHz	40	15-60	100 mA	High power	OC 26	G/PNP	103	12.5 W	250 KHz	-32	20-60	1 amp	Car radio
BUY 11	S NPN	TO3	2.5 W	140 MHz	40	40-100	100 mA	High power									output stage D.C.
GET102	G/PNP	RO11	200 mW	1.5 MHz	30	100	1 mA	Low power	OC 28	G/PNP	TO3	30 W	250 KHz	-80	20-55	1 amp	convertors
GET103	G/PNP	RO11	200 mW	1 MHz	30	55	1 mA	Low power	OC 29	G/PNP	тоз	30 W	250 KHz	-60	45-130	1 amp	Switching
GET105 GET106	G/PNP G/PNP	MM6 RO11	800 mW 200 mW	1 MHz 100 KHz	40	30	50 mA	Low power	OC 35	G/PNP	TO3	30 W	250 KHz	-60	25-75	1 amp	
GETI 10	G/PNP	MNG	800 mW	1 MHz	- 15 40	30-80	1 mA 500 mA	LF Low noise Low power	OC 36	G/PNP G/PNP	T03	30 W	250 KHz	-B0	30-110		G.P. power
GET111	G/PNP	RO11	200 mW	1 MHz	60	30	250 mA	Low power	OC 41	G/PNP	RO8 RO8	50 mW 50 mW	4 MHz 7 MHz	- 16 - 16	35 70	50 mA 50 mA	Low power
GET113	G/PNP	RO11	200 mW	1.5 MHz	- 15	110	1 mA	_	OC 43	G/PNP	ROS	80 mW	18 MHz	15	100	50 mA	Switching Low power
GET114	G/PNP	RO11	200 mW	1 MHz	15	55	1 mA	Low power	OC 44	G/PNP	RO9	40 mW	15 MHz	- 15	130	1mA	Mixer/Osc.
GET15/ 115	G/PNP	0	440 mW	1 MHz	- 15	30	50 mA	_	OC 45	G/PNP	RO9	40 mW	6 MHz	- 15	75	1 mA	465 KHz IF
GET16/	0.000								OC 46 OC 57	G/PNP G/PNP	RO9 RO19	83 mW	3 MHz	20	80	3 mA	Low power
116	G/PNP	0	400 mW	1 MHz	- 30	30	50 mA	-	OC 57	G/PNP	RO19	20 m₩ 20 m₩	.01 MHz 10, KHz	-7 -7	35 55	0.25 mA 250 uA	Low power Hearing aids
GET120	G/PNP	MM6	800 mW	1 MHz	30	20	500 m A	Low power	OC 59	G/PNP	RO19	20 mW	2.2 MHz	7	80	.25 mA	Low power
GET872 GET880	G/PNP G/PNP	RO11 TO5	75 mW 120 mW	6 MHz	- 15	5-11	25 mA	Switching	OC 70	G/PNP	RO9	75 mW	500 KHz	-30	20-40	0.5 mA	Audio amps
GETB82	G/PNP	TOS	100 mW	3.5 MHz 7.5 MHz	- 15 - 15	75 65	1 mA 25 mA	Low noise Switching	OC 71	G/PNP	RO9	75 mW	600 KHz	-30	30-75	3 m A	Audio amps
GET883	G/PNP	TO5	100 mW	3.5 MHz	15	50	1 mA	Low power	OC 72	G/PNP	RO8	75 mW	350 KHz	- 16	45-120	10 mA	Class '8' output
GET885	G/PNP	TO5	110 mW	15 MHz	- 15	90	25 mA	Switching	OC 73	G/PNP	RO9	75 mW	500 KHz	-32	30-65	0.5 mA	Ampt./Osc.
GET887 GET889	G/PNP G/PNP	T05	120 mW 120 mW	6.5 MHz	20	110	1 mA	Low power	OC 74	G/PNP	RO8	550 mW	1.5 MHz	20	75	5 mA	Low power
GET890	G/PNP	TO5	120 mW	7.5 MHz 12 MHz	20 20	110 220	1 mA	Low power Low power	OC 75	G/PNP	RO9	75 mW	900 KHz	-30	60-130	3mA	High gain
GET896	G/PNP	T05	120 mW	1.7 MHz	20	42	25 mA	Low power	OC 76	G/PNP	ROB	75 mW	350 KHz	-32	45	10 mA	G.P.switching
GET897	G/PNP	TO5	120 mW	1.7 MHz	20	65	25 mA	Low power	OC 77	G/PNP	RO8	75 mW	350 KHz	-60	45	10 mA	GP switching
GET898 MAT101	G/PNP G/PNP	TO5 TO30	120 mW	1.7 MHz	20	110	25 mA	Low power	OC 78	G/PNP	RO8	75 mW	350 KHz	-20	25	125 mA	A.F. output
MAT120	G/PNP	TO30	60 mW 50 mW	60 MHz 120 MHz	-9 -9	140 50	5 mA 0.5 mA	_	OC 78D	G/PNP	R08	75 mW	350 KHz	-18			Oriver for OC7
MAT121	G/PNP	TO30	60 mW	120 MHz	- 9	160	0.5 mA		OC 79 OC 81	G/PNP G/PNP	RO8 RO8	50 mW 100 m₩	1.2 MHz	26 -20	42 45	50 mA 300 mA	A,F, output
MDS40	G/PNP	TO30	60 mW	100 MHz	20	35	10 m A	Low power	OC 81D	G/PNP	RO8	100 mW	- 1	-32	-		Driver for OC8
NKT24	G/PNP	T05	90 mW	7.5 MHz	16	17	10 mA	Low power	OC 82								
NKT72 NKT128	G/PNP G/PNP	TO1 TO5	75 mW	6.25 MHz 10 MHz	15 20	40	1 mA	Low power	OC 82D		1						
NKT142	G/PNP	TO5	125 mW	8 MHz	15	80	1 mA 1 mA	Low power Low power	OC 83	G/PNP	RO8	160 MW	850 KHz	-32	50-280	50 mA	Large signal
NKT211	G/PNP	TOI	200 mW	0.90 MHz	32	40	50 mA	Low power	OC 84	G/PNP	RO8	160 mW	1 MHz		60-200	50 mA	applications Controlled gai
NKT212	G/PNP	TOI		0.90 MHz	32	50	50 m A	Low power	OC 122	G/PNP	T07						High quality
NKT213 NKT214	G/PNP G PNP	TO1 TO1		0,90 MHz 0.90 MHz	32	50	1mA	Low power	1			295 mW	1.3 MHz	1	60-500	100 m A	Audio ampl.
NKT216	G-PNP	TOI		0.90 MHz	32 32	50 50	1 mA	Low power Low power	OC 123 OC 139	G/PNP	T07	295 mW	1.5 MHz	50	160	100 mA	Low power
NKT217	G/PNP	TO1		0.90 MHz	60	50		Low power	OC 139	G/NPN G/NPN		85 mW 85 mW	3.5 MHz 4.5 MHz		20-84 50-150	15 mA 15 mA	High current high speed
NKT221		TO5		750 KHz	30	30		Low power		G/NPN		85 mW	9 MHz		80-200	15 mA	switching
NKT222	G/PNP	TO5	180 mW	750 KHz	30	150		Low power	OC 169	G /PNP	TO7	50 mW	70 MHz	20	100	1 mA	Low power
NKT223	G/PNP	TO5	180 mW	750 KHz	-30	50		Small			T07	50 mW	75 MHz	-20	150	1mA	10 MHz I.F.
NKT224	G/PNP	т05	300 mW	.75 MHz	30	30		Signal ampl. Low power		G/PNP S/PNP	107	50 mW	100 MHz	- 20	150	1 mA	V.H.F. ampt.
NKT225		TO5		).75 MHz	30	15		Low power			RO8 RO8	200 mW 200 mW	700 KHz 3.2 MHz	-25	15-60		Low gain G.P.
NKT226	G/PNP			750 KHz	30	50	1 mA	Low power			RO8		3.2 MHz		20-80	1 mA 1 mA	Med. gain G.P. High gain GP
NKT227	G/PNP G/PNP			750 KHz	60	150		Low power			RO8	200 mW	1 MHz				High voltage
NKT228 NKT251			300 mW	750 KHz 1 MHz	30 18	30		Low power	203			2001111	MP2	-60	15	1 mA	G.P.
NKT261	G/PNP		300 m₩	1 MHz	15	50 50		Low power Low power	OC 204	S/PNP	RO8	200 mW	450 KHz	-32	15-45	1 mA	Good gain
NKT265	G/PNP	TO5	90 mW	1 MHz	9	25		Low power		S/PNP	ROB	11	450 KHz	-60			Linearity
NKT271	G/PNP		200 mW	1 MHz	15	50		Low power				260 mW			15-100 30-160		Gen. Industria applications
NKT272	G/PNP		200 mW	1 MHz	15	35		Low power	OC 207	S PNP	RO8	3 10 mW	2 MHz	50	50		Low power
NKT273	G/PNP G/PNP		90 MW 200 mW	1 MHz	9	25		Low power			тоз	115 W	1 MHz	150	10		High power
	G PNP		200 mW	1 MHz 1 MHz	15 15	85 30		Low power					300 MHz	-	330	2 mA	Low power
VKT277	G/PNP	TO1	80 mW	75 MHz	20	40		Low power Low power					300 MHz 300 MHz	_	330		Low power
and the second s	G/PNP		750 mW	1 MHz	60	30		Med. power					260 MHz	30	330		Low power Low power
VKT301	Gi tititi j																

	ERAL LIST OF T	TYPES STOCKED	B	IEN	RY'S LOW COST	NTEGRATED C	IRCUITS
		D TYPES AVAILA DC, AUDIO AND HI				O TTL RANGES.	See Page 130
MFC4000 Se	A A		Emprover	14 Lea D.I.L.	ad the	PA234	- JP
THEFT	TA263 8 MC 1303 MC 1304	3, 10 and 12 Lead TO5 16 Lead ( D.I.L.	19999999	7	PA 246	OLAN	SL 403
μL900 μL914 μL923	(TO5 8 pin) Buffer (TO5 8 pin) 4-Input (TO5 8 pin) JK Flip	-flop		3035	(TO5 10 pin) Ultra H 3 amplifiers, 500 KH at 40 HZ.	IZ, 2.5 MHZ, 2.5 MH	Z. Gain 129dB
709C 702C MC1303		ier FT 500 kc/s o channel or stereo	ĊA	3036 3039	(TO5 10 pin) Dual D (TO5 12 pin) 6 matc diodes.	hed low capacity h	igh speed
MC1304	decoder. (Circuit F	) FM multi-plex stereo lef.no: 30 Price 10p)		3041	(14 Lead D.I.L.) Hig Detector /Preamp ou 100 KHZ to 20 MHZ.	itput. Output for val Supply volts 140 (t	lve amplifie <mark>r,</mark> hru'6.2K)
MFC4000P MC724P MC790P	14 watt Audio Ampl (14 Lead D.I.L.) Qu (14 Lead D.I.L.) Du	ad 2 Input NOR Gate		3042 3043	(14 Lead D.I.L) As amplifier. (TO5 12 pin) As CA		
IC12 SL403D TAA263	5/10 Watt amplifie 3 watt amplifier (5 (TO18 4 pin) Audio	r (See Page 91) See Page 91)		3044 3046	(thru' 750 ohms) (TO5 10 pin) Dual p (14 lead D.I.L.) 3 is	hase detector. Diff	f. Amp. output.
TAD 100 TAD110	(14 Lead D.I.L.) Ra			3048	differential connect (16 Lead D.I.L.) 4 i of Audio Amplicatio	ted. FT 550MHZ. ndependent Amplifi	iers, hundreds
PA246 PA237	5 watt power ampli 2 watt power ampli	fier (See Page 91)		3051	(14 Lead D.I.L.) Two amplifiers. For use	o Darlington differe up to 10 MHZ.	ential
PA234 PA230 PA424	1 watt power ampli Single channel pre Zero voltage switc	amplifier htrigger	74			gust 1971) Lead D.I.L.) High G	
CA30 12 CA3014	20MHZ ( 10 volt su	Amplifier 100KHZ to pply) mc/s 1F amp. AM and	72	BC	operational amplifie (10 Lead TO5) Volta 0.6% Regulation.		olts in max.
CA3018	noise limiter, FM d voltage regulator (	letector, AF preamp.,		-	(14 Lead D.I.L.) Du AM/FM Audio Ampl		
CA3020	Darlington etc. Ft (TO5 12 pin) Wide	400 mc/s. band amp. DC to 8MH2	Z DA		OKS Three books		
CA3028	(TO5 8 pin) DC to oscillator, wide ba	120 mc/s. Mixer, RF/II and amplifier etc.	F. (29	) Issue	e II TTL DATA 'S		

PRICES - See Pages 131 to 134

(TTL PRICES - PAGE 130)

SOCKETS FOR USE WITH INTEGRATED CIRCUITS (PROTECTS THE IC AND YOUR GUARANTEE)



(16 Lead D.I.L.) 30p



(14 Lead D.I.L.) 25p



(TO5-12) 40p

(30)

(42)





(TO5-10) 30p

FM TOSHIBA IC's - see below



(TO5-8) 25p

PRICE 10p

PRICE 10p





NEW SOLID STATE 20 watt AMPLIFIER AND PREAMPLIFIER by TOSHIBA

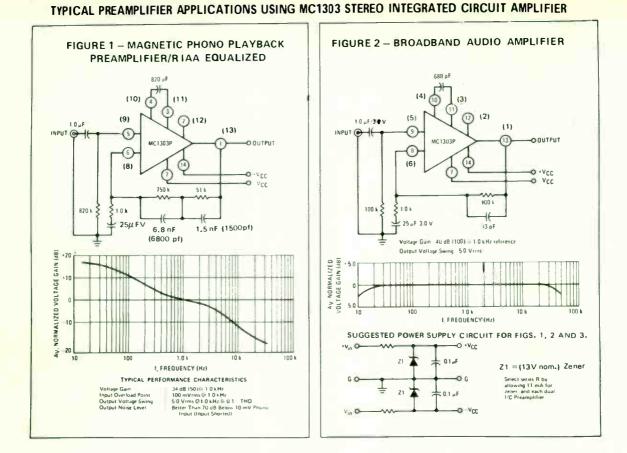
IC GENERAL DATA

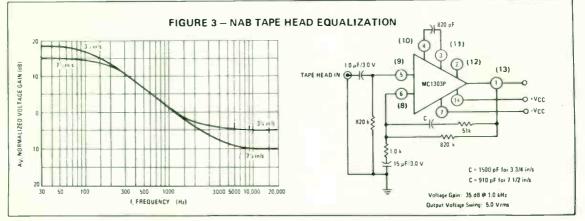
20 watt Amplifier TH9013P PRICE £4.57 Preamplifier TH9014P PRICE £1.50

Data sheets and suggested circuits Ref.no: 42 PRICE 10p

★ HENRY'S - 1st WITH LOW COST TRANSISTORS - NOW, LOW COST IC's ★



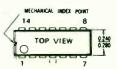




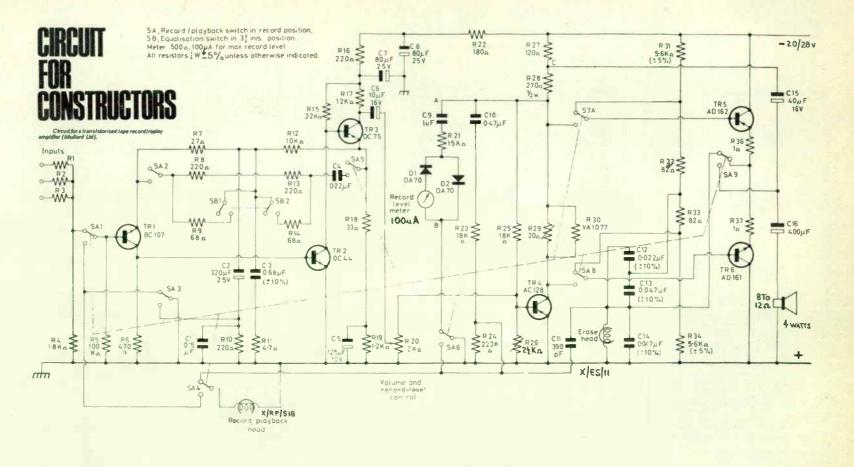
NOTE: ONE CHANNEL SHOWN. SECOND CHANNEL PIN NUMBERS IN BRACKETS

LARGEST

RANGE OF INTEGRATED CIRCUITS & SEMICONDUCTORS IN UK – EX STOCK.



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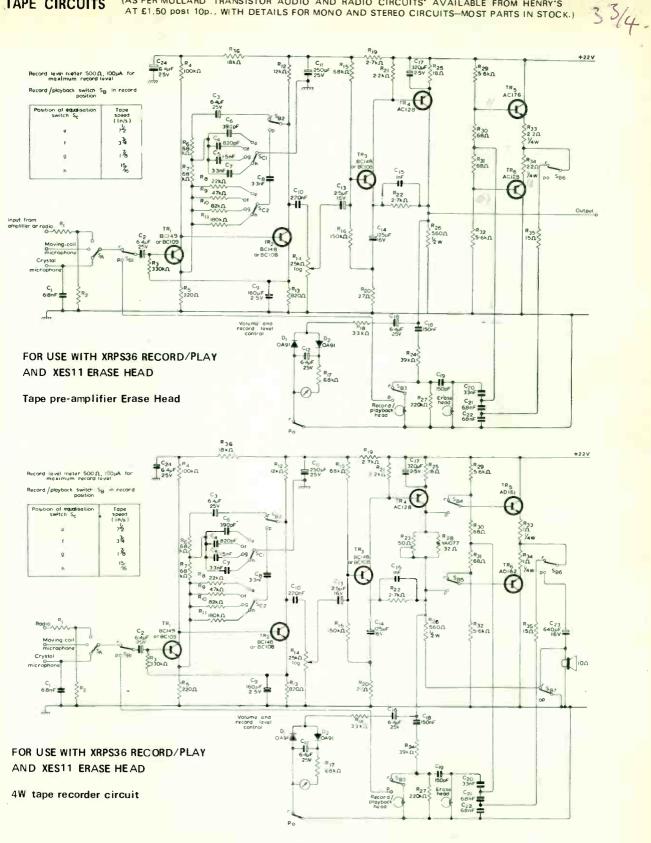


Heads: X/RP/S18 & X/ES/11		See appropriate section of catalogue TR5 and TR6 must be bolted to a heat sink.	Capacitors:	Mullard 10%	Power Supply: Type PS 20 or
	Switches:	5A 9 pole 2 way 5B 2 pole 2 way - slide, water etc.		Miniature Mullard	Type MU24/40 See Page 61.

NOTE: The above circuit originally published by Mullard Ltd. is reproduced here as a Portable Tape Recorder using the X/ES/11 and X/RP/S18 heads It is offered as a guide only -- no responsibility can be accepted as to its operation or accuracy. Response at-3dB 55 c/s to 16 kc/s at 7½ ips. Sensitivity 250 microvolts (across R4). Power output for replay 3-4 watts.

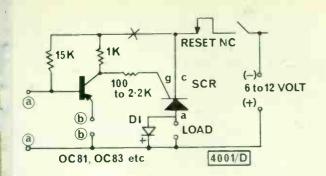
TAPE CIRCUITS

(AS PER MULLARD 'TRANSISTOR AUDIO AND RADIO CIRCUITS' AVAILABLE FROM HENRY'S AT £1.50 post 10p., WITH DETAILS FOR MONO AND STEREO CIRCUITS-MOST PARTS IN STOCK.)



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# THYRISTOR (SCR) EXPERIMENTERS LATCHING CIRCUITS



**SCR.** For loads up to 1 amp. CS/10 (Select from list for other ratings.) See list for other ratings. For voltages above 12 insert a resistor at X as necessary.

LOADS. Lamps in series or parallel indicators of all types. Also DC motors.

Buzzers, AC motors and bells (via relay). Relays and actuators.

APPLICATIONS. Alarms of all types, burglar, water level, heat and fire, baby alarm, film/tape autostop, door opening etc. etc. Many other uses will no doubt be found. Circuit will not switch off until reset button (normally closed) or supply volts is interrupted.

(1) LIGHT OPERATED. Link b.b. use 100 K preset a.a. as sensitivity control. Connect LDR ORP12 etc. At a.a. circuit switches on if light interrupted.

(2) LIGHT OPERATED. Use 100 K preset a.a. LDR, ORP12 at b.b. switches on when light applied.

(3) ALARMS. Any type normally closed switch(es) at a.a. Link b.b. Operates when switch opened. More than one switch connect in series.

(4) Normally open switch(es) at b.b. operates when closed. More than one switch, connect in parallel.

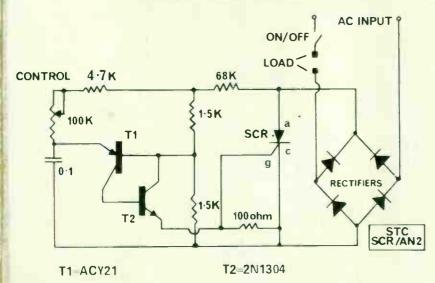
(5) WATER DETECTION. 250 K sensitivity preset at a.a. Two bare wires at b.b. operates when water rises. Also pad of wires makes ideal rain detector.

(6) Link b.b. water probes at a.a. with 250 K preset. Switches on when level drops.

(7) VIBRATION OR SOUND. Connect low impedance microphone or vibration detector (min. 8 ohms max. 1 K ohm) at b.b. also 5 K preset a.a. Vibration or sound switches on.

(8) **TEMPERATURE.** Thermistor at b.b. with 5 K preset at a.a. CS90 and CS120 types operate near body temp. VA1040 small flame, VA1066 and VA1010 higher heat levels.

# THYRISTOR LAMP DIMMING AND MOTOR CONTROL CIRCUIT



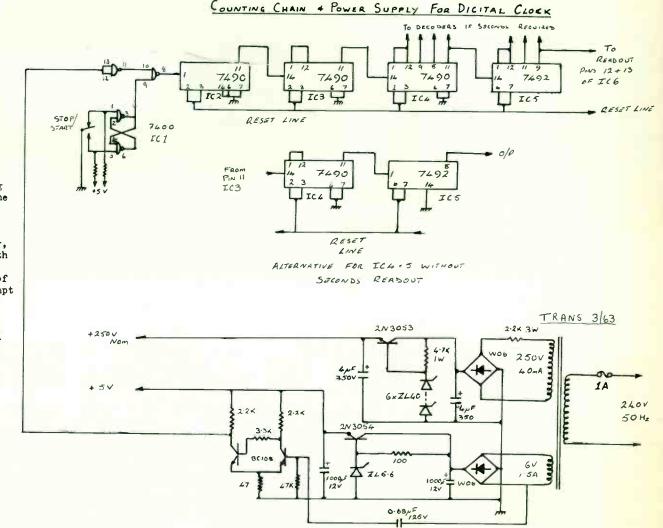
NOTE. Above circuits are suggested circuits only.

Suitable for lamp dimming circuits and AC series motors speed control.

For use with SCRS from 1 amp. to 25 amp. up to 280 volts AC input. Maximum loads from 35 watts to 8 K watts.

Select SCR and rectifiers to suit load current and AC input voltage. For mains use CRS 1/40 up to 1 amp. CRS. 3/4( up to 3 amp, and CR74 up to 7 amp.

Stud type SCR3 must be mounted on a heat si



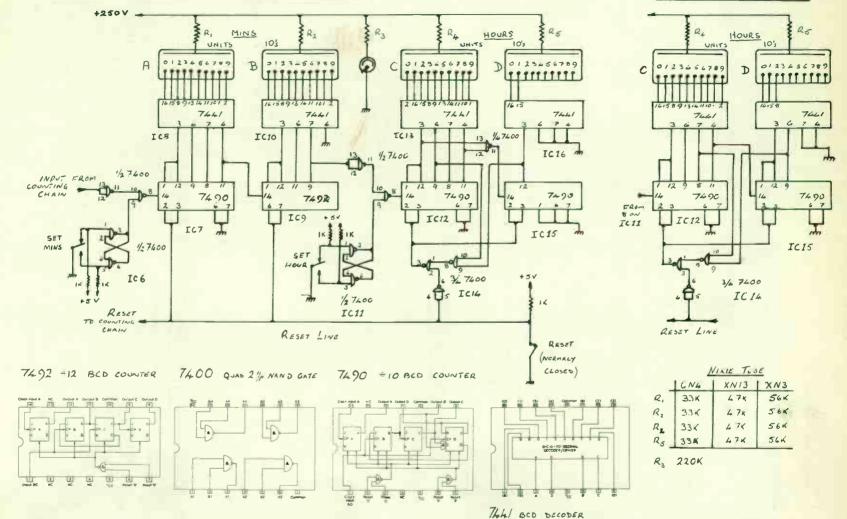
World Radio History

The clock detailed in these drawings is a 12 or 24 hour clock using digital counting tecniques. Numbers within the ICs corespond to the pin numbering of the ICs. the 7400 ICs are not drawn in boxes for reasons of clarity. but are grouped together with their pin numbers. Always refer to the logic diagram of the appropriate IC. No attempt has been made to describe layout, as this is, in the main non-critical; although interconnecting leads should not exceed 10" in length.

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# Moos For 24 Hour CLOCK



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# BOOKS AND MAGAZINES

FRANSISTOR ADD GADD ADD RADIO ADD RA





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DENCO DBT4 CIRCUITS USING DENCO COMPONENTS	<b>1</b> 0p
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18 PA-Disco Equipment

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(Please quote Ref. No: Other Brochures are printed in this catalogue in complete form. Also see Transistor Section of catalogue)

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### POST etc.

5p per 1 to 6 brochures 10p per 7 to 12 brochures



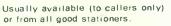
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HI-FI YEAR BOOK

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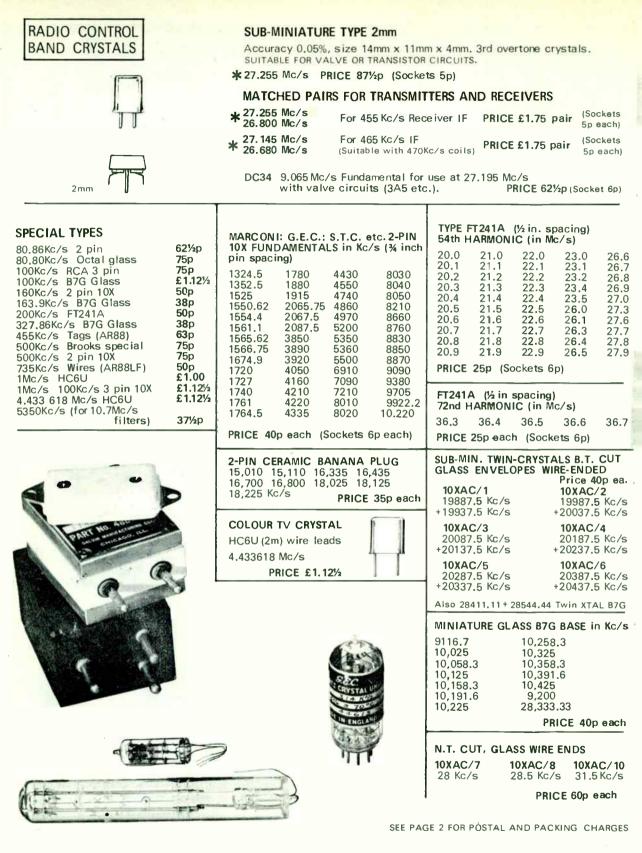
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### QUARTZ CRYSTALS \* COMMUNICATIONS \* MARKERS \* MODEL CONTROL \* FILTERS

HC6U (USA 2M) METAL CASED HERMETICALLY SEALED. CRYSTAL ACCURACY 0.005%. TWO PIN 0.5" PIN SPACING, ALL TYPES THIRD OVERTONE ALSO SUITABLE FOR USE ON THEIR FUNDAMENTAL FREQUENCY (i.e. DIVIDE BY 3). OVERALL SIZE  $\frac{340}{100} \times \frac{10}{160} \times \frac{5}{160}$ 

19,0060 Mc/s	37.7778 Mc/s	39.8889 Mc/s	40.4017 Mc/s	41,6667 Mc/s
20,0060 "	38.0000 "	39.9259 "	40.4444 "	45,7000 "
<mark>21,</mark> 0060 "	38.3337	39.9630 ···	40.4815	46,7000 "
23,0060 "	39.5185 "	40.0370 "	40.5926	46,1200 "
25,5550 "	39.5555	40.0740 "	40.6296	45,9000 "
26,0060 "	39.5926 "	40,1481	40.7407 "	46,1000
27,7778 "	39.6296 "	40.1852	40.8148	46,3000 "
31.1111 "	39.6667	40.2222 "	40.8519 "	
32.2222 "	39.7037	40.2593	40.8889 "	
33.3333 "	39.7778 "	40.2963 "	40.9259 "	PRICE 50p each
34.4440 "	39.8148 "	4 <mark>0.3</mark> 333 "	40.9633 "	(Sockets 6p each)
36.6667 "	39.8519 "	40.3704 "	41.1111 "	







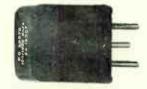
HC6U 1MC/S CRYSTAL AND MINIATURE CRYSTAL OVEN

Made by Cathodeon Crystals Ltd. for HC6U (OR 2M) size crystals. Operates from 6 or 12 volts AC or DC maintains temperature at 80°C. Consumption 0.78A on 12 volt, 0.39A or 6 volt. Somplete with base as illustrated.

£1.25 CRYSTAL OVEN £1.00 1 Mc/s CRYSTAL HC6U

(Socket Price 6p)

### 100 Kc/s- 1 Mc/s TWIN CRYSTAL



Brand new twin crystals suitable for Valve or Transistorised circuits. Brand new as specified for Class D Wavemeter and many other projects.

Price £1.121/2

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PRICE 40p each (SOCKETS 6p each)	5706 5725 5740 5750 5800 5806 5825 5900 5906 5925 5940 5950 6000 6006 6025 6050 6075 6100 6125 6140	6150 6173 6225 6226 6240 6250 6275 6300 6306 6325 6340 6350 6373 6375 6400 6406 6425 6473 6475 6500 6525	6540 6550 6573 6600 6606 6625 6640 6650 6673 6670 6700 6700 6725 6740 6750 6740 6750 6750 6750 6800 6825 6840 6850 6850 6873 6873	6900 6906 6925 6940 6950 6973 6975 7000 7050 7073 7075 7100 7106 7125 7140 7150 7175 7200 7206 7225 7240 7250 7273	7275 7300 7306 7325 7340 7350 7373 7375 7400 7406 7425 7450 7450 7450 7506 7550 7550 7550 7550 7550 7573 7575 7600 7606 7625	7640 7650 7673 7675 7700 7706 7725 7750 7750 7800 7873 7875 7800 7873 7875 7840 7873 7875 7900 7925 7940 7925 7940 7950 7973 8075 8100	8106 8125 8140 8150 8173 8200 8206 8225 8240 8250 8275 8300 8325 8340 8325 8340 8355 8340 8425 8450 8475 8450 8475	8550 8575 8600 8625 8650	CRYSTALS 1396.5 Kc/s 1399.4 " 1399.6 " 1403.35 " 1400.30 " 2094 " 2194 " 2294 " 2394 " 2694 " 2794 " 2894 " 6950 " 7050 " 7150 " 7250 " 7350 " 7450 " 7550 " 7650 " 7750 " 7650 " 7750 " 7850 " PRICE 50p each (SOCKETS 6p each)
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2	1L4         £0.20           1N5GT         0.48           1Q5GT         0.50           1R4         0.35           1R5         0.35           1S4         0.27           1S5         0.25           1T4         0.27           1U4         0.27           1U5         0.50	6D3         £0.45           6DC6         0.75           6EA8         0.58           6F6G         0.30           6F23         0.80           6F24         0.75           6F25         0.75           6F28         0.60           6J4         0.50           6J5GT         0.30	12SJ7         £0.30           12SK7         0.45           12SN7GT         0.45           12SQ7         0.50           12SR7         0.85           14S7         0.80           20L1         1.10           20P1         0.50           20P4         1.10	AC/TH1 £0.45 AZ41 0.37 CL33 1.00 CY31 0.35 DAF91 0.25 DAF92 0.50 DAF96 0.42 DC90 0.45 DF91 0.25 DF91 0.25 DF92 0.20	ECH42 £0.70 ECH81 0.30 ECH83 0.40 ECH84 0.45 ECL80 0.40 ECL81 0.45 ECL82 0.35 ECL83 0.65 ECL84 0.55 ECL85 0.55
	1V2 £0.45 1X2B 0.40 2CW4 0.65 2D21 0.35 2X2 0.37 3Q5GT 0.45 3S4 0.35 3V4 0.45 5B/254M 2.25 5B/255M 2.00	6J7         £0.45           6K6GT         0.55           6K7         0.35           6K8G         0.35           6K8G         0.35           6K8G         0.50           6K25         0.75           6L6GT         0.45           6L18         0.45           6N7GT         0.40	20P5         £1.20           25C5         0.50           25L6GT         0.45           25Z4G         0.30           25Z6GT         0.65           30A5         0.45           30C1         0.30           30C15         0.80           30C17         0.85           30C18         0.75	DF96         £0.42           DK40         0.55           DK91         0.35           DK92         0.50           DK96         0.42           DL66         1.25           DL68         0.65           DL99         0.77           DL91         0.27           DL92         0.35	ECL86         £0.40           ECLL800         1.50           EF37A         0.60           EF39         0.40           EF40         0.50           EF41         0.65           EF55         0.50           EF80         0.25           EF83         0.55
-	5R4GY         £0.60           5U4G         0.33           5U4GB         0.42           5V4G         0.42           5W4GT         0.40           5Y3GT         0.32           5Z4         0.50           5Z4G         0.40           6/30L2         0.75           6A8G         0.35	6P28         £0.65           6Q7         0.40           6R7G         0.45           6SA7         0.40           6SC7         0.70           6SG7         0.35           6SH7         0.35           6SH7         0.35           6SH7         0.35           6SL7         0.35           6SL7GT         0.35	30F5         £0.85           30FL1         0.70           30FL12         0.93           30FL14         0.75           30L1         0.40           30L15         0.85           30P12         0.80           30P19         0.80           30PL1         0.70	DL93 £0.35 DL94 0.45 DL95 0.40 DL96 0.42 DY86 0.33 DY87 0.35 DY802 0.50 E80CC 1.10 E88C 1.15 E88CC 0.65	EF85         £0.35           EF86         0.30           EF89         0.28           EF91         0.33           EF92         0.40           EF93         0.25           EF95         0.30           EF95         0.30           EF96         0.22           EF97         0.65
	6AB4         £0.35           6AC7         0.25           6AF4A         0.50           6AG5         0.22           6AG7         0.40           6AH6         0.50           6AK5         0.30           6AK5         0.30           6AK5         0.20	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	30PL13         £0.93           30PL14         0.90           35A5         0.75           35B5         0.65           35D5         0.70           35L6GT         0.50           35W4         0.30           35Z3         0.60           35Z4         0.60	E91H         £0.60           E180F         0.95           E182CC         1.20           E188CC         0.90           EA50         0.20           EA52         4.50           EA6C80         0.35           EAF42         0.55           EB91         0.20           EBC33         0.50	EF98         £0.65           EF183         0.30           EF184         0.35           EK90         0.30           EL5         0.55           EL33         1.25           EL34         0.50           EL36         0.50           EL36         0.50           EL36         0.50           EL36         0.50           EL36         0.50           EL38         0.90
ĩ	6AM5 £0.32 6AM6 0.33 6AN8 0.50 6AQ5 0.35 6AQ6 0.55 6AS6 0.37 6AS7G 0.80 6AT6 0.30 6AV6 0.25 6AV6 0.30	7Y4         £0.60           7Z4         0.50           9BW6         0.50           12AH7FT         0.30           12AL5         0.45           12AT6         0.30           12AT7         0.33           12AU6         0.30           12AU7         0.33           12AV6         0.30           12AV7         0.33	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	EBC90         £0.30           EBC91         0.30           EBF80         0.40           EBF83         0.40           EBF83         0.40           EBF83         0.50           EC53         0.50           EC86         0.60           EC90         0.33	EL42         £0.58           EL81         0.55           EL83         0.42           EL84         0.25           EL85         0.43           EL86         0.40           EL90         0.35           EL91         0.32           EL95         0.35           EL821         0.55
<b>Č</b> n	6AX4GTB £0.45 6B7 0.40 6B8G 0.20 6BA6 0.25 6BE6 0.30 6BH6 0.45 6BJ6 0.45 6BJ6 0.45 6BJ7 0.40 6BQ7A 0.40 6BR7 0.85	12AV7 £0.50 12AX7 0.30 12AY7 0.70 12B4A 0.55 12BA6 0.35 12BE6 0.35 12BE6 0.35 12BH7 0.40 12BY7 0.55 12C8 0.35	85A3         £0.50           90AV         2.50           90C1         0.60           90CG         1.25           90CV         1.25           150B2         0.60           150B3         0.60           723A/B         7.00           807         0.50           829B         3.50	EC92         £0.35           EC93         0.50           ECC35         0.50           ECC40         0.60           ECC70         0.85           ECC81         0.33           ECC82         0.30           ECC84         0.30           ECC85         0.60	EL822         £0.90           ELL80         0.75           EM34         0.90           EM71         0.75           EM80         0.40           EM85         1.00           EM87         0.55           EN32         1.50           EN91         0.35

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EY51         £0.40           EY80         0.45           EY83         0.55           EY84         0.55           EY86         0.40           EY87         0.43           EY35         0.35           EY86         0.43           EZ35         0.35           EZ40         0.45	MH4         £0.50           ML4         0.45           MU12/14         0.60           N78         1.15           PAPC80         0.40           PC86         0.60           PC900         0.48           PCC84         0.40           PCC85         0.40	PCL84 £0.45 PCL85 0.40 PCL86 0.45 PCL88 0.90 PCL800 0.93 PCL801 0.70 PCL805 0.50 PEN4D 0.50 PEN45 0.40 PEN45DD 0.75	PY82 £0.30 PY83 0.38 PY88 0.40 PY500 1.00 PY800 0.50 PY801 0.50 PZ30 0.35 QQV02-6 2.15 QQV03-10 1.25 QQV03-20A 5.25	U37 £1.50 U50 0.32 U52 0.33 U76 0.30 U78 0.30 UABC80 0.35 UAF41 0.50 UAF42 0.55 UBC41 0.50 UBC41 0.50	UF89 £0.35 UL41 0.65 UL84 0.30 UM4 0.40 UM84 0.20 UU5 0.60 UY1N 0.60 UY1N 0.65 UY41 0.45 UY82 0.50
EZ41 £0.45 EZ80 0.25 EZ81 0.28 EZ90 0.30 FW4/500 0.75 FW4/800 0.75 GN4 1.75 GR2M 0.75 GS10E 1.50 GZ30 0.40	PCC88 £0.55 PCC89 0.50 PCC189 0.55 PCC805 0.85 PCC806 0.80 PCE800 0.70 PCF80 0.30 PCF82 0.35 PCF84 0.50 PCF86 0.60	PF818         £0.85           PFL200         0.70           PL33         0.35           PL36         0.55           PL81         0.50           PL82         0.45           PL83         0.45           PL84         0.40           PL302         0.80           PL500         0.85	$\begin{array}{c} QQV06\text{-}40\text{A} \\ 5.50 \\ QV03\text{-}12 & 0.70 \\ (QV4\text{-}400) \\ (CV5959) 15.00 \\ R10 & 1.00 \\ R18 & 0.55 \\ RL 18 & 0.50 \\ SP2 & 0.50 \\ SP4 & 0.50 \\ SP4 & 0.45 \\ \end{array}$	UBC81 £0.40 UBF80 0.40 UBF89 0.35 UBL1 0.50 UC92 0.35 UCC85 0.40 UCF80 0.55 UCH21 0.60 UCH42 0.70	UY85 £0.30 VP41 0.75 VP133 1.00 VR75/30 0.45 VR105/30 0.38 VR150/30 0.35 VU39A 0.60 VU111 0.60 VU111 0.60 VU120 0.80 VU133 0.60
GZ32 £0.48 GZ33 0.70 GZ34 0.60 HABC80 0.45 HBC90 0.30 HL23 0.40 HL23DD 0.40 KT66 1.70 KT88 1.75 KTW63 0.50	PCF87 £0.85 PCF800 0.80 PCF801 0.50 PCF805 0.75 PCF806 0.70 PCF808 0.75 PCF808 0.75 PCL81 0.50 PCL82 0.35 PCL83 0.65	PL504         £0.80           PL508         0.90           PL509         1.30           PL801         0.80           PL802         0.75           PL401         0.55           PY31         0.30           PY80         0.35           PY81         0.30	SP61         £0.55           TP22         0.60           TP25         0.40           TT21         2.65           TT22         2.80           U18/20         0.75           U19         2.50           U25         0.75           U26         0.75           U31         0.45	UCH43 £0.75 UCH81 0.35 UCL81 0.60 UCL82 0.35 UCL83 0.60 UF41 0.60 UF42 0.60 UF42 0.60 UF43 0.60 UF80 0.35 UF85 0.40	X65         £0.55           X66         0.55           XC23         0.90           XN10A         0.50           XR1-3200         6.50           Z759         1.60           Z800U         1.25           Z801U         1.25           Z803U         0.75



# CATHODE RAY TUBES available from 'HENRYS' Radio Limited

Type No.	Diam	Length	Heater		Ano	des		Defl	ection	Cala	D		-		00105
Type NO.	(ins.)	(ins.)	Volts	¥u,	Vu <sub>2</sub>	Vu <sub>3</sub>	Vu₁ PDA		VDC y	Colour	olour Persistance		Base	Notes	PRICE
408C	1½	7	4.0	- 1	75	1500	3500	0.110	0.110	Blue	Short	60	B9G	With base	£2.75
NC 19	11/2	6½	4.0	800	135	800	-	0.120	0.110	Green	_	20	B9G	With base	£3.00
3API	3	1 1½	2.5	600	170	-	-	0.540	0.560	Green	Medium	27	USM7	With base	£1.50
38P1	3	10	6,3	1500	4 <mark>30</mark>	_	-	0.150	0.200	Green	Medium	45	B14A	With base and screen	£3.00
VCR97	6	17	4.0	2000	350	2000	-	0.300	0.570	Green	Short	80	B12D	Base 25p	£3.00
C∨1526	3	10	4.0	-	100	1300	2500	0.215	0.215	Green	Medium	50	B12B	(=3EGI) With base	£2.75

Mu METAL SCREEN for CV1526 PRICE 50p post 15p

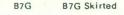
Pin Type Connections	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Carriage/ Pac	king
408C	с/н	g	н	۵,	X1	Y <sub>1</sub>	Q <sub>3</sub>	Y <sub>2</sub>	X2	-	-	-	- 1	- 1	1½" and 1¾" tubes	20p
NC 19	X1	<b>Y</b> <sub>1</sub>	Q 2	H/C	h	g	Q 1/Q3	Y <sub>2</sub>	X 2	-	-	-	-		3" tubes	25p
CV1526	С	G	н	н	A <sub>2</sub>		Y <sub>2</sub>	X 2	Α,	X 1	Y <sub>1</sub>	-	-		6" tubes	40p
3API	н	g	Y <sub>1</sub>	A <sub>2</sub>	X 1	A 1 X 2 Y 2	H/C	-	-	-	-	_	-		NOTE: All al tubes are el static focus	ectro-
3BPI	н	с	g	lc	A 2	_	Υ,	Y <sub>2</sub>	A <sub>1</sub>	X 2	Χ,			н	deflection.	
VCR97	g	С	н	н	Α,	A <sub>2</sub>	Co	Y <sub>2</sub>	X 2	A 3	<b>X</b> <sub>1</sub>	Y <sub>1</sub>	-	-		

WE WANT TO BUY UNUSED STOCKS OF SPECIAL PURPOSE OR INDUSTRIAL VALVES AND TUBES FOR POST AND PACKING CHARGES SEE PAGE 2.



**B9**A





VALVE AND TUBE BASES

**B9A Skirted** 

	and the second							Special Bases	
	98.4	5 pin UX	Зp	B9G Ceramic	5p	B7G Low Loss	4p	U11 for 3BP1 etc.	25p
STELLING BE	States -	4 pin UX	Зp	7 pin Vibrator	Зp	B9A Low Loss	4p	931A Base	15p
10100000	199 - See -	7 pin UX	Зp	Loctal	4p	B7G with skirt	5p	ВЗ2 Туре	35p
1000	STREET.	7 pin Ceramic	5p	B07 Ceramic	12p	B8A with skirt	5p	Acorn Base ceramic	10p
and the second	20 10 20	6 pin UX	Зp	B7G Pax	3p	B9A with skirt loss	5p	Base for VCR139A	15p
MALL TO BE	STATES TO BE	Octal	4p	<b>B7G Printed</b>	4p	B9A Anti-		Dekatron	25p
		Octal Ceramic	5p	Circuit	4p	microphonic 2	20p	Nuvistor	20p 5p
		EA50 Type B8A	9p 4p	B9A Printed Circuit	4p	B7G CAN Short or Io	ng	PL500 Series 5p each	5p
'Short'	'Long'	Mazda Octal	ЧР	Octal P Circuit		B8A/B9A CAN Short	or long	5p each	
VALVE BASE	TYPE PLUGS					QUARTZ CI	RYSTAL	SOCKETS	





(PHZ)

(VH60)



(B7G, B9A)

12p

12p

P112 Octal Plug 8 pin 15p OSC Chassis socket 4p VH60 Octal Line Socket 26p



Non-reversible type. PLUG 4p SOCKET 30 Also shorting plugs 3p



87G Plug 7 pin

B9A Plug 9 pin



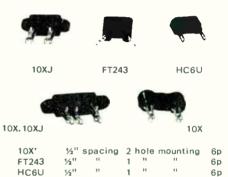


50-ohm connectors to MIL specifications. Highest quality materials with PTFE insulation. Non-constant impedance design suitable for use up to 500 V peak and 200 MHz-or to 500 MHz with diminished performance.

'UHF' Plug (PL259)	38p
Fits UR57, 59, 65, 67, 81; RG8, 9, 11, 13, 63, 65	
Dimensions: Length 1.5". Diameter 0.75". Weight 1%	oz.
(1111E/ Bealint (20000)	260

'UHF' Socket (SO239) ... ... ... ... ... ... ... ... Dimensions: Length 1.08". Height 1". Depth 1". **26**p FC. 4-hole 0.125" diameter on 0.718 centres. Weight 1 oz.

SEE PAGE 2 FOR POST AND PACKING CHARGES



### PYE COAX PLUG

**B9A Anti-microphonic** 

### PYE COAX PLUG

6n

7p

Cable mounting elbow plug or socket.

Price 25p

### PTS.4

4 pcs. standard power transistor sockets.

40p



### **TS.10**

10 pc. standard transistor sockets with mounting rings. 45p



174

Cable

10X

mounting coupler plug or socket.

Price 25p

3/411

10X/10XJ ½ & ¾" "

11

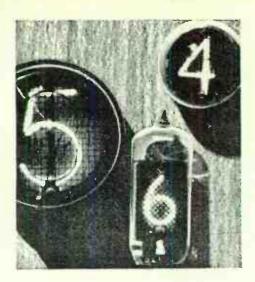
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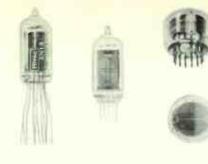
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11

# NUMERICAL INDICATOR TUBES





SIDE

END

These cold cathode numerical indicator tubes, intended for the display of numerals 0-9, also (+), (-) and ( $\sim$ ) signs, are very suitable for use in digital measuring instruments, calculating machines, computer console displays, frequency counting device and similar applications. GNP-8 also has right and left decimal points.

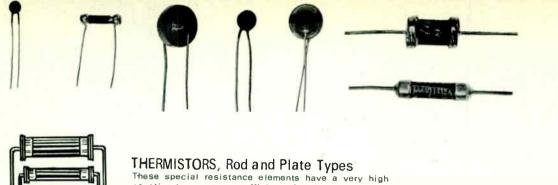
	TYPE No.	GN4	XN 13	XN3	XN10	GR2M	GN-6	GNP-8
LIMIT RATINGS		014	ANTO					
Minimum Supply	Voltage DC	170	180	180	180	170	170	200
Max. Supply volt	tage for extinction	100	130	130	130	130	115	115
Max. Pre bias ve	olts DC	100				100	110	110
Min. Pre bias vo	olts DC	74				64	60	70
Max.Peak catho	de current (mA)	10	10	10	10	10	12	12
Max.Average	. a 2	3	3	2	2	2.5	2.5	2.5
Min. Cathode C	urrent (mA)	1.5	1.5	1	1	1	1.25	1.25
Maintaining vol	tage		140 at 2 mA	140 at 1.5mA	140 at 1.5mA	140 at 2 mA	140 at 1.7mA	140 1.6-2 mA
	Character Height	0.6"	0. <mark>63</mark> "	0.55"	0.6"	0.61"	0.55"	0.5 <mark>5</mark> "
3	Indication	0—9	0—9	0—9	(+)(~)( )	(+) (—)	0—9	0–9 and right–left decimal points.
	Viewing	End	Side	Side	Side	End	Side	Side
	Dameter	1.122"	0 <mark>.75</mark> "	0.75"	0.75"	1.18"	0.75"	0.59"
;	Length	0.984"	1.89"	1.89"	1.89"	1.05"	1.50"	1.30"
	Base Type	B13B	Wires	Wires	Wires	B13B	Wires	Wires
		With base				With base		
88000000000	PRICE	£1.75	£0.85	£0.85	£0.50	£0.75	£0.95	£1.10

# DATA SHEET SUPPLIED ON REQUEST

ALSO IN STOCK: ERICSON GS10E £1.50 Base 15p. MULLARD COLD CATHODE TUBES Z800U 1.25 Z801U 1.25

Z803U 0.90

SEE PAGE 2 FOR POST AND PACKING CHARGES



AL		h
ALE	-	Th

negative temperature coefficient of resistance, making them suitable as protective elements in a wide range of circuits. Axial end wires.

TYPE No.	Rod (R) Plate (P)	Resistance at 25°C	Max. Dissipation	Resistance at max.diss.	Max. Temp.	Diam. (mm)	Length or thickness (mm)	Approx. Current at max.diss.	PRICE
VA10555	(R)	15 K	0.6 watts	540 ohms	150 <sup>0</sup> C	3.7	12	33mA	20p
VA1056S	(R)	47K	0.6 "	1000 "	150 <sup>0</sup> C	3.7	12	23mA	20p
VA1066S	(R)	4.7 K	0.6 "	200 "	150 <sup>0</sup> C	3.7	12	55mA	20p
VA1098 (=VA1046)	(P)	1.5 K	0.6 "	78.5 "	150 <sup>0</sup> C	5.5	5	85 mA	15p
VA 1038	(P)	1.3 К	1 "	6.9 "	120 <sup>0</sup> C	9.4	5	380 mA	15p
VA1039	(P)	500 ohm	1 "	5.4 "	120 <sup>0</sup> C	9.4	5	430 mA	18p
VA1040	(P)	130 ohm	1 "	2.6 "	120°C	9.4	5	620 mA	15p
VA1077	(P)	33.5 "	1 "	0.8 "	120 <sup>0</sup> C	21 × 9	) mm rect.	1.2 amp	18p
VA1100	(P)	15 "	1 "	0.7 "	120 <sup>0</sup> C	9.4	5	1.2 "	18p
VA1058	(P)	8 "	1 "	0.8 "	120°C	9.4	· 5	1.1 "	15p
VA1033	(P)	4.0 "	1 "	0.25 "	120°C	9.4	5	2.0 "	15p

\* Plate types colour coded as per 25°C resistance. Rod types colour coded or marked.

STC Brimistors are negative temperature coefficient resistors suitable for current surge-suppression in circuits using variable-resistance devices such as valves, projector lamps, etc. They are essentially high-power thermistors, and as such can be used in many thermistor-type applications. All Rod types.

Code	Dimen- sions	INITIA	(ohms)	ANCE	Emax. Volts	Max. Operating Current	Price each
	Inches	0°C	20 <sup>0</sup> C	50 <sup>0</sup> C	(20 <sup>0</sup> C)	Amperes	Cuchi
CZ1, CZ1A	1¼ × ¾	8,300	3,800	1,400	25	0.3	15p
CZ2	7⁄8 × 1∕4	12,500	5,500	1,850	30	0.3	15p
CZ3	5/16 × 3/16	3,500	1,500	560	13.5	0.2	15p
CZ4, CZ4A	11/2 × 1/16	1,700	800	320	14.7	0.8	22p
CZ6	1¼ × ¾	6,000	3,000	1,120	23	0.45	15p
CZ8A	3/4 × 5/16	3,700	1,600	620	15.6	0.3	15p
CZ9A	3/4 × 5/16	800	350	130	7.8	1.0	22p
CZ10	<sup>5</sup> / <sub>16</sub> x <sup>3</sup> / <sub>32</sub>	26,000	11,000	4,000	19.5	0.075	15p
CZ11	1¼ × ¾	280	140	65	5.8	1.5	22p
CZ12 }	11/2 × 7/16	240	120	53	6.4	2.5	22p
CZ12A J CA13A	7/a-× 3/a	850	400	160	9.0	0.8	15p
CZ14	$1\frac{1}{8} \times \frac{3}{16}$	470,000	167,000	46,000	125.0	0.05	15p
CZ19	11/2 × 7/16	1,700	800	320	14.7	0.8	15p

For post and packing charges see page 2

# **BEAD TYPES**

Miniature glass encapsulated thermistors for amplitude control and timing purposes. Also for temperature measurement. (Note: B24 has an internal heater element).

TYPE	Res.at 20 <sup>0</sup> C (ohms)	Min Resis. (ohms)	SIZES	PRICE	
GL16 (TH-B11)	1 Meg	170	10mm x	98p	
GL23 (TH-B12)	2 К	115	2.5mm diam.	98p	
A 15B (TH-B15)	100 K	320 25.4mm x 4mm d iam.		90p	
B24 (BS24)	20 K	90		£2.20	
G13	1 K	70		90p	
R53 (TH-B18)	5 K	100	38 mm x 9-5 mm diam,	£1.20	

### TRANSISTOR BIAS

Used to keep circuits at known level.

**S90** 3mm dia. x 11/2mm. 90 ohms at (Code 20°C. To be used with 100 ohm Black) resistor in parallel.

CS120	5mm dia.x 2mm.	
(Code	20°C. 65 ohms at	50°C
brown)		Price 10p each

### LOW VOLTAGE TYPES



**ZC11V2X** 20 Volt output. 200mA max. Full wave input. 15–0–15 volts. Size: 7/6" x 7/6" x 7/6" PRICE 28p

Full wave bridge. Size: 1" x 1" x ½".

22 volts RMS. 1 Amp. Maximum.

PRICE 43p

SEE PAGE 2 FOR POST AND PACKING CHARGES.

LT119

# **SELENIUM TYPE RECTIFIERS**

LOW VOLTAGE, HIGH VOLTAGE, EHT, METER RECTIFIERS, CHARGER RECTIFIERS.



**FSM 2461A** 24 volt. 2 Amp.Max. Bridge rectifier. Size: 1¼" x 1¼" x ¾"<sup>8</sup>.

PRICE 49p



M253 12 volt 500mA max. Full wave input. 18-0-18 volts. Size <sup>13</sup>/<sub>6</sub>" x <sup>13</sup>/<sub>16</sub>" x <sup>7</sup>/<sub>6</sub>" PRICE 22p

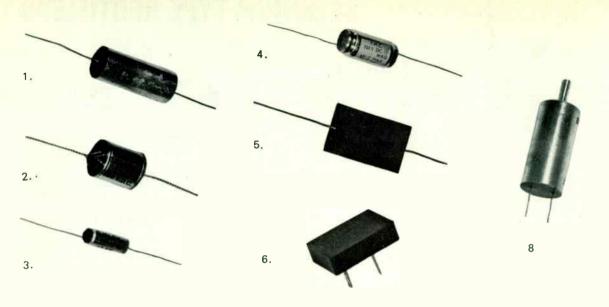
SENTERCEL RM RECTIFIERS BATTERY METER CHARGER RECTIFIERS 125v 60 mA 25p RM1 RECTIFIERS 125v 80 mA 30p RM2 (\*Illustrated) RM3 125v 120m A 40p RM4 250v 250 mA 80p \*1mA Bridge connected 45p Full wave bridge circuits. 300 mA 98p RM5 250v 5mA Bridge connected 45p Inputs 28 volts maximum. 1 Amp 40p 5 Amp 95p 10mA Bridge connected 45p 49p 6 Amp £1.15 M3 Half-wave 8p 2 Amp CONTACT COOLED WX6 Half-wave 8p 4 Amp 75p RECTIFIERS W6 Half-wave **8**p 250 volt AC maximum input. HALFWAVE 50/60mA 45p 80/85mA 55p FULLWAVE **VOLTAGE DOUBLER** 200 mA 95p 300 mA 50p SENTERCEL HIGH VOLTAGE RECTIFIERS BRIDGE 37p K 3/8 1 mA 150 mA 80p 70/75 mA 55p K 3/50 3,400 PIV, 1200V RMS 1 mA 37p 37p K 3/100 6,800 PIV, 2400V RMS 1 mA 2,500 PIV, 900V RMS 5 mA 37p K 8/30

Y2 Wave Full Wave Voltage Bridge – Full Wave

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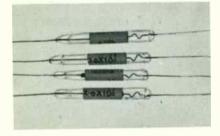
World Radio History

Doubler (FC101)



## SPECIAL CLOSE TOLERANCE HIGH TEMPERATURE CAPACITORS

- 1. Sealed capacitor 0.1 mfd + 2% 350 Volt working
- 2. Suflex polystyrene capacitor 0.05 mfd @ 2% 350 volt DC working. PRICE 25p
- 3. Suflex Polystyrene capacitor 0.02 mfd ± 2% 125 volt working. PRICE 12p
- 4. TMC Polystyrene capacitor 0.1 mfd ± 1% 350 volt DC working. 65°C Max. PRICE 35p
- 5. Lemco sealed capacitor 0.1 mfd ± 2% 200 Volt DC working. PRICE 25p
- 6. TCC Plimseal capacitor. 0.01 mfd (10,000 pf) ± 1%. 250 Volt DC working. PRICE 30p
- 7. As Type 6 above. 1000pf = 1% 250 Volt DC working. PRICE 25p
- 8. TMC cased polystyrene capacitor. 0.1mfd ± 1%. 350 Volt DC working. PRICE 35p



### MORGANITE MEGISTORS

PRICE 30p

Tested and aged high value resistors enclosed in glass. Supplied only of one value to protect the megistors, as these should only be handled by their leads and not the glass. Packed in carton of four. Size 44mm x 5½mm diameter.

VALUES	2.0 × 10° ± 10%	( 2,000,000,000 ohms)	Four for	£3.00
	2.0 × 10 <sup>10</sup> ± 10%	(20,000,000,000 ohms)	Four for	£3.00
	2.0 × 10 <sup>11</sup> ± 10%	(200,000,000,000 ohms)	Four for	£3.00
	2.4 × 10 <sup>7</sup> ± 2%	( 24,000.000 ohms)	Four for	£3.00

	•										
CLOSE OHMS	TOLER	ANCE I	RESISTOR	S	1/2/1 WAT	T 1%					
4.3	12	51	160	<b>47</b> 0	1K.	2.7K	7.5K	22K	82K	240K	800K
4.7	15	56	180	<b>56</b> 0	1.2K	3K	8.2K	24K	91K	270K	820K
5	16	60	200	<b>60</b> 0	1.3K	3.3K	9.1K	27K	100K	300K	860K
5.1	18	62	220	620	1.4K	3.6K	10K	30K	110K	330K	1.5 Meg
5.6	20	64	230	<b>67</b> 0	1.5K	3.9K	11K	33K	120K	390K	3 Meg
6	30	68	240	680	1.6K	4.7K	12K	36K	130K	400K	_
6.2	33	75	270	750	1.8K	5K	13K	39K	140K	430K	PRICE
6.8	36	82	300	800	2K	5.1K	14K	43K	150K	470K	FNICE
7.5	39	120	<b>33</b> 0	820	2.1K	5.6K	15K	56K	152K	510K	13p each
8.2	39.7	130	360		2.2K	6K	16K	60K	160K	560K	
10	43	140	390		2.4K	6.2K	18K	62K	180K	600K	
11	47	150	400		2.5K	6.8K	20K	75K	200K	680K	

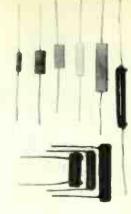
SEE PAGE 2 FOR POST AND PACKING CHARGES.



5% 14-1/2 WATT

dint)

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# RESISTANCE COLOUR CODE MACHINE

15p

WIREWOUND RESISTORS

5% 12-1 WATT

' <b>HI-:</b> OHM 10 15 22 33 39 47 56 68 82	STAB' 5% CAR S 100 120 150 180 220 270 330 390 470 560 680 820	BON ¼-½ 1 K 1.2K 1.5K 1.8K 2.2K 2.7K 3.3K 3.9K 4.7K 5.6K 6.8K 8.2K	10K 12K 15K 15K 22K 27K 39K 47K 56K 68K	SUB-MI 100K 120K 150K 130K 220K 270K 330K 390K 390K 560K 630K	NIATURE 1 meg 1.5 meg 2.2 meg	'HI-STAB' OHMS 10 15 22 27 33 39 47 56 68 82	100 120 150 180 220 270 330 390 470 680 820	CON 5% M 1 K 1.2K 1.5K 1.8K 2.2K 2.7K 3.9K 4.7K 5.6K 6.8K 8.2K	27K 33K	100K 120K 150K 180K 220K 270K 330K 390K 470K 560K 680K	1 WATT 1 meg 1.2 meg 1.5 meg 1.8 meg 2.2 meg Size: %" x %" diameter
	::⁵⁄₁₀"x¹⁄₁₀"dia CE 2½pea.(or		00 of o	ne value	e only)	PRICE 4p	each	(or £2.75	per 100 of	one valu	ue only)

WIREWOUND RESISTORS

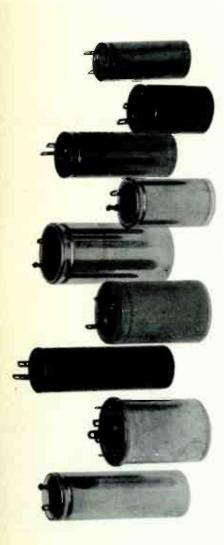
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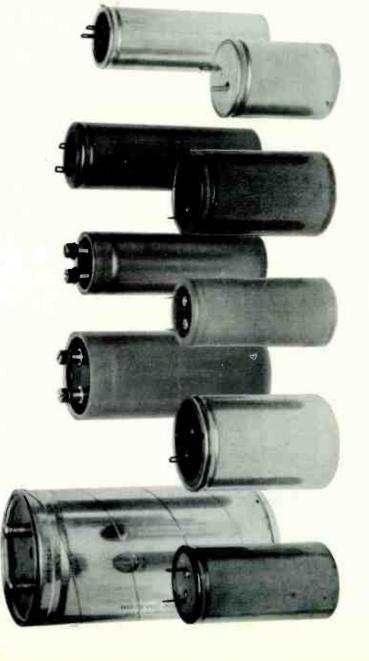
In stock at time of going to press

0.33 ohm	3 watt	3 ohm	5 watt	8 ohm	9 watt	47 ohm	4 watt	820 ohm 2 watt	PRICES
0.5 "	1 "	3 "	10 "	10 "	4 "	91 " 4	4 "	910 " 1.5 "	1 watt, 1½ watt
0.5 "	2 "	3.3 "	5 "	10 "	6 "	100 " 2	2 "	1K " 3 "	7p each
0.5 "	5 "	3.9 "	4 "	10 "	10 "	100 "	5 "	1K " 5 "	
1	1 "	4 "	4 "	12 "	6 "	110 " 3	2 "	1K " 10 "	2 and 3 watt
1 "	2 "	4.7 "	4 "	15 "	11 "	180 " 2	2 "	1.2K " 5 "	9p each
1 "	5 "	4.7 "	5 "	16 "	6 "	220 "	4 "	2.2K " 3 "	4 and 5 watt
1.5 "	3 "	5 "	5 "	18 "	4 "	500 " 9	9 "	4.7K " 25 "	10p each
1.5 "	10 "	5.6 "	4 "	18 "	5 "	560 "	4 "	5K " 9 "	6 and above
2 "	3 "	6 "	5 "	20 "	2 "	680 " !	5 "	6. <b>8</b> K " 5 "	13p each
2 "	5 "	6.8 "	3 "	22 "	4 "	680 "	6 "	10K " 4 "	130 6401
2 "	10 "	6.8 "	4 "	33 "	4 "	750 " 4	4 "	12K " 9 "	
				1				15K " 4 "	

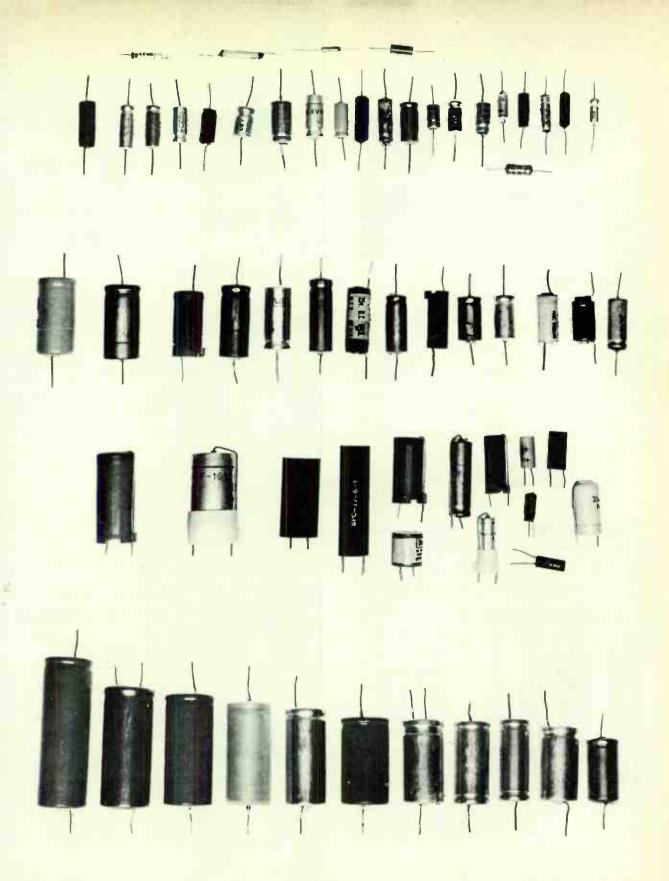
For post and packing charges see Page 2.

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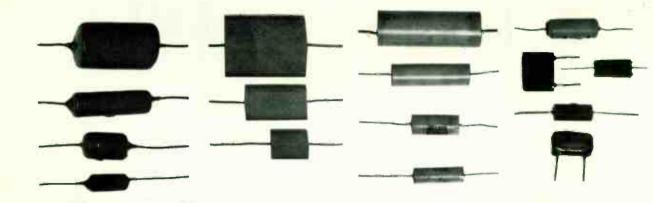




180



# POLYESTER and FOIL CAPACITORS



¥125-	-160 \	/olt	10%	% Ra	ange		ard, Lenc , Hunts,		
	0.01 mfd, 0.012 mfd, 0.015 mfd, 0.022 mfd, 0.033 mfd,								
0.04	7 mfd, (	).068 r	nfd.		PRIC	E 4pe	ach		
0.1	mfd		5n	ea.		0.15	mfd, 0.22	mfd	6p
0.12		200/							·
		20%	4p			0.33	mra		7½p
0.15	mfd	20%	4p	**		0.47	mfd		<b>9</b> p
0.18	mfd	20%	4p	81		0. <mark>68</mark>	mfd	1	0p

¥250 Volt 10% Ra		lullard, TCC, ubilier, etc.)
0.01 mfd, 0.015 mfd, 0.047 mfd, 0.068 mfd		nfd, 0.033 mfd, RICE 5p each
0,1 mfd	Price	6p
0.15 mfd 0.22 mfd	11	61/2p
0.33 mfd	11	8p
0.47 mfd	EI	10p
0.68 mfd		11p
1.0 mfd	6.6	13p
1.5 mfd	11	15p
2.2 mfd	6.6	18p

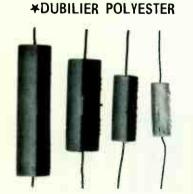
# ¥400 Volt 10% Range (TMC, Mullard, Dubilier, etc.)

0.001, 0.0015, 0.0022, 0.0033, 0.0047, 0.0068, 0.01, 0.015 mfd PRICE 4p each

1.0 mfd

0.022 4p 0.	.033 4p	0.047 <b>5</b> p	0.068 <b>5</b> p	0.1 <b>6</b> p	0.1 <b>5 6</b> p	0.22 <b>9</b> p	0.33 11p	0.47 <b>13</b> p
-------------	---------	------------------	------------------	----------------	------------------	-----------------	----------	------------------

12p



0.02	350v	4p	0.068	600v	7p
0.03	350v	4p	0.2	600v	11p
0.015	400v	4p	0.0022	600v A <b>C</b>	10p
0.033	400v	4p	0.002	1500v	8p
0.015	600v	<b>6</b> p	0.003	1500v	8p
0.033	600v	<b>6</b> p	0.0033	1500v	8p
0.004	600v	5p			

¥ 5% POL	YESTER
1000 pf	6800 pf
1500 pf	8200 pf
2200 pf	0.022
3300 pf	0.033
4700 pf	0.047
	0.068
	0.082
	0.10
PRICE 13p	each

NOTE DUE TO SUPPLY VARIATIONS SOME DIFFERENCE IN SIZE AND VOLTAGE MAY BE NECCESSARY TO ENABLE YOUR ORDER TO BE FULFILLED WITHOUT DELAY. PRICES SUBJECT TO 10% DISCOUNT FOR 50 OF ANY ONE VALUE OR 15% PER 100 OF ONE VALUE.

# 182

# ELECTROLYTIC CAPACITORS MINIATURE - STANDARD

LOW AND HIGH VOLTAGE WIRE LEADS AND CANS

DALY - SPRAGUE - MULLARD - TCC - PLESSEY - CCL - MALLORY - ERIE - WIMBA - DUBILIER

107	IDE	IEAD	TYPES

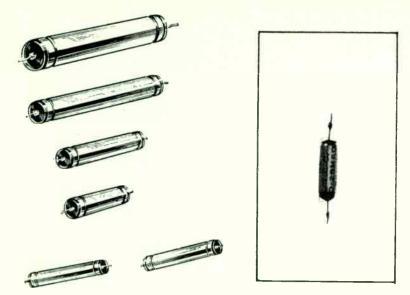
0.1 mfd $15 \cdot volt$ $4p$ 0.1" $50$ " $4p$ 0.5" $50$ " $5p$ 1" $12$ " $p$ 1"1" $40$ " $p$ 1"1" $40$ " $p$ 1"1" $40$ " $8p$ 1" $350$ " $14p$ 1.5" $25$ " $7p$ 2" $30$ " $7p$ 2" $20$ " $350$ " $8p$ $4$ " $4$ " $6$ " $4$ " $6$ " $4$ " $6p$ $4$ " $50$ " $4$ " $6p$ $4$ " $25$ " $7p$ $4$ " $350$ " $20p$ $5$ " $35$ " $4$ " $350$ " $20p$ $5$ " $35$ " $5$ " $5$ " $30$ " $7p$ $5$ " $30$ " $7p$ $5$ " $64$ " $8p$ $6.4$ " $6.4$ " $8p$ $6.4$ " $64$ " $8p$ $6.4$ " $64$ " $8p$ $8$ " $12$ " $8p$ $8$ " $12$ " $7p$ $8$ " $12$ " $7p$ $8$ " $12$ " $7p$ $8$ " $10$ " $12$ " $7p$ $10$ " $16$ " $8p$ $10$ "	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	160 mfd         40         12p           160         64         14p           200         6         7p           200         10         7p           200         16         8p           200         16         8p           200         30         10p           250         18         10p           250         25         11p           250         40         14p           300         10         9p           300         10         9p           300         10         9p           400         64         9p           400         64         9p           400         16         11p           400         40         17p           500         6         12p           500         6         12p           500         60         17p           640         6.4         12p           500         50         17p           640         6.4         12p           800         25         17p           800         25         17p           800
B0 mfd         250 volts         15p           100         450         35p           150         30         11p           500         40         20p           500         50         20p           500         50         20p           500         100         42p           750         50         23p           800         25         20p           800         25         20p           1000         6         10p           1000         6         10p           1000         40         38p           1000         6         10p           1000         30         25p           1000         35         52p           1250         25         32p           1250         25         32p           1250         35         52p           1500         75         55p           1600         64         55p           1600         16         30p           MOUNTING CLIPS         Suppleted only at to and for Wire Lead types from 1000 r	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7100 mfd 40 volts £1.25 10,000 " 25 " 85p 16,000 " 10 " 50p 25,000 " 25 " 75p 35,000 " 15 " 63p 40,000 " 10 " 50p 46,500 " 25 " 98p 8 * 8 " 450 " 30p 8 * 16 " 350 " 23p 16 * 16 " 450 " 45p 32 * 32 " 450 " 45p 40 * 40 " 275 " 25p 50 * 50 " 350 " 32p 50 * 40 " 350 " 17p 60 * 60 " 350 " 28p 40 * 40 * 275 " 25p 50 * 500 " 64 " 43p 5000 * 500 " 64 " 43p 5000 * 500 " 25 " 50p most Can types (up to 16,000 mfd only) Price 6p each.

NOTE Make supplied will depend upon the stock available at the time of order. A discount of 10% per 25 or 15% per 50 of one value is allowed.

FOR POST AND PACKING CHARGES SEE PAGE 2.

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# TANTELUM and CASTENET CAPACITORS





STC POLARISED AND NON POLARISED

#### STC POLARISED

0.75 mfd 50 volt 1.5 u. 25 " 1.5 11 50 ... 2.5 н 25 " 4.0 •• 150 11 5.0 11 12 " 5.0 н 50 ... 5.0 ... 100 " 10 н 6 " 10 н 12 " 10 11 50 " 20 - 11 6 " 20 .... 12 " 20 ... 25 .... 25 11 50 " 40 н 11 12 ... 25 " 50 100 11 12 " Above types PRICE 15p each.

STC	NON	POLARI	SED				
0.15	mfd	150	volt				
0.25	11	150					
0.375	5 "	50	0				
0.5		150	11				
0.75		25	11				
0.75		50					
1.0		150	11				
1.25		12	11				
1.25		100					
1.5	11	50	0				
2.0	н	150	11				
2.5	н	12	11				
2.5	11	50	11				
5.0		50	11				
5.0		100	п				
7.5	11	100	11				
50		12	**				
100	н	6	**				
150	н	4	н				
	Above types PRICE 20p each						
200 n	nfd :	25 volt	25p				

TCC TYPES



CASTENETS

#### PLESSEY CASTENET (Also see facing page for

miniature types).

Size ¾"	diam.x ¼" height
50 mfd	70 ∨olt
140 "	30 "
750 "	3 "

PRICE 35p each

#### TCC TANTELUMS Non-Polarised 0.25 mfd 50 volt 0.5 11 50 " 1 11 150 " 16 n. 6 " 100 " 6 " PRICE 15p each

Polarised

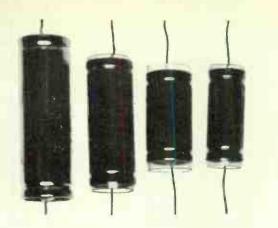
2 mfd 12 volt 12p

# SPECIALISED COMPONENTS FOR ALL INDUSTRIES

FOR POST AND PACKING CHARGES SEE PAGE 2.

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# STANDARD PAPER TYPE CAPACITORS



TMC	25	% RANGE	
0,1	mfd	150 volt	PRICE 9p
0.1	*1	350 "	" 11p
0.15		150 "	" <mark>10</mark> p
0.25		250 "	" 11p
0.25		350 "	" 12p
0.5	- C.	350 "	" 13p
1.0		150 "	" 13p
1.0	н	250 "	" 15p
1.0		350 "	" 16p
2,0	18	25 <b>0</b> "	" 18p



T/	$\sim$	$\sim$	6.41	ET /	۱L	D	Λ,	$\sim 1$	"
1			<b>IAIR</b>	510	<b>NL</b> .	Γ.	H,		•

0.05 mfd	200 volt	PRICE 6p
0.05	500 "	" 8p
.0.1 "	1000 "	" 9p
0.15 "	500 "	° 10p

(PRICES SUBJECT TO 10% DISCOUNT FOR 50 OF ONE VALUE & 15% DISCOUNT FOR 100 OF ONE VALUE).

FOR POST AND PACKING CHARGES SEE PAGE 2

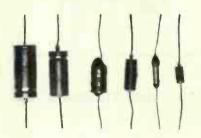
BEAD TYPE RESIN DIPPED TANTELUM CAPACITORS



2	mfd	25 volt
2.2	н	10 "
3	11	15 "
6.8	18	20 "
7	10	20 "
10	11	20 "
30	н	3 "
47	0	3 "

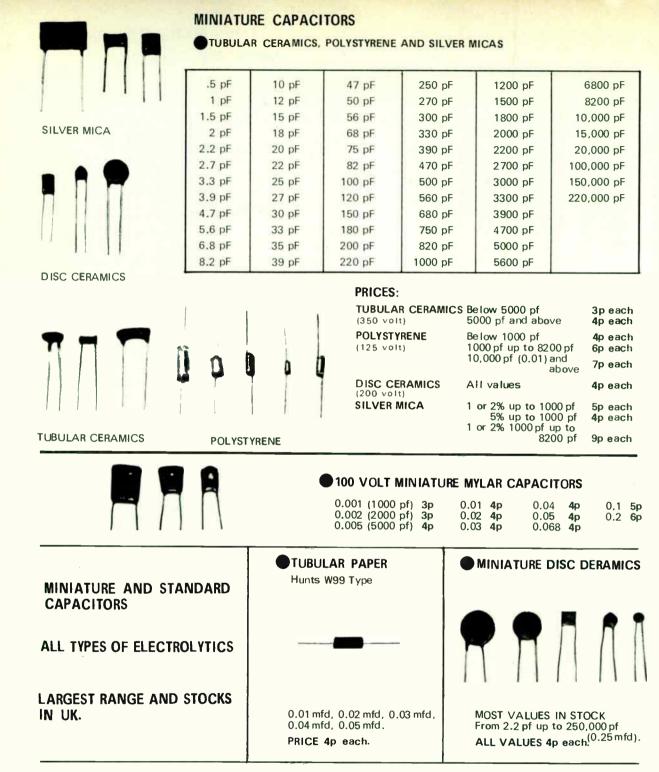
PRICE 15p each

# MINIATURE TANTELUM AND CASTENET TUBULAR CAPACITORS



### PLESSEY - SPRAGUE - GENERAL ELECTRIC - STC

1	mfd	70 v	olt		15 ml	d	20 v	olt
1	11	150	11		16		3	1.0
2	11	25	11		20 "		6	
2		30	11		22 "		35	
2.2		10	11		30 "		30	-11
3	01	15	11		47 "	1	20	11
3 4		70	11		47 "	1	35	11
4.7	11	50			60 '		15	11
10	11	6	D		68 '	r -	60	11
10	. 11	25	11	1	00 '	1	6	н
10	11	150	11	2	00 '	1	3	11
12	- 11	70	6.6	2	20 '	•	6	IT
		2 1/0	OLT TY	DEC	DD	ICE	19p ea	och
PR	ICES	5 10					20p ea	
	IULS		VE 15				20p ea 21p ea	
		ABU	VE 15	V OLI 3	PR	IUE -	zip e	



NOTE: DUE TO OCCASSIONAL SUPPLY DIFFICULTIES WITH CERTAIN TYPES AND VALUES WE CANNOT GUARANTEE TO SUPPLY ANY PARTICULAR TYPE OR VALUE. WE WILL DO OUR BEST, OTHERWISE ALTERNATIVES WILL BE SENT.

PRICES SUBJECT TO 10% DISCOUNT PER 50 OR 15% PER 100 OF ONE VALUE (Not Mixed). SEE PAGE 2 FOR POST AND PACKING CHARGES.

### 186



D1,D2,D3

D7

D8



A3

D10, D11



D12







D15



VHF/UHF SERIES

U1 0.5 to 3 pf U2 0.6 to 5 pf U3 4 to 10 pf U4 2 to 20 pf

PRICE 9p each OR 85p per dozen.

AIRSPACED A1 10 pf A2 20 pf A11 30 pf

**U5** U6 8 to 13 pf 2 to 20 pf

A2

A1/A11

D13

### CERAMIC SERIES

C1	2 to	3½ pf	13p
C2	3 to	6 pf	13p
C3	6 to	25 pf	13p
C4	10 to	60 pf	13p
C5	Twin 6	to 30 pf	10p

### PLASTIC DIELECTRIC

D 12	60+60 pf Twin	8p
D15	Four 2–30 pf Trimmers	10p

A3	10 x 10 pf butterfly type	20p	
A4 A <b>5</b>	Philips etc. 30 pf	12p 15p	

25p 20p 25p

FOR POST AND PACKING CHARGES SEE PAGE 2.



A4

Illustrations Full size.

# MICA DIELECTRIC SERIES

			each	Per dozen
D	1	5 to 60pf	9p	80p
D	2	10 to 80pf	9p	80 <mark>p</mark>
D	3	30 to 140pf	8p	70p
D	4	<b>30 to</b> 2 <b>50</b> pf	8p	80p
D	5	120 to 750 pf	8p	70p
D	6	300 to 1000 pf	8p	70p
D	7	2 to 25 pf	9p	85p
D	8	10 to 80 pf	9p	85p
D	9	5 to 50 pf	6р	60p
D	10	60+ 60 pf Twin	8p	80p
D	11	120+120 pf Twin	8p	80p
D	13	60+ 60 pf Twin		
		Low loss VHF	10p	
D	14	50+50 pf Twin	<b>7</b> p	
D	16	200+200 pf Twin	10p	

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## MINIATURE TUNING CAPACITORS

## HIGH Q' MINIATURE TUNING CAPACITORS

Plastic DielectricOverall size 1" x 1" x %/6" spindle tapped 6BA.500 pf7/6500 pf7/6200 + 200 pf with trimmers8/6





MINIATURE SOLID DIELECTRIC 500 pf TUNER PRICE 30 p



210pf	÷	90pf		1	x	1
192	ŧ	78pf	(Jackson)	15	16 3	с <sup>1</sup>
190	ŧ	190pf	(Plessey)	1	х	1
190	ŧ	190pf	(Plessey)	1	х	1

1	x	1	×	8/16	in
15	16)	< 1.	5/16	× %	in
1	х	T	х	8/16	in.
1	x	1	x	9/16	in

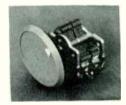
¼" tapped 6BA (with trimmers)	43p
¼" and trimmers	78p
Special Spindle (with trimmers)	43p
Special Spindle (with trimmers) and LW Switch	55p



190pf + 190pf

### MINIATURE AIRSPACED TUNER

165pf + 70pf with trimmers. Supplied with dial as illustrated. Size:  $1\frac{1}{6}$ " x  $1\frac{1}{6}$ " x  $\frac{7}{6}$ " Price 38p





## SOLID DIELECTRIC TUNERS - DILECON

0.0001 (100 pf) 25p 0.0003 (300 pf) 27p 0.0005 (500 pf) 30p Appearance may vary slightly according to stocks.

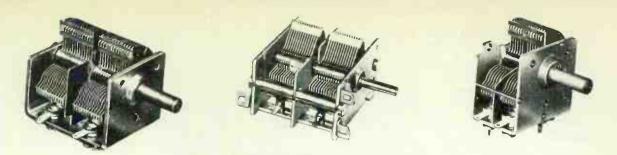
## FEEDTHROUGH CAPACITORS

Standard 1000 pf feedthrough capacitor chassis mounting. Maximum working voltage 350. Price 6p

560 pf feedthrough capacitor. 500 volt maximum working. Dielectric N1500. Price 10p

SEE PAGE 2 FOR POST AND PACKING CHARGES.





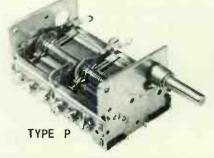
TYPE O

E2 GANG

TYPE 00

AIRSPACED - ALL TYPES WITH STANDARD 1/4 IN. DIAMETER SPINDLE.

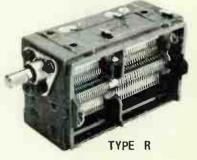
15pf + 15pf	1¾ x 1¾ x 1 in.	For FM with slow motion tuning	Type 00	Price	58p
176pf + 176pf	1¾ x 1¾ x 1 in.	with screen	Type 00	Price	60 <mark>p</mark>
208pf + 176pf	1% x 1% x 1 in.	with screen and trimmers slow motion drive	Type 00	Price	<b>6</b> 5p
208pf + 176pf	1% x 1% x 1 in.	screen and trimmers	Type 00	Price	<b>6</b> 0p
208pf + 176pf	1¾ x 1¾ x 1 in.	with screen	Type 00	Price	50p
365pf single	<mark>1¾ x</mark> 1¾ x 1 in.		Type 00	Price	43p
410pf single	1% x 1% x 1 in.		Type 00	Price	50p
500pf single	AIRSPACED		Type 00	Price	45p
365pf + 365pf	1¾ x 1¾ x 1¾ in.	with screen	Type O	Price	50p
500pf + 500pf	1% x 1% x 2¼ in.	with screen	Type E2	Price	50p
500pf + 500pf	1¾ <mark>x 2%</mark> x 2%in.	with sl <mark>ow</mark> motion drive	Type E2	Price	58p
208pf + 208pf + 176pf	1¾ x 1¾ x 1¾ in.	screen trimmers	Type O	Price	80p
500p <mark>f +</mark> 500p <mark>f +</mark> 500pf	1% x 2% x 3½ in.	with screen	Type E3	Price	83p
500pf + 500pf + 15pf + 1	5pf 3 x 2¼ x 1¾ in.	AM/FM Gang geared drive	Type P	Price	63p
310pf + 310p <mark>f +</mark> 310pf	THREE GANG	1 <sup>11</sup> / <sub>6</sub> x 2 <sup>3</sup> / <sub>4</sub> x 3 <sup>11</sup> / <sub>6</sub> in. long	Type E3	Price	<b>97</b> p
310p <mark>f + 31</mark> 0pf	TWIN GANG	$1^{11}/_{16} \times 2^{3}/_{16} \times 2^{11}/_{16}$ in.	Type E2	Price	63p
325p <mark>f + 27</mark> 5p <mark>f</mark>	<mark>2 x 1</mark> %x 1% in.	with geared drive	Type Q	Price	3 <b>7</b> p
400p <mark>f +</mark> 450p <mark>f</mark>	3¼ x 2 x 1½ in.	with geared drive	Type R	Price	42p



AIRSPACED TUNING CAPACITORS



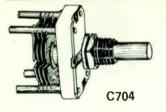
TYPE Q



See Page 3 for post and packing charges.

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# SHORT WAVE TUNERS AND TRIMMER CAPACITORS

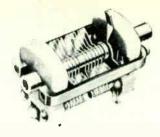






Jackson C808 25 x 25pf split stator PRICE 63p Jackson C704 25 x 25pf differential PRICE 48p JACKSON C804 TYPE AIRSPACED TUNERS PRICE 48p each 5pf, 10pf, 15pf, 25pf 48p each 50pf, 100pf 53p 150pf **TWIN 100pf SHORTWAVE TUNER** Overall frame size 21/4" x 11/2" x 11/4". 40p

AIRSPACED PRESET TUNERS TYPE C.801 PRICE 25p Maximum Capacity 20pf ... 11 50pf PRICE 25p .... 75pf PRICE 32p



**TYPE C.808** 



**TWIN 100pf TUNER** 

**TYPE C.801** 

SHAFT ADAPTORS - COUPLERS - REDUCTION DRIVES (SEE SEPARATE SECTION FOR VERVIER DRIVES, DIALS AND ASSEMBLIES)

FLEXIBLE INSULATED COUPLER



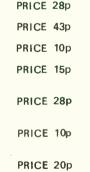


1/4" to 1/4" SHAFT ADAPTOR

ALL TYPES FOR 14" DIAM. STANDARD SHAFTS UNLESS STATED.

See Page 2 for post and packing charges

6:1 reduction ball drive	PRICE 28p
36:1 reduction ball drive	PRICE 43p
Spindle couplers	PRICE 10p
1% in. spindle extension	PRICE 15p
Eddystone insulated flexible coupler	PRICE 28p
Sub-miniature insulated flexible coupler for ½" shafts	PRICE 10p
1/4" spindle to 1/6" spindle adaptor insulated coupler	PRICE 20p





**BALL DRIVE** 



COUPLER





SUB-MINIATURE COUPLER

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**EXTENSION** 

Type No.	Application	Metres	Kc/s	Tuner pf.	Price each
XSA37	SHORT WAVE COILS Aerial Blue/Green	16/36	19200/8340	208	42½p
XSF38	R.F. Blue/White	16/36	19200/8340	208	42½p
XOS36	Oscillator Blue/Red	16/36	19200/8340	176	42½p
XSA34	Aerial Red/Yellow	35/75	8560/4000	208	42½p
XSF35	R.F. Blue/Yellow	35/75	8560/4000	208	42½p
XOS36	Oscillator Blue/Red	35/75	8560/4000	176	42½p
XTA31	Aerial Blue/Mauve	75/170	4000/1765	208	42½p
XTF32	R.F. Blue/Black	75/170	4000/1765	208	42½p
хтозз	Oscillator Blue/Brown	75/170	4000/1765	176	42½p
XMA41	MEDIUM/LONG WAVE Aerial (mw) Two/Yellow	190/550	1580/545	208	42½p
XMF42	R.F. (mw) Two/Brown	190/550	1580/545	208	42½p
XLA43	Aerial (Iw) Two/White	800/2000	375/150	208	42½p
XLF44	R.F. (Iw) Two/Mauve	800/2000	375/150	208	42½p
XO28	Oscillator Two/Black	190/2000	1580/150	176	42 ½p
хт <mark>50/1</mark>	Double Tuned I.F. Code First Stage	Blue/White	465/475	Core Tuned	47½p
XT50/2	Double Tuned I.F. Code Second Stage	Red/Green	465/475	Core Tuned	47½p
<b>X T</b> 50/3	Single Tuned I.F. Third Stage including diode and bypass condenser	Brown	465/475	Core Tuned	62½p

## REPANCO RF AND IF COILS FOR TRANSISTOR CIRCUITS.

(See separate section for Ferrite Aerials).



Aluminium Screening Cans, %'' x %'' x %''. Ferrite Pot Cores. Soldering Pins for P.C.B. mounting. Special grade Ferrite used on short wave range. Each coil supplied with suggested circuit.

These three transformers are designed to work together giving a total gain of 100 db and an overall sensitivity of 20  $\mu$ v/m for 50 m/w output. Selectivity is of the high order of ± 3.5 Kc/s at the 6 db bandwidth points and attenuation approaching -40 db at ± 9 Kc/s.

Can size 1" x ½" x ¾" high. P.C.B. pins.



### OSMOR

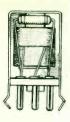
Coils for Transistor Circuits



Түре	Size	Description	Wa <mark>veband</mark> s	Tune <mark>r (p</mark> f)	I.F.	Price	
PW/01	<sup>3</sup> ⁄ <sub>4</sub> x <sup>5</sup> / <sub>8</sub> in. diam.	6 Pin Oscillator	MW/LW	208 + 176	470 Kc/s	30p	
<b>P</b> W/2	<sup>3</sup> ⁄ <sub>4</sub> x <sup>5</sup> / <sub>8</sub> in. diam.	1st and 2nd I.F.T.'s (white)	_	_	470 Kc/s	33p each	
PW/3	$\frac{3}{4} \times \frac{5}{8}$ in. diam.	Final I.F.T. to Diode			470 Kc/s	33p	

See Page 2 for post and packing charges

# **DENCO TRANSISTOR RECEIVER COMPONENTS**



For Printed-Circuit Board or Chassis Mounting.

IFT.13 Miniature Single Tuned 470kc/s I.F. Transformer

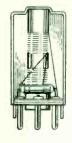
PRICE 40p each. These transformers are wound in ferrite pot-cores with an adjustable core for tuning. The aluminium screening can measures  $\frac{17}{32}$  " square x  $\frac{11}{16}$ " high and is provided with two fixing clips. Nominal frequency: 470kc/s. Q=110 (IFT13)

IFT.14 Miniature Single Tuned 465–470kc/s Last I.F. Transformer.

Aluminium screening can measures  $\frac{17}{32}$  " square x  $\frac{11}{16}$  " high. Nominal frequency:465 to 470kc/s. Q=130 (Suitable also for use as a BFO Coil)PRICE 40p each.

• IFT.16/1.6 Miniature Single Tuned I.F. Transformer. 1.6 Mc/s Nominal IF frequency.

A miniature 1.6mc/s I.F. Transformer complete with capacitor and adjustable ferrite-core and enclosed in an aluminium screening can measuring <sup>17</sup>/<sub>32</sub> " square x <sup>11</sup>/<sub>16</sub> " high with two fixing clips. Nominal frequency: 1.6mc/s.
IFT.17/1.6 Miniature Single Tuned 1.6mc/s Last I.F. Transformer.
Aluminium screening can measures <sup>17</sup>/<sub>32</sub> " square x <sup>11</sup>/<sub>16</sub> " high. Nominal frequency: 1.6mc/s.
IFT.18/465 Double Tuned I.F. Transformer, 465–470kc/s I.F. Frequency
Aluminium screening can measures <sup>17</sup>/<sub>32</sub> " square x 1½" high. (use IFT14 as last I.F.)
PRICE 53p each.
IFT.18/1.6 Double Tuned 1.6mc/s IFT. Size as above. 1.6mc/s nominal frequency
(Final I.F. use IFT17/1.6 – see above)



### DENCO TRANSISTORIZED FM RATIO DISCRIMINATOR & IF TRANSFORMERS TYPE RDT.2 & IFT.15

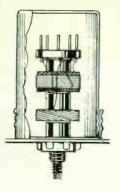
- IF Transformer, IFT.15 A 10.7 Mc/s double tuned transformer with tapped secondary and primary windings. Wound on polystyrene former complete with iron-dust tuning cores and sub-miniature polystyrene-foil capacitors. Completely enclosed in an aluminium screening can  $\frac{7}{8}$  " high x  $\frac{17}{32}$  " square with two fixing clips. Termination is made to base mounted silver plated pins which are ideal for either printed circuit board or normal metal chassis mounting. Bandwidth of single transformer at -6db is approx. 250kc/s. Unloaded 'Q' of winding 70 PRICE 55p each.
- Ratio Discriminator Transformer, RDT.2. A sub-miniature 10.7mc/s transformer for use in ratio discriminator type circuits. Secondary winding is of bifilar construction. Dimensions as IFT.15. Peak separation approx. 220kc/s.
   PRICE 55p each.

DENCO VALVE COMPONENTS (See also range of Denco plug in coils & IFTS, Weymouth and Osmor valve coils & IFTS).

DENCO RDT.1.	Ratio Discriminator Transformer 10.7mc/s 1" sq. x $2\frac{5}{16}$ " bifular wound for value circuits.	62½p
DENCO IFT.12.	85kc/s narrow band IF Transformer 1" sq. x $2\frac{5}{16}$ ". For double superhet communication receivers.	80p
DENCO PDT.1.	Phase Discriminator 10.7mc/s.	55p
DENCO BFO.2.	Beat frequency oscillator coils $\frac{7}{8}$ " sq. x 1 $\frac{3}{8}$ ".	
	Available 85kc/s; 465kc/s; 1.6mc/s (please state) each 50p	

See Page 2 for post and packing charges.

# **DENCO TRANSISTOR TUNING COILS**



EACH COIL CAN BE USED FOR CHASSIS MOUNTING OR PLUGGING INTO A STANDARD NOVAL (B9A) VALVEHOLDER.

- Coils for transistor superhets and converters, with or without an R.F. stage and using 465 kc/s or 1.6 mc/s I.F.
- Formers are moulded in coloured low-loss polystyrene for easy identification.
- \* Each coil is packed in an aluminium container which may be used as a screening can.
- <sup>\*</sup> Brass threaded adjustable iron-dust cores complete with connection diagram.
- \* For use with OC169/OC170/OC171 or similar transistors.

The following colour code identifies the coils:

uplings.
1.F.
I.F.



(Please quote type number from the table below).

\* Complete technical information on the coils and full instructions for their use is given in technical Bulletin DTB.4. Price 12½ p

## (QUOTE TYPE NUMBER AND COLOUR WHEN ORDERING)

Type No.	Colour Code.	DESCRIPTION	WAV Metres.	EBAND Mc/s.	lF Frequency.	Circuit and Sizes
1 <b>T</b>	Blue	Aerial (LW)	2000/750	0.15/0.4	-	
1T	Yellow	RF Coil (LW)	91	u		
1T	Red	Oscillator (LW)	u	"	465/470 Kc/s.	and g or
1T	White	Oscillator (LW)	0		1.6Mc/s.	ing
2 <b>T</b>	Blue	Aerial (MW)	580/194	0.515/1.545	_	cans
2 <b>T</b>	Yellow	RF Coil (MW)	н		_	th cans and mounting or
2 <b>T</b>	Red	Oscillator (MW)	н	0	465/470 Kc/s.	
2 <b>T</b>	White	Oscillator (MW)	u .	u	1.6Mc/s.	pplied wi
3T	Blue	Aerial (SW)	180/57	1.67/5.3	_	supplied
3T	Yellow	RF Coil (SW)				ddn e
зT	Red	Oscillator (SW)		ч	465/470 Kc/s.	
3T	White	Oscillator (SW)		11	1.6Mc/s.	%" diam. Single h
4T	Blue	Aerial (SW)	60/20	5/15	_	ر» diam Single I
4T	Yellow	RF Coil (SW)		11		Sir
4 <b>T</b>	Red	Oscillator (SW)	н	п	465/470 Kc/s.	1
4 T	White	Oscillator (SW)	н	н	1.6Mc/s.	1½" x tions.
5T	Blue	Aeriai (SW)	28/9.5	10.5/31.5		
5T	Yellow	RF Coil (SW)		-0	_	0 2
5T	Red	Oscillator (SW)	u .	50	465/470 Kc/s.	Size inst
5T	White	Oscillator (SW)	11	п	1.6Mc/s.	
					465/470 Kc/s.	

The above table gives the coverage obtained with Transistor Coils using the recommended 300/310pF Tuning Condenser.

# WEYMOUTH (WEYRAD) TRANSISTOR SUPERHET COILS (As used for many published circuits)

* P50/14		for OC44 or equiva		s	PRICE
		vith 208 and 176 tu	ner)	Size ¾" x 5	30p
* P50/20				512e 74" X	30p
* P50/30				,	33p
/51	Construct	coils (1) P50/1AC, ( ion Handbook for M ircuit Panel <b>50p</b>			125p 10p te Aerial 75p
* P51/1 * P51/2 * P50/3 * P50/14	2nd IFT fo Final IFT	r AF117, OC170 etc or AF117, OC170 etc to Diode oscillator coil as ab	c.	} Size ¾" x *	30p 30p %" diam. 33p 30p
-	Set of 4 C	coils(1)P50/1AC,(	1) P51/1, (1) P	51/2, (1) P50/3v	125p
* T41/1E * T41/2E Series * T41/3T	2nd "	e Tuned IFT for AF1 """" with Diode and Cap	11 11 11		40p x <sup>1</sup> / <sub>2</sub> " x <sup>3</sup> / <sub>4</sub> " 40p 55p
	•	1/3T can also be us			
+ T41/3k		lator coil is suitable		on application.	20-
+ T41/4F		s Interstage IF – 2 ( s Ratio Detector – (		Size 1" x 1	38p 2" x ¾" 50p
		$\begin{array}{c} \text{COL} O_2 & \text{5O} \\ \text{EARTH} O^1 & \text{6O} \\ \end{array}$		4 01 50 BIAS DIODE	P50/3
		INPUT	НТ		CQL. HT
T41/3K col	BAS HT 2 _ 3		$ \begin{array}{ccc} O & O \\ 2 & 3 \\ 5 & 4 \\ O & O \end{array} $	COLOUR 6	O O 2 3 5 4 O O
	PRIMARY	<u> </u>	ASE BIAS	T41/2E	BASE BIAS
F COOO			нт О О 2 3		
SECO	NDARY BIFILIAR WOUND		5 4		
T41/4R2					
		A T41/3T	UDIO AVC or E.		st and packing charg

# TRANSISTOR SUPERHET COIL SETS







**7m**m



TYPE C and C1

TYPE 'A7'	Set of (4) 7mm osc. and 3 IFTS for 465-470Kc/s IF.	<b>PRICE £0.65</b>
TYPE 'B'	As above, but for 455 kc/s	PRICE £0.65
TYPE 'C10'	Set of (4) 10mm coils for 455 kc/s IF	PRICE £0.65
T YPE 'C 12'	As C10, but for 465 to 470 kc/s IF	PRICE £0.65
TYPE ' <mark>C 14'</mark>	Set of (4) 10mm IFS for 455 kc/s. (1) each 040 and 041 – used as a double tuned IF for 1st stage. (2) 042 2nd and final IFT's	PRICE £0.60
TYPE 'DO'	Set of (4) Osmor coils. Size ¾" x ¾" diam. 465— 470 kc/s IF	PRICE £1.20
TYPE 'EW <mark>'</mark>	Set of (4) Weymouth P50 series P50/1AC, (2) P50 2CC, P50/3CC	PRICE £1.25
TYPE 'FW'	Set of (4) Weymouth P50/ 1AC, P51/1, P51/2, P50/3V	PRICE £1.221/2
TYPE 'GA'	Set of (4) Repanco, single tuned. (1) Oscillator X028 (2) XT26, XT27	PRICE £1.45
TYPE 'HR'	Set of (4) using Repanco double tuned IFTS, X028, Oscillator, XT50/1, XT50/2 XT50/3	PRICE £1.80

	H402	
TYPE C	Features set of 7mm square IFTS and open type oscil- lator coil. 455 Kc/s IFT. Medium wave ferrite aerial with car coupling coil. Size $5^3\Lambda_6" \times 3^8$ " dia. Twin Air- spaced tuner 165pf + 70pf with trimmers complete with tuning knob.	PRICE £1.00
TYPE C1	As above, but for medium wave and long wave (no car coil) (As used for Med LW tuner- see earlier section of catalogu	PRICE £1.15
T YPE H402	Set of (4) 10mm IFTS and Oscillator with miniature gang tuner and ferrite aerial with circuit.	PRICE £1.25
TYPE 13	Set of FM IFTS' Discrimin- ator, OSC., Coil, RF and Aerial Coils as used on Henry's FM Tuner (See earlier sections)	PRICE £1.75
TYPE 14	Set of (4) Weymouth FM IFT's. 10.7 Mc/s (3) T41/3K (1) T41/4R2 Ratio detector.	
TYPE 15	Set of (3) Weymouth double tuned 465/470 kc/s IFs. (1) T41/1E, (1) T41/2E, (1) T41/3T	PRICE £1.25
TYPE 16	Set of (3) 10mm FM 10.7 Mc/s IFT's. With circuit.	PRICE £0.65

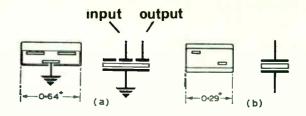
For post and packing charges, see Page 2.

## TRANSFILTERS

Used in place of the IFT (using Type TO or D) and emitter by pass capacitor (using Type TF-01D) in Transistor Superhet Circuits. Circuits can use transfilters throughout or a combination of these with conventional IFTS.

**TO-02D** Ceramic Piezo electric 4-terminal filter. 470 kc/s  $\pm$ 1 kc/s, Input capacity 480pf, Output 2650pf, Input Impedance 4K-15K. Output 680 ohms to 3K. Stability within 0.2% for 10 years.  $\pm$  0.1% from -20°C to +60°C. Operation at Anti-Resonance. Insertion Icss 3dB.

**TF-01D** Ceramic filter to replace emitter By-pass capacitor. Capacity 500pf. Impedance at 470kc/s, less than 15 ohms. Stability as TO-02D above. 2 volts maximum. Nominal frequency 470kc/s ± 2 kc/s.



TRANSFILTER DETAILS (a) type TO (b) type TF



TF-01D PRICE 47p TO-02D PRICE 47p

# DENCO I.F. TRANSFORMER IFT.II AND DISCRIMINATORS 465 kc/s, 1.6 & 10.7 mc/s For Valve Circuits (See separate section for Transistor Types).



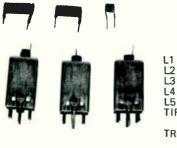
Miniature I.F. Transformers available for either 465 kc/s, 1.6 mc/s or 10.7 mc/s giving excellent performance at low cost. The coils are Litz wound and are permeability tuned with high grade 'Neosid' iron dust cores. Coupling is critically adjusted to give maximum gain with good selectivity. Ideal for use with miniature B9A or B7G based valves.

IFT.11/465: Q at 465 kc/s-75. IFT.11/1.6 mc/s-100. IFT.11/10.7 mc/s-90.

Fixing: Two 6B.A. screws provided. Screening can: Extruded aluminium 1% x 13/6" square.

\* IFT 11/465 PRICE 50p each \* IFT 11/1.6 PRICE 50p each \* IFT 11/10.7 PRICE 50p each \* RDT1 10.7mc/s Ratio Discriminator PRICE 671/2p

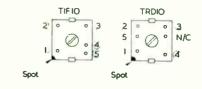
\* PDT1 10.7mc/s Pulse Discriminator PRICE 55 p



# HENRY'S FM COIL SET

L1Aerial coil code blue17pL2RF coil, code red12pL3Reactor coil (Eh.)11pL41st IFT 107 mc/s code orange20pL5Oscillator coil, code black12pTIF102nd & 3rd 107 mc/sIFT's, code brown 48p ea.

TRD10 Ratio detector coil code yellow 60p



2nd/3rd I.F. and ratio detector coils (looking at the pins)

Complete circuit using these coils available free on request. (Ref.no.3/4)

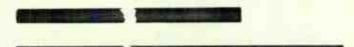
See page 2 for post and packing charges.

FERRITE AERIALS

100% BEST GRADE FERRITE



ТҮРЕ	WAVEBAND	TUNER	SIZE (inches)	DETAILS	CIRCUIT	PRICE
TSL1	MW	250/300pf	23/4 × 3/4	Slab with Secondary	With Aerial	17p
ML5 R3	MW/LW MW	365 pf 365 pf	5 x 5/16 diam. 4 x 5/16 "	Tapped with MW Reaction	_	3 <sup>.</sup> 0p 20p
FS3	MW	208 pf	3 x 1	Slab with Secondary	With Aerial	47p
FS4	LW	208 pf	3 x 1	Slab with Secondary	With Aerial	47p
FR1	MW/LW	500 pf	8 x 3/16 diam.	For Valve Circuits	-	62p
FS30	MW/LW	208 pf	5½ x 1	Slab with Secondaries	-	62p
FS48	85/200 metres	208 pf	5½ x 1	Slab with Secondaries	With Aerial	47p
FR2	MW/LW	365 pf	8 x ⁵⁄ <mark>₁₀ d</mark> iam.	With Secondaries	Regency	62p
MLT	MW/LW	165 pf	5¾ x ¾ "	A	s MW/LW Tune	45p
RA2W	MW/LW	208 pf	6 x <sup>2</sup> / <sub>16</sub>	With Car Aerial Coil.	Weyrad (10p	) 70p
RTC5 RTC6	MW/LW MW/LW	208 pf 365 pf	$5 \times \frac{3}{6}$ $6 \times \frac{3}{6}$	With car coil		30p 35p 30p
RTC6 MS3	MW/LW MW	365 pf 365 pf	$5 \times \frac{3}{16} \times \frac{3}{4} \times \frac{1}{8}$	With coupling coils		





# FERRITE RODS

	4 inch Length	<sup>5</sup> /16 inch diameter	10p	6 inch Length	¾ inch diameter	15p
ĺ	4 " "	3/8 11 11	12p	8 " "	5/16 II II	18p
	5 " "	5/16 II II	12p	8 " "	3/8 11 11	20p
	5 " "	1/4 11 11	12p	10 "	3/8 11 11	25p
1	Slab 6" x 1/2" x 5/32"		15p			

See Page 2 for post and packing charges.

# **OSMOR 'O' COILS AND RF CHOKES**

(All Coils include Circuit Connection Details).

FOR VALVE CIRCUITS



● HIGH 'Q' LOW LOSS ADJUSTABLE CORES ● ONE HOLE FIXING ● MAINS OR BATTERY SUPERHETS, I.F. 450-480 Kc/s. Size 1 inch x ½ inch diameter

			Colou	r Code	2	Induct (microh			0.1.1
Coil No.	Waveband (metres)	Stage	Foot	Body	Coupling	Min.	Max.	Fixed Con. Value	Price each
QA1 QHF1 QO1	S.W. 13–35	Aerial H.F. Osc.	Blue Green Red	Purple	Aperiodic "	0.6 0.6 0.5	1.1 1 <i>.</i> 1 0.7	0.1 mfd 0.1 mfd 4500 pf	20p 20p 20p
QA2 QHF2 QO2	S.W. 15–50	Aerial H.F. Osc.	Blue Green Red	Yellow "	Aperiodic ″	1.4 1.4 1.1	1.9 1.9 1.6	0.1 mfd 0.1 mfd 4500 pf	20p 20p 20p
QA3 QHF3 QO3	S.W. 35-120	Aerial H.F. Osc.	Blue Green Red	Green	Aperiodic "	3 3 2.5	5 5 4.8	0.1 mfd 0.1 mfd 4500 pf	20p 20p 20p
QA4 QHF4 QO4	Shipping 70–230	Aerial H.F. Osc.	Blue Green Red	Black	Aperiodic ,,	17 17 10	42 42 22	0.1 mfd 0.1 mfd 2500 pf	20p 20p 20p
QA5 QHF5 QO5	M.W. 190–520	Aerial H.F. Osc.	Blue Green Red	Blue ,,	Bottom end condenser	130 130 70	215 215 130	2500 pf 2500 pf 470 pf	20p 20p 20p
QA6 QHF6 QO6	L.W. 800–2000	Aerial H.F. Osc.	Blue Green Red	Red "	Bottom end condenser	1600 1600 400	2600 2600 720	2500 pf 2500 pf 150 pf	20p 20p 20p
QA8 QHF8 QO8	M.W. 190–560	Aerial H.F. Osc.	Blue Green Red	Brown	Aperiodic "	100 100 65	175 175 120	0.1 mfd 0.1 mfd 470 pf	20p 20p 20p
QA9 QHF9 QO9	L.W. 800–2000	Aerial H,F. Osc.	Blue Green Red	Clear "	Aperiodic "	2000 2000 400	2600 2600 720	0.1 mfd 0.1 mfd 150 pf	20p 20p 20p
QA61	L.W. 800–2000	Aerial H.F.	Blue Green	Red	Bottom end condenser	1800 1800	2600 2600	2500 pf 2500 pf	25p 25p
QA81	M.W. 190–520	Aerial H.F.	Blue Green	Brown	Aperiodic "	100 100	175 175	0.1 mfd 0.1 mfd	25p 25p
QA91	L.W. 800–2000	Aerial H.F.	Blue Green	Clear	Aperiodic	2000 2000	2600 2600	0.1 mfd 0.1 mfd	25p 25p

The above stated wavebands are obtained with a 500 pf (0.0005) tuning condenser. However a 365 pf may be used reducing by about  $\frac{1}{8}$  th the low frequency end of the waveband, i.e., M.W. with 500 pf tuning covers 190-560 metres, reduces to cover 190-490 metres with 365 pf tuning capacitor.

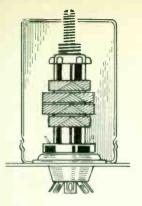
### SUNDRY COILS AND CHOKES

QR11D	MW/LW T.R.F. Dual Range with reaction	••	 48p
QA11D	MW/LW T.R.F. Dual Range	••	 38p each
QA12D	MW/LW H.F. Coil for T.R.F		38p
SWQ1	SW 11 to 31 Mc/s Aerial/H.F. with reaction		38p
SWQ2	SW 4½ to 12 Mc/s Aerial/H.F. with reaction	••	 38p

- Coils may also be used as tuning
  - chokes for valve and transistor circuits.
    - See separate section for all transistor coils and chokes

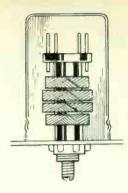
See Page 2 for post and packing charges.





# DENCO MINIATURE DUAL PURPOSE VALVE COILS

Every coil is provided in an airtight aluminium container the size of which has been calculated to enable you to use it as a screening can for (Order range number and colour). the coil.



Complete range for Superhet or Straight receivers.

Plug-in Application

BLUE:	Signal grid coil with aerial coupling winding	RANGES	1, 2, 3, 4 & 5	PRICE 30p	ea <mark>ch</mark>
YELLOW:	Signal grid coil with inte <mark>r-v</mark> alve coupling winding		1, 2, 3, 4 & 5	<b>30</b> p	each
GREEN:	Grid coil with reaction and coupling windings (6-pin).		1, 2, 3, 4 & 5	33p	each.
RED:	Superhet oscillator for 465 kc/s IF		1, 2, 3, 4 & 5	30p	each
	(ORDER RANGE NUMBER AND COLOU	R)			

Complete technical information on the coils and full instructions for their use is given in TECHNICAL BULLETIN DTB.4

The following table gives an indication of the coverage obtained with Miniature Dual Purpose Coils using the recommended 300/310 pf tuning condenser.

Range	1	2	3	4	5
Mc/s.	.150/.400	.51 <mark>5/1.545</mark>	1.67/5.3	5/15	10.5/31.5
Metres	2000/750	5 <mark>80/19</mark> 4	180/57	<mark>60/20</mark>	28/9.5



Coils wound on low loss polystyrene formers.

# REPANCO GENERAL PURPOSE COILS

Туре	Application	Waveband		Tuner	Price
No.	Approation	Metres	Kc/s	pf	
DRX1	Crystal Set	200/500 1000/2000	1500/600 300/150	500	18p
DRR2	High gain dual range with reaction for valve sets Quality Crystal Feeder Units	200/550 1000/2000	1500/600 300/150	500	28p
DRM3	High gain matched pair dual range extra selective for TRF Receivers	190/500 900/2000	1580/545 330/150	500	63p pair
SH4	Pair of dual range aerial and oscillator coils. Complete coil set for a two wave- band Superhet Receiver	190/550 800/2000	1580/545 375/150	500	63p pair

See Page 2 for post and packing charges.

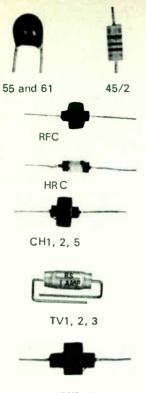
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World Radio History

Chassis Mounting Application

12½p





CH3,4

RFC 8







P100



CHOKE CORE





# AUDIO OSCILLATOR HIGH 'Q' CHOKES

(Centre ta using Tuni	pped for Hartley Oscillator Transistor Circ ing Capacitors in Range 0.01 to 0.22 mfd).	cuits
50 mH	(Code RED) RANGE 2 to 4 kc/s	49p
<b>23</b> mH	(Code YELLOW) RANGE 4 to 8 kc/s	49p
10 mH	(Code WHITE) in screened can RANGE 8 to 16 kc/s	65p

SEE PAGE 2 FOR POST AND PACKING CHARGES.

HIGH 'C	AUDIO-RF-SW-VHF CHOKES.	
RFC (CH5)	1.5mH )	15p
CH1	2.5mH 5/1" Long Ferrite Core Chokes.	15p
CH2	5mH (Max allowable current about	1 <b>7</b> ½p
CH3	7.5mH (25mA, Maximum voltage about 100v DC).	17½p
CH4	10mH	20p
CH5 (RFC)	) 1.5mH	15p
CH6	5 micro Henry %" Long	15p
3635/61	100mH Code Black/Yellow. Miniature	20p
3635/55	33mH Code Orange x 3 sealed	20p
3640/45/2	2 10µH Code Black/Black/Brown) chokes	15p
T∨1	1 Amp 5 microHenry General Purpose	8p
TV2	2 " 6.5 " SW and	10p
TV3	3 " 4 " ) Suppressor Chokes.	13p
HRC	Radio Control and SW Choke.	<b>6</b> p
QC	100 MicroHenry adjustable ferrite core choke. $7_{16}$ " x $\frac{1}{6}$ "	15p
RFC5	2.5mH 100mA Choke. 20 ohms 2/60 mc/s	<b>25p</b>
RFC7	19mH 60mA Choke 135 olims 2/60 mc/s	25p
RFC8	5µH 100mA <sub>"</sub> 0.5 " 20mc∕sup	<b>2</b> 5p
RFC9	2.6mH 250mA " 9.3 " 1.7/60 mc/s	46p
Bulgin	250mA Transmitting Choke	40p
P100	100mH Ferrite Pot Core 14mm Diam x 8mm	40p
QC1	23mH Adjustable Choke	38p
Core	$\frac{1}{16}$ x $\frac{1}{8}$ diam. Dust Iron Choke Cores 4p each 40p d	ozen
Beads	Anti-Parasitic 5mm x 4mm diam. Hole 2mm 19p d	ozen



# **MINIATURE COIL FORMERS**

Туре	Former Diameter	Overall Length	Mounting	Core Type	Former Price
1	5 mm	16 mm	PC	1s or 1f	7p
2	7 mm (¼")	21mm (7/3")	2 x 68A	2s	6р
3	7 mm (¼11)	27mm (1½")	PC	3s	9p
4	10 mm	29mm (%")	2 x 68A	4s	<b>6</b> p
5	8 mm	34mm (1 <sup>3</sup> / <sub>8</sub> ")	PC or 2x6B	A 5s	9p

Dust Cores 1s, 2s, 3s, 4s, 5s PRICE 3p each. QUOTE Ferrite Cores Available for former type 1 only. Ref 1f. PRICE 4p

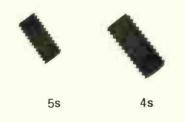
Top Rings Available to fit types 2 & 3 only. Price 1p ea.





2s

TYPE 1s



3s

#### MCA/ 100 MINIATURE COIL ASSEMBLY

For all applications. Supplied with one Ferrite Core, suitable up to 100 Mc/s. Can Size: 18 x 14 x 14 mm.

Former: 5 mm dia. x 14 mm.

Termination to 6pins. Can accommodate 2 cores for double tuned applications

MCA/100

PRICE 15p (Extra cores, Type 1F PRICE 4p).

ALSO IN STOCK

illustrated.

**TYPE 1** 

2

4

MINIATURE TRINMING TOOL FOR ALL CORE ADJUSTMENTS ANTI-PARASTIC BEADS 5 mm x 4 mm DIAMETER WITH 2 mm HOLE DUST IRON CHOKE CORES – AXIAL WIRELEADS  $\frac{7}{4_6}$  x  $\frac{1}{6}$  DIAM.

3

5

PRICE 6p PER DOZEN PRICE 19p PRICE 4p

SEE SEPARATE SECTION FOR FERRITE CORE ASSEMBLIES

SEE PAGE 2 FOR POSTAL CHARGES

10 D/WR ADJUSTABLE ASSEMBLY

Fixing by 2 x 6BA. Max. diameter 1/11.

Overall length 1". For use in range 100 Kc/s to 12 Mc/s. Supplied complete as

> 10 D/WR PRICE 25 p

> > 201

World Radio History

1

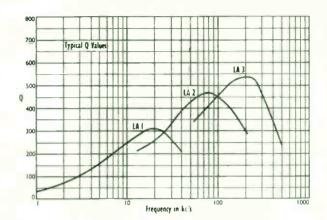
- LAI Size  $1\frac{3}{16} \times 1\frac{3}{16} \times 3\frac{3}{16}$  inch. For use up to (GE110A) 30 kc/s. Effective permeability 110. Maximum 'Q' at 25 kc/s is 325. Number of turns for ImH are 52. 85p
- **LA2** Size  $1\frac{3}{16} \times 1\frac{3}{16} \times \frac{3}{16}$  inch. For use up to
- (GA110B) 100 kc/s. Effective permeability 60. Maximum 'Q' at 80 kc/s is 475. Number of turns for ImH are 65. 85p
  - LA3 Size  $1\frac{3}{16} \times 1\frac{3}{16} \times \frac{3}{4}$  inch. For use up to 500 kc/s. Maximum 'Q' 525 at 200 kc/s Maximum permeability is 40. 85 turns for ImH.
  - LA4 Size  $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{7}{8}$  inch. For use up to 30 kc/s. Effective permeability 60. Maximum 'Q' at 25 kc/s is 425. Number of turns for ImH are 54. £1.15
  - **LA5** Size  $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{7}{8}$  inch. For use up to 100 kc/s. Effective permeability 35. Maximum 'Q' at 80 kc/s is 575. Number of turns for ImH are 70. **£1.35**
- LALA6Size  $1\frac{1}{2} \times 1\frac{1}{2} \times \frac{7}{8}$  inch. For use up to<br/>500 kc/s. Effective permeability 20.<br/>Number of turns for ImH are 92.<br/>Maximum 'Q' is 525 at 200 kc/s.<br/>£1.35
  - LA7 Size as LA6. Up to 10 kc/s. Effective permeability 115. Maximum 'Q' 375. at 8 kc/s. 39 turns per I mH. £1.35
  - **LA9** Size  $1\frac{5}{8} \times 1\frac{5}{8} \times 1\frac{5}{16}$  inch. 87p

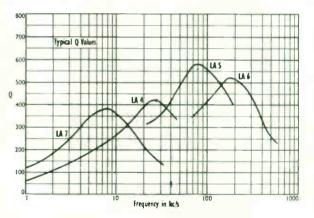
LA10 Size  $1\frac{5}{8} \times 1\frac{5}{8} \times 1\frac{1}{4}$  inch. 87p

MULLARD FERRITE POT CORES (NOTE: AVAILABILITY UNCERTAIN)

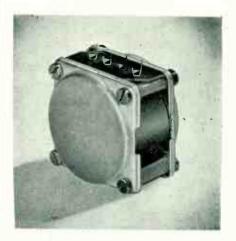
Supplied complete with former and clamps







Type No.	Freq. Range	Eff. Perm µe	$= \frac{\Delta \mathbf{L}}{\mathbf{L}} / ^{\circ} \mathbf{C}.$	Turns for 1mH. (L a N <sup>2</sup> )	winding	Hyster. Loss F <sub>h</sub>	Nom. Gap Length (mm.)
LA.I	Below 30 kc/s	110	<+330×10-6	52	33 mm. <sup>2</sup> or 0.05 in. <sup>2</sup>	< 54.5	0.5
LA.2	30-100 kc/s	68	<+200×10-6	65	33 mm. <sup>2</sup> or 0.05 in. <sup>2</sup>	< 26.5	0.2
LA.3	100-500 kc/s	40	<+ 120×10 <sup>-6</sup>	85	33 mm. <sup>2</sup> or 0.05 in. <sup>2</sup>	< 11.9	1.0
Туре No.	Freq. Range	Eff.Perm. ≔µe	$\frac{\text{Temp. Coeff.}}{=\frac{\Delta L}{L} / \text{°C.}}$	Turns for lmH. (LαN²)	Winding Area	Hyster. Loss F <sub>h</sub>	Nom Gap Length (mm.)
LA.7	<10 kc/s	115	<+345×10 <sup>-6</sup>	39	48 mm. <sup>2</sup> or 0.075 in. <sup>2</sup>	< 31.9	0.5
LA.4	10-30 kc/s	60	<+180×10 °	54	48 mm. <sup>2</sup> or 0.075 jn. <sup>2</sup>	< 12.0	0.5
LA.5	30-100 kc/s	35	<+100×10 6	70	48 mm. <sup>2</sup> or 0.075 in. <sup>2</sup>	< 5.4	1.0
		1	1		48 mm.2 or		



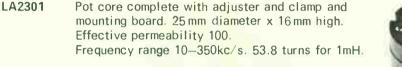
FOR POST AND PACKING CHARGES, SEE PAGE 2

### FERRITE POT CORES

- 4200/N3014mm diameter x 8mm. 23.8 turns for 1mH up to 1mc/s.Price 25p2100/T2614mm diameter x 8mm. 47.5 turns for 1mH up to 1mc/s.Price 32p160/N2218mm.diameter x 14mm high. For use up to 10mc/s.<br/>86.5 effective permeability. 0.3 air gap. 62½ turns per 1mH.Price 35p
- 250/N22 23mm diameter x 17mm high. For use up to 10mc/s.
  80.5 effective permeability. 0.43mm air gap.
  40 turns per 1mH. Supplied with adjuster and mounting bracket. Ideal replacement for Mullard LA7.

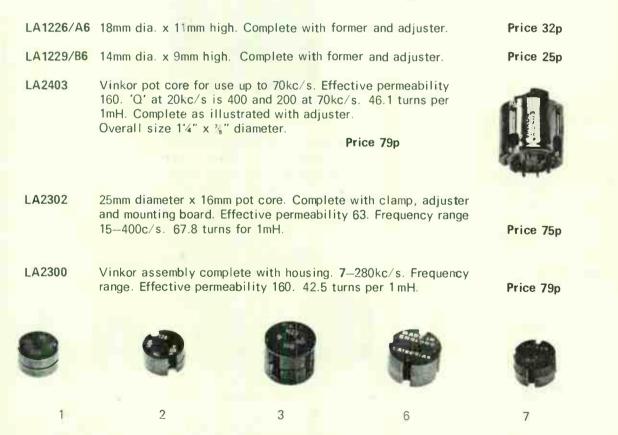






Price 62p

Price 62p



ALL POT CORES SUPPLIED WITH FORMER. ADJUSTERS AND CLAMPS SUPPLIED AS MENTIONED ABOVE. SEE PAGE 2 FOR POST AND PACKING CHARGES.

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# FERRITE POT CORES AND RINGS

## ADJUSTABLE POT CORES (VINKORS)



Overall size 1% x 34 inch diameter.\* Single hole fixing with tag plate.

Complete with bobbin and core giving ±7% variation.

LA2503 \* For use up to 100 Kc/s. Effective permeability 160. Maximum 'Q' 350 at 30 Kc/s. Number of turns for 1mH are 52. 65p

LA2504 \* For use up to 100 Kc/s. Effective permeability 100.. Maximum 'Q' is 300 at 35 Kc/s. Number of turns for 1mH are 66. 65p

LA2505 \* For use up to 200 Kc/s. Effective permeability 63. Maximum 'Q' at 200 Kc/s is 400. Number of turns for 1mH are 84. 75p

LA2105 For use up to 200 Kc/s. Size 1½" x 1½" Diameter. Effective permeability 63. Maximum 'Q' 600 at 60 Kc/s. No. of turns for 1mH. 54.7 £1.45

LA2305 For use up to 200 Kc/s. Size 1¼" x 1" Diameter. Maximum 'Q' 300 at 100 Kc/s. 67 turns for 1mH. permeability 63. £1.00

LA2403 *	Adjustable Pot Core (up to 70 kc/s)	<b>75</b> p
LA45 *	Pot Core	<b>75</b> p
	For use up to 230 permeability 250.	Kc/s.

Effective permeability 250. Maximum 'Q' 400 at 100 Kc/s. 42 turns for 1 mH. **75p** 

LA2513 \* VINKOR

#### FERRITE RINGS



**FX1593.** ½" Overall Diam. x ¼" High. 43.6 turns for 1 mH. **15p** 

70p

FX1639 ½" Overall Diam. x ¾ High. 20p

For pulse and wide band transformers up to 20mc/s.

See Page 2 for post and packing charges,



LA2503/4/5

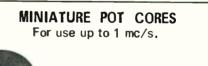


LA2105

LA2517\* For use up to 230 Kc/s. 42 turns for 1 mH. Effective permeability 250.maximum 'Q' 400 at 100 Kc/s, **12/6** 

LA2513 \* VINKOR

PRICE 12/-





FX1636 %" diam. x ½" high with Bobbin 34.8 turns for 1mH Price 40p



FX2236 <sup>9</sup>/<sub>4</sub>" diam. x ½" high with Bobbin 24.3 turns for 1mH Price 35p



FX1011 <sup>1</sup>/<sub>2</sub>" diam. x <sup>5</sup>/<sub>16</sub>" high with Bobbin 32 turns for 1mH

Price 31p

# MULLARD

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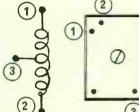
# WOUND FERRITE POT CORES – see separate section for unwound ferrite cores. STEREO DECODER COILS – TAPE OSCILLATORS AND WOUND CHOKES.



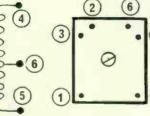
POT CORES FOR STEREO DECODERType 5410 – 19 Kc/s FM Stereo Transistor Decoder Coil.<br/>Wound to Mullard Specifications (Code Brown).Price £1.39Type 5411 – 38 Kc/s FM Stereo Transistor Decoder Coil<br/>to Mullard Specification. (Code White).Price £1.49

5

4







COMPLETE KIT OF PARTS FOR A 6-TRANSISTOR STEREO MULTI-PLEX DECODER WITH PRINTED CIRCUIT.

PRICE £5.97½ post 17½p. THESE CORES ALSO USED IN 'A STEREO DECODER' BY F.C. JUDD PW DEC 1969. Reprints: Ref.no.45A Price 7p.

5410 (Viewing Pins)

5411 (Viewing Pins)

GENERAL PURPOSE POT CORE CHOKES

SUITABLE FOR USE UP TO 60 Kc/s.



3.18	BmH	about	0.1	ohm	1
7.15	ōmH	about	0.2	ohm	
10.6	mΗ	about	0.4	ohm	
12	mH	about	1	ohm	

# PRICE 93p each

#### TYPE 344A

350mH nominal, resistance 50 ohms also suitable as a treble boost inductor for transistor tape recorder circuits.

PRICE £1.25



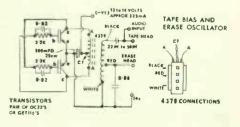
100mH General Purpose INDUCTOR ON POT CORE SIZE 14 mm x 8 mm high.

PRICE 40p

FOR POST AND PACKING CHARGES, SEE PAGE 2

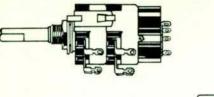
# 2 WATT BIAS OSCILLATOR FOR TAPE CIRCUITS

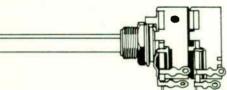
TYPE 4379. Wound on LA2 Pot Core. (Replaces type 06042 in circuit manual no.179, Price 25p gives full tape circuits). Circuit is suitable for most Medium Impedance Tape Heads. Works at 50 Kc/s. PRICE £1.75



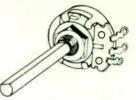
205

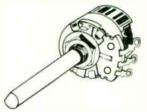
# CARBON TRACK CONTROLS - SINGLE AND GANGED

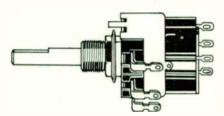












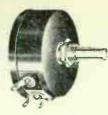


LOG LESS SWITCH	1K, 5K, 10K, 25K, 50K, 100K, 250K, 470K, 500K ¼ Meg (250K), ½ Meg (500K), 1 Meg, 2 Meg	PRICE	19p
LOG WITH	5K, 10K, 25K, 50K, 100K, 250K, 470K, 500K	PRICE	<b>24</b> p
SWITCH	1 Meg, 2 Meg.	EACH	
LINEAR	100 ohm, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K.	PRICE	1 <b>9</b> p
(Less Switch)	250K, 500K, 1 Meg, 2 Meg.	EACH	
DUAL GANGED	10K+10K, 25K+25K, 50K+50K, 100K+100K	PRICE	<b>42</b> p
LOG LESS SWITCH	250K+250K, 500K+500K, 1 Meg+1 Meg.	EACH	
DUAL GANGED	5K+5K, 10K + 10K, 20K + 20K, 25K + 25K, 50K + 50K,	PRICE	<b>42</b> p
LINEAR (Less Switch)	100K + 100K.	EACH	
DUAL GANGED	5K LOG + 5K Reverse Log, 10K Log + 10K Antilog,	PRICE	<b>42</b> p
SPECIAL TYPES	10K Log + 10K Log with 40% taps.	EACH	
DUAL GANGED WITH SWITCH	10 <mark>K Log</mark> + 10K Log, 20K Lin+20K Lin, 25K Log+25K Reverse log, 100K Log + 100K Reverse Log.	PRICE	50p

(NOTE: APPEARANCE MAY VARY DUE TO DIFFERENT MANUFACTURERS SUPPLIES) (POST ETC. 5p each, SEE PAGE 2.)

# 206

### WIREWOUND CONTROLS



25, 100, 200, 500, 1K, 2K, 21/2K, 3K, 5K, 10K, 20K, 25K, 30K, 50K, and 100K ohms.

### PRICE 22p each

(All types with ¼" spindle)

Note: Values available and appearance may vary due to stock availability.

## WIREWOUND 'PRESET' TYPES



Moulded Spindle 15 ohms, 33 ohms, 100 ohms.

**PRICE 18p each** 

Other types 25 ohms, 200 ohms, 750 ohms, 5K, 10K, 25K, 30K.

### PRICE 18p each

Note: Values available and appearance may vary due to stock availability.

### MINIATURE 10% W/W PRESETS



500	ohm	1 watt	
1.5	K ohm	1 watt	
2	K ohm	1 watt	Size
10	K ohm	1 watt	<sup>15</sup> / <sub>16</sub> × <sup>3</sup> / <sub>4</sub> × <sup>3</sup> / <sub>4</sub>
12	K ohm	1 watt	
45	K ohm	5 watt	

(Single hole 6BA fixing).

(Made by ANC Dev. Ltd.)

**PRICE 18p each** 

#### WIREWOUND SPEAKER CONTROL

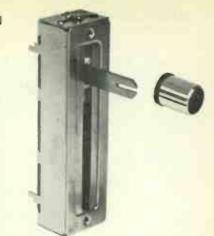


8 ohm miniature control suitable for use up to 5 watts diameter.

PRICE 20p each

# SLIDE CARBON CONTROLS

- Single Track and Ganged
- Stroke 60 mm Smooth as Silk



Single Track Size 85 mm x 15 mm x 18 mm front to back. Fixing holes 80 mm pitch. Control Spindle 25 mm from track, 30 mm with knob.

Ganged Size 90 mm x 23 mm x 22 front to back. Other details as single track. 30 mm with knob.

## SINGLE TRACK

5K Log	
10K Log	
25K Log	
50K Log	
10K Lin	
25K Lin	
50K Lin	
100K Lin	

25K + 25K Log 25K + 25K Lin 50K + 50K Lin 100K + 100K Lin 10K + 10K Lin 50K + 50K Log

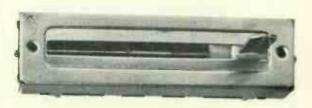
GANGED

10K + 10K Log

PRICE 39p

PRICE 75p

Control Knobs 16 mm x 13 mm diam. Silver/Black PRICE 15p



# MINIATURE CONTROLS

# MINIATURE EDGE TYPE CONTROLS (Illustrated approx. full size.)



(Approx full size)

Plessey miniature carbon control with switch. Body diameter: 0.7". Spindle diameter: 0.7". Value: 20K ohm. Linear.

Price 20p (Knobs available. Price 6p.)



**K.20** Miniature 5K ohm volume control with switch, spindle nut and washer.

Price 22p



edgewise 5K ohm volumecontrol, with switch and knob. **Price 18p** 







TK5 'A' 5 K with switch. PRICE 18p





VC300 250 ohm and 20-25 K ohm. PRICE 18p each.













## STANDARD EDGE TYPE CONTROLS

1¼" diameter control. Carbon track. Overall thickness ¼". Two hole fixing on  $1^{3}/_{1_{0}}$ " centres.

Type A 5 K log. Type B 5 K reverse log.

Price 20p each.

SEE PAGE 2 FOR POST AND PACKING CHARGES.



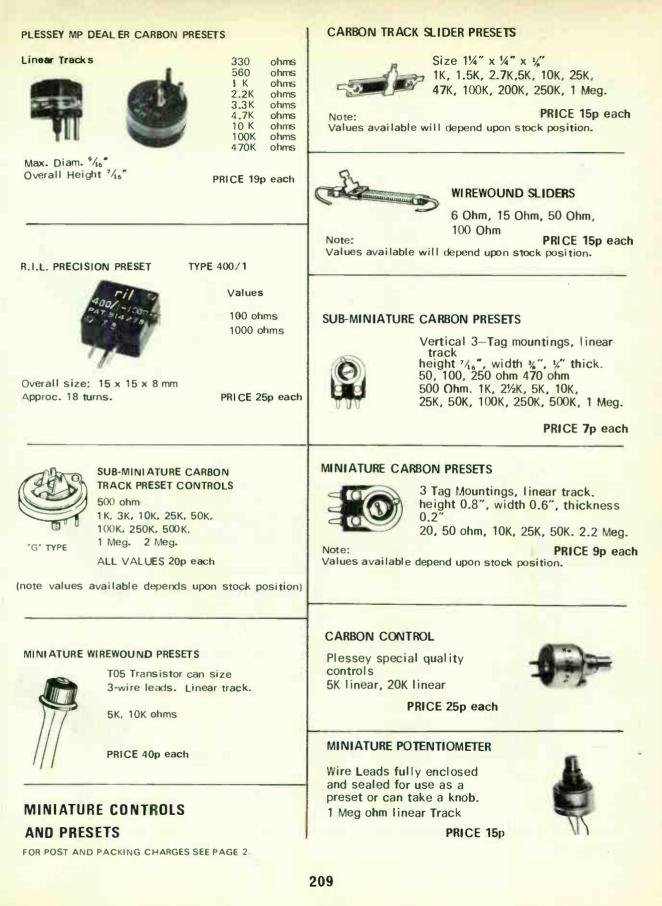


#### VC 1545

Edge Type 5K control with switch for printed circuit mounting. **Price 30p** (Approx. Full size.)

# VC 1041 %" x %" diameter. 5 K with switch 18p 10K less switch 18p (Approx. Full size.)

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# MINIATURE PRECISION PRESET POTENTIOMETERS



#### **TYPE 11**

Twin potentiometer as illustrated above. Specifications as for single types. Available in 50K + 50K ohm only. Size  $1\%'' \times \%'' \times \%''$ .

50Kohm + 50Kohm PRICE 95p

#### TYPE 1

This miniature trimming potentiometer with its gold anodised case is designed for operation under very exacting environmental conditions. It is manufactured by M.E.C. Ltd., under licence by Conelco. California. Fully sealed with 3-lead out wires or tags and two hole fixing. Overall size 1% x % x  $\frac{1}{2}$ ".

#### SPECIFICATION

Resistance tolerance: ± 10% Max.end resistance: 7% either end 10% total Power rating: 1W at 70°C Max.operating voltage: 1000V d.c. at sea level Max.wiper c: rrent: 100 mA Temperature range: 55°C to +150°C Operating voltage at 90,000 ft.: 200V d.c. Insulation res.: 100M Min. Number of mechanical turns: 45±2 Available with the following values of resistance: 20, 25, 50, 100, 200, 250, 390 and 500 ohms.

1K, 2¼K, 5K, 10K, 20K and 50K ohm.

Price 50p each

(Note that above single types may be available in Tag or Flying Lead form. Availability will depend upon stocks held at time of order).



## TYPE 2

Similar electrically to type above, this type has a cylindrical casing designed for panel mounting with flying lead terminals. The specification for this type is identical to above.

Available in the following values: 50 and 200 ohm, 1K and 5K ohm, 40K ohm

Price 50p each

#### TYPE 3

Similar electrically to above, this type is for printed circuit mounting. Finish is in moulded material.

Available in the following values: 100 ohm, 1K ohm, 5K ohm.

Price 50p each

#### TYPE 4

UTH 2 FLATS U. 141A

MOUNTING THREAD

12-28 NE 2A

PAINTON/RELIANCE moulded plastic. 250 ohm, 1 K, 5 K and 50 K.

Price 50p each



STOCKS ARE CONSTANTLY CHANGING, SO PLEASE ADVISE IF YOUR REQUIREMENTS ARE NOT LISTED. See Page 2 for post and packing charges.

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# BORG MICROPOT - PRECISION PRESETS





### MODEL 990T and 990PC

### LOW NOISE

Special precautions are taken during manufacture to ensure low electrical noise throughout life. Final assembly is carried out under clean room conditions and all potentiometers are tested for electrical noise, resistance tolerance and linearity before release.

#### CONSTRUCTION

Only carefully selected materials are used to ensure optimum performance.

only carciany so	
Case	One-piece transfer moulding in dially! phthalate with short glass reinforcing fibres. By elimin- ating colouring agents and organic fillers, maximum stability is achieved over a wide temper- ature range.
Leadscrew	Stainless steel with rolled threads for smooth operation.
O-ring	Silicone rubber.
Wiper	Noble metal alloy, heat treated for constant tension. Anti-backlash design with provision for free clutching action at each end of travel.
Terminal pins	Copper alloy chosen to give maximum electrical conductivity combined with good welding properties. Gold plated to give protection against corrosion and for ease of soldering. Turret lugs are dowelled in position and sealed with epoxy cement. Printed circuit pins are mechanically locked into moulding and secured with epoxy cement.
Resistance wire	Copper-nickel alloy selected for the appropriate resistance range.
Winding	Bonded into position with epoxy cement. All internal connections welded.
Resistance tolera	nce Below $100 \Omega \pm 10\%$ Adjustment device Operating torque $0.1-5$ oz.in. $100 \Omega$ and above $\pm 5\%$ No. of turns $40 \pm 3$
End setting resist (at each end)	tance Below $100\Omega$ 5% or $1\Omega$ Weight Complete potentiometer 5 gm. whichever is the greater. $100\Omega$ and above 3%

# ELECTRICAL SPECIFICATION

Wattage rating	1 W at 70°C derated to 0 W at 150°C.			
Insulation resistance	100M $\Omega$ minimum.			
Proof voltage	1kV peak at room temperature applied between all three terminations connected together and external metal parts, i.e. label and adjustment screw.			
Electrical noise	100 $\Omega$ maximum, at 1mA constant current.			
Electrical output	Linear with leadscrew rotation for constant input voltage.			

### VALUES AVAILABLE FROM STOCK

25 ohms, 50 ohms, 100 ohms, 250 ohms, 400 ohms, 500 ohms, 2K, 21/2K, 10K, 25K and 50K ohms.

PRICE 50p each

LESS THAN HALF MANUFACTURERS NORMAL SELLING PRICE. BRAND NEW, FULLY GUARANTEED

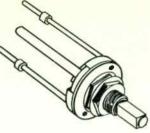
See Page 3 for post and packing charges.

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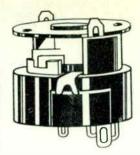
# ASSEMBLE YOUR OWN SWITCHES

#### AVAILABLE AS 'MINIATURE' AND 'STANDARD'

(PLEASE STATE CLEARLY THE TYPE ORDERED







### MINIATURE 'MAKA-SWITCH'

(Shafting Assembly)	45p each	MINIATURE W
MIN. MAKA SW.		Glass filled dia
Long-life detent mechanism, life expe ations. Accommodates 6 Wafers or 5 Wa Indexing, 30 <sup>°</sup> . Adjustable rotation lim	afers and Mains Switch.	silver-plated con 300 mA, 50 V a.c Dime
Mounting bush 0.375" Dia.: Control sp Spindle for mounting wafers L 1.75": 1.08"	indle 0.25" Dia. L.0.5": L. (overall) 3.12" Dia.	Break before Ma
MINIATURE SPACERS		Make before Bro
For use where wide separation of wa	afers is required. Must	
also be used with our Screens.	Dimensions: L. 14".	A D.P. Switch t
MINIATURE SCREENS	11p per 5	a.c. 2A.
To mount between wafers for screening	na -	

# STANDARD SWITCH ASSEMBLIES will take up to 18 wafers.







STANDARD 'MAKA-SWITCH' (Shafting Assembly) (TYPE +) MAKA-SWITCH Comprises basic control unit for supporting 'wafers'. Positive double ball 'click' action.

Standard Spindle on which wafers are mounted has L. 2.2". Overall L.5.25". Dia. 1.5". WT: 3 oz. Control Spindle L. 4", Dia. .250" (¼") Price 50p

STANDARD 'SPACERS' SPACERS (+ TYPE) For separating 'wafers'.

Short (S)	Dimensions:	L16"	Dia17"	(Pack	of 12)	PRICE
Medium (M)	Dimensions:	L5"	Dia17"	( "	of 12)	18p
Long (L)	Dimensions:	Ł. 1"	Dia17"	( "	of 12)	Per Pack

Price 5p STANDARD SCREENS Elliptical screens to mount between wafers.

STANDARD 'WAFERS' WAFERS (+ No. Poles + No. Ways) Switch 'wafers' to fit above. Robust low-loss moulded constructions with contacts enclosed for maximum protection. Suitable for switching 50 mA at 300 V or 300 mA at 50 V in non-reactive loads. Dia. 1.125" W. 0.19" Dimensions:

Break before Make: 1 POLE 12-WAY	2 POLE 6-WAY	
3 POLE 4-WAY	4 POLE 3-WAY	WAFERS
	6 POLE 2-WAY	PRICE 25p each
Make before Break: 1 POLE 10-WAY	2 POLE 5-WAY	FRICE Zop each

### STANDARD 'MAINS SWITCH'

A Double-Pole Toggle Switch to mount on 'Maka-Switch' Assemblies. Rated 250 V a.c. at 1 amp. Dimensions: Dia. 1" D. .75" WT. % oz. Price 28p

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ntacts. Will switch 50 mA, 300V a.c./d.c. or c./d.c. non-reactive. mensions (excluding tags): Dia. 1.0" W.O.28"

Break before Make:	M-B WAI	FER (+ No.Po	oles + No.	.Ways)
	1 POLE	12-WAY	2 POLE 6	5-WAY
	3 POLE	4-WAY	4 POLE 3	3-WAY
			6 POLE 2	2-WAY
Make before Break:		FER (+ No. F 11-WAY		
MAINS SW-A A D.P. Switch to mo	ount on	above asse	mblies, r	28p each
a.c. 2A.		Dimension	s: Dia8	87" D75"



TYPE G



## ROTARY WAFER SWITCHES FOR EVERY APPLICATION

Fitted standard ¼" diameter spindles. All types make before break unless stated. Maximum 50mA at 300 volt or 300mA at 50 volt. (Non reactive loads).

A	1 pole 2 way ) Butterfly type	13p
В	2 pole 2 way or as 'C'	18p
С	2 pole 4 way	19p
D	2 pole 6 way > Single Wafers	20p
E	3 pole 4 way	20p
F	4 pole 4 way	20p
G	3 pole 4 way (Double sided Wafer)	30p
н	4 pole 6 way (Two Wafers)	40p
1	2 pole 9 way (Two Wafers)	40p
J		
К		
L	1 pole 12 way (Single Wafer)	20p
Μ	2 pole 5 way (Single Wafer)	25p
N	8 pole continuously rotating	25
	2 pole per Wafer – 4 Wafers	<b>3</b> 5p



TYPE A and B



TYPE | and J

TYPES C to F and L

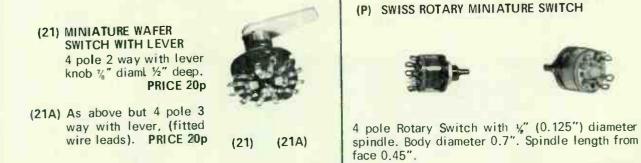




ТҮРЕ К



TYPE N



PRICE 34p

NOTE: Lever detaches to enable <sup>1</sup>/<sub>8</sub> ' spindle (0.125") knob to be used as required. Knobs 6p each.

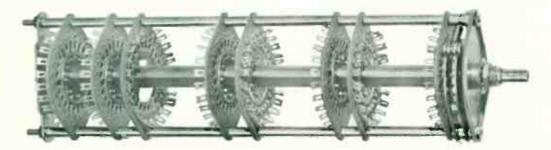
SEE PAGE 2 FOR POST AND PACKING CHARGES



THUMB WHEEL SWIT	CHES	SLIDE SWITCHES
TYPE C Unit size 2.3" x 2.2" x 0. diameter x 0.25". 1 pole 11 wa connection. Wheel numbered 0-9, blank position.	7". Wheel 2.15" y plus 12th no	TYPE A
way thumb all si x <sup>7</sup> / <sub>16</sub> " PRICI TYPE 1·pole	E 75р B. As above. a, 10 way. E 62p д	TYPE G TYPE G TYPE L TYPE L TYPE H TYPE H TYPE H TYPE M TYPE M TYPE M TYPE M
TYPE F Snap au foot sw proof ru For rem all type Supplie to conv fitted w control	SWITCH SW.1. G ction On/Off itch with skid bber base pad. ote control of s of equipment. d with adaptor ert unit not ith remote facility. N 9" x 2.9" x 1".	E3 pole 2 way. 1 Amp. Fixing centres 1". Cut out 0.4" x 0.25". Dolley 0.4" long.14pF4 pole 2 way circuit switch. 1.1" fixing centres, tapped 6 BA or 1.55". Cut out 0.5" x 0.2". Dolley 0.35".15pGOn/Off. 1 Amp. Fixing centres 0.9". Cut out 0.4" x 0.22". Dolley 0.2".9pH2 pole 2 way version of Type G.11pI2 pole 2 way miniature. 0.75" fixing centres. ${}^{13}/_{32}$ " x ${}^{5}/_{32}$ " cut out. Dolley ${}^{7}/_{32}$ " long.10pL2 pole 2 way centre off. 1 amp. Fixing centres 1.15". Cut out 0.48" x 0.25". Dolley 0.25".14pM3 pole 2 way miniature. Bracket mounted 0.55" centres. Cut out 0.2" x 0.25". Dolley 0.2".12p

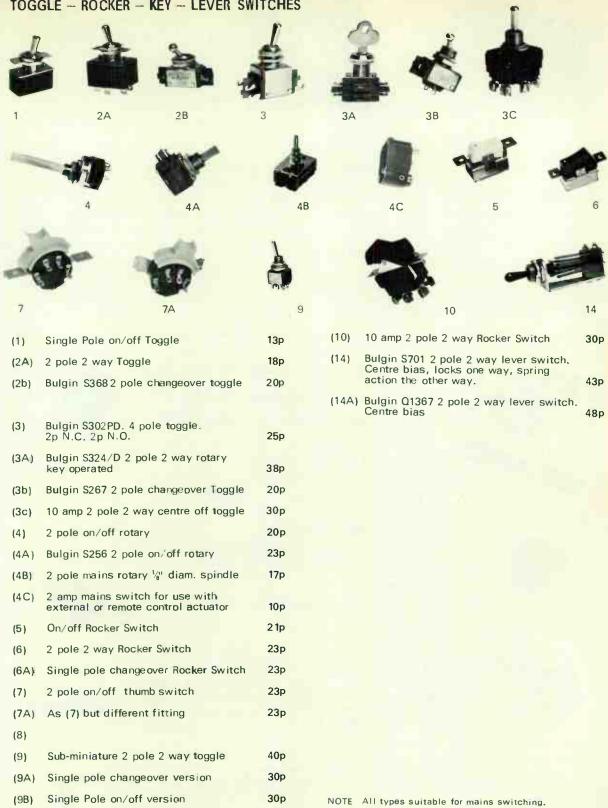
# MULTI-WAFER SELECTOR SWITCH

7 banks with 1 pole 22 way contacts per bank. Eighth wafer (3rd from end) used as component or wire mounting board. Overall sizes including spindle 9<sup>3</sup>/<sub>4</sub>" x 2<sup>1</sup>/<sub>2</sub>" diameter. PRICE £1.25

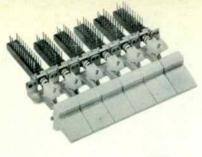


For post and packing charges see page 2.

### TOGGLE - ROCKER - KEY - LEVER SWITCHES



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43B

**PS66** 

### (NOTE: Illustrations are not to scale)

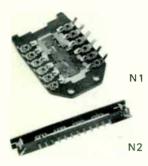
### TYPE PS66

6 button piano type switch. Press one cancels another. 5 are 6 pole 2 way, 6th is 8 pole 2 way. Overall size: 5%" x  $4^{13}/_{6}$ " x 1%"

### 43B

4 button. Push one releases other button. 6p2w, 3p2w, 1p2w, 4p2w. Black buttons. Overall size. 3¼" x 2¾" x ¾". Price 44p

### SEE UNDER ORGAN COMPONENTS FOR MORE TYPES OF PIANO KEY SWITCHES.



N1	4 pole 2 way slide wafer. Price 12p	
N2	4 pole 2 way slide wafer. Price 20p	
N3	2 pole 2 way slide wafer. Price 15p	

PRESET TYPE (23) Ultra subminiature 3/4 " x 3/4 "

1 Pole, 4 way preset.

MINIATURE THERMOSTAT

Price 98p

Price 6p



Button type, ideal for experime	entatio	on.
Approx. 100°C operation.	Price	13p

S691 Bulgin miniature leaf switch. Price 15p





(23)



S691

N3



MINIATURE LEVER SWITCH (24) Shown full size, 1 pole 3 way biased one way, hold on other way **Price 10p** 

S742 Bulgin single pole change over leaf press button switch. Price 20p



**S74**2

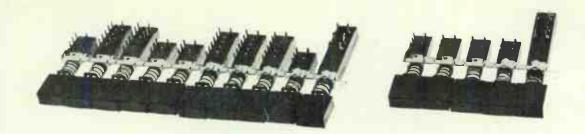
## SEE RELAY SECTION

FOR ROTATING ELECTRO-MECHANICAL SWITCHES. RELAYS OF ALL TYPES AND THERMOMETER SWITCHES.

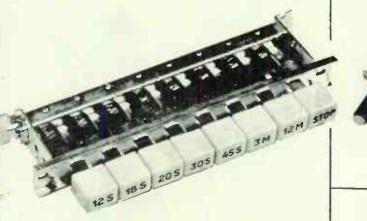
See Page 2 for post and packing charges.

### MINIATURE 0.6" PITCH PUSH BUTTONS

BUTTON SIZE 0.6" WIDE, 0.7" DEEP, 0.3" THICK PIN PITCH 0.25" × 0.15". 3 POLE MAINS SWITCHES UP TO 2 AMPS .250 VOLT AC.



9/4	5 button. 3 left buttons cancelling, 4th Mains. 1 to 4, 2p 2 way. Size 3.3" x (	).8" x 2.9"	88p
154	6 button. 3 " " , 4 and 5 Push on, push off.		
	5th Mains. Buttons 1 to 5 all 2 pole 2 way. Size 3.8" x (	).8" x 2.9"	99p
PS10	10 button. 5 left buttons cancelling, 6 to 9 push on, push off.		
	10th button mains. 1, 4, 5 and 9 2 pole 2 way,		
	2, 3, 6, 7 and 8, 4 pole 2 way. Size 6.2" x 0	.8" x 2.9" £	1.48
_			



### TYPE 49A

Eight button unit. Seven buttons have 1 Amp changeover per button and will release any other button. Eighth is a reset button. Size 6% " x 2% " x 1". PRICE 50p



TYPE 39A

4 Button Unit, All cancelling, 1 and 2 are 2 pole 2 way, 3rd 4 pole 2 way, 4th cancel orly.

Size: 2.1" x 2.5" x 0.8"

Knob Diameter: 0.28", Pitch 0.4" Price 40p

TYPE 44A

Two Button Unit, Cancelling. 2 pole 2 way each.

Size: 1.5" x 0.7" x 1.6" Knob Diameter: 0.32", Pitch 0.5"

Price 25p

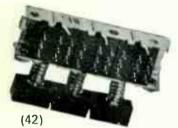
ALSO IN STOCK – PIANO KEY TYPE SWITCHES, 10 way £3.75 and 4 way £1.50 See electronic organ components section of this catalogue for details.

### MULTI-BUTTON PUSH-BUTTON SWITCHES (NOTE: Illustrations not to scale)



(40)











(59)

SEE OTHER PAGES FOR NEW RANGES OF MULTI-BUTTON SWITCH UNITS

See Page 2 for post and packing charges.

(40)3 Button unit. (1st) Mains 2 Pole on off. (2nd) 2 Pole 2 Way. (3rd) 3 Pole 2 Way. All independently operated. Size  $2\frac{5}{8}$ " x  $2\frac{1}{8}$ " x  $\frac{13}{16}$ ". Grey buttons. Price 38p

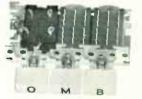
(40A)As Type 40, but 3rd button 2 Pole 2 Way-White buttons. Price 38p

- (41)3 Button unit. 2 Buttons are 4 pole 2 Way. 1 button 2 Pole 2 Way. Push On one releases other. Overall size 3" x  $2\frac{1}{4}$ " x  $\frac{13}{16}$ ". White buttons Price 38p
- (42) Miniature 3 button unit. Two buttons are 3 Pole 2 Way. 3rd button 1 Pole push on release off. Push any one releases other, Price 21p
- (44) Two Button unit. 4 Pole 2 Way, 1 Button, 2 Pole 2 Way other button. Push one cancels other. Overall size 13/8" x 23/4" x 1". Price 21p
- (45) 1st Button mains 2 Pole on/off. 2nd. 6 Pole 2 Way. 3rd, 6 Pole 2 Way. 2nd. and 3rd. cancel each other. Size  $2\frac{5}{6}$ " x  $2\frac{1}{6}$ " x  $\frac{13}{16}$ ". Price 38p Price 38p
- (47) 3 Button Unit. 2 Buttons 1 Pole 2 Way. Push one cancels other. Centre button push on release off 1 Pole 2 Way, also cancels other 2. Overall size 3" x 1¾" × %". Price 21p
- (48) 6 Button Unit. 4 Buttons 2 Pole 2 Way. Push any one cancels others. 2 buttons 2 Pole 2 Way Push on release off. Overall size 5" x 1¾" x ½". FC 4.8". Price 41p
- (49) Two button switch suitable for motor and/or lamp control. Switch on/off rated at 3A 100V or 1A 250V. Size 2<sup>3</sup>/<sub>8</sub>" x 2<sup>3</sup>/<sub>8</sub>" x 1<sup>7</sup>/<sub>8</sub>" height. Price 21p
- (39) Miniature 5 button cancel switch. All 2 pole 2 way. Overall size:  $2\frac{1}{1}$  x  $1\frac{3}{4}$ " x  $1\frac{1}{16}$ " Price 73p
- (59) Miniature 2 button switch. 3 pole 2 way each button. Push one releases other. Overall size: 11/4" x 11/4" x %/16" Price 24p





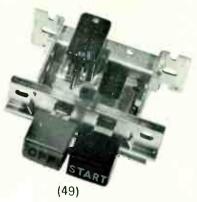
(44)



(45)



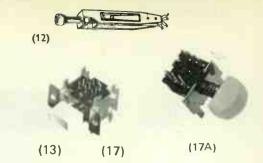
(39)

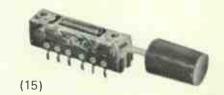




PUSH BUTTON SWITCHES – SINGLE BUTTON
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	PUSE	STRATIONS ARE NOT TO SCALE)	
-11	(11A)	Bulgin 5366 or S359 Push-off (Normally On)	33p
*	(11B)	Bulgin S358 Push-on (Normally Off)	35p
*	(11C)	Bulgin S357 Push-button Changeover	33p
	(12)	2 Pole 2 way Push-on Release-off 3 in. length.	20p
	(13)	6 Pole 2 Way Push-on Release off switch. Size $1 \times 1 \times 1$ in.	20p
	(13A)	As (13) Different manufacturer (See illustrations)	20p
	(15)	4 Pole, 2 Way push button latching switch. Make before break. Push on – Push off. Size 114 x 12 x 12 in, with knob.	18p
	(17)	2 pole 2 way Push-on, Release off switch.	
		Size 1 x 1 x 1 in.	18p
	(17A)	Miniature 2 Pole, 2 way	13p
*	(50)	Push-Button On/Off 1 Amp. 250v AC/DC Max. (White)	10p
*	(50A)	Push-On Release Off 1 Amp. 250v AC/DC Max. (Pink)	10p
*	(51)	Push-Off Release On 1 Amp. 250v AC, DC Max. (Black)	<b>1</b> 0p
•	(52)	2 Pole Version of (50) (Green)	15p
*	(53)	2 Pole Version of (50A) (Blue)	18p
*	(54)	2 Pole Version of (51) (Walnut)	18p
č	(55)	2 Pole On/Off Type Makes One/Breaks other way (Red)	18p
10	(56)	Sub-miniature Push-Button Switch 2 Amp Version Push-On Release-Off, 14" Panel Hol 14" Panel Hole	e 11p
* .	(56B)	As 56 Different Button	11p
	(57)	Miniature Push to break switch (RENDAR)	21p
	(58)	2 pole Press to changeover - BULGIN MP18	24p
	,,		







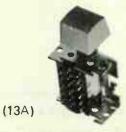




(56)

(11A)





PRICES SUBJECT TO 10% DISCOUNT PER 10 OR MORE OF ANY ONE TYPE

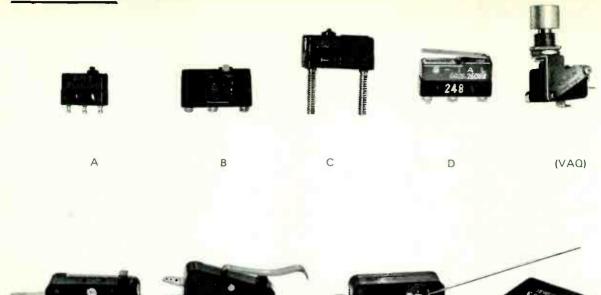
SEE PAGE 2 FOR POST AND PACKING CHARGES

\* Suitable for up to 250 Volt AC and DC. + For use from 0.1 volt up to 1 Amp.

All other types suitable for Audio and RF Switching.

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## MICROSWITCHES



REF.	E	F	(CC- <mark>5-R</mark> )	(C-5)

A	Sub-miniature.	Body	size	12 x	<mark>8</mark> x	5mm r	maximum	7 amp 2	2 <b>50</b> V	AC	Single Pole changeover	30p
B	Miniature	11	11	20×	9 x	<b>6m</b> m		5 amp 2	2 <b>50</b> ∨	AC	11 10 11	20p
С	Miniature	11	11	20 x	9 x	6mm	u.	5 amp 2	2 <b>50</b> V	AC	и и и	
											(Long fixing screws)	17p
D	n			20 x	9 x	6mm	17	5 amp 2	250 V	AC	Single Pole changeover (with lever)	25p
E	Standard	11	11	28 x	16 x	10mm	19	5 amp 2	250 V	AC	Single Pole changeover	2 <b>0</b> p
E1	н	11	Ū.	28 x	16 x	10mm	11	10 amp 2	250 V	AC	n n n	25p
<b>E</b> 2	11	н	11	28 x	16 x	10mm	п	15 amp 2	250 V	AC	u u n	30p
F	9	н	п	28 x	16 x	10mm	11	10 amp 2	250 ∨	AC	Single Pole changeover (with lever)	35p
F1			."	28 ×	16 x	10mm	81	15 amp 2	250 V	AC	Single Pole changeover (with lever)	45p
(CC-5-R)		п	n	28 x	16 x	10mm	н	5 amp 2	250 V	AC	Single Pole changeover (wire activated)	4 <b>0</b> p
(C5)	н	н	u	27 x	20 x	14mm	п	5 amp 2	2 <b>50</b> ∨	AC	Single Pole changeover (side operation)	<b>75</b> p
(VAQ)	Push-button	11	π	35 x	16 ×	13mm	n	10 amp 2	2 <b>50</b> V	AC	Single Pole changeover (7/16" panel hole diam.)	70p

(NOTE: For all types AC current rating is given. Maximum current for DC is ½ amp up to 125V DC and ¼ amp up to 250V DC)

HENRY'S HAVE THE LARGEST RANGE OF SWITCHES EX-STOCK

FOR POST AND PACKING CHARGES SEE PAGE 2.

### 220





## REPANCO TRANSFORMERS FOR TRANSISTOR CIRCUITS

SEE SEPARATE SECTION FOR INVERTOR AND MAINS TRANSFORMERS

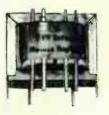
TYPE 1

TYPE 2

		-	Тар	D.C.Res	sistance		Shape,	
Type No.	Application	Ratio	Pri: (P) Sec: (S)	Pri: ohms	Sec: ohms	Dimensions (inches)	Туре	Price (Np)
TT11	Car Radio Driver, 2 watt (OC 72 or similar)	3.2 : 1		20	3	$1\frac{3}{4} \times 1\frac{1}{2} \times \frac{3}{8}$	2	62
TT 12	Car Radio Output, 2 watt (3 to 5 ohms) (OC 25 or similar)	3.75: 1	-	3	0.3	21/8 × 13/4 × 3/4	2	62
TT23A	Driver Push Pull, 10 watt (OC 82-D or similar)	4.6:1+1	C.T.S.	9	1.8+1 <mark>.8</mark>	1¾ x 1¼ x 1½	2	62
TT24	Output Push Pull, 10 watt (OC 35 x 2 or similar) (2 separate secondaries)	5.2:1+1	C.T.P.	1.2	0.4 (3 to 15 Ω)	2¼ × 2 × 2¼	2	112
TT 45	Miniature Push Pull Driver (OC 81-D or similar)	9:1	C.T.S.	260	40	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT46	Miniature Push Pull Output to 3/5 ohms Driver to 35 ohms	B:1	C.T.P.	60	0.3	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT47	Miniature Push Pull Single Ended Driver to 35 ohms	4.5:1+1	-	250	20+20	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT 49	Miniature Interstage (OC 71 or similar)	4.5:1	-	150	45	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT52	Miniature Matching 3 ohms to Transistor Input	1:20		1	350	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT53	Miniature Matching Xtal Pick-up or Mic. Input	25:1	-	5000	40	<sup>5</sup> / <sub>8</sub> × <sup>5</sup> / <sub>8</sub> × <sup>3</sup> / <sub>4</sub>	1	37
TT55	Driver Push Pull, 1 watt (OC 82 - D or similar)	5:1	C.T.S.	200	27	$1^{1}/_{16}$ " × $\frac{3}{4}$ × $\frac{7}{8}$	2	50
TT56	Output Push Pull, 1 watt to 3 ohms (OC 82 × 2)	8.2 : 1	C.T.P.	1.6	0.14	$1\frac{3}{8} \times 1\frac{1}{8} \times 1$	2	62

### RADIO SPARES TRANSISTOR TRANSFORMERS -

ALSO SUITABLE FOR USE AS CHOKES





					1 14		coil (50 mW)	H.62", D.62", WT % oz.	630
T/T1	0r-ver	OC 71 110 2 1 OC 72	1 : 1 C.T. Sec. Dimensions: W .75" H.62", D.62", WT %oz.	53p	T/T5		OC81D into 2xOC81 Single ended p.p. (2 mW)	5.5 : 1*1 Split Sec. Dimensions: W 1.06", H.78", D.81", W1 1 oz.	63p
T/T2	Output	2 x OC 72 *Class B* into 3 ohm speech coil (200 mW)	6.6 : 1 C.T. Prim. Dimensions: W.75", H.62", D.62", WT % oz.	75p	T/T8	Driver		2.8 : 1 C.7. Sec. Dimensions: W 1,06". H.78". C .81", WT 11.02.	68p
T/T3	Driver		3.6 : 1+1 Split Sec. Dimensions: W.1.06" H.78", D.81", WT 1oz.	75p	1/17	Output	into 3 phm speech	9,2 : 1 C.T. Prim. Dimensions: W 1,44". H 1,16", D.91", WT 2hoz,	73p

Single OC 72 'Class 9.2 : 1



### GENERAL PURPOSE

OL130

Miniature transformer/ choke. 700 ohm Primary Resistance Secondary for 3 to  $8\Omega$ . **PRICE 21**p

TRANSFORMERS POST & PACKING: per 1-3 15p, 4-6 25p. Also see Page 2.

### MINIATURE TRANSISTOR TRANSFORMERS (NOTE: ILLUSTRATIONS ARE NOT TO SCALE)



ΤΥΡΕ Α

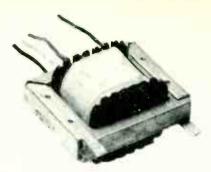




TYPE E1



TYPE I



TYPE K



TYPE B



TYPE F



TYPE L



TYPE P



D1001



TYPE C

-0

TYPE G



D129

D240



TYPE M (For 1 watt Mullard Circuit)

SEE OVERPAGE FOR A FURTHER RANGE





TYPE E



TYPE H

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### TRANSISTOR TRANSFORMERS - ALL SUITABLE AS LF CHOKES - SEE SEPARATE SECTION FOR FURTHER RANGE

Туре	Shape.	Overall	Centre Tapped	Approx Resist		Size	Description and/or Application	Retai
No.	Style	Ratio	Primary(P) Second'ry (S)	Primary (ohms)	Sec- ondary (ohms)	(inches)		Pric (Np
LT44	E	4,47:1	CT (S)	2000	70	$1\frac{1}{16} \times \frac{15}{16} \times 1\frac{1}{16}$	200mW Push-pull driver (LT44) and	25
T700	E	19.4 : 1	CT (P)	82	0.27	1 <sup>3</sup> / <sub>16</sub> × <sup>18</sup> / <sub>16</sub> ×1 <sup>1</sup> / <sub>16</sub>	output (LT700). Output to 3 ohms.	25
та	в	2:1	CT (S)	300	100	9/16 × 9/16 × 1/2	Push-pull driver (DT) and output	25
то	E	5.3 : 1	CT (P)	250	2	$\frac{9}{16} \times \frac{11}{16} \times \frac{11}{16}$	(OT) to 8/10 ohms. Suitable for imported radios.	25
033	D	1:2	CT (S)	65	116	11/16 x 11/16 x 12	Push-pull driver (033) and output	30
947	E1	34:1	CT (P)	17	0.7	$^{13}/_{16} \times \frac{3}{4} \times \frac{5}{16}$	(047) to 8/10 ohms. 250/300mW	30
018	T	1:2	CT (S)	50	200	$1\frac{3}{8} \times 1 \times 1$	Push-pull driver (018) and output	43
060	1	23:1	CT (P)	4	0.2	$1\frac{1}{8} \times 1 \times 1$	(060) to 3 ohms 500/700mW	43
RET	С	8:1+1	3 Wdgs.	500	70 + 70	$\frac{5}{8} \times \frac{9}{16} \times \frac{3}{8}$	S/ended P.P.200mW output for 75/80 ohms.	25
759	G	1 : 20	-	2	3000	$1^{1}/_{16} \times \frac{3}{4} \times \frac{13}{16}$	Speaker 3-8 ohms to transistor for intercom	25
762	К	1:30		2	800	$2 \times 1\frac{5}{8} \times 1\frac{1}{4}$	SPKR 3-8 ohms to transistor for intercom	30
758	к	2:1	CT (S)	250	100	$1^{7}/_{16} \times ^{7}/_{8} \times 1^{3}/_{16}$	Push-pull driver (758) and output	43
57	к	9:1	CT (P)	4	0.2	$1^{7}/_{16} \times \frac{7}{8} \times 1^{3}/_{16}$	(571) to 3 ohms and 1 to 2 watts.	43
63	L		-	700		$1^{7}/_{16} \times ^{7}/_{8} \times 1^{3}/_{16}$	Choke	30
X287	A	Choke	-	700	-	$\frac{7}{16} \times \frac{3}{8} \times \frac{3}{8}$	5H at 1/2mA sub-miniature choke	-
C902	н	3.5:1 + 1	3 Wdgs.	140	30+30	1 × ¾ × ¾	Single ended Push-pull output to 75/80 ohms or 25/35 ohms.	43
гэн	F	5:1		200	30	3/4 × <sup>5</sup> × <sup>5</sup> /8	Miniature interstage printed circuit. Primary Yellow/Green	30
	н		C7 (S)	100	140	1 × ¾ × ¾	Push-pull driver for PW and Osmor designs. Primary Brown/Blue Secondary ct. Red	45
PWOT	н	-	CT (P)	6	0.3	1 × 34 × 34	Push-pull output to 3 ohms for PWDT Primary Green/Yellow. ct. Red.	45
2002	н	-	CT (P)	2	0.2	11/2 × 1/4 × 11/4	1 watt push-pull to 3 ohm.	45
DPTI .	L	-	CT (P)	2	0.2	$1^{3}_{8} \times 1 \times 1$	Weyrad push-pull output to 3 ohm	53
FDT4	н	3.5:1+1	3 Wdgs.	150	50+50	1 × ¾ × ¾	Weyrad single ended Push-pull to 25/35 ohms (Replaces LFDT2)	60
EN1807	Н	41/2 : 1	C1 (S)	200	90	1 × ¾ × ¾	Push-pull interstage primary Green/Red ct. White.	35
РТ1	Р	1.65+1.65:1	CT (P)	0.5	0.1	3¼ × 2½ × 3	For Mullard 5watt amplifier class A Push-pull for OC22's to 3 ohm.	225
DL130	-	-	-	700	0.5	1 × ¾ × <sup>9</sup> / <sub>16</sub>	Fully shrouded. Miniature general purpose Choke – Transformers	21
NDT	М	1.75 ; 1	CT (S)	100	60	$1^{7}/_{16} \times 1^{1}/_{16} \times 1^{3}/_{16}$	(= Mullard 06005) Push-pull 1watt driver Mullard	48
MOP	м	6.2 : 1	CT (P)	2	0.5	$1^{7}/_{16} \times 1^{1}/_{16} \times 1^{3}/_{16}$	(Mullard 06006) watt Push-pull Mullard output	48

		PRIMARY	APPROX. DC	RESISTANCE		DESCRIPTION	
ARDENTE	RATIO	INDUC- TANCE	PRIMARY (ohms)	SECONDARY (ohms)	SIZE (inches)	AND/OR APPLICATION	PRICE
D129	10:1	70H	4.5K	85	$\frac{7}{8} \times \frac{5}{8} \times \frac{1}{2}$ in	Crystal microphone input (500 Kohm) to transistor and interstage.	45p
D1001	5:1	12H	2K	180	$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{2}$ in.	Transistor interstage	45p
D240	8.5 : 1	25H	1.5K	150	¾ × ½ × <sup>\$</sup> ⁄ <sub>8</sub> in.	Transistor interstage.	45p

See Page 2 for post and packing charges.

(POST etc. 15p per 1-3, 25p 4-6).

### MINIATURE LOW VOLTAGE TRANSFORMERS









MT 100, 150, 280

3/229

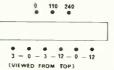
constant current drain

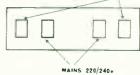
MT991



MT98

CONNECTIONS FOR 3/229 SECONDARY CONNECTIONS FOR TS3-12





TS3-12

MODEL	SIZE	SECONDARY (OR DC RECTIFI		NO LOAD RECTIFIED (DC)	CONNECTIONS (MAINS)	CONNECTIONS (SECONDARY)	PRICE
MT991	$1\frac{1}{8} \times 1 \times 1\frac{1}{16}$ in	7-0-7∨ or 8/9	v 50mA	12v or 12-0-12v			60p
MT98	1½ x 1½ x 1½ in	7-0-7v or 8vol	ts 80mA	12v or 12-0-12v	Brown 0 Green 230 v Blue 250 v	Brown 9 Blue O Brown 9	70p
MT 280 MT 150 MT 100		0-6,0-6 v 0-12,0-12 v 0-24,0-24 v	280 mA 150 mA 100 mA	09,0-9v 0-16,0-16v 028,028v	Marked "	Marked ''	88p 88p 88p
3/229	1¾ x 1¼ x 1¾	14 v	200 m A	18 v	See diagram	See diagram	75p
TS3-12	$1^{2}/_{16} \times 1^{1}/_{16} \times 1^{3}/_{16}$	3-0-3 v 12-0-12 v	200 mA 50 mA	5-0-5 v 16-0-16 v	See diagram	See diagram	85p

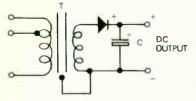


FIG.1 ½ Wave Rectification (Reverse Rectifier and C for +Ve common output).

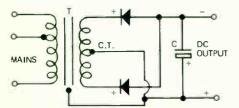
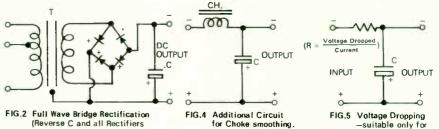


FIG.3 Full Wave Rectification. (Rectifiers and Electrolytic can be reversed to give -Ve as common output).

FOR POST AND PACKING CHARGES - SEE PAGE 2



(Reverse C and all Rectifiers for -Ve common output).

- NOTES a) Choose transformer T and Choke CH to be at least the required DC voltage and current output from above table.
  - b) Select silicon, germanium or selenium rectifiers with at least these ratings. (P.I.V. is usually 3 to 4 times voltage output required).
  - c) Select 'C' value 1000 mfd to 5000 mfd, voltage 10% at least above DC output with no load. Value depends upon size requirement and current required.
  - d) Circuits can be followed by transistorised regulator and smoothing circuits.

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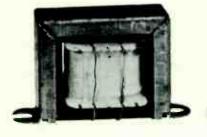
### LOW VOLTAGE TRANSFORMERS SEE FOLLOWING PAGES FOR ILLUSTRATIONS

MODEL	SIZE (L × W × H)	SECONDARY (RMS) (or DC Rectified Max.)	NO LOAD RECTIFIED(DC)	CONNECTIONS (MAINS)	(SECONDARY)	PRICE
MS51	2 <sup>1</sup> / <sub>8</sub> x 1 <sup>1</sup> / <sub>4</sub> x 1 <sup>1</sup> / <sub>4</sub> in	7½ volt 0.5 amp.	9 volt	Upper tags Blue/Blue	Lower Tags Blue/Blue	47
TS9/1	2 <sup>1</sup> / <sub>8</sub> x 1 <sup>3</sup> / <sub>4</sub> x 1 <sup>3</sup> / <sub>4</sub> in	9 volt 1 amp.	13 volt	Black 0, Red 240 Green 220, Blue 200	Yellow/Orange	75
ZM181	21/8 x 11/2 x 13/4 in	13½ volt 500 mA	18 volt	Marked	Marked	75
1 <mark>30</mark> 27	$2\frac{1}{8} \times 1\frac{1}{2} \times 1\frac{7}{8}$	19 volt 100 mA		Br. 0, Red 110, Blue 220, Yell.240.		85
PS20/Y03D	2 <sup>3</sup> / <sub>8</sub> x 1 <sup>5</sup> / <sub>8</sub> x 2 in	18 volt 1.5 Amp.	24 volt	Tags	Enamel Wires	£1.20
3/197 PS24/40	2¼ x 1¾ x 2 <sup>5</sup> / <sub>8</sub> in 2¾ x 2 x 2¼ in	18½ volt         1.5 Amp.           & 6.3 volt         0.5 Amp.           0-18-30 v         1 Amp	24 volt & 8 volt 26–42 volt	See Diagram Pink 110/120v Blue 220 volt Mauve 240 volt	See Diagram O Black 18 White 30 Red	£1.25 £1.60
3/106	$2^{5}_{8} \times 1^{7}_{8} \times 2$ in	0-7½-18½ v 0.35 Amp. & 6.3 volt 0.7 Amp.	0-10-24 ∨ and 8 volt	Orange 0 See diagram	Brown Screen. See diagram	92
T/455	2½ x 2¾ x 3¼ in	45-0-45 v 0.6 Amp.	55-0-55 v	Black/Brown	Orange/Orange Centre tap green	£1.25
TS213	2 <sup>3</sup> / <sub>8</sub> x 2 <sup>1</sup> / <sub>4</sub> x 2 in	13-0-13 v 0.8 Amp.	16-0-16 v	Marked	Marked	85
P6	3 x 21/2 x 2 <sup>5</sup> / <sub>8</sub> in	28 volt 1.5 Amp.	36 volt	Marked	Marked	£1.25
3/210	3 <sup>1</sup> / <sub>8</sub> x 2 <sup>1</sup> / <sub>2</sub> x 2 <sup>1</sup> / <sub>2</sub> in	0-19 volt 1.5 Amp. 0-19 volt 1.5 Amp.	28 volt 28 volt	Black 0, Red 200, Green 220, Blue 240.	Two pairs of tags.	£1.45
CT1 CT2 CT3 CT4	2 <sup>1</sup> ⁄ <sub>4</sub> x 2 x 1 <sup>3</sup> ⁄ <sub>4</sub> in 3 x 2 <sup>1</sup> ⁄ <sub>2</sub> x 2 <sup>1</sup> ⁄ <sub>4</sub> in 3 x 2 <sup>1</sup> ⁄ <sub>2</sub> x 2 <sup>3</sup> ⁄ <sub>4</sub> in 4 x 2 <sup>3</sup> ⁄ <sub>4</sub> x 3 <sup>3</sup> ⁄ <sub>4</sub> in	0-6-12 v         1 Amp.           0-6-12 v         2 Amp.           0-6-12 v         4 Amp.           0-6-12 v         6 Amp.	0-9-17 v Ideal for battery chargers	Marked tags Note: CT1, CT2 & CT3 sometimes with 3 volt tap. Black 0, Orange 200, Blue 220, Mauve 240.	Marked tags Blue 0, Black 9v Red 17v.	90 £1.25 £1.45 £1.90
MT102 MT103 MT104	$ \begin{array}{c} 2^{3/4} \times 2^{3/6} \times 2 \\ 3^{1/4} \times 2^{3/6} \times 2^{3/4} \\ 4 \times 3^{1/4} \times 3 \end{array} $	6, 7, 8, 10, 14, 15, 17, 19, 21, 25, 31, 33, 40, 50V, 25-0-25 2 Amp	= MT50/½ = MT50/1 = MT50/2	Marked Tags	Marked Tags	£1.20 £1.95 £2.95
МТЗАТ	3½ x 2½ x 3¼ in	3,4,5,6,8,9,10,12, 18,20,24,30 volts 15-0-15 volts 2 Amp	= MT30/2	Mar <mark>ked</mark> Tags	Marked Tags	£2.25
D114-184	$2^{7}_{8} \times 2^{5}_{8} \times 3^{3}_{4}$ in	24-0-24 volts 470mA 150 volt 15 mA 4.5 volt 1 Amp		105-250 volts Marked Tags	Marked Tags	£1.50
H1 H2	$2\frac{3}{8} \times 1\frac{3}{4} \times 2$ in $2\frac{3}{8} \times 2 \times 2$ in	6.3 volt 3 Amp				70
H5	$3 \times 2\frac{1}{8} \times 3\frac{1}{8}$ in		-	Marked Tags	Marked Tags	£1.10
BP242	$3\frac{1}{8} \times 2\frac{1}{2} \times 2\frac{5}{8}$ in					£1.90
PS60	31/4 x 23/4 x 25/8 in	40 volt 11/4 Amp	60 volt	Marked Tags	Marked Tags	£1.50
TS44	3 x 2 <sup>5</sup> / <sub>8</sub> x 2 <sup>5</sup> / <sub>8</sub> in	22-0-22 v 2 Amp	28-0-28 volt	See Diagram	See diagram	£1.9

NOTE: SIZES, PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE. Postage etc. ½ Amp 15p, 1 Amp 20p, 1½-2 Amp 25p, Above 2 Amp 30p.

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## LOW VOLTAGE TRANSFORMERS DETAILS ON PREVIOUS PAGE



PS20, Y03D H1, TS9/1



TS18/2



ZM181



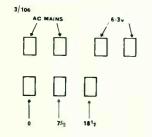
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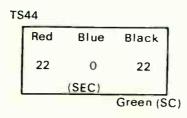


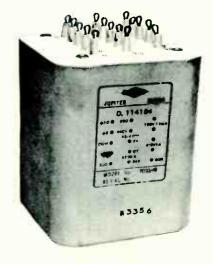
PRI-LEADS

1812+

3/ 197

6-3v





D114-184



### LOW VOLTAGE TRANSFORMERS

DETAILS ON PREVIOUS PAGE





TS213



P6



T/455

3/210



TS44, MT3AT, MT102,103,104,CT4, PS24/40, PS60



CT1, 2, 3







H5

BP242

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World Radio History

**MS51** 

# AUDIO CHOKES, IRON AND'C'CORE CHOKES



### **TYPE FM 580**

0.3H 200mA Size: 2¼" x 1<sup>5</sup>g" x 2" Suitable for use up to 300mA. Resistance 3 ohms. Price 60 p

(Post etc. 15p)

### **TYPE 4068**

100mH 1 Amp Choke for use up to 1¼ amps. Overall size: 2¼" x 1½" x 1¾" Resistance 2 ohms.

Price 75 p (Post etc. 15p)





### **TYPE AL 51029**

6.4 mH Choke. For use up to 500mA (½A) Size:  $1\frac{7}{4}$ " x  $1\frac{1}{2}$ " Resistance 0.5 ohm. Also ideal as a quality LF Crossover Choke.

Price 40p (Post etc. 12p)



### PARMEKO/WESTPOOL 'C' CORE CHOKE TYPE C401

'C' Core choke rated at 3H 300mA Overall size: 3½" × 3½" × 3" Resistance 65 ohms. Special offer at a fraction of normal price.

Price 80 p (Post etc. 20p)

REPANCO	- FOR ALIDIO LOW ROWER SMOOTHING LE OCOUL ATOTO	
	- FOR AUDIO, LOW POWER SMOOTHING, LF OSCILLATORS,	CROSSOVERS ETC.

AF1	Choke	Iron cored L.F.	10H@0 DC 3H@12mA	_	750 ohms	Size 1%"x%"x1"	Price 30 p
AF2	Choke Tapped	Iron cored L.F.	150 mH @ 0.D.C.	с.т.	4½ + 4½ ohms	Size %"x %"x %"	Price 30 p
AF3	Choke Tapped	Iron cored L.F.	Special	C.T.	120+120 ohms	Size 1 <sup>7</sup> / <sub>8</sub> "×1"× <sup>1</sup> 5/ <sub>16</sub> "	Price 42 p

(Post etc. 12p extra).

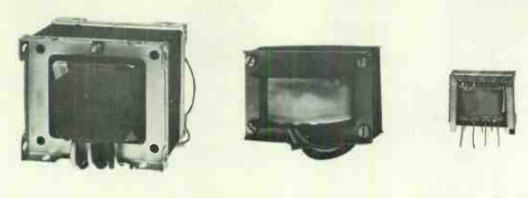
(C.T. Centre tapped)

### **GENERAL PURPOSE**

10H 60mA Smoothing Choke. For valve circuits 40 p Post 12p.

See Page 3 for post and packing charges.

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**TT57** 

### TT51A

**TT5**8

TT51/a	Inverter, 15 watts	12 volts D.C. Input to 240 v. 50 cycles (OC 25 or OC 35 x 2 transistors)	3" × 2½" × 1 <sup>7</sup> %"	Price £2.00 post 20p
<b>TT</b> 57	Inverter, 40 watts	12 volts D.C. Input to 240 v. 50 cycles (OC 35 or OC 28 x 2 transistors)	3" x 2½" x 2¾"	Price £3.25 post 25p
<b>TT</b> 58	To operate 13 watt type fluorescent tube	12V DC (OC 35 transistor Output 230-240 volts, 13 watts.	1 <sup>3</sup> / <sub>8</sub> " × 1 <sup>3</sup> / <sub>16</sub> " × 1 <sup>1</sup> 2"	Price £1.00 post

TT51A and TT57 Designed to operate lamps, motors, tape recorders and any mains operated equipment from a 12 volt source. TT58 Designed for use with 13 watt fluorescent tubes only.

### COLNE ELECTRIC TRANSFORMERS FOR TRANSISTOR CIRCUITS (Post etc. 12p each.) HIGH GRADE CORES FOR AUDIO AMPLIFIERS AND TAPE RECORDER CIRCUITS

Туре	Ratio	Centre Tapped	Approxim Resis	ate D.C.	Size	Description and/or Application	Price
No.		Pri: (P) Sec: (S)	Primary (ohms)	Secondary (ohms)	(inches)		
Q6033	1.75:1	CT (S)	100	60	1¼ × 1¼ × 1¼	1 watt Push-pull interstage for OC81, Etc. (Mullard Type 06005)	90p
06034	6.2 : 1	CT (P)	2	0.2	1¼ × 1¼ × 1¼	1 watt Push-pull output to 3 ohm (Mullard type 06006)	75p
05008	1:1	CT (S)	20	20	$2\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{3}{8}$	2 watt Push-pull interstage (1H primary inductance). GEC circuits etc.	95p
040 <b>5</b> 9	6.4 : 1	CT (P)	2	0.2	$2\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{3}{8}$	2 watt Push-pull output to 30 ohms (50mH inductance) GEC circuits etc.	80p
05009	3:1+1	3 Wdgs.	18	81/2+ 81/2	2¾ x 1½ x 1¾	3 watt driver for GEC circuit (for 12/15 ohm)	90p
06040* 06041*	Tapped 2:1+1	Choke CT (P)	Total 150	700 20 + 20	$\frac{1\frac{1}{2} \times 1\frac{1}{2} \times 1}{1\frac{3}{4} \times 1\frac{1}{2} \times 1\frac{1}{2}}$	(or 08001) (or 12018) (or 08002) push-pull driver	90p 95p

\* See Bernards Book No. 179 Price 25p) For Transistor Tape Recorder Circuits.

FOR POST AND PACKING CHARGES SEE PAGE 2.

# MAINS TRANSFORMERS

SEE SEPARATE SECTIONS FOR LOW VOLTAGE, CHARGER AND HEATER TRANSFORMERS.





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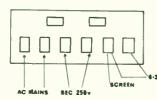
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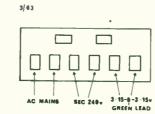
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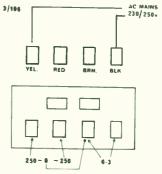


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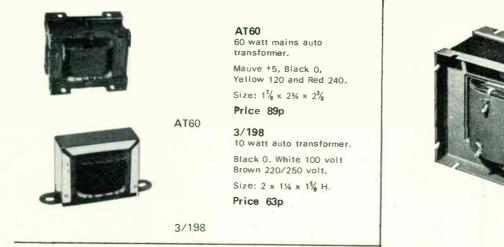








3¾ 2½ 2⅛ 3	£1.50 £0.98 £1.25
21/8	£0.98 £1.25
	£1.25
3	
	£1.25
21/8	£1.88
	£1.98
	£2.38
	£2.38
	3¼ 3¼ 3¼



MT SERIES

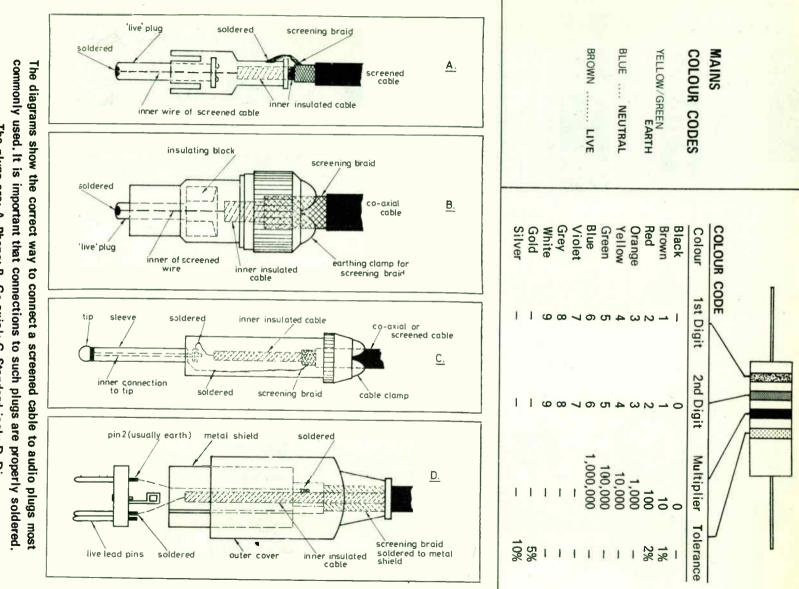
POST AND PACKING: 25p each, 35p for two or three, 45p for four.

230

Moulded clip for PP3, PP6 or similar batteries 5p each 45p per 10	High quality, two way audio block. Red or green. 15p each	TS.62 2-way screw terminal strip. 4p each or 22p per 6.
Single clips for PP1, PP4, PP7, PP9 or	Two way poly block (grey). Audio or 2 amp. 5p	• @ @ @ • TS.63 3-way screw terminal strip. 5p each or 27p per 6.
equivalent. 6p pair.	10 way black bakelite	TS.64 4-way screw terminal strip. 7p each or 38p per 6.
Single clips for PP3, PP5, PP6, or equivalent. 5p pair Rate for PP7 or equivalent.	block. 15p	SLT.2 Spring loaded 2-way, push-button terminal strip. Square Heads, 1 red, 1 black. 18p
5p each.	Flexible blocks, 12 way. Suitable up to 5 amps. 15p	SLT.3 Spring loaded 3-way, push-button terminal strip. Square Heads, 2 red, 1 black. 23p
Single plate for PP9 or equivalent. 6p.	3 way 10p 5 way 12p 6 way 15p	SLT.4 'Spring loaded 4-way, push-button terminal strip. Square Heads, 2 red, 2 black. <b>30</b> p
CROCODILE CLIPS	RSD 116	155 151B 156C BC4
each 1013 33mm PVC sleeved 2½p RSA Radio/spares Miniature 4p RSB " " Standard 4p RSC " " Instrument 4p RSD " " Pin clip 4p	• 35p 116 35mm Ir 36p 115S 58mm	eachPer 10tandard2½p20pliniature1p9pnsulated Red or black.2½p20p"handle"3p27pduty battery clips.6p55p

FOR POST AND PACKING CHARGES, SEE PAGE 2

PLEASE QUOTE PAGE NUMBER WHEN ORDERING



World Radio History

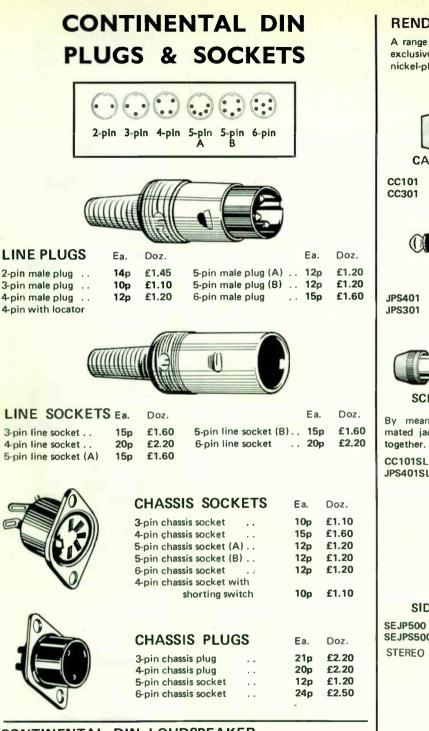


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## CONTINENTAL DIN LOUDSPEAKER 2-PIN PLUG AND SOCKET One round and one flat pin cable plugs.



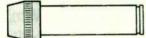
Ine round and one flat pin cable plugs. 12p each or £1.20 per doz.

Chassis sockets with switch. 15p each or £1.20 per doz.

Chassis sockets with switch. 15p each or £1.60 per doz.

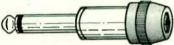
### **RENDAR JACK CONNECTORS**

A range of high-quality connectors utilising exclusive thermoplastic cable grips and nickel-plated brass bodies.



CABLE CONNECTORS

CC101	2-contact	•	35p ea.	£3.60	per	doz.
CC301	3-contact		40p ea.	£4.40	per	doz.



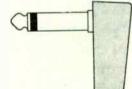
JACK PLUGS							
			£3.60 per doz.				
JPS301	3-contact .	62½p ea.	£7.00 per doz.				



### SCREW-LOCKING DEVICE

By means of the screw-locking device a mated jack plug and connector are locked together.

CC101SL 2-contact cable connector	 42½p
JPS401SL2-contact jack plug	 42½p



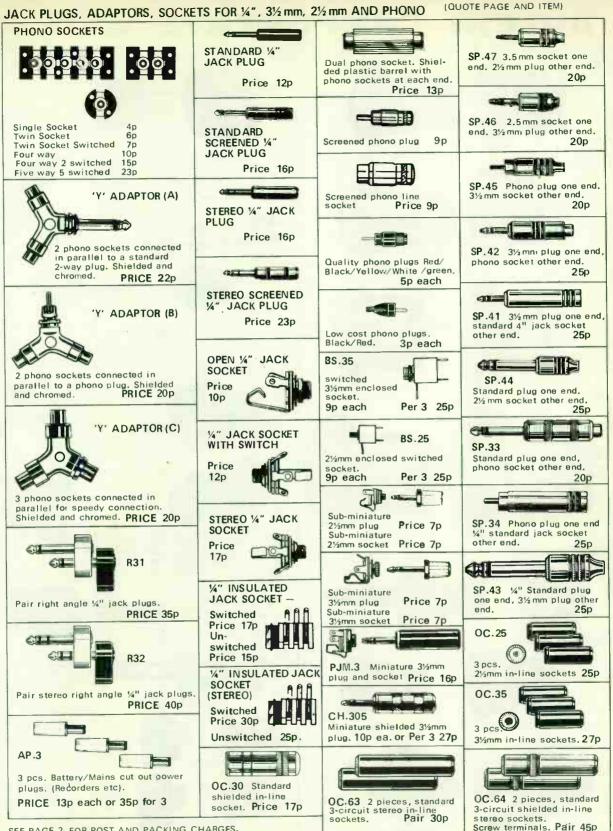
SIDE ENTRY JACK PLUGS

0.			: I V/	NOIN	LO	00	
EJP500	-				contac ?-conta	:t act .,	22½р 32½р
STEREC	)	11	11		3	11	<b>40</b> p
					þ		
P	ANE	L JA	CK S	OCK	ETS	Ea.	Doz.
521A		ontact ntacts			eak	17½p	£1.80

J721A	3-contact with 3 break		
	contacts (stereo)	30p	£3.00

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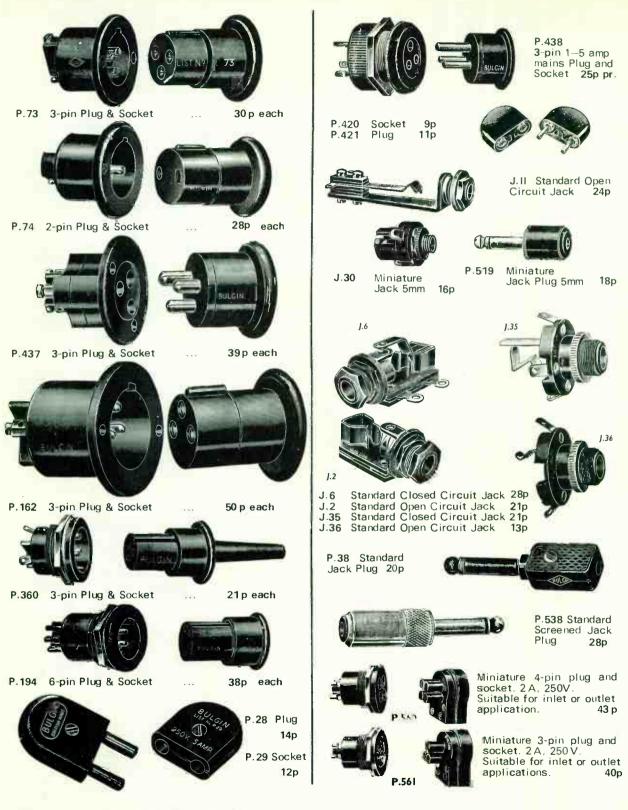


SEE PAGE 2 FOR POST AND PACKING CHARGES.

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# **BULGIN COMPONENTS**

(ALL PRICES LESS 10% PER DOZEN LOTS PER ITEM)



SEE PAGE 2 FDR POST AND PACKING CHARGES.

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### FUSES AND HOLDERS

**TYPE 125** Fuse holder for 114" (30mm) fuse. Length 48mm. Dia. 15mm. Cap dia. Price 15p 17mm



TYPE 5-8 Fuse holder for 15mm (<sup>5</sup>8" x <sup>3</sup>16") fuses. Single hole mounting.

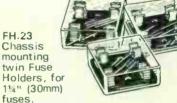






FH.23

Single Panel holder for 114" Fuse (30mm) 5p Twin Panel holder for 114" Fuse (30mm) 8p Single Panel holder for 1" Fuse (25mm) 4p



fuses. Complete with plastic covers. 71/2p each or Per 3 20p



**FUSES** 1¼" (30mm) 60mA, 100mA, 150mA, 250mA, 500mA, 750mA. 1, 1.5, 2, 3, 5 and 10 amp. 3p each 5a" (15mm) 100mA, 250mA, 500mA, 1 amp, 2.5 amp. 3p each 1" (25mm) 250mA, 500mA, 750mA, 1.5, 2, 3, 5 and 10 amp. 3p each Antisurge 1¼" (30mm) 250mA, 500mA,

1 amp, 1.5 amp, 2 amp.

VEROBOARD EDGE CONNECTOR

For 0.15" Pitch For 0.1" Pitch







McMURDO CONNECTOR 6 way <sup>3</sup> pitch edge connector with cover 12p







12 Pin Plug with cover and chassis socket. 62p





### MCMURDO 25 way plug with cover and chassis socket. 88p





14 WAY PLUG AND SOCKET McMurdo Type chassis socket. 1.5" fixing centres, 1.25" chassis hole. Plug 1.2" diam.

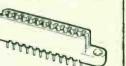




### ELECTRO METHODS EDGE CONNECTOR

25p

11-way plus key. Gold plated edge connector type K12. Fixing cen- \* tres 2% Connector Pitch 0,15". PRICE 50p



## BELLING UNITOR

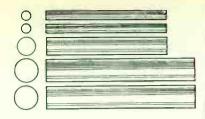
25-way plug and socket. Overall size: 134" × 13/16". Price 75p pair



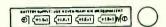
SEE PAGE 2 FOR POST AND PACKING CHARGES

9p each

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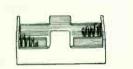
BS.5 Five assorted battery sleeves for Ever-Ready U2, U11 and U7 or equivalent. 26p



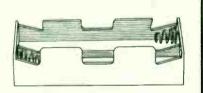
BHS.24 Battery Sleeve for (4) 1.5-volt batteries. Ever-Ready U11 or equivalent. 10p



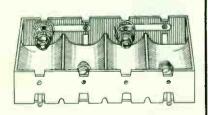
BH.4L Moulded Battery Holder with snap terminal for 4 U7 or equivalent. 16p



BH.211 Moulded Battery Holder for (2) U11 or equivalent. 19p



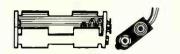
BH.411 Moulded Battery Holder for (4) U11 or equivalent. 19p



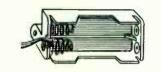
BH.4U2. Moulded Battery Holder for (4) U2 or equivalent. 31p



BH.9 9-volt Snap-on Battery Holder. Ever-Ready PP3 or equivalent. 5p ea.



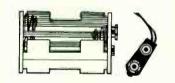
BH.2 Moulded Battery Holder with snap terminal and leads. For 2 Pen Light batteries. Ever-Ready U7 or equivalent. 14p



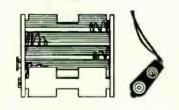
BH.3 Moulded Battery Holder for 3 Pen Light batteries. Ever-Ready U7 or equivalent. 16p



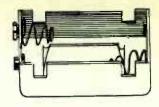
BH:4N Moulded Battery Holder with snap terminal and leads for 4 Pen Light batteries. Ever-Ready U7 or equivalent. 15p



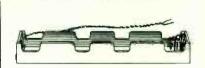
BH.6 Moulded Battery Holder with snap terminal and leads for 6 Pen Light batteries. Ever-Ready U7 or equivalent. 180



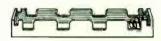
BH.8 Moulded Battery Holder with snap terminal and leads. 8 x U7. 21p



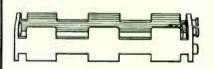
BHL.2 Moulded Battery Holder for (2) 5-volt batteries. Ever-Ready U2. 22p



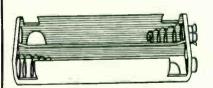
BHL.4 Moulded Battery Holder for (4) 1.5 volt batteries, U2 or equivalent. 23p



BH.23 Moulded Battery Holder for 4 Pen Light batteries. Ever-Ready U7 or equivalent. 15p



BHL.24 Moulded Battery Holder for 4 1.5-volt batteries. Ever-Ready U11 or equivalent. 21p



BHL.34 Moulded Battery Holder for 4 Pen Light batteries. Ever-Ready U7 or equivalent. 15p

### DISCOUNTS

Extra 10% for dozen lots one type. Extra 15% for 50 or more or type. (See page 3 for post & packing charges).

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# MALLORY LONG LIFE BATTERIES

• EXTENDED SHELF LIFE • TEMPERATURE, PRESSURE AND LEAK PROOF

**TYPE** 1. Contains 8 x Rm625 cells, nominally 1.35 volts each. Total voltage 10.5 volts at 350mA/H capacity. Max. recommended continuous current 20/25 mA. Overall size  $2^{1}/_{4_{6}}$  x  $3''_{4}$  x  $3''_{6}$ 

(Normal price £1.10)

Price each	40p	per	25	£6.95
per 12	£3.95	per	100	£26.95
Quantity pri	ce on request.			

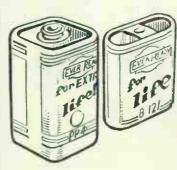
**TYPE 2.** Mallory Rm 12 cell 1.35 volts. 3600 mA/H Capacity. Max. recommended continuous current 250/300 mA. Overall size 2" x%"

(Normal price 50p)

Price each20pper 25£3.45per 12£1.95per 100£13.45Quantity price on request.

(Post etc. 10p per 1 to 4; 15p 6 to 12; 20p 13 to 24; 25p 25to 50; 35p 51 to 100)

# MERCURY BATTERIES AT 60% OFF LIST PRICE







L430 RECHARGEABLE CELL 2 volt 400 mA/H Size 1<sup>3</sup>/" x 1<sup>3</sup>/" x <sup>3</sup>/"

PRICE 25p

### EVEREADY (or equivalent) DRY BATTERIES

PP1	6 volt -	20p	B121 15 volt -	17½p
PP3	9 volt -	14p	1289 41/2 volt -	10p
PP4	9 volt –	15p	996 6 volt -	25p
PP6	9 volt -	19p	HP2 11/2 volt -	7½p
PP7	9 volt –	22p	HP11 11/2 volt -	6½p
PP9	9 volt	25p	HP7 11/2 volt -	4p
PP11	41/2+41/2VOL	t35p	HP16 11/2 volt -	50

(Post etc. 10p per 1 to 3; 15p 4 to 5; 20p 6 to 10) SEE SEPARATE SECTION FOR BATTERY CUPS AND HOLDERS.

See Page 2 for post and packing charges.



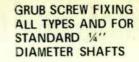
### SPECIAL OFFER EVERREADY 150 VOLT DRY BATTERIES SERVICES TYPE No. 1 Size 5½" x 1¾" x 2¾"

PRICE 75p per pair - post etc. 25p

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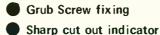
# **INSTRUMENT AND EQUIPMENT KNOBS**





### MATCHING SILVER ALUMINIUM KNOBS -HENELEC SERIES

"/16" diam. x 1/2" length Price 14p each or 130p per ten H112 34" diam. x 13/16" H103 length Price 16p each or 150p per ten 1" diam. x 7/16" H122 length Price 19p each or 180p per ten H124 1¼" diam. x 1/2" length



**Recessed for Control fixing nut** Superior finish and appearance

Price 27p each or 250p per ten



KB.2 2 pieces Plastic Instrument Knobs with pointer and turned insert. Fixing: 1/2". Skirt dia.: 11/2".

per pair 36p



KR.2 2 pieces Plastic Knobs with turned insert. Fixing: 14". Dia. 15/16". per pair 36p



MK.50 Two pieces Aluminium Machine Turned Metal Knobs, %" fixing. Diameter 27mm. Height 17 mm. per pair 38p



CK.4 Four pieces Plastic Instrument Pointer Knobs with metal insert.

per set of 4, 43p



BK.12 Twelve pieces Black Pointer Knobs with white marker.

per set of 12, 40p



Knobs with pointer and turned insert. Fixing ¼". Skirt dia.: 1".

per pair 36p



KB.4 4 pieces Plastic Instrument Knobs with pointer and turned insert. Fixing ¼". Skirt dia.: ¾".

price 36p per 4



NK2 Control Knobs Metal insert and calibrated skirt 0-10, Skirt dia. 36.5 mm. Height 16 mm.

price 30p per pair



PK2 Control Knobs Metal insert and metal skirt. Dia.36.5 mm. Height 16 mm. per pair 30 p

NOTE A FURTHER RANGE OF RADIO/TV TYPE KWBS ALWAYS IN STOCK FOR CALLERS ONLY.



K30/1

K30/2

K30/3

K30/4

K30/5

K30/6

KR.3 3 pieces Plastic Knobs with turned insert. Fixing: 1/4". Dia.: %".

21p

21p

21p

32p

32p

32p

Price per three 36p

See Page 2 for post and packing charges.

World Radio History

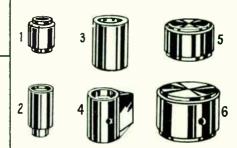
MK.2 Two pieces Miniature Metal Knobs. Aluminium machine turned.

Skirt with pointer, 14" fixing, Skirt diameter 19mm. Handle diameter 12 mm. Height 17 mm. per pair 42p





K3 3 pieces matched metal knobs, Type 30/3 concave top and pointers. Price 48p



EAGLE METAL KNOBS 11/1 d. × 34"

<sup>9</sup>∕<sub>6</sub><sup>11</sup> d. x <sup>15</sup>∕<sub>16</sub><sup>11</sup>

34" d. x 7/"

 $1\frac{1}{8}^{11}$  d. ×  $\frac{7}{8}^{11}$ 

1" d. x 15/4"

154" d. x 15/6"

### INSTRUMENT KNOBS (ALL TYPES FOR '4" SHAFTS WITH METAL INSERTS UNLESS STATED).



TYPE PK5 Diameter  $2\frac{1}{6}$ ". Overall height  $\frac{13}{16}$ ". Twin grub screw fixing. Recessed metal insert. Colours: Blue and white. PRICE 25 p.



TYPE PK4 Diameter 2". Overall height  $1^{13}/_6$ ". Ribbed knob with recessed fitting. Twin screws. Colour: green with white line. PRICE 20p



TYPE PK3 Max. Diameter 1%" x %" Height. Recessed knob. Available black, white or blue. Ribbed finger control 1%" diameter. (Matches PK5 above). PRICE 15p



BULGIN K107 Pointer knob, metal insert. Available white or black. (State which). PRICE 6p each.

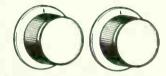




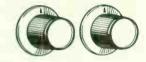
F.10 2 pieces black calibrated knobs with metal insert and skirt. Skirt Dia.: 30 mm. PRICE 30p pair.



F.11 2 pieces black pointer knobs with metal insert and skirt. Skirt Dia.: 30 mm. PRICE 35p pair.



F.12 2 pieces black pointer knobs with metal insert and skirt. Skirt Dia.: 33 mm PRICE 35p pair.



F.13 2 pieces black pointer knobs with metal insert and skirt. Skirt Dia.: 26 mm PRICE 30p pair.



F.14 2 pieces black pointer knobs with metal insert and skirt. Skirt Dia.: 20 mm. PRICE 25p pair.



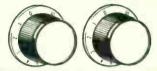
F.15 2 pieces black heavy duty function knob with turned insert. Skirt Dia.: 26 mm. PRICE 35p pair



TYPE PK6 Black recessed ribbed instrument knob. 1¼," diameter x 1¼," height. Two grub screws. PRICE 15p



F.16 2 pieces black heavy duty function knob with turned insert. Skirt Dia.: 22 mm. PRICE 30p pair.



F.17 2 pieces black calibrated knob with metal insert and skirt. Skirt Dia.: 33 mm. PRICE 35p pair



1

F.18 2 pieces black calibrated knob with metal insert and skirt. Skirt Dia.: 26 mm. PRICE 30p pair



F.19 2 pieces black calibrated knob with metal insert and skirt. Skirt Dia.: 20 mm PRICE 25p pair



F.20 2 pieces black pointer knob with turned insert. Skirt Dia: 29mm. PRICE 25p pair



F.21 2 pieces black calibrated knob with turned insert. Skirt Dia.: 29mm. PRICE 25p pair



BULGIN K482 Recessed pointer knob. Colour, grey with silver top and white indicator. Diameter 22 mm base, 20 mm top. Height 16 mm. Max. length 31 mm. PRICE 10p each.

# VERNIER DIALS AND DRIVES - DRIVE ASSEMBLIES



2%" diam. Scaled dial plate for %" standard shafts Calibration marked 0-100

PRICE 45p

### JACKSON SL 16 DRIVE ASSEMBLY

A general purpose Slide Rule Drive for VHF, Short Wave etc. One Plain Scale and one Calibrated 0-100. Aluminium and bronze escutcheon and glass. Pointer travel 4%" escutcheon aperture 6%"  $\times 1$ %". Neat and reliable slide rule drive with provision for individual calibration.

Escutcheon 2% x 7% overall.

Drive Ratio:- 10-1





### JACKSON TYPE 4489/C BALL DRIVE DIAL

Price £1.00 Post etc. 15p

A Slow Motion Dial Type C or 4489 incorporating the well tried J.B. Epicyclic Ball Drive. The complete Drive is mounted on the front of the panel thus taking up no room within the equipment. It is readily fixed to the spindle of a variable capacitor or potentiometer. Normally supplied with 0-100 calibrated dial. Drive ratio approximately 6--1. Complete with cursor.

Price £1.25 Post etc. 10p



MISCELLANEOUS

36:1 reduction drive	43p
6:1 reduction drive	28p
Spindle couplers	10p
1¼" spindle extension	15p
Insulated flexible	
spindle coupler	28p
Above are for ¼" standard control spindles.	d

INSULATED COUPLER CONVERTS 1/2\*\* to 1/2\*\* SPINDLE 20p INSULATED SPINDLE COUPLER FOR 1/2\*\* SHAFTS 10p

### **VERNIER DIALS**

8 : 1 ratio with heavy black bakelite base and nickel-silver dial plates, with deeply etched clearly legible scales. Moulded knob with fluted grip. Internal parts of phosphor bronze and brass for long life dependability. No back lash, positive logging can be read to 1/10th of a degree. Planetary drive ratio 8 : 1 in 180°, counterclockwise. Takes ¼" shaft. Two hole fixing. T.501 1½'' diameter T.502 2'' diameter T.503 3'' diameter



 T501
 Price
 75p

 T502
 Price
 85p

 T503
 Price
 97p

 (Post etc. 10p any type)

FOR POST AND PACKING CHARGES - SEE PAGE 2.

ONS FOR 190/250 V	OLT UNLESS STATED	)	LES LILLIPUT LAMPS	MES LAMP HOLDERS
	TYPE 1 NEON		6 volt, 0.1A (100 mA)	
F	Single hole panel mo	unt	Price	TYPE 1 Slide or
	with clip. Red, Amber, clear.	20p	4p each.	clip on. Price 10p
	TYPE 2 NEON Amber only with clip	15p	LES 9/12 VOLT FLASHING LAMP	TYPE 2
			Price 4p each.	Red/Green/ Blue/Yellow.
	TYPE 3 NEON Clear only	17p	LES LILLIPUT LAMP HOLDERS	Price 13p
			Type 1 Angle type Red and green	TYPE 4 Flat top lens Red/Green/
a	TYPE 4 NEON Chrome bezel, diam c	ut.	Price 7p each.	Blue/Amber/ Clear. Price 14p
	and solor, diame	17p	Type 2 Skeleton holder	.TYPE 5 (IL115)
			Price	Square top. Red only. Price 20p
	TYPE 5 Bulgin Q1332	20p	4p each	
			Type 3	ТҮРЕ 6
			Single hole mounting. Red/green/	L bracket. Diam. cut.
	TYPE 6		blue/yellow/ white/clear.	Red or Green. Price 11p
Ц	Code Yellow	17p	Price 10p each.	
			Type 5 Flat top lens.	TYPE 7
	TYPE 6A		Red/green/ blue/white/	L type. Red/Green/
I	For 90/120 Volt Code Red/Black	17p	yellow. 10p each.	Blue/Yellow/ White, Price 9p
			Type 6	TYPE 8
	TYPE 7		Panel clip	Clip on type.
	BN113 Red Lens	20p	Price 5p	Price 4p
NEON BULBS	AAAAA		MES LAMPS	
For 70-250 volts with series resistance.				250 mA Lens Top
70/ 90 V - 68 K	60048		6 V	40 mA 60 mA Pri
90/120 V - 82 K			6 V 6 V	300 mA 5 p 500 mA eao
200/250 V - 220 K	PRICE 9p each			300 mA 100 mA
	or 40p per 5.			
PANEL HOLDERS	LP37	6	1.000	<b>A</b>
Red lens, with 6.3v	Red lens,	23		Green LB42 Red lens
lamp. 21p each	for MES. 21p each		for MES. LES v 17p each. The Gv la	with for MES.
L Zipeach	40p pair		32p pair 32p p	21p eac

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MULTI CABLE

### ENAMELLED AND TINNED COPPER WIRE

SWG- INCH		ENAMELLED 2 oz Reels	TINNED 4 oz Reels		
16	.064	25p	<b>4</b> 3p		
18	.048	30p	<b>4</b> 3p		
20	.036	30p	<b>4</b> 3p		
22	.028	30p	45p		
24	.022	33p	48p		
26	.018	35p	48p		
28	.0148	35p	<b>48</b> p		
30	.0124	38p	50p		
32	.0108	40p			
34	.0092	42p			
36	.0076	44p			
38	.006	44p			
40	.0048	45p			

Post etc. 10p per 2 to 4 ozs; 15p per 6 to 10ozs; 20p per 12 to 16 ozs; 25p per 18 to 24 ozs. SEE PAGE 2 FOR POST AND PACKING CHARGES

### WIRE AND CABLE

+ Screened lightweight pickup cable	5p	yd
	£4.00	100 yds
+ Twin screened '' '' ''	8p	yd
	£6.00	100 yds
+ Miniature single core screened cable	5p	yd
		100 yds
+ '' twin '' '' ''	8p	yd
	£6.00	
* 9 core screened miniature cable	35p	
* 12 '' '' '' '' ''	45p	
	30p	
* 12 core standard multicore cable	40p	
* 24		
<sup>*</sup> 50	45p	
+ Twin flesh coloured hearing aid wire		
* 2 core twin lead for speakers or 2 am		
	£2.00	
* 2 core Red/Black '' '' ''	4p	
	£3.00	100 yds
* 3 core mains lead 2 amp	8p	yd
	£6.00	100 yds
* 3 core mains lead 5 amp	10p	yd
	£8.00	100 yds
* 75 ohm coax low loss VHF	5p	
	£4.50	
* 75 ohm coax low loss VHF/33C-2	10p	
75 Onit Coax 101 1033 V117 3DC 2	£9.00	
* 100 ohm coax for car radio aerials	20.00 3p	
" TOO OHIT COAX TOT CALLACITO ACTIAIS	£1.50	100 yds
	1.1.00	ivo yus

\* Post etc 15p per 10 yds, 20p per 25 yds, 35p per 100 yds.

+ Post etc 15p per 25 vds, 25p per 100 vds - Also see page 3.

### CONNECTING WIRE

PVC covered 5 yds each of 5 assorted colours. SOLID CORE 15p per Pack. STRANDED CORE 16p per Pack



FW,50 Flat 2-core P.V.C. flexible Cable that can be used to wire loudspeakers, intercoms, etc. Only 0.15 mim thick, it can easily be placed under carpets or around skirting boards to blend in with its background. Trade Pack: 50 metre reels. Inset shows section actual size.

PRICE £2.48

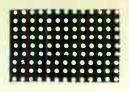


HW.46 14 metres of 'Zip' type connecting wire for Spekaers and Intercoms, etc.

PRICE 40p

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0.15" x 0.15" MATRIX

PLAIN

**¥0.15**" Matrix Copper Strip

¥0.15" Matrix Plain
¥0.1" Matrix Copper Strip

0.1" x 0.1" MATRIX

### High grade laminated board with copper strips bonded to it pierced with a regular matrix of holes.

### • 0.15" PITCH COPPER STRIP

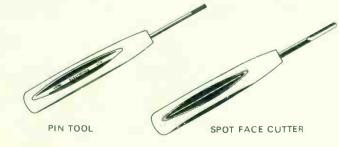
VB1503	(42/P16)	5" x 2½"	20p
VB1504	(43/P16)	3¾" × 2½"	16p
VB1505	(44/P16)	17" × 3¾"	75p
VB1507	(45/P16)	5" x 3¾"	27p
VB1508	(46/P16)	3¾" × 3¾"	20p
41/P16		17" x 2½" –	60p

### • 0.15" PITCH (No Strips)

VB4505	(442/4505)	17"	х	3¾"	60p
VB4501	(441/4501)	17"	х	21/2"	48p
444/8023		17"	х	5"	75p
11990		5"	х	21/2"	17p
11991		334"	х	21/2"	140

### **VERO ACCESSORIES**

2140	Pin <mark>s for 0.15" boards</mark> Pack of 36	17p
2150	Pin Insertion tool for 0.15" pins.	49p
2144	Pins for 0.1" boards Pack of 36	17p
2151	Pin Ins <mark>ert</mark> ion tool for 0.1" pins	49p
2022	Spot face cutter to remove copper	37p



FOR POST AND PACKING CHARGES SEE PAGE 2.

### • 0.1" PITCH COPPER STRIP

10345	5"	x	21/2"	24p
10346	3¾"	х	21/2"	21p
10347	5"	х	334"	26p
10348	33/4"	х	33/4"	24p
13236	17"	х	21/2"	75p
13237	17"	х	33/4	87p

GROUP BOARD

**¥EDGE CONNECTORS** 

VERO GROUP BOARD



53 way Circuit Board 81/13" × 11/2" 25p

### VERO PACK



Contains spot face cutter plus 5 boards. 2%" x 1%" x 0.15" pitch.

Price 48p

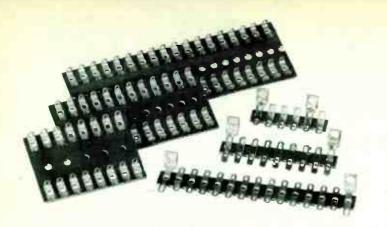
### Edge Connectors for Veroboard

For 0.15" pitch:	16 way 24 way	Price 27p Price 42p
For 0.1" pitch:	24 way 36 way	Price 39p Price 49p

(Note: 17" length boards.

Post and packing 15p for 1 to 3, 25p for 4-6)

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COP	PER	LAN	<b>AINAT</b>	ED I	BOAI	RD	
FOR	MA	KIN	G PR	INTE	ED I	CIRC	UITS
/Size	may	anv e	lighth	dene	ndina	upon	stocke)

 14"
 x 8"
 35p

 10¾"
 x 7¾"
 28p

 10¾"
 x 3½"
 22p

 8¼"
 x 3"
 18p

 7¾"
 x 6"
 24p

 Fibre glass board
 6¼" × 3"
 33p

 (Post etc. 15p per 1 to 3, 25p per 4 to 7).

PLAIN PAXOLIN PANELS 1/16"

(Post etc. 15p per 1 to 5, 25p per 6 to 10)

6p

9p

15p

20p

2¾" H

4"

41/2"

64p

74p

87p

96p

£1.10

£1.16

×

x 3½"

x

×

x 5

x 51/2"

6" x 4"

8" x 6"

10" × 7"

12" x 8"

31/2" W

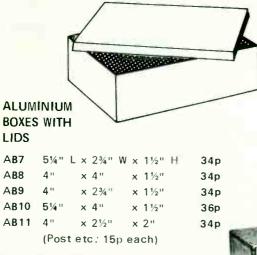
5"

6"

x 61/2"

x 5½"

TAG BOARDS	MINIATURE				
2 x 10 way	2½" x 1½"	9p			
2 x 14 way	3½" x 1½"	12p			
2 × 20 way	5" x 1½"	22p			
2 x 50 way		50p			
TAG BOARDS STANDARD					
2 x 16 way	6" x 2½"	21p			
2 x 9 way	3 <sup>3</sup> / <sub>8</sub> " × 2 <sup>1</sup> / <sub>8</sub> "	10p			
TAG STRIPS					
28 way	101/2" long	12p			
12 way	3" long	6p			





MB1

MB2

MB3

**MB4** 

MB5

MB6

HAMMER FINISH BOXES CHARCOAL GREY MILD STEEL WITH BASE PLATE

41/2" L

5"

6"

7"

8"

9"

(Post etc. 15p each).

х

x 4"

х

x



NSW. 210

NSW.210 210 pieces assorted nuts, screws and washers.

BITS AND PIECES ARE OUR BUSINESS

### **INSTRUMENT CASE**

Sturdy Aluminium Construction. Overall size:  $6\frac{5}{8}$ " x  $5\frac{5}{8}$ " x  $2\frac{5}{8}$ ". Detachable front and back. Supplied in carton.

PRICE 90p (post etc.20p).

246

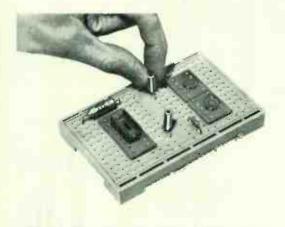
## PRINTED CIRCUIT KITS

### ETCH YOUR OWN PRINTED CIRCUITS

A complete Kit with full instructions for etching printed board to your own circuit designs. Supplied with all necessary chemicals, cleaners, dishes and brush. Fully detailed instructions and two copper clad boards. Complete range of copper boards in stock as kit can be used many times.







### U-DEC BREADBOARDS FOR INTEGRATED CIRCUITS

Typically a  $\mu$ -DeC will accommodate four 10 lead OP5 stations or two DLL stations (up to 20 lead DLL). Each DeC has three bus-bar rows of contacts extending across the DeC and two independent panels of contacts. Each panel contains 10 pairs of these tows of contacts (4 connection points are placed in the middle of these panels.

 $\mu$ -DeC "A" This is a versatile general purpose breadboard for IC's. IC's are mounted on standard carriers thus accommodating a wide variety of IC packages. PRICE £2.75

 $\mu$ -DeC "B" This board has IC sockets as part of the DeC and is useful when breadboarding with one type of IC package. Available is a "B" type with two 16 lead DIL sockets attached, but with sufficient demand, other socket types are available. PRICE £5.50

FROM STOCK - SEE APPROPRIATE CATALOGUE PAGES

VARIOUS SIZES PRINTED CIRCUIT PANELS FOR ETCHING. PAXOLIN PLAIN PANELS, PANEL PINS, TAG STRIPS AND TAGGED PANELS, ALUMINIUM AND STEEL BOXES, VERO BOARD AND VERO ACCESSORIES.

See Page 2 for post and packing charges.

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### 'Q' MAX SHEET METAL PUNCHES

QUICKLY PUNCHES CLEAN HOLES IN SHEET METAL UP TO 16 SWG.



Post etc. Up to 7/11 15p ea. Up to 11/11 20p ea. Above 11/11 25p ea. (For 2 or more, reduce postage by 1/2rd each)

SIZES:	3/8"	68p)	Key "T"	SIZES:	1 7/32"	£1.00)	
	7/1611	75p∫	4p		1¼"	£1.00	
	1⁄2''	83p)			1 <sup>5</sup> /16 <sup>11</sup>	£1.10	Kou
	9/16"	83p			1 3/8 "	£1.10	Кеу ″В″
	5/ H 8	83p			1 1⁄2"	£1.25	8 p
	11/16"	88p >	Key ″A″		1 5⁄8''	£1.43	
	3/4 "	88p	5p		13⁄4''	£1.50)	
	13/16"	90p			2"	£2.00)	Kau
	7/11 8	90p			23/32"	£2.30	Key ″C″
	15/16"	98p ]			21⁄2"	£3.00)	1 <b>2</b> p
	1"	98p	Key		2%"	£4.10)	Kau
	11/16"	98p	* "B" 8p		2¾"	£5.25	Кеу "Е"
	1½"	£1.00	op		3"	£8.10)	18p
	1 <sup>3</sup> /16"	£1.00		1"	square	£1.93)	Kov
				11/	6 11	£1.78	Кеу "В"
		21/3	2 <sup>11</sup> X <sup>15</sup> /	/ <sub>16</sub> " recta	angular	£2.18	8 p



**PVC.10** Superior quality electric insulating tapes. Display carton contains 10 rolls of ¾ in x 33 ft. assorted coloured tapes, flame proof Hi-dielectric polyvynol. Each roll individually wrapped.

PRICE 10p each or 90p per pack of 10

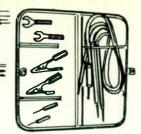


HW.46 46 ft. of 'Zip' type connecting wire for Speakers and Intercoms, etc. PRICE 40p

### TEST PRODS AND TEST LEAD KITS

Type A

Type B



A TEST PRODS Red/Black with 40" leads, fitted pin type plugs as illustrated. Price 20p

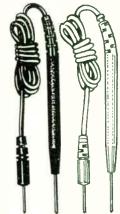
Type C

B As A, but banana plugs. Price 20p

C TEST LEAD KIT. Type A Prods and Pin Adaptors, Croc Clip and Spade Adaptors. Price 50p

D TEST LEAD CLIP SET 10 Leads 14" length fitted insulated croc clips each end. 5 different colours used. Price 35p





### TL60 DE LUXE TEST LEADS

60" long extra flexible test leads with new unbreakable 'Flexiprobes'. Moulded strain relief eliminates wire breakage. Standard pin plugs each end to fit all multi-meters. PRICE 30p

TL64 As TL60, but with 4mm plugs.

PRICE 32p

### NT.1

Neon tester. Handy for testing AC lines, polarity of AC, blown fuses, tracing ground lines in AC circuits. Can be used on voltages up to 550 volts AC or DC.

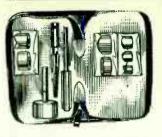
PRICE 30p

SEE PAGE 2 FOR POST AND PACKING CHARGES.



### 248

## SOLVE ALL YOUR HOLE PROBLEMS IN ONE GO!



Five of the most used hole punches, made from hardened steel, will save hours of drilling and filling. Suitable for aluminium, duralumin, mild steel up to 16 gauge, also plastics etc. Punch sizes, 1/2", 5/8", 3/4", 1", 11/2". Supplied complete with tommy bar tapered reamer and zip fastening carry case. All as illustrated.

MODEL CP110 PRICE £2.50 (Post etc.25p)

### **BIB AUTOMATIC OPENING WIRE** STRIPPER AND CUTTER MODEL 6



Fitted with automatic opening spring, for quick, repetitive flex and cable stripping. Screw adjusts stripper for usual wire sizes. Easy grip plastic-covered handles, and handle locking ring.





### **PVC.10**

Superior quality electric insulating tapes. Display carton contains 10 rolls of % in x 33 ft. assorted coloured tapes, flame proof Hi-dielectric polyvynol. Each roll individually wrapped.

PRICE 90 p



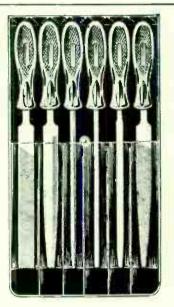
in wallet

Price 40p



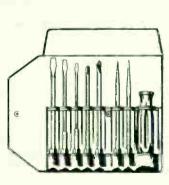
Strips insulation without nicking the wire, cuts wire and splits plastic twin flex. Easily adjusts for most wire sizes.

PRICE 30 p



T155 6 Files in wallet

PRICE 50 p



### **T190 SCREWDRIVER KIT**

Screwdriver Blades 14", 3/14", 1/1", Cross Point No. 1 and 2 and Round Awl plus Square Awl. Standard size and length.

Price 53 p

T290	'BA' Box Spanner Kit with handles, 0, 2, 4, 6 and 8 BA	Price	£1.25
T187	General purpose uninsulated side cutters	Price	48p
T178	General purpose uninsulated long nose pliers	Price	50p

SEE PAGE 2 FOR POST AND PACKING CHARGES.



MODEL 8

**BIB WIRE STRIPPER AND CUTTER** WITH 8 GAUGE SELECTOR

> Strips insulation from flex and cable in seconds, quickly adjusted to usual wire thicknesses. Unique 8 gauge selector. Fitted with easy grip plastic-covered handles.

PRICE 50 p

249

# S-DeC the 'BREADBOARD' for the transistor age

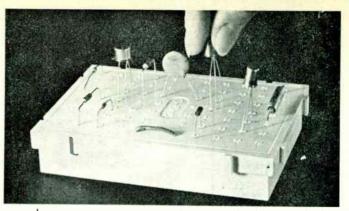
S-DeCs are a professional breadboard which are used in their thousands in industrial and Government research laboratories and being used increasingly in educational establishments from degree level electronics courses to the teaching of electricity to primary school children. This breadboard is sold world wide, and over 50% of current production is exported.

- QUICK, FIRM, RELIABLE CIRCUIT ASSEMBLY
- LASTS INDEFINITELY-performance unchanged after 1.000 insertions
- PUTS AN END TO 'BIRDSNESTING'
- RE-USE COMPONENTS AGAIN AND AGAIN
- SAVES TIME, MONEY AND EFFORT

SINGLE DeCs. One S-DeC with Control Panel, Jig and Accessories for solderless connections to controls, etc., with booklet 'Projects on S-DeC' giving construction details for a variety of interesting circuits. £1.39

2-DeC KIT. Two S-DeCs with control panel and accessories. a booklet of projects and a container for storing components with its own lid. Supplied in black plastic box. £2 75

4-DeC KIT. Four S-DeCs with two Control Panels, Jigs and Accessories and the booklet 'Projects on S-DeC' all contained in a strong, attractive plastic case. Ideal for the keen enthusiast and professional user. £4.95

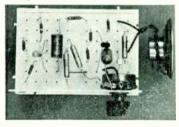


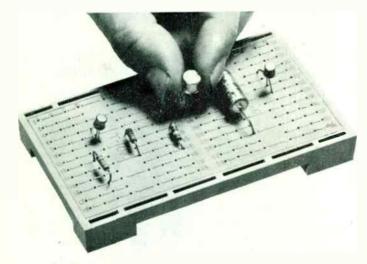
The contacts are arranged in rows of five (numbered) which are joined together electrically as shown in the diagram. This arrangement is similar to that used in the popular printed wiring board so that the same methods of laying out circuits may be used. An S-DeC contains two of these 5 x 7 panels enabling most electronic building blocks to be accommodated. For very large circuits the decking can easily be enlarged by keying the units together forming a firm continuous area of decking of any desired size.

Components are simply pushed into the sockets where they are held securely by the double leaf spring phosphor-bronze contacts. This system ensures a good wiping action on insertion and withdrawal so giving a low resistance contact. Little force is required to push in or pull out the components but they are held firmly when inserted. Solderless connectors are provided in an accessory kit for use with controls. The controls are mounted on a panel which slots into the S-DeC base.

(Illustration below shows 3 stage audio amplifier).

Insertion/Withdrawal Force...... 90 gm. wt Capacitance between adjacent rows of contacts...... 3pF. **Besistance between** adjacent contacts  $10m\Omega$ Resistance between adjacent rows of contacts..... 10<sup>10</sup>Ω





See page 3 for Post and Packing charges.

## T-DeC

### VERSATILE GENERAL PURPOSE BREAD-BOARD FOR INTEGRATED CIRCUITS AND DISCRETE COMPONENTS

Although T-Decs are designed primarily as a general purpose breadboard for use with discrete components, integrated circuits may be accommodated using standard carriers for the various integrated circuit packages. This DeC is therefore extremely versatile in its applications. Other features include: 208 contacts per DeC, 38 rows of contacts per DeC, 5 mm separation between rows - enables modern short lead devices to be inserted directly into the contacts. Typical capability - six to ten stages of discrete circuitry and two T05 stations or one DIL station per DeC. Polarising locatins for IC carriers. Control panels have three 12.5 mm  $(0.5^{\prime\prime})$  holes and a set of bushes for reducing to smaller diameters. DeCs may be temperature cycled. Contact surfaces in a range of finishes.

£2.70

250



#### PRECISION MINIATURE SOLDERING TOOLS

A range of precision soldering irons featuring a range of removable bits without damage to the iron. Ideally suited for miniature work and home construction.



CN 240/2 The illustration shows the Model CN 240 iron, fitted with the No. 2 nickel-plated bit (332"). This model is now available in a handy transparent pack to facilitate inspection without having to unpack the iron.

#### PRECISION SOLDERING TOOL KIT

£1.63

This kit consists of a plastic base with a transparent cover and serves as a permanent home for the Model CN 240 iron. The iron is held in place by two plastic grips and can easily be replaced after use in case a stand is required. The flexible lead can be coiled up and stored at the back complete with plug; the cover keeps the flexible lead in place. Room is provided for two nickelplated bits  $\binom{3}{32}$  and  $\binom{5}{32}$ . Together with the  $\binom{3}{16}$  (4.7 mm) bit fitted to the iron, these three bits provide the means to solder a wide variety of jobs, such as transistor assemblies and when soldering in the home is required for small repairs. Provision has also been made for a heat sink to protect transistors and a small reel of solder.

A booklet, 'How to Solder', which is stored at the back of the kit, gives the beginner a guide as to how a soldering iron should be used but even the experienced may well find a few useful tips.

PRICE £2.50



Cleaning pad \* Reel of resin-cored solder

Heat sink ¥36-page 'How to Solder' booklet

MODEL B Low voltage, 12 volt 12 watt. Tip size 3/6". £1.63

Spare nickel-plate bits suitable for Models B and CN,  $\frac{3}{3_{21}}$ ,  $\frac{5}{3_{32}}$ ,  $\frac{5}{3$ 

Spare elements for Model CN 90p Ferroclad Bits (fit all models) 32p Slide on to iron hot wire stripper 6p



#### **BIB HOME ELECTRICIAN'S KIT**

For electrical repairs in home, workshop and garage. Conveniently packed in plastic wallet, which folds to pocket size.

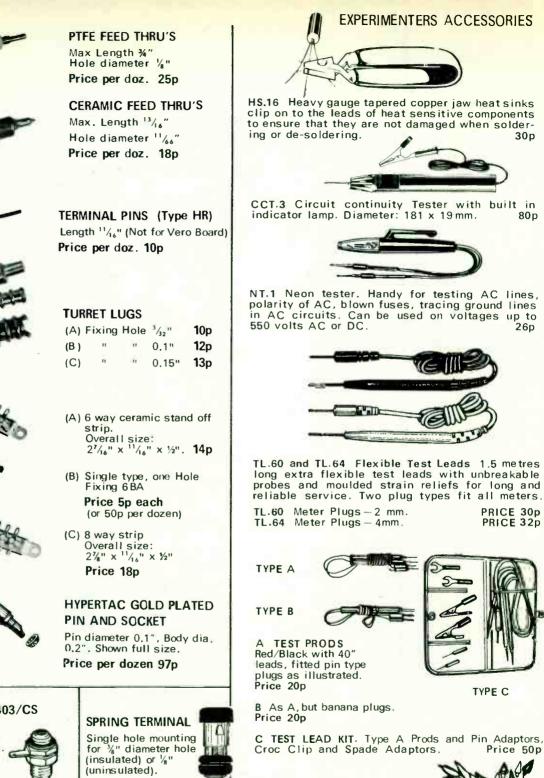
#### Comprises:

Wire stripper and cutter. Insulating tape. 2 flex shorteners. Plug size screwdriver. 5and 15-amp fuse wire. Tape solder pack. PRICE 73p

POST AND PACKING CHARGES SEE PAGE 3.



#### 251



D TEST LEAD CLIP SET 10 Leads 14" length fitted insulated croc clips each end. 5 different colours used. Price 35p



TYPE C

Price 50p

30n

80p

26p

PRICE 30p PRICE 32p

SEE PAGE 2 FOR POST AND PACKING CHARGES.





#### BELLING L1403/CS

For use with sub-miniature coaxial cable. (Actual size) Gold plated.

Price 17p ea.

Also see separate section for L1465, L734, L603, L604 L617 etc. series. Also other UHF types.

#### Price 10p

See separate section for range of terminals.

#### WELLER ACCESSORIES

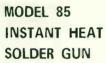


6110

7135 WELLERTIP Solders finest wires to heavy electrical 20p per pair ioints

6110 CUTTING TIP Cuts plastic film and sheet material. 25p each

6120 SMOOTHING TIP Repairs thermoplastic material. 25p each





Intended for precision work, this heavy duty instrument features instant heat action and is now supplied with two bits, one for standard work, the other for fine soldering tasks. The 85 watt element is housed inside the well-ventilated moulded 'gun' which incorporates finger squeeze switch action on the handle. Bits are 'U' shaped to minimise wear. This model also features a light beam automatically directed on to the bit end when solder gun is being operated. (Spares available).

PRICE £1.99 (Post etc.21 p.)



#### HENLEY SOLON SOLDER IRONS

Extremely robust and long-lasting soldering equipment. An important factor is that spares are readily available. Weight 3¼ oz. Length 9" (excluding flex).

Model 615	220/240 volts 15 watts. Bit 11/8" x 1/8"	£1.65
Model 625	230/250 volts 25 watts. Bit 1" x 3/16"	£1.70
Model 968	230/250 volts 65 watts. Bit 134" x 3/8"	£2.65

Spare elements for Model 615 £1.00, for Model 625 41p, for Model 968 53p

Spare bits for Model 615 20p pr. for Model 625 25p pr.

Post etc. for Irons 15p.



#### 30-40 watt SOLDERING IRON

A high quality product with a smart wooden handle incorporating a screw-on cover to the 40 watt element. 11/2" bit firmly secured in the element barrel which is air-vented for excess heat dissipation. Heavy duty 5' length of P.V.C. covered 3-core lead. (Spares available).

PRICE 83p (Post etc. 12p)



# **PRECISION SOLDERING EQUIPMENT**

#### Instant-heat Soldering Gun

Solders in seconds ... heats immediately ... Cools quickly. Long reach ... built-in spot-light. Perfectly balanced, lightweight, comfortable to use. Two position trigger for dual-heat control.

EXPERT Dual-Heat Gun, 8200D 100/140 w.

EXPERT Soldering Kit. 8200D-PK 100/140w.

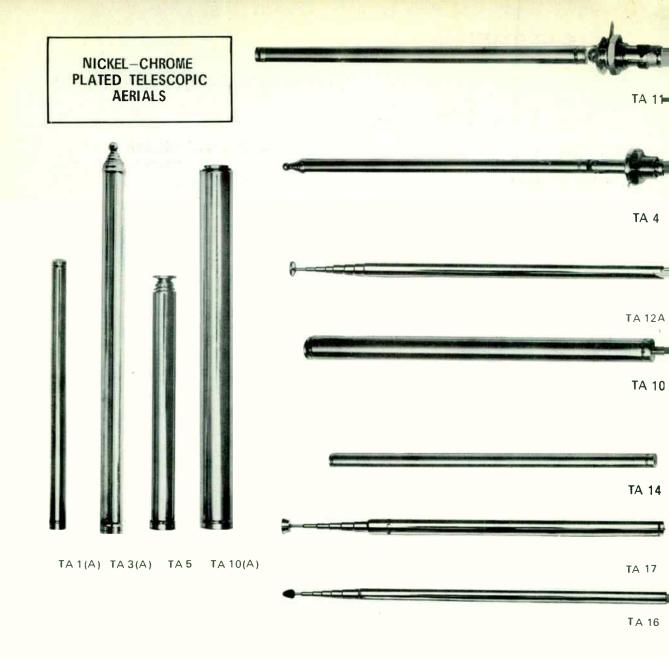
Kit contains; Expert Gun; resin-cored solder; cleaning brush; soldering aid tool; spanner; 2 spare bits. In fully fitted polypropylene carrying case.

*	8200D	PRICE	£3,95	post 30p
*	8200D-PK	PRICE	£4.95	post 30p

FOR POST AND PACKING CHARGES - SEE PAGE 2



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TA 1(A)	6 s	ection	4 i	inches	closed	16¾ i	nches	extended		
TA 3(A)	7		51/2			32	P.F.	11		
TA 4	5		61/2	11		211/2			(swivel jointed)	
TA 5	10		3%	1046	**	25	38.5			
TA 10	10		6	(100		46	300	310		
TA 10(A)	13	500	51/4	1995		51	30.0	00		
TA 11	8		61/2	. н.:	**	36	30.7		(swivel jointed)	
TA 12A	8		71/2		**	401/4			(swivel jointed)	
TA 14	6		51/2			28		11		2.0
TA 16	7		81/4	н	**	48				ų
TA 17 See Page 2 for	9	**	7%			53	••	<b>F 8</b> ()		

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#### EARPHONES & STETHOSCOPES



#### CR.5

Crystal earphone with lead and plug. Available with 2½ mm or 3½ mm plug, state which. 20p



#### **MR.4**

Magnetic earphone 8 ohm with lead and plug. Available with 2½mm or 3½mm plug, state which. 13p



#### MR.60

Magnetic earphone 250 ohm with earcurl, lead and plug. Available with 21/2 mm or 31/2 mm plug, state which. 25p



DE.80

Professional quality dynamic earphone, with earcurl 1.5 metre lead and plug. 50p



TYPE 3 Stethoscope earphone. 8 ohm dynamic with ear tips, lead and 3.5mm plug. 50p

TYPE 6

Stereo stethoscope phones. 8+8 ohms. 95p

For post and packing charges see Page 2.

#### MAGNETIC AND CRYSTAL INSERTS

MAGNETIC INSERT (RT) 600 ohms resistance, 2000 ohms impedance at 1kc/s. Overall size:  $1_{3'}^{*}$  dia. (face),  $1_{4'_{16}}^{*}$  dia. (back). Front to back:  $\frac{1}{2'}^{*}$  overall or  $\frac{5}{1_6}^{*}$  below lip.



#### MINIATURE MAGNETIC TIE CLIP MICROPHONE Type 8010

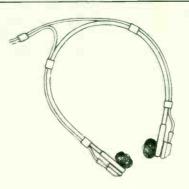


Size only 13 x 19 x 7 mm. Impedance: 1.6 k ohms. Complete with lead and miniature jack plug. Price £1.10

#### MAGNETIC MICROPHONE SPEAKER

Ideal for all sound speaking and listening applications -very rugged. Price 35p

G.P.O. Type DC. Resistance 20 ohms. Overall size  $1\frac{7}{8}$ " diam,  $\frac{5}{8}$ " deep.



High quality dynamic stethoscope headsets fitted two earpieces for single channel, two channel or stereo as required. Type 1

Code light grey 2 x 16 ohm earpieces. £1.00

Type 2 Code dark grey 2 x 60 ohm earpieces. £1.00

Designed for professional monitoring up to two channels. Mono or stereo.





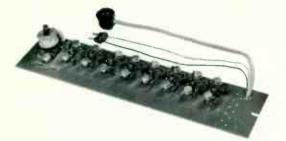


Impedance 2000 ohms output about 60dB at 1 Kc/s.

Type A.. Size: 0.75 x 0.49 x 0.25 in. Price 95 p

SEE SEPARATE SECTION FOR RANGE OF PLUGS AND SOCKETS AS REQUIRED.

#### ELECTRONIC ORGAN SPECIALIST COMPONENTS FOR CONSTRUCTORS





20

Code Yellow or Red

NOTE: PROGRESS IS SUCH THAT NEW DEVELOPMENTS ARE ALWAYS ON THE WAY - INTEGRATED CIRCUIT DESIGNS AND COMPONENTS NOW AVAILABLE

Code White

OSCILLATOR COILS Code Red 50mH covers 2-4Kc/s 48p ea. or £5.20 per 12 Code Yellow 23mH covers 4-8Kc/s 48p ea. or £5.20 per 12 Code White 10mH covers 8-15Kc/s 63p ea. or £7.20 per 12

#### SPECIAL PRICES

FOR QUANTITIES OF TRANSISTORS, RESISTORS, DIODES AND CAPACITORS FOR ORGAN CIRCUITS.

TONE FORMING AND SMOOTHING CHOKES AND TRANSFORMERS, LARGE RANGE IN STOCK - SEE APPROPRIATE SECTIONS OF THIS CATALOGUE.

#### PRINTED CIRCUIT PANELS FOR DIVIDER ORGANS GU1 Osc + 6 dividers 13 transistor £1.13 each or £12 per set of 12. GU2 Osc + 8 dividers 17 transistor £1.63 each or £17,50 per set of 12. Osc + 8 dividers twin O/P's. GD8/T £1.88 each or £20 per set of 12. TFU1 Tone forming unit - 4 transistor £1.48 VU1 Vibrato - 3 transistor 75p LOW 'C' Divider - 2 transistor 38 p APB1/TFU Pedal board tone forming & mixer unit 88p TFU5/14 Tone forming Panel £1.88 TFU2/G Great Manual Tone forming £1.85 TFU2/S Swell .... 11 11 £2.25 PBTFU/G Pedal Board Tone forming £1.12

CU2Cancel unit48pPDU/2Pedal divider53p

★COMPLETE KITS WITH LAYOUTS, NOTES AND CIRCUITS AVAILABLE — SEE 'MAYFAIR', 'GROSVENOR' AND 'BARCLAY' PARTS LISTS IN THIS CATALOGUE.



ELECTRONIC ORGAN CONSTRUCTION SPECIALISTS

#### DISTRIBUTION PANELS

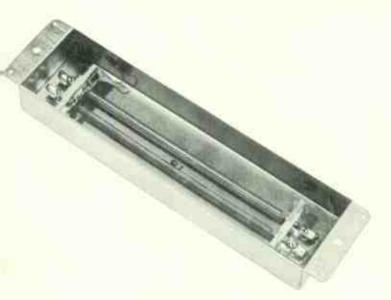
For use with 4 octave 3 or 4 pair contacts.	49 note keyboard,	6 dividers and 90p post 25p
For use with 5 octave 5 pin contacts.	61 note kayboard,	8 dividers and £2.00 post 25p
For use with 4 octave 5 pin contacts.	49 note keyboard	,8dividersand £1.50 post25p
TYPE 61/6 Diode Gate	panel	£8.40
TYPE No.2: Diode Gar	te panel	£6.30

SEE PAGE 2 FOR POSTAL AND PACKING €HARGES.

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# SPRING LINE UNITS

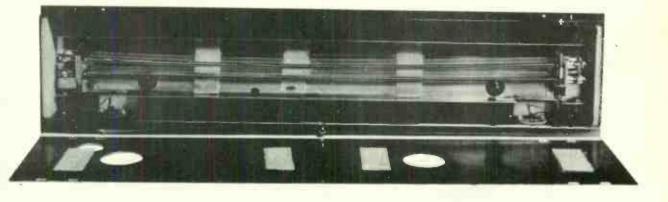
TWIN SPRING LINES FITTED TRANSDUCERS AND HOUSED IN METAL CASES, IDEAL FOR ALL AUDIO DELAY AND ECHO EFFECTS CIRCUITS. HR42 AS USED IN PRACTICAL ELECTRONICS AND 1969 EDITION. REPRINTS AVAILABLE, (Ref. No: 46A) AT 10p POST PAID OR FREE WITH SPRING UNIT.



#### **MODEL HR42**

Overall Size: 9<sup>1</sup>/<sub>8</sub>" x 2<sup>1</sup>/<sub>8</sub>" x 1<sup>3</sup>/<sub>16</sub>" Weight: 210 grams Frequency Response: 80c/s to 4000c/s. (useful range 40c/s to 10Kc/s) Sensitivity: --35 dB Drive Coil Impedance: 16 ohms Pickup (output) Coil: 10Kohm Reverberation Time: 2.5 secs (1Kc/s) Delay Time: 25 to 30 m Sec Maximum Input Current: 350 mA.

PRICE £2.75 post etc15p



MODEL HR 162

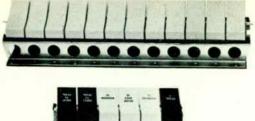
HR162 (with cover removed)

Overall Size:  $16\frac{7}{6}$ " x  $3\frac{3}{4}$ " x  $1\frac{5}{16}$ " Weight: 1000 grams Frequency Response: 50 c/s to 5000c/s. Useful Ranga: 30c/s to 12 Kc/s Sensitivity: -42 dB. Drive Coil Impedance: 16 ohms Pickup Coil Impedance: 10 Kohm Reverberation Time: 2.4 secs (1 Kc/s) Delay Time: 35 to 40 m.Sec. Maximum Input Current: 350 mA.

PRICE £6.50 Post etc. 22p

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ELECTRONIC ORGANS AND MUSICAL INSTRUMENTS SPECIALISED COMPONENTS





#### STOP TAB UNITS

Single Pole Changeover - Rocker type (Postetc. 20p any type). 12 wav All white, all black or combinations £5.50 as required. 12 way Engraved as per Mayfair Portable £6.75 12 way Engraved to order (up to 10 weeks) £8,00 6 way Plain (or engraved as per Belgravia) £3.75 12 way Engraved as per Grosvenor Organ £6.75 12 way Engraved as per Belgravia Organ £6.75 16 way Plain (or engraved as per Belgravia) £8.50 18 way Engraved as Grosvenor Organ £9.00 other sizes and combinations available to order.





#### Two Pole Changeover – Piano Key type

Type 44 way Press on, Press offPRICE £1.50Type 1010 way Press on, Press offPRICE £3.75

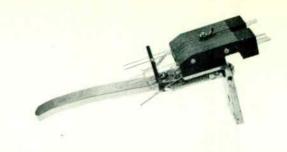
#### Stop Tap Switches

Grained Ivorine, available as make, break or single pole changeover - state which.



STOP TAP SWITCH Plain energraved taps 70p each 37p each 60p each

Engraved as required (6-10weeks) 6



#### PEDAL SWITCHES OR JACKS

4 pair gold clad contacts, lever operated hang of pedal key	d by over- 50p each
5 pair version of above	50p each
Type PJ10 10 make/break contacts	50p each
cwks key contact wipers for PJ10	<b>4p</b> each
(Post etc. 15p per 1 to 3, 20p per 4 to 6, 25p p	Der 7 to 10).

#### COUPLER SWITCHES

\$65 65 contacts.
Solenoid operated.
PRICE £6.20 post 35p

UNI65 65 contacts Solenoid operated (Unison off) PRICE £6.50 post 35p



7



#### EXPRESSION PEDAL PARTS 50K ohm hard track control with rack and pinion 48p Twin 50K ohm ganged version " " " 90p

PEDAL KITS As illustrated with leads etc. Single control Twin control

NOTE: SPECIAL EFFECTS PEDAL KITS IN STOCK

Complete range of KIMBER-ALLEN products available for Electronic and Pipe Organs - Your enquiries invited

### CABINETS AND PEDAL BOARDS FOR ELECTRONIC ORGANS



MAYFAIR



GROSVENOR



#### ORGAN CABINETS

MAYFAIR PORTABLE Finished in teak for one 49 note keyboard.	£13.50
5-14 Consul for one 61 note keyboard. Finished Consul for one 61 note keyboard. Finished in walnut.	£39.50
GROSVENOR For two 49 note keyboards and 13 note stub pedal. Finished in walnut.	£75.00
BERKELEY For two 61 note keyboards and 32 note pedal board. Walnut finish with stool.	£100.00
PEDAL BOARDS 13 note Stub-box frame type (as Mayfair)	£100.00
13 note Stub-pedal (as per Grosvenor) 30 note R.C.O. pattern OAK. 32 note R.C.O. pattern OAK (as Barclay)	£14.50 carr.70p £42.50 £45.00

HENRY'S FOR ALL MUSICAL ELECTRONICS



5-14



BERKELEY

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#### SPECIALISED COMPONENTS FOR ELECTRONIC ORGANS AND MUSICAL INSTRUMENTS



#### KEYBOARDS

4-Octave C-C 49 notes, metal/plastic construction, taper fronts, curved back sharps. Fully sprung and adjusted ready to fit contacts. Price £12.97 post 43p

Bakelite panel for avove to mount contacts. Price 30p pp.15p

5-Octave C-C	61 notes as above	Price £15.75 post 50p
Bakelite conta	ct mounting panel.	Price 38p post 17p

4-Octave F-F 49 note as above. Actuators operated by rear overhang of keys. Price £9.77 post 43p

5-Octave wooden keyboards, C-C 61 notes. Made by leading British manufacturer, taper fronts, curved back sharps. Unsprung but drilled to accept fittings. Price £9,75 post 50p

#### FITTINGS FOR WOODEN KEYBOARDS

Springs per set of 61	PRICE 1.50
Hooks per set of 61	3.00
Leather buttons per set	75 p
Felt washers 3/6" x 1/6" per set of 61	75 p
Strips felt ¾" x 36" or ½" x 36"	each 17 p

#### CONTACT ASSEMBLIES

#### RHODIUM PLATED BUSBARS

27"	х	18	swg	in	straight	length	each 45p
					straight		each 52p

#### GOLD CLAD WIRE

.016 dia meter x 26 in.		
1 yard straight lengths	per yard	25p
(Post etc. 15p per 1 to 10 bars	or wire)	

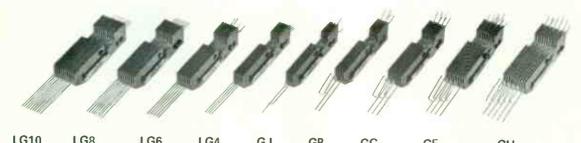
#### MULTI-CORE CABLE

(Post etc. 15p 1-4 yds, 20p 5-9 yds, 25p 10-15p, 35p 16-25 yds.)

		miniature	35p yard.
12	11	11	45p yard.
12		standard	30p yard.
24	н	11	40p yard.
50	11	17	45p yard.



#### SPRING REVERBERATION UNITS Two sizes available, details elsewhere in this catalogue. Also in stock – three types of complete reverberation systems and a kit to build.



LGTU	100 1	.G0 L	G4 GJ	GB	GC	GE	GH
Single wire	<b>s</b> . All gold a	llow wires	, arranged to	o rest on R	hodium rod, in	n line.	
4 gold wire	es, LG4	13p each	n S	et of 49 £	6.20	Set of	61 £ 7.60
6 gold wire	es, LG6	17p each	I S	et of 49 £	8.00	Set of	f 61 £10.00
8 gold wire	es, LG8	20p eact	n S	et of 49 £	29.50	Set of	
10 gold wire	es, LG10	23p eacl	ı S	et of 49 <b>£1</b>	1.00	Set of	f 61 £13.75
	acts. Bottom d alloy wires			on Rhodium Set of 49	Bar. (If used £ 6.75	). Set of	61 £ 8.25
3 pairs gold	d alloy wires	18p Type	G.C. each	Set of 49	£ 8.60	Set of	61 £10.75
4 pairs gold	d alloy wires	20p Type	G.E. each	Set of 49	£ 9.60	Set of	61 £12.00
5 pairs gold	d alloy wires	24p Type	G.H. each	Set of 49	£11.60	Set of	61 £14.50
Single pole	changeover	11p Type	G.J. each	Set of 49	£ 5.00	Set of	61 £ 6.50
1 pair make	e, 1 pair brea	k 18p Type	C.A. each	Set of 49	£ 8.60	Set of	61 £10.75

FOR POST AND PACKING CHARGES, SEE PAGE 2

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HIGH TORQUE MINIATURE MOTORS FOR MODELS, RECORD DECKS AND TAPE UNITS RELIABLE MOTORS IDEAL FOR EQUIPMENT REPLACEMENT AND FOR EXPERIMENTORS MOTORS PROJECTS.



Type B. 3.6 volt to 6 volt. 25mA current (250mA if stopped). 2600 R.P.M. On 3.6 volts. Overall size:

1½" x 1¼" x 1½". PRICE 35p

TYPE B



Type C. 4½ Volt to 12 Volt. Precision motor fitted with adjustable governor which can be externally controlled with a switch or transistor or simply connected in series with motor, 20mA current ungoverned at 9 volts 15mA current with governor operating at 9 volts. Overall size 2% " x 1" diam.

Tapped holes for mounting.

PRICE £1.25

TYPE C

Type A. 3.6 Volt to 6 Volt As type B but fitted screening case and Nylon Pulley. Overall size:

1%" × 1½" × 1¼". PRICE 55p

Type D. 6 Volt to 9 Volt

'STARR' Governed motor runs

at 10mA on 6 to 9 volts.

(150mA if shaft stopped).

3 tapped holes for end

ALL TYPES BRAND

NEW AND FULLY

**GUARANTEED** 

Overall size 1%" x 1%".

PRICE 45p

mounting.



TYPE A



TYPE D

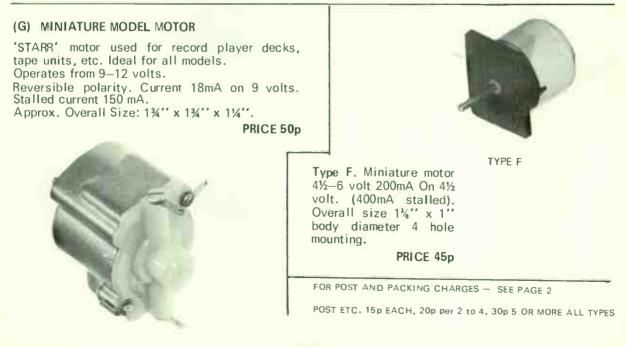


#### TYPE H MULTI-POLE MINIATURE MOTOR

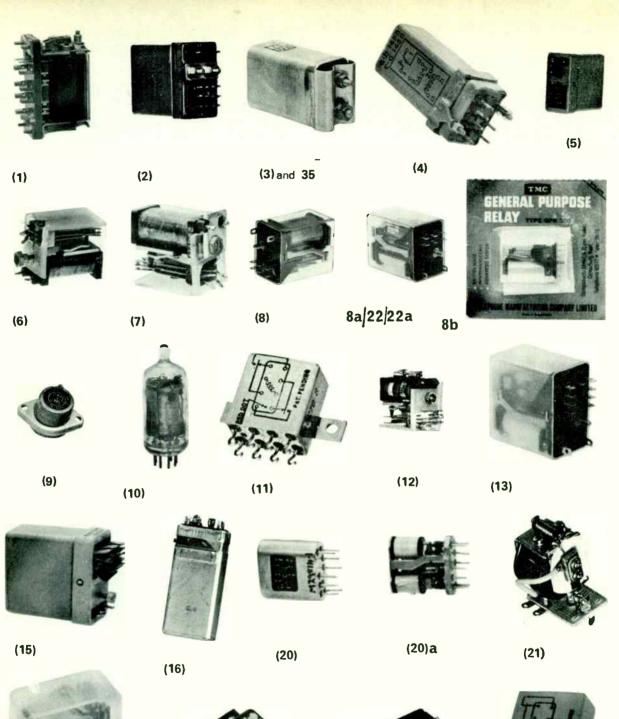
Operates from 6–24 volts DC. Multipole high torque motor. Body size  $2'' \times 1^{5}/_{16}$  " diameter. Fitted pinion. Reversible.



PRICE 75p



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(23)



(26)



(27)

(30)

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AVC

SEE OVER PAGE FOR FURTHER ILLUSTRATIONS PLUS ACTUATORS AND SOLENOIDS

	AYS V	VHEN ORDERING.	ALWAYS	QUOTE REF	No., IN	FIRST COLUMN, AN	D PRICE.	
REF No.	TYPE No.	OPERATING VOLTAGE & Coil Resistance	CURRENT (Lowest voltage)	CONTACTS	CONTACT RATINGS	DETAIL	Overall Size (inches)	
1	SCW/3942	12-24 v 120 ohms	100 mA	2P NC 2P NO	12 amp	Remove 1 spring for 12 v	$2\frac{5}{8} \times 2 \times 1\frac{1}{8}$	<mark>75</mark> p
2 3	GEC 1484 STC 4190GD	9–12 v 180 ohms 12–24 v 700 ohms	50 mA 18 mA	4 pole 2 way 2 pole 2 way	HD.PLAT 2 amp	Platignum contacts Socket B 10p	$\frac{2\frac{1}{4} \times 1\frac{1}{2} \times \frac{7}{8}}{2 \times 1\frac{1}{8} \times \frac{3}{4}}$	85p 63p
4A 4B 4C 4D	Siemens/AEI High speed Relays.	1700+1700 ohms 500+ 500 ohms 145+ 145 ohms 50+ 50 ohms		1 pole c/o		Platignum contacts Ideal for trans- mitters and other high speed switching.	2¼×1×¾	75p each
5 6 7 8 8 8 8 8 8	N915748 B STC 4189 GD STC 4189 GC PC2 CBB/12 PC4 TMC 624	3½-9 v         32 ohms           12-24 v         700 ohms           6-12 v         170 ohms           6-12 v         185 ohms           6-12 v         185 ohms           600 ohms         600 ohms	100 mA 18 mA 35 mA 30 mA 30 mA	2P NO 2PNC 2 pole 2 way 2 pole 2 way 2 pole 2 way 4 pole 2 way 2 pole on/off	1 amp 2 amp 2 amp 2 amp 2 amp 2 amp		$\frac{11}{2} \times \frac{11}{4} \times \frac{5}{6}$ $\frac{11}{2} \times 1 \times \frac{3}{4}$ $\frac{11}{2} \times 1 \times \frac{3}{4}$ $\frac{11}{8} \times 1 \times \frac{3}{4}$	60p 40p 55p 65p 75p 70p
9 <b>B</b> 9C	ЕМІ	12 volt 470 ohms 24 volt 1750 ohms	25 mA	1 pole 2 way	Code Blue Code Brown	Hermetically seal- ed. High speed with platignum contacts	¾" diam. x 1" high	45p 45p
10	B7G	9~18 v 600 ohms	15 mA	1 pole 2 way		Gas filled. High speed. B7G Base	1 <sup>7/</sup> x ¾ dia.	75p
11	Clare-Elliott	9-12 v 675 ohms		2 pole 2 way	1 amp	Fixing varies	<sup>7</sup> / <sub>8</sub> x <sup>7</sup> / <sub>8</sub> x <sup>3</sup> / <sub>8</sub>	80p
12	STC 4182 EX	12-24 v 250 ohms	48 mA	On/off	10 amp	Heavy duty	1½ × 1 × ¾	40p
13		50-90 v 5800 ohms	11mA	4 pole 2 way	1 amp	Socket A 10p	1 <sup>1</sup> / <sub>8</sub> × 1 <sup>3</sup> / <sub>8</sub> × <sup>11</sup> / <sub>16</sub>	65p
14								
15A 15B	N29501 N29509	9-25 v 435 ohms 9-25 v 375 ohms	20 mA 24 mA	2 pole 2 way 5P NO 1P NC 3P NO	1 amp 1 amp	6 Poles	$\frac{1\frac{1}{2} \times 1\frac{1}{4} \times \frac{5}{8}}{1\frac{1}{2} \times 1\frac{1}{4} \times \frac{5}{8}}$	65p 75p
15C	N 2950B	9-25 v 400 ohms 90-110v 8500ohms	23 mA	2 pole 2 way 2 pole on/off	1 amp 1 amp	5 Poles	$1\frac{1}{2} \times 1\frac{1}{4} \times \frac{57}{8}$ $1\frac{1}{2} \times 1\frac{1}{4} \times \frac{57}{8}$	75p 50p
15E 15F	N 295 10 N 29500	90—110 v 8500ohms 12 volt 555 ohms		2P NO 1P NC 1 pole 2 way 4 pole 2 way		} 4 Poles	1½ x 1¼ x <sup>5</sup> / <sub>8</sub> 1½ x 1¼ x <sup>5</sup> / <sub>8</sub>	60p 75p
16A 16B	N22242A N22242A3	1½-6 v B.8 ohms 3-6 v 140 ohms	170 mA	1 pole 2 way		Current operated Relay, Platignum contacts,		50p 60p
20 20A	336	12-28 v 125 ohms 9-15 v	100 mA	2 pole 2 way 2 pole 2 way		Magnetic deuces Minimum relays 20A open type	<sup>3</sup> / <sub>16</sub> × <sup>3</sup> / <sub>4</sub> × <sup>5</sup> / <sub>16</sub>	75p 50p
21	OMRON	230 v AC	1 <mark>1½mA</mark>	1 pole 2 way	5 amp	Contacts up to 250v DC or 440 volt AC	1 % X 1% X 1%	50p
22 22A 23	PC4/UP4 VP4/CAA26 314	12~24 v 700 ohms 12-24 v 700 ohms 12-24 v 700 ohms	20 mA 20 mA 20 mA	4 pole 2 way 4 pole 2 way 2 pole 2 way	1 amp 1 amp	Socket A 10p Socket A 10p	$ \begin{array}{c} 1^{3}_{16} \times 1^{3}_{4} \times {}^{11}_{1}_{1} \\ 1^{1}_{16} \times 1^{3}_{4} \times {}^{11}_{1} \\ 1^{5}_{16} \times 1^{3}_{16} \times {}^{11} \end{array} $	₀ 75p ₀ 75p ₀50p
26	Pott-Brum	18-24 v 650+650 ohms		2 pole 2 way		Reversible latching relay	$1 \times \frac{13}{16} \times \frac{3}{4}$	75p
27		90 ohms		1 pole 2 way		Sensing Relay 0.25-0-0.25 mA operating current		98p
30	Clare-Elliot	18-32 v 975 ohms	20 mA	2 pole 2 way			7/ x 7/8 x 3/8	<b>75</b> p
30A	43 83	30-45 v 1825 ohms	1B mA	2 pole 2 way	1 amp		75 q 11	80p
35	STC 4190 HA	1,3 volt 2 ohms	650 mA	2 pole 2 way	2 amp	Sealed	$2 \times 1\frac{1}{8} \times \frac{3}{4}$	60p

HD HEAVY DUTY. NO NORMALLY CLOSED NO NORMALLY OPEN

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#### LEDEX ACTUATORS

Miniature Electro Magnetic Switches for 12 to 28 volts AC or DC operation. For pulsed or continuous operation. Ledex Type 3E Actuator is fitted. (Note that wafer switches are fitted but may vary in numbers.)

PRICE £1.60



(18)

Y6680/12V (ZA46488). Belling Lee thermal switches. 12 volt operated twin unit with auto resetting facility. Overall size:  $3'' \times \frac{15}{16}'' \times \frac{5}{6}''$  high.

PRICE 25p

Made by Magnetic Devices.

Voltage regulating Relay. Heavy duty relay capable

of switching high voltages. Adjustable contacts and

Spring Tensioning. Contacts 1 Pole 2 Way. Silver

capped. Winding 71/2 ohms

resistance regulates 12

size

volts ± 0.25v.

21/4" x 2" x 15/8"

Enclosed in can.

Overall

(17) XC269 (Shown with Sealed Cover Removed).



(31) THERMOMETER RELAY

Operates by making connection as temperature rises



at 50°C and 60°C PRICE 35p

15V

PRICE 75p

of

relay:

#### (33) SMITHS MICRO RELAY

#### Type 11PCR/3

Specially developed for use in transistorised circuits these micro relays combine high reliability and performance under extreme environmtneal conditions with very small size – comparable in dimensions to most transistor shells.

Gold plated Platignum-Rhodium contacts and leads render the relay suitable for switching both low level signals and higher powers up to 15 watts.

> Nominal coil voltage Nominal coil resistance Nominal operating current Recommended lowest operating current Armature coil induction Contacts Contact resistance Operating time

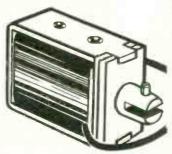
#### 425 ohms 40 mA drop out 4 mA 25 mA (10V) 0.5H (energised) 1 change over 0.07 ohms

0.07 ohms 1.5 to 5.0 milliseconds Minimum life Minimum life Environments Acceleration Vibration Weight Shell Length Overall size: 1%" x%" x%" Operates on 15 to 28 volts. 33mA at 18 volts. DC resistance 55 ohms. Pull type operation.

PRICE 45p Single bolt mounting.

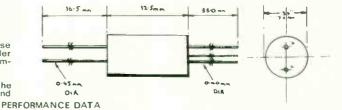
(37) MINIATURE SOLENOID (Type 426)

(29) MINIATURE SOLENOID WITH ACTUATOR



Supplied complete with sliding actuator. Operates on 4½ to 9 volts DC (300mA on 4½ volts). DC resistance 15 ohms. Quick acting medium duty. Overall size: 1746'' x 1'' x ¾''. Two 48A tapped holes for mounting, vertically or horizontally, maximum stroke ¾''. Pull type operation.

PRICE 45p



10<sup>7</sup> operations 50 mA load 10<sup>6</sup> operations 0.5 A load -55 to +125<sup>9</sup>C 100g 10g, 20 tp 2000 c1s 2.5 grams 12.2 mm PRICE 98p

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#### PANEL WITH MERCURY WETTED RELAYS

Containing 4 - Clare high speed modules ref. no.: HGSM1083. Mercury wetted contact relays. Single pole charge over contacts rating 2 amps AC/DC, 500 volts maximum or 100 watts, 250 ohm coil operates on 4 volts at 15mA (Release at 1½ volts 6mA). Maximum voltage 12 volts. Operating Time approx. 7 m secs. for 4 volts o f1 m sec. for 9-12 volts. Each relay 53 x 16 x 16 mm.

Usual Price £4 each. (i.e. £16 for the four.)

COMPLETE PANEL £2.00 (Containing 4 relays)

EASILY REMOVED FROM PRINTED CIRCUIT PANEL

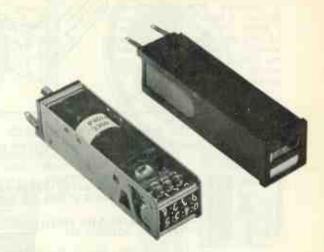


#### MERCURY WETTED CONTACT RELAY

Made by Clare USA. Single pole 2 changeover pair contacts. Octal Bore, Resistance 3000 ohms. Operates on 15 to 24 volts. MODEL HG1013

PRICE £1.00

### ELECTROMAGNETIC COUNTERS



#### **4-FIGURE INDICATOR/COUNTERS**

4-FIGURE INDICATOR/COUNTERS Size approximately 1" x 1" 41/2" overall.

TYPE 14A 500 ohm + 40 ohm. 12/24 volt. PRICE 85p

**TYPE 14B** 2300 ohm. 80/110 volt. PRICE 75p

TYPE 14C 4.2 ohm. 41/2/6 volt. PRICE 75p

TYPE 14D 500 ohm. 18/36 volt.

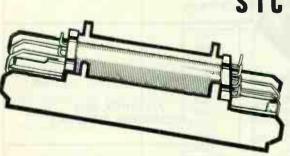
IDEAL AS BATCH COUNTERS, READ OUTS ETC.

# STC TWIN REED RELAY (Type Ref.38)

PRICE 80p

'Herkon' contacts Type 2426-582-15. Coil resistance 40 ohms. Operates from 41/2 to 6 volts DC. (150 mA on 6 volts). Fitted two H80 Break Contacts. Each contact capable of switching up to 1 amp and 250 volts AC or 150 volts DC. Maximum resistive switched power 60 watts. Operate time 0.3 mS minimum. Suitable particularly for printed circuit mounting. Overall size approx.:  $3\frac{1}{4}$  x  $\frac{3}{4}$  x  $\frac{3}{4}$ .

PRICE £1.25



FOR POST AND PACKING CHARGES SEE PAGE 2

265

BASF

Magnetic Tape and Cassettes ¥





SAVE UP TO 30%

PLAYING TIMES Length (ft.)

Þ

GLANCE 71/2

5 AT

i.p.s

33%

1%

15/16

30 i.p.s.

min.

min.

min.

600 006

min. min.

45

min.

2400 1800 1200

30 22 15 10 1 i.p.s

min. min.

60 min.

120 min.

240 min. 180 min. 120 90 min. 60 i.p.s

45 30 22 15

min. min. min. min.

90 60

) min.

360 480 min.

min.

POST ETC.

13p per reel. 18p per 2 to 4 reels 25p per 5 to 8 reels

min. min.

min.

240 min. 180 min. 120 i.p.s

30p per 9 to 12 reels

STANDARD PLAY In Swivel Box (SAVE 37p to 57p per reel.)

5″	600 ft.	PRICE each	98p	PRICE each per 3 reels 93p
<mark>5%</mark> "	900 ft.	81 - 19	£1.33	"""3"£1.27
7″	1200 ft.	11 11	£1.49	""" 3 "£1.41

#### LONG PLAY - SWIVEL BOX (SAVE 44p to 70p per reel).

5″	900 ft.	PRICE	each	£1.33	PRICE	each	per	3	reels	£1.27
5¾″	1200 ft.			£1.49	**	11	11	3	18	£1.41
7″	1800 ft.	· - 0		£2.25	11	11	п	3	11	£2.10

#### TRIPLE PLAY - SWIVEL BOX (SAVE 55p to 99p per reel).

5″	1200 ft.	PRICE	each	£1.49	PRICE	each	per	3	reels	£1.41
5¾″	1800 ft.	н	11	£2.25	ee			3	н	£2.10
7''	2400 ft.	11	11	£2.75	u.	11	н	3	н	£2.97

(NOTE: Lower prices are for a minimum of 3 reels of one size or type).

#### **BASF LOW NOISE - Swivel Box** (SAVE 50p to 105p per ree1).

5″	900' LP	PRICE	each	£1.97	PRICE	each	i per	3	reels	£1.39
5¾″	1200' LP	u -		£1.75	u	11	11	3	ц	£1.62
7″	1800' LP	11		£2.47	н			3		£2.27
5″	1200' DP		н	£1.75	U.			~		£1.62
5¾″	1800' DP		11	£2.47		11	11	3	88	£2.27
7″	2400' DP	**		£2.97	U	-11	11	3		£2.77

	SCOTCH DYNARAM	IGE TAPES	SAVE UP TO 3	30%		
SCOTCH		ea.	3 or more		ea.	3 or more
LOW NOISE	5" 600' SP 5%" 900' SP	0.94	0.90 each 1.15 "	5" 1200' DP	1.75	1.65 each
	7" 1200' SP	1.50	1.43 "	5%" 1800' DP	2.30	2.15 "
TAPES	5" 900' LP 5%" 1200' LP	1.24 1.50	1.10 " 1.43 "	7" 2400' DP	3.25	3.00 "
L	7" 1800' LP	2.18	1.99 "			

LARGE RANGE OF CASSETTE TAPES IN STOCK AT SPECIAL PRICES

268

#### CASSETTES - SAVE UP TO 30%

#### MAXWELL TAPE CASSETTES

High quality compact cassettes made in Japan. Tough tensiled polyester used as tape base. Permanent antistatic treatment and special lubricant processed into the tape permits semipermanent use without lowering tape capacity. Housed in plastic library boxes.



C60	2 x	30 r	min	Price	ea.	40p	Price	ea.	per	6 <b>38</b> p	
C90	2 x 4	15	13	91		65p	11	11	11	6 60p	
C 120	) 2 x	60	11			88p	11	17	11	6 <b>79</b> p	

#### SAVING

16p to 21p per cassette on Recommended Prices.



C60	2	x	30	min	Price	ea	58p	Price	ea.	per	6	52p
C90	2	x	45	in		11	85p	11	11	п	6	78p
C120	2	x	60	in	11		115p	53	11	11	6 '	105p

SAVING 13p to 44p per cassette on Recommended Prices.



Í	
	Scotch MAGNETIC CARTRIDGE 2711-
	0

C60	2 x	30	min	Price	ea	. 58p	Price	ea	. per	6	52p
C90	2 x	45	in	11	91	85p	п	11	н	6	78p
C120							11				

SAVING 14p to 47p per cassette on Recommended Prices.

### PHILIPS COMPACT CASSETTES AND ACCESSORIES

C30	2 x 15 r	nins.	Price	ea.	45p	Price	ea.	per 6	40p
C60	2 × 30	11	59	11	70p	11		'' 6	65p
	2 x 45		¥.		105p		11	<sup></sup> 6	98p
	2 x 60		11	11	135p	11	н	<sup>21</sup> 6	125p

SAVING 13p to 43p per cassette on Recommended Prices.

PHILIPS CASSETTE HEAD CLEANING TAPE

PRICE 85p



POST PACKING 10p per 1 to 3 cassettes, 17p per 4 to 6, 25p per 7 to 12, 30p per 13 to 20

TAPE HEADS

#### FOR CONSTRUCTORS – DESIGNERS AND RECORDER REPLACEMENTS

(ONLY DATA SHOWN BELOW IS AVAILABLE)

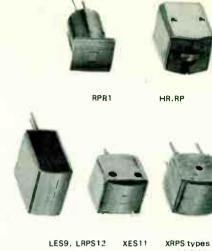
	-		-		1		-		-					1
MN 1.55 ½ track	0.0002''	0.6 HY	180Kohms	2 mV	25-45/LA	220µA	50 Kc/s	8	I	5 mV at 7½ ips	1		Black/ Red	
L/RPS12 ½-track	0.0001"	0.9 HY	180 Kohms	1.05 mV	20-50µ A	25 to 45 µ A	50 kc s	ſ	-70dB	6.0mV at 712ips 3.4mV at 3%ips	1		Green	
XR/PS/36 ¼-track	0.00012"	0.70 HY	1	0.44mV	110µ A	615µ A	50 Kc/s	12-13 V	-75dB	1.33mV at 7½ips 1.07mV at 3¾ips	-12dB of	1Kc tig.	Double Dark blue	
XR/PS/17 1/4-track	0.0001"	0.675 HY	1	1.30 mV	35µ А 200µ А 50 kc/s				I	1.7 mV at 3% ips.	-18dB of	1 kc fig.	Blue	
XR/PS/18 XR/PS/17 %-track %-track	0.0001"	0.11 HY	1	0.5 mV	60/80µ A 450/500µA 50 kc/s -			I	0.85 mV at 3% ips.	-18dBof 1 kc fig.		Double green		
RECORD HEADS	GAP(S)	INDUCTANCE (1Kc/s)	IMPEDANCE at 50Kc/s	Output at 1 kc from EMI test Tape TBT 1 71% ips.	RECORD SIGNAL	BLAS CURRENT	BLAS FREQUENCY	BIAS VOLTAGE	CROSSTALK	Output from own recording	Output from own recording at 8 kc, s	and 33, ips. Better than	Colour code	
ERA	<b>ERASE HEAD</b> S				For	XR XR X/	PS PS PS ES	8 86 /11	For L/RPS/12 L/ES/9			R	or /RP1 /E/1	
GAP	GAP				D	(ai oub	nd : le	22)		ouble × 0.00	)5''		ouble × 0.00!	
ERAS	ERASE FREQUENCY					) kc			50			5	_	
ERASE VOLTS					15	5 V			13	max,		21	o v	
ERAS	SE C	CUR	REN	т	55	5 m/	4		80	mA		7	5-100n	nA
IMPE	IMPEDANCE APPROX.					. 270 ohn			20	)0 ohr	n	250-300 ohms		0

#### MULLARD TYPE TS1238



Permanent magnet with post for use as erase. 15p

SEE PAGE 2 FOR POST AND PACKING CHARGES.



and MN155



TWIN R/P

RPR1 + RE1

R/RP1	Record/Play ½ track head	45p
HR.RP	Single track Record/Play head. (	
	at 1 kc/s. 60 Kohm impedance at 50 kc/s. Bias current 200uA.	35p
L/RP/S1	12 ¼ track Record/Play head	<b>8</b> 5p
L/ES/9	¼ track Erase for L/RP/S12	75p
XRPS 17	1/4 track Record/Play high impeda	ance £3.00
XRPS18	¼ track " " medium "	£2.10
XRPS36	(X24RP36)	
	1/2 track Record/Play low impedant	nce £3.50
XES11	¼ track erase for XRP Series	75p
BX/RP/6	3 ½ track Record Play Head	
BXE445	½ track Erase Head for above	£2.25 pair
XRPS17	with XES11	£3.50 pair
XRPS18	with XES11	£2.50 pair
XRPS36	with XES11 (X24/E/ <mark>B11</mark> )	£4.00 pair
	ggered Marriott Heads R/RF1 with block. Suitable for stereo use.	90p
	Record/Replay and erase head with block, 2 Track R/RP/1 and R/E/1 ad.	98p
MNI.55	1/2 track Record/Play	50p
2E	Erase Head for above	50p

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# **Eagle Stereo Headphones**

#### EAGLE SEI STEREO HEADPHONES

For the man with professional standards-stereo neadphones with two 76mm high flux density speakers in unique acoustic chambers for uniform response. Broad frequency response from 25-15,000 Hz; complete channel separation; comfortable 'flexi-foam' earpads exclude outside noise. A new listening experience.

Frequency Range: 25 15 000 Hz.

Impedance: 16 ohms per channel.

Matching Impedance: 8-16 ohms.

PRICE: £3.98

#### EAGLE SE21 PROFESSIONAL STEREO HEADPHONES

Designed for the connoisseur, these headphones offer the ultimate in luxurious listening. Each headphone contains a 64 mm low-frequency woofer, and a 16 mm high-frequency tweeter. Built-in attenuator and individual tweeter controls. Complete with stereo jack plug and cable, a 'best buy' for the enthusiast.

Frequency Range: 25-18,000 Hz.

Impedance: 16 ohms per channel.

Matching Impedance: 8-16 ohms.



PRICE £8.25

#### EAGLE SE30 STUDIO STEREO HEADPHONES

These headphones incorporate a Stereo/Mono switch, permitting the wearer to listen to a mono source without phase distortion. Adjustable attenuators are also fitted to facilitate individual balance requirements. Lightweight earpieces padded with real leather for extra comfort.

Frequency Range: 30-16,000 Hz.

Impedance: 8 ohms per channel.

Matching Impedance: 8-16 ohms.

#### PRICE £5.98

SEE PAGE 3 FOR POST AND PACKING CHARGES

#### EAGLE SE5 STEREO HEADPHONES

A brilliant compromise between price and performance. This recently introduced stereo headphone gives superb listening in comfort and privacy. New manufacturing techniques have reduced production cost without cutting performance quality. A good buy for the newcomer to hi-fi.



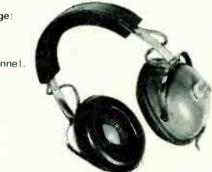
#### EAGLE SE28 STUDIO STEREO HEADPHONES

This studio-quality headset offers a really extensive frequency response (20-20,000 Hz) by means of dome acoustic chambers and specially designed tweeters. Separate adjustable attenuators are also incorporated in each dome. Complete with stereo jack plug and cable-a first-class instrument.

Frequency Range: 20-20,000 Hz.

Impedance: 8 ohms per channel

Matching Impedance: 8-16 ohms.



#### PRICE £8.98

#### EAGLE HMA309 HEADPHONE AND BOOM MICROPHONE

Tailor-made for the language laboratory, studio or other professional needs. Light and comfortable assembly. Fully adjustable headset. Low impedance microphone limits signal loss through length of cables necessary in these applications. Excellent engineering, with simplicity the keynote.

#### Headset

Frequency Range: 25-14,000 Hz. Impedance: 16 ohms. Matching Impedance: 8-16 ohms. Cord Length: 155mm with jack plug.

#### Microphone

Frequency Range: 200-8,000 Hz. Impedance: 200 ohms.. Cord Length: 155 mm with jack plug

PRICE £8.13

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#### H. 1012, 3 WAY STEREO JUNCTION BOX

This is a most useful item for serious audiophiles enabling instant switched change-over from loudspeaker to headphone listening and with a position for both reproducers to be in circuit. Neatly housed in a two-toned plastic container with coded leads.

#### G. 1301 LISTENING STATION

PRICE £1.30

A compactly styled unit for localised balancing and gain selection of loudspeaker installations with additional facility for stereo headphone switching. Ideal for remote control of outlets in Audio systems. 6" x 4" x 2¼" moulded cabinet with two volume/gain controls. Speaker ON/OFF slide switch; stereo switch; stereo headphone sockets; rear locating connecting panel. PRICE £2.25



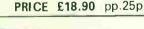




# SHURE STEREO HEADPHONE AMPLIFIER -

The Shure Solo-Phone provides stereo headphone private listening to Records...FM...Tapes for one or two people. You get the best of both worlds when you have a Solo-Phone. You listen whilst others play, read or study. You read, play or study whilst the others listen. Neither can mar the pleasure of the others. The Solo-Phone has sufficient amplification to allow any high quality magnetic cartridge to be used (such as the Shure Stereo Dynetic range) and will accept the output from a tape deck or FM stereo tuner. A switch allowing instant selection of programme source is on the front panel together with two headphone jack sockets and separate volume controls for each channel. Measuring 10%" wide x 3½" high x 3 in deep, the Solo-Phone weighs 2 lb.

Model SA-2E for 240V 50Hz mains





#### STEREO HEADPHONE CONTROL UNIT

Completely self contained Headphone listening system permits the use of two sets of Stereo Headphones with facilities of separate volume controls for each channel. Housed in a Walnut Cabinet complete with cable, stereo plug for direct connection to Amplifiers.

Model LS.2W

PRICE £2.98

FRICE

HEADPHONE EXTENSION CABLES

FITTED LINE JACK SOCKE	T AND STEREO JACK PLUG
------------------------	------------------------

KOSS Coiled stereo headphone extension lead £3.50

#### PIONEER

JB22	Stereo 'Y' adaptor. Two stereo line Jack sockets to one stereo Jack plug	£1.75
JB23	14 ft.stereo extension lead.Stereo line Jack socket to stereo Jack plug	£1.50

#### EAGLE

SY3	As JB23	£1.10
SY15	As JB23	£ 1.20

#### SPECIFICATION:

Outputs: 50mW per Channel Inputs: Magnetic 5 mV Ceramic 100 mV Tuner 100 mV Size: 7¼" x 4" x 2¾" Finish: Walnut.



#### Model HA.10 STEREO HEADPHONE AMPLIFIER

This All-Silicon 10 Transistor Headphone amplifier, has separate volume controls for each channel and twin stereo outputs for 8-16 ohm headphones.

Inputs for Magnetic (Equalised) and ceramic Cartridge or Tuner.

Self powered from a single 9 Volt Battery, there is more than enough output to drive any of the Stereo Headphones in this catalogue.

#### Model HA.10

PRICE £8.98 pp.22p

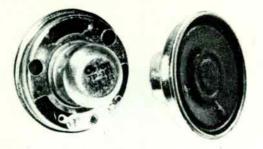
See Page 3 for post and packing charges.

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#### MINIATURE SPEAKERS

See separate sections for miniature High Frequency Speakers also miniature Microphone/Speakers.

Also suitable as microphones for many applications including intercoms, talk back systems, alarms, etc.



TP151 11/2"

#### TP 151

31/2

Em I

Miniature 11/2" diameter speaker. 100mW input. Impedance 75 ohms. Overall height ¾" Magnet Diameter ¾" PRICE 50p







TP 22

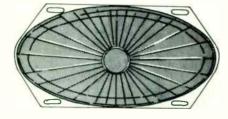
2¼" 200mW. Response 270-4000 HE.Sensitivity 90dB. Height 0.8".

\* 8 ohms PRICE 50p

\* 75 ohms PRICE 50p







1

50-80 ohms

**7**0p

5" x 3"	3	ohms	; 2-3 ·	watts	90p
5" x 3"	8	**	2-3	**	£1.00
5″ x 3″	15	**	2-3	**	£1.00
5" x 3"	25	**	2-3	**	90p
6" x 4"	25	**	2-3		90p
7″ × 3⁵″	3		2-3	**	95p
7″ × 35%	15		2-3	••	£1.00
7" x 35/	25	••	2-3	**	95p
7" x 4"	3	**	3	••	£1.00
7" x 4"	8	**	3		£1.25
7" × 4"	15	**	3	••	£1.25
7" × 4"	25	**	3	**	£1.00

NOTE DELIVERIES OF SPEAKERS, PARTICULARLY ELLIPTICAL TAPES CAN SOMETIMES BE DIFFICULT -ALSO NEW TYPES ARE ALWAYS BECOMING AVAILABLE - SUGGEST YOU PHONE OR CALL IN AND SEE THE LATEST SELECTIONS. POST ETC. 15p per TYPES (unless stated)



STANDARD SPEAKERS (ALSO SEE UNDER FANE, GOODMANS, EMI, KEF. PEERLESS, WHARFEDALE & EAGLE)

5	inch	round	5	watts	8 0	ohms	(bass unit)	PRICE £1.25
6 <sup>1</sup> 2	78	11	3 to 5	0	. 15		(inverted cone)	PRICE 85p
612		11	3 to 5	12	3			PRICE £1.25
6 <sup>1</sup> 2			5	11	3		(WB)	PRICE £1.25
6 <sup>1</sup> 2	11		10		8	11	(FR65)	PRICE £5.62
8	11		3 to 5	11	3			PRICE £1.25
8	11	"	5 to 6	11	3	8.2	(ELAC)	PRICE £2.25
8	11	11	5 to 6	EI.	8	11	(ELAC)	PRICE £2.25
8	11		5 to 6	11	15	11	(ELAC)	PRICE £2.25
8	11		5 to 6	29	3	17		PRICE £2.48
8	11	П	5 to 6	11	8	1.0	(ELAC Twin cone)	PRICE £2.48
8	11		5 to 6	**	15	8.6		PRICE £2.48
8			15	19	8	11	(FR8)	PRICE £6.62
8×5	in.el	liptica	al 5 to 6	11	3			PRICE £1.25
8×5	- 0	H	5 to 6		15	11		PRICE £1.47
10 x 6		19	'6 to 8	11	3			PRICE £ 1.47
10 x 6	1.0	88	6 to 8	12	15	1t		PRICE £1.47
1 <b>0 x</b> 6	-19		6 to 8	11	15	11	(Twin Cone)	• PRICE £1.97
10	inch	round	6 to 8	11	3	11		PRICE £1.50
10		н	6 to 8	11	15	11		PRICE £1.97
10		11	10	51	8	**	(Hi-Ten)	PRICE £2.62
10	10	11	8	0	3	1.9		PRICE £2.25
10	11		8 ·	п	8	II.	(ELAC)	PRICE £2.25
10		11	8	11	15	п		PRICE £2.25
10	0	11	8	9.9	3	11		PRICE £2.75
10	11	11	• 8	11	8 .	89	(ELAC Twin cone)	PRICE £2.75
10	EF.	11	8	11	15			PRICE £2.75
12	11	11	6 to 8	n.	3	11		PRICE £1.98
12			6 to 8	H	15			PRICE £1.98
12	91	**	6 to 8	0	3	н		PRICE £2.25
12			6 to 8	EF	15	9.9	(Twin Cone)	PRICE £2.25
12			25	11	Ŗ	11	( <b>To</b> p 20)	PRICE £5.75
1312>	( 8½"	ellip.	5 to 6	11	3	п		PRICE £2.12
1312>	( 8 <sup>1</sup> 2"	17	5 to 6	ti.	8	8.8		PRICE £2.12
1312×	(812"	11	5 to 6	11	15	11		PRICE £2.12
1312>	(8 <sup>1</sup> 2"	19	5 to 6	н	3			PRICE £2.75
1312			5 to 6	11	8	11	(Twin Cone)	PRICE £2.75
131 <sub>2</sub> x	81/2"	11	5 to 6	11	15	11		PRICE £2.75







(Also see under EMI SET 350 and 450 speakers)

POST ETC. 25p each, 40p per pair, 70p per four.

CABINETS See separate section for a range to suit 8" sizes and upwards.

NOTE. Supply difficulties with some types - check by phone or call in and see the latest selections - per types always available.



(NOTE: Illustrations not to scale)

## LOW COST RECOMMENDED HIGH-FLUX TWEETERS





#### EAGLE CT.10 HORN TWEETER

The operating system is of the pressure unit type, utilising a spun aluminium diaphragm driven by an aluminium wire-wound voice coil operating in a magnetic gap of high-flux density. Gives clean, crisp sound of unsurpassed clarity.

Frequency Range: 2 000-17,000 Hz.

Crossover Frequency: 3,000 Hz.

Flux Density: 10,000 guass.

Impedance: 8 ohms.

Mounting Hole: 80 mm.

PRICE £1.50

#### EAGLE MHT.10 HORN TWEETER

A high efficiency horn tweeter using a powerful ceramic magnet assembly. A diecast integral diffuser ensures a wide polar pattern.

Frequency Range: 2,000-18,000 Hz.

Crossover Frequency: 3,000 Hz.

Flux Density: 13,000 guass

Impedance: 8 ohms.

Mounting Hole: 54 mm.

PRICE £2.62

#### HI-FI HORN TWEETER Model K2006

Employing a modern dynamic alloy ferrite magnet, assuring maximum and consistent degree of efficiency under all conditions.

Size: 2.9" dia. 2.9" deep.

Mounting holes: 2.32".

Impedance: 16 ohms.

Voice coil: %/16".

Frequency range: 2,000-20,000 Hz.

Flux density: 8,000 guass.

Power: 10 watts.

See Page 2 for post and packing charges.



#### HI-FLUX TWEETER

Plastic cone 2<sup>1</sup>/<sub>2</sub>" unit with completely enclosed chassis.

Small overall size:  $2\frac{1}{2}$ " x  $2\frac{1}{2}$ " x  $1\frac{5}{4}$ " depth. 4 corner hole fixing.

Frequency range: 5Kc/s to 15Kc/s.

Nominal flux density: 8,500 guass.

Suitable for use with bass or full range speakers, with crossover units as below or capacitor coupled. Maximum power handling: about 6/8 watts.

Impedance: 8 ohms (suitable for 3 to 8 ohm systems).

PRICE 621/2p each.

#### EAGLE HT. 15 HORN TWEETER

A reliable tweeter that has sold well. Almost identical in performance to the MHT.10 shown on the right – and very attractive in price.

Frequency Range: 2,000-18,000 Hz.

Crossover Frequency: 3,000 Hz.

Flux Density: 13,000 guass.

Impedance: 16 ohms. Mounting Hole: 54 mm.

PRICE £2.45



1110L 22.45

#### EAGLE CT.5 CONE TWEETER

A 78mm high-frequency unit using a foam-mounted cone. It is a good performer and sells at an attractively low price.

Frequency Range: 3,000–15,000 Hz

Crossover Frequency: 3,000 Hz

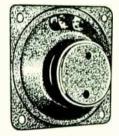
Flux Density: 9,000 guass. Impedance: 8 ohms. Mounting Hole: 94 mm

nounting note: 3

PRICE 90p

#### E.M.I. TWEETERS

A good quality inexpensive 3" tweeter. Available 3, 8 or 15 ohms. Overall size  $3_8^{1}$ " x  $3_3^{3}$ " x  $1\frac{1}{2}$ " high. Four corner hole fixing. Frequency range 3 Kc/s to 20 Kc/s, flux density 10,000 guass. For use with bass or full range speakers and with crossover units. Power handling 15 w.



PRICE 99p each

Recommended Crossovers.Eagle CN233 ohms80pFor use with anyEagle CN288 ohms80pof these tweetersEagle CN21616 ohms80p

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World Radio History

PRICE £1.25



**TOP 20** 

ELAC	QUALITY	SPEAKERS	(8" & 10")
8" 8	RM Series	5-6 watts 40Hz-12KHz	3 ohms £2.25 8 ohms £2.25 15 ohms £2.25

8" 8 RM Series 5-6 watts (with tweeter cone) 40hz-15khz 3 ohms £2.45 15 ohms £2.45

10" 10 RM Series 8-10 watts) 3 ohms £2.45 35hz-12khz 8 ohms £2.45 15 ohms £2.45

10" 10 RM Series 8-10 watts 3 ohms £2.75 35b= 15kbs 8 ohms £2.75 (with tweeter come) 35hz-15khz 15 ohms £2.75

(Carriage etc. 17p each speaker or 30p a pair)



The latest version of this tried and popular 12" speaker features a ceramic-slim magnet combined with distortionproof suspension and cast chassis. With a very genuine power handling capacity of 25 watts peaking to 40 watts, the 'Top 20' fulfils all the demanding requirements of musical instrument equipment, public address installations and wherever a high-powered sound source needs faithful and reliable reproduction. Individually boxed with data sheet providing cabinet advice and other information. British-made

throughout. Frequency Response: 25-13 000 Hz. Flat Response: 30-10,000 Hz. Bass Resonance: 45 Hz. Impedance: 15 ohms. Power Handling: 25 watts normal; 40 watts peak. Flux Density: 12,000 lines. Voice Coil: 112". Overall Diameter: 1214". Depth: 5". Baffle Aperture: 11". Fixing Centres: 13".

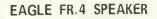
ADASTRA **HI-TEN 10"** LOUDSPEAKER



Another completely British unit under the Adastra label, the 'Hi-Ten' full range 10" loudspeaker handles up to 10 watts with convincing all-round performance. Again a ceramic magnet keeps the unit compact and contributes considerably to the reputation earned by the 'Hi-Ten' since its introduction An ideal unit for all full range music, audio and monitoring purposes.

Frequency Response: 40-10,000 Hz. Bass Resonance: 70 Hz. Power Handling: 10 watts. Impedance: 15 ohns. Flux Density: 10 000 lines. Voice Coil: 1". Baffle Aperture: 9". Fixing Centres: 9.63" x .25". Dimensions: 10.07" x 3.62".

PRICE £2.62 Carr. 25p



. . . . . . . . .

This is a full-range high-compliance speaker, sold with conplete instructions for the building of a compact enclosure. This is an excellent way to get high quality reproduction at the lowest possible price - plus the pleasure of building your own enclosures to match existing furnishings.

Diameter: 100mm (4"). Power Handling: 5 watts RMS. 10 watts peak. Frequency Range: 40-16,000 Hz. Flux Density: 10 000 guass. Impedance: 8 ohms. Baffle Opening: 90 mm.

PRICE £3.62 Carr. 13p

#### EAGLE FR.65 & FR.8 SPEAKERS

Like the FR.4 above, these speakers are intended for mounting in the buyer's own cabinets; also like FR.4 they each feature powerful ceranic magnets developing over 10,000 guass. These models, however, are not only intended to handle more power, but also have an integral, tweeter for even more brilliant sound.

FR.65 Diameter: 165 mm (6.5\*), Power Handling: 10 watts RMS 20 watts peak. Frequency Range: 35-18,000 Hz. Flux Density:

11,000 guass. 8 ohms . Impedance: Baffle Opening: 135 mm



PRICE £5.62 Carr. 18p

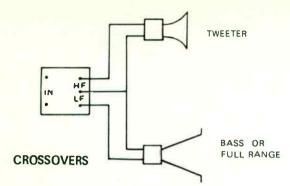
FR.8 Diameter:	200mm (8").
Power Handling:	15 watts RMS. 25 watts peak.
Frequency Range	: 30-18,000 Hz.
Flux Density:	12,000 gua <mark>ss</mark> .
Impedance:	8 ohm <mark>s.</mark>
Baffle Opening:	170 mm.

PRICE £6.62 Carr. 23p

CABINETS - suitable for 8" and 10" sizes see separate section.

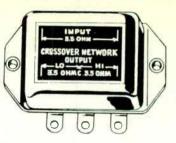
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#### FIT A CROSSOVER



EAGLE CROSSOVER NETWORKS CN.23, CN.28

and CN.216



Compact, 2-way crossover will channel high and low frequencies to proper speakers. High to tweeter and low to woofer. Crossover frequency 3,000 Hz. CN.23 3 ohms. C.N.28 8 ohms. CN.216 16 ohms.

Price 80p each

EAGLE SN.75 2-WAY SPEAKER NETWORK



Crossing over via an L-C network, the SN.75 is fitted with an adjustable high-frequency control which predetermines the tweeter loading. As well as the adjustable control and cross-over network a heavy gauge metal panel carries spring-loaded terminals for quick and reliable connection of the finished speaker system.

Impedance: 8 ohms. Crossover Frequency: 3,000 Hz.

Price £1.63p

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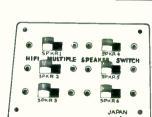
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Attractively finished in gold, this wall plate houses a 7 position speaker switch for the selection of up to 3 pairs of units.Positions are 1, 2, 3, 1-2, 1-3, ALL. Plate dimensions:  $2\%'' \times 4\%''$ . Individual seethrough hanging pack with data.

#### Price 92p

E. 1014 MULTIPLE SPEAKER SWITCH



Six Double Pole Double Throw slide switches mounted onto a gilt finished wall plate. Ideal for convenient selection of speakers, circuits, etc. 2<sup>3</sup>/<sub>4</sub>" x 4<sup>3</sup>/<sub>4</sub>". Packed in individual see-through display.

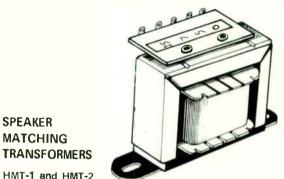
Price £1.37

VARIABLE CROSSOVER K.4004



Highly flexible crossover unit in two-tone metal case with flanged side fixing. Continuously variable crossover between bass (woofer) and high-frequency (tweeter) units with control on front. Polarised screw tag connections.  $4" \times 1\%" \times 2\%"$ .

Price £1.121/2



HMT-1 — Auto transformer for matching 8 ohm or 15 ohm speakers to sets with 2–5 ohms output, or viceversa. Frequency response is within 1 db. from 20 c/s to 15 kc/s. Power handling capacity 15 watts. Can be used to match loudspeakers of different impedances to crossover unit in high quality multi-speaker systems'.

#### Price 62p

HMT-2 – Isolating and matching transformer with similar characteristics to HMT-1, except that heavily insulated, separate windings are used. Ideal for use as an isolating transformer when connecting an external loudspeaker to a TV set. Price 68p

SEE PAGE 2 FOR POST AND PACKING CHARGES

BASED UPON 13½" × 8½" CHASSIS



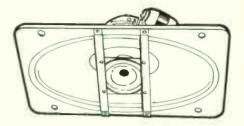
#### SET 350

8 or 15 ohm 20 watt system. Bass unit uses a ceramic magnet. The cone is fitted with an aluminium centre. The high frequency unit — tweeter has a high flux ceramic magnet. Cross over frequency 5000 c/s. Cabinet size should be approx. 23" x 12" x 11" made of ¾" wood or similar and lined. Smaller sizes can be used.

Frequency range: Power Handling: Impedance: Flux Density:

Bass Resonance:

Crossover Frequency: Total Weight: 20 c/s to 20 000 c s. 20 watts 8 ohms or 15 ohms. Bass unit 11.000 guass HF unit 10,000 guass 20 - 30 c/s. 5000 c s. 5<sup>1</sup><sub>2</sub> lbs. (Usual price approx. £9)



PRICE £7.50 each (Carriage etc. 25p each or 40p a pair)

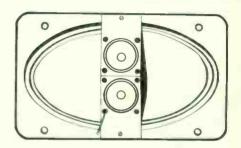
STATE 8 OR 15 OHMS WHEN ORDERING

#### **SET 450**

3, 8 or 15 ohm 10 watt system with bass unit, twin tweeters and crossover. Recommended to use a cabinet size approx 18" x 11" x 10" lined. Infinite baffle volume between 2000 and 3000 cubic inches.

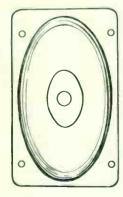
Frequency Range: Power Handling: Impedance: Flux Density:

Bass Resonance: Crossover Frequency: Total Weight: 40 c s to 13,000 c/s. 10 watts 3, 8 or 15 ohns Bass unit 10,000 guass HF units 7,000 guass 40 c/s - 50 c/s 8,500 c/s. 2<sup>3</sup>4 lbs. (Usual price approx.£4.25)



PRICE £3.60 each (Carriage etc. 25p each or 40p a pair)

STATE 3, 8 or 15 ohms WHEN ORDERING



NO TWEETER

#### SET 150

8-10 watt twin cone unit, 50Hz-11,000 Hz, Bass resonance 50-75 Hz. Flux Density 10,000 guass. Cabinet size to use about  $17" \times 9" \times 8"$  lined. Infinite baffle of 1,800 to 2,500 cubic inches.

STATE 3, 8 OR 15 OHMS. PRICE £2.49

#### BASS

As above, but without tweeter cone. STATE 3, 8 OR 15 OHMS. **PRICE £2.00** (Carriage etc. 25p each or 40p a pair).



TWIN CONE (150)

CABINETS - See cabinet section for cabinets to suit above speakers (not 350)

# **GOODMANS POWER RANGE LOUDSPEAKERS...**

For professional use, where reliability has to compliment the total sound performance. Power Range Loudspeakers are found in such diverse situations as acoustic research, pest control and alarm systems. as well as all musical and audio applications.

Available in 8 or 15 ohms - state which.

#### MODEL 12P



Fundamental Resonance (Typical): 85 Hz Flux Density (Typical): 14,000 gauss Voice Coil Diameter: 1%" (35 mm.) Impedance: 8 or 15 ohms Overall Diameter: 12%" (311 mm.) Overall Depth: 6" (152 mm.) Baffle Hole Diameter: 11" (279 mm.) Fixing Holes: 4 holes  $\frac{5}{16}$  " (8 mm.) dia. on 11%" (298 mm.) PCD. Nett Weight: 10 lbs. 12 ozs. (4.8 kg.) Suitable Sealed Enclosure Volume (per loudspeaker): 3,000 cu. ins. (50 Its.)

Nominal Power Rating: 50 watts

PRICE £10.60 Carr. 35p

#### MODEL 10P



PRICE £5.75 Carr. 25p

Fundamental Resonance (Typical): 85 Hz Flux Density (Typical): 12,500 gauss Voice Coil Diameter: 1" (25 mm.) Impedance: 8 or 15 ohms Overall Diameter: 10 3/16 " (259 mm.) Overall Depth: 3 25 " (96 mm.) Baffle Hole Diameter: 9" (229 mm.) Fixing Holes: 4 holes  $\frac{9}{32}$ " (7 mm.) dia. on 9  $\frac{23}{32}$ " (237 mm.) PCD Nett Weight: 2 lbs. 11 ozs. (1.2 kg.) Suitable Sealed Enclosure Volume (per loudspeaker): 2,000 cu. ins.

Nominal Power Rating: 15 watts



PRICE £4.95 Carr. 25p

85 Hz Flux Density (Typical): 12,500 gauss Voice Coil Diameter: 1" (25 mm.) Impedance: 8 or 15 ohms Overall Diameter: 81/32 " (204 mm.) Overall Depth: 3%" (95 mm.) Baffle Hole Diameter: 7" (178 mm.) Fixing Holes: 4 holes $\frac{7}{32}$  " (6 mm.) dia. on 7 $\frac{5}{8}$  " (194 mm.) PCD Net Weight: 2 lbs. 8 ozs. (1.1 kg.)

Nominal Power Rating: 15 watts

Fundamental Resonance (Typical):

Suitable Sealed Enclosure Volume (per loudspeaker): 1,300 cu. ins. (20 | ts.)

MODEL 18P

PRICE £27.95 Carr. 45p

Nominal Power Rating: 100 watts Fundamental Resonance (Typical): 45 Hz

Flux Density (Typical): 13,500 gauss Voice Coil Diameter: 3" (76 mm.) Impedance: 8 or 15 ohms Overall Diameter: 18 16 " (459 mm.) Overall Depth: 8%" (210 mm.) Baffle Hole Diameter:

16¼'' (413 mm.) Fixing Holes: 8 holes 5/16 '' (8 mm.) dia., 17¼'' (438 mm.) PCD

Nett Weight: 26 lbs. (9.3 kg.)

Suitable Sealed Enclosure Volume (per loudspeaker): 7,000 cu.ins. (120 lts.)

Nominal Power Rating: 50 watts

Fundamental Resonance (Typical):

#### MODEL 15P



PRICE £16.50 Carr. 40p

Flux Density (Typical): 15,000 gauss Voice Coil Diameter: 1¾" (35 mm.) Impedance: 8 or 15 ohms Overall Diameter: 15 16 " (383 mm.) Overall Depth: 6 7 (183 mm.) Baffle Hole Diameter: 13" (330 mm.) Fixing Holes: 8 holes  $\frac{9}{32}$  '' (7 mm.) dia. on 14  $\frac{3}{8}$  '' (365 mm.) PCD Nett Weight: 15 lbs. 2 ozs. (6.9 kg.)

Suitable Sealed Enclosure Volume (per loudspeaker): 4,800 cu. ins. (80 Its.)

280

World Radio History

56 Hz

#### MODEL 8P



(30 | ts)

# FANE 'POPULAR' RANGE OF HEAVY DUTY LOUDSPEAKERS

- ★ DESIGNED FOR GENERAL PURPOSE PUBLIC ADDRESS SYSTEMS
- ★ IDEAL FOR VOCAL AND INSTRUMENTAL GROUPS
- \* HEAVY CAST CHASSIS
- ★ LATEST HIGH EFFICIENCY ANISOTROPIC FERRITE MAGNETS



# <u>POP'15'</u>

#### FITTED TWEETER CONE 12" FULL FREQUENCY RANGE

This type is not intended for use with bass, or rhythm guitar or electric organ. Three or more may be used with lead guitar if enclosed in pressurised columns.

#### Price £4.00

Carr. 37p each

Voice Coil Diameter: 1" Flux Density, Gauss: 11,000 Total Flux, Maxwells: 44,000 Nominal Rating: 15 watts Frequency Range: 40–18,000 Hz Peak Power Handling: 20 watts Watts RMS Continuous: 10 Chassis Diameter: 12" Actual 12<sup>3</sup>/<sub>8</sub>" over Mounting Lugs Mounting: 4 Holes ¼" dia. on pitch circle 11¾" dia. Baffle Hole: 11" dia. Overall Height: 4<sup>3</sup>/<sub>8</sub>" Net Weight: 4 Ibs.

Main Resonance: 40 Hz

# POP' 25/2

FITTED TWEETER CONE 12" FULL FREQUENCY RANGE

> Price £5.99 Carr. 36p each

Voice Coil Diameter: 1" Flux Density, Gauss: 11,000 Total Flux, Maxwells: 44,000 Nominal Rating: 30 watts Frequency Range: 40–18,000 Hz Peak Power Handling: 50 watts Watts RMS Continuous: 25 Chassis Diameter: 12" Actual 12<sup>3</sup>/<sub>8</sub>" over Mounting Lugs Mounting: 4 Holes ¼" dia. on pitch circle 11¼" dia. Baffle Hole: 11" dia. Overall Height: 4<sup>3</sup>/<sub>8</sub>" Net Weight: 4 lbs. Main Resonance: 40 Hz

# ULTRA HIGH POWER TYPES POP '50'

12" BASS UNIT Price £8.40 Carr. 40p each

Voice Coil Diameter: 2" Flux Density, Gauss: 14,000 Total Flux, Maxwells: 186,000 Frequency Range: 30-8,000 Hz Peak Power Handling: 100 watts Watts RMS Continuous: 50 Chassis Diameter: 12" Actual 12 $\frac{3}{8}$ " over Mounting Lugs Mounting: 4 Holes ¼" dia. on pitch circle 11¾" dia. Baffle Hole: 11" dia. Overall Height: 4 $\frac{3}{8}$ " Net Weight: 7 lbs. Main Resonance: 30 Hz

# POP 60'

Suitable for all bass instruments

Price £10.12½ Carr. 47½p each

Chassis Diameter:

15%" over Mounting Lugs

Mounting: 4 Holes ¼" dia.

over pitch circle 14.67"

Baffle Hole: 131/2" dia.

Main Resonance: 40 Hz

Overall Height: 6¼"

Net Weight: 20 lbs.

15" Actual

dia

Voice Coil Diameter: 2"

Flux Density, Gauss: 14,000

Total Flux, Maxwells:

186,000

Frequency Range: 25-5,000 Hz

Peak Power Handling: 120 watts

Watts RMS Continuous: 60

# <u>POP'100'</u>

18" EXTRA HEAVY DUTY

Built to withstand terrific power. Conservatively rated at 100 watts.

> Price £17.62½ Carr. 62½p each

Voice Coil Diameter: 2" Flux Density, Gauss: 14,500 Total Flux, Maxwells: 375,000 Frequency Range: 20–5,000 Hz Peak Power Handling: 200 watts Watts RMS Continuous: 100

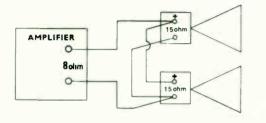


Chassis Diameter: 18" 'Actual 18%'' over Mounting Lugs Mounting: 8 Holes  $\frac{5}{16}$ " dia. on pitch circle 17%'' dia. Baffle Hole: 16%'' dia. Overall Height: 7 $\frac{1}{8}$ "' Net Weight: 22 lbs. Main Resonance: 30 Hz

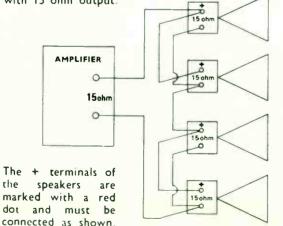
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### LOUDSPEAKER CONNECTIONS

Two 15 ohm speakers connected in parallel to an amplifier with 8 ohm output.

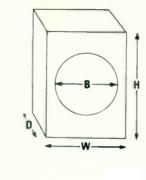


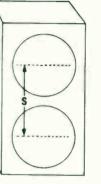
Four 15 ohm speakers connected in series / parallel to an amplifier with 15 ohm output.



(AS PER FANE ACOUSTICS LIMITED).

### CABINETS FOR 13" 8", 12" & 15" LOUDSPEAKERS



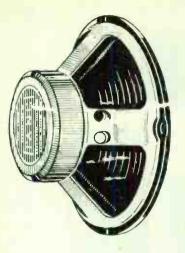


These cabinets are of the 'Infinite Baffle' type. They should be made from  $\frac{3}{4}$ " chipboard or plywood. They should be **airtight** with all joints glued and screwed. It is desirable to fill the space behind the speakers with sound absorbent material. Care should be taken under all circumstances that forward cone movement will not result in contact with the cabinet.

#### Outside dimensions of cabinets in inches.

Dimension		Single Speaker			Tw	Two Speakers			Four Speakers		
		13″x8″	12″	15″	13″x8″	12″	15″	13"x8"	12"	15″	
Height	н	18″	22″	24″	30″	30″	36″	60*	58″	72"	
Width	W	12″	16″	18″	12″	16″	18″	12″	16″	18"	
Depth	D	9″	9*	10″	9*	9″	11"	9″	9″	11″	
Spacing	S	-	-	-	14"	13″	16″	14"	13″	16″	
B <mark>affle H</mark> ole	В	Ellipse 11 <u>1</u> x7 4 "	11″ dia.	13 <u>‡</u> ″ dia.	Ellipse 11½″x7‡″	11″ dia.	13 <u>↓</u> ″ dia.	Ellipse 11 <u>‡</u> ″x7 <u>‡</u> ″	11" dia.	13 dia.	

#### HEAVY DUTY AND HIGH POWER SPEAKERS



### \* PUBLIC ADDRESS FANE \* DISCOTHEQUES

IN STOCK (Carriage extra)

	ago ontial	
12" POP 15 1	5 watt Twin Cone	£ 4.00
12" POP 25/2 2	5 "	£ 5.97
12" POP 50 50	0 ''	£ 8.40
1 <mark>2" PO</mark> P 60 6	0 "	£10.12
12" POP 100 10	0 "	£17.62
12" 122/17TG 5	0 " RMS Twin Cone	£15.00
18" 183G 10	0 " RMS Bass Unit	£29.00

Also see under Goodmans 'P' Range.

# INTRODUCING THE FANE SUPER SENSITIVE

# 'CRESCENDO' 12 and CRESCENDO'15

#### 12" 100 WATT FULL RANGE

Flux Density 20,000 lines Power Handling 100 Watts Frequency Response 30-16,000 Hz Voice Coil Impedance 8 and  $15\Omega$ Weight 18 lb Voice Coil Diameter 2 in. Cone: Single with Plastiflex surround. Price £26.00 (Carriage 45p each or 75p per pair.)



#### 15" 100 WATT FULL RANGE

A super sensitive, full frequency range, 15" high power unit. Suitable for use singly or in multiples, for Bass Guitar, Electronic Organ, Lead and Rhythm Guitar, Vocalists, etc., etc.

Gauss (Flux	Density)	20,000 lines					
Impedance		8 or 15 ohms.					
Frequency Re	sponse	30-13,000 Hz.					
Bass Resonar	Bass Resonance 50 Hz.						
Voice Coil D		2 ins.					
Power Rating	100 watt	s RMS continuous.					

#### Price £32.00

(Carriage 55p each or 90p per pair.) Cabinet volume 3,200 cubic ins. for a single loudspeaker.

Cabinet volume 4,500 cubic ins. for a single loudspeaker.

INCORPORATING THE FANE SPECIALLY DEVELOPED HIGH POWER VOICE COIL HIGHER POWER HANDLING WIDER FREQUENCY RANGE HIGHER SENSITIVITY HIGHER ACOUSTIC OUTPUT

CRESCENDO 18" 150 watt 30-5000 Hz. 8 or 15 ohms. 18" PRICE £45.00

IN STOCK: SPEAKERS FROM 0.1WATT TO 100 WATTS. COMPLETE RANGE TO COVER EVERY AUDIO APPLICATION



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#### SPEAKER CABINETS AND HIGH POWER ENCLOSURES

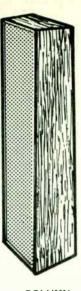


WHITEWOOD

POLISHED WOOD







COLUMN

#### DP2 and 3

#### WHITEWOOD ENCLOSURES

ALL LINED READY TO USE WITH FRONT SLOT.

TYPE A Any 8" speaker with provision for optional tweeter. Size: 24" x 11" x 9". PRICE £5.40 post 40p

TYPE B1

 10" with provision for optional mid-range and tweeter.

 Size: 28" x 15¼" x 10"

 PRICE £7.50 post 50p

TYPE C1

12" with provision for optional midrange and tweeter. Size: 28%" x 19" x 12" PRICE £9.60 post 75p

#### HIGH POWER ENCLOSURES

AS USED ON OUR HIGH POWER SPEAKER SYSTEMS FOR PA AND DISCO—see separate section of catalogue. CDP1 24" x 16" x 12" For one 12" PRICE £18.90 carr.50p. CDP2 36" x 18" x 12" For two 12" PRICE £25.80 carr.75p CDP3 50" x 26" x 14" One 18", one 12", + Tweeter. PRICE £38.55 carr.£1.25 CDP4 30" x 30" x 12" For four 12"

PRICE £38.55 carr.£1.25

FURTHER RANGE OF POLISHED WOOD AND HIGH POWER ENCLOSURES AVAILABLE - YOUR ENQUIRIES INVITED.

#### POLISHED WOOD CABINETS

 TYPE 8/13

 For any 8" or 13½" x 8½" (6 & 10 watt only)

 Overall size:
 PRICE £4.50 post 30p

#### TYPE 8

Any 8" with provision for optional tweeter-supplied with lining material. Size: 17%" x 10" x 7%" PRICE £5.50 post 45p

**TYPE 12** 

Any 12" with provision for optional 1 or 2 tweeters. Size: 24" x 15" x 111/2". Complete with lining material. PRICE £10.50 post 50p

#### **TYPE 108**

For any 8" or 10" with provision for one or two optional tweeters. Size: 21" x 111/2" x 9%". Complete with lining material. PRICE £8.50 post 45p

#### **TYPE 1012**

For any 10" or 12" with provision for one or two optional tweeters. Complete with lining material. Size 21" x 15" x 7%"

PRICE £7.50 post 50p

#### PA COLUMN ENCLOSURE

#### MODEL 412

For four 12" speakers. Size: 56" x 15½" x 12½" tapering to 9½". Complete with lining material. Finished in dark rexine/ leathercloth. PRICE £17.50 Carr. £1

•





#### WHARFEDALE UNIT 3 Two-speaker System Kit

8" bass and mid-range speaker, tweeter unit, crossover, wadding, all parts and full instructions and cabinet plans. 4-8 ohms.

PRICE £10.99 Carr.41p

(or £21.75 per pair. Carr.60p)



#### WHARFEDALE UNIT 4 Two-speaker System Kit

12" bass and mid-range speaker, 3" treble speaker, crossover, wadding, all parts and full instructions and cabinet plans. 4-8 ohms. 25 watts RMS.

> PRICE £13.99 Carr.41 p (or £27.75 per pair. Carr 65 p)



#### WHARFEDALE UNIT 5 Three-speaker System Kit

12" bass speaker, 5" mid-range speaker, treble speaker, 6-element crossover wadding, all parts and full instructions and cabinet plans. 4-8 ohms. 35 waitts RMS.

PRICE £20.50 Carr.45p

(or £39.99 per pair. Carr. 76p)

# WHARFEDALE

HIGH FIDELITY SPEAKERS AND KITS

#### SUPER 8 RS DD

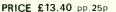
An extremely versatile 8" unit in which autput is well maintained up to 20 kc/s and remains undistorted in a small enclosure to as low as 30 c/s. Gives excellent results in concrete column enclosures as well as standard wood types. Frequency range 40-20,000 c/s. Handling capacity 6 watts rms. Fundamental resonance 50/55 c/s. Flux density 14,500 gauss. Impedance 10/15 ohms.



PRICE £7.25 pp.20p

#### SUPER 10 RS DD

10" loudspeaker unit. Frequency range 30-20,000 c/s. High flux density ceramic magnet provides higher sensitivity than usual and better HF and transient performance. Frequency range 30 20,000. Handling capacity 10 watts rms. Fundamental resonance 38/43 c/s. Flux density 16,000 gauss. Impedance 10/150hms.



### 8" BRONZE RS DD

PRICE £4.35 pp 25p

A low cost 8" speaker with wide frequency range 50-20,000 c/s. Suitable for 10-15 ohm systems up to 5 watts rms or 10 watts peak. Ideal for bookshelf systems. (Cabinets available).



ALL FULL RANGE	Bass	Flux	Terel	MAX.	INPUT	Overall	Baffle	Chassis	Frequency
MODEL	Resonance C/s.	Density (Oersteds) (Gauss)	Total (Maxwells)	Rms (Watts)	Peak (Watts)	Depth (Ins)	Opening (Ins)	Diam. (Ins)	Range (C/s)
8" Bronze/RS/DD Super 8/RS/DD Super 10/RS/DD	50/60 50/60 38 43	10.500 14,500 16 000	<b>41,500</b> 60,000 85,000	5 6 10	10 12 20	3¾ 3½ 5¾	7 7 8¾	8 8 9¾	50-20,000 40-20,000 30-20,000

PRICES ARE CORRECT AT THE TIME OF GOING TO PRESS - CHECK WITH LATEST STOCK LIST, ref. 16/ 17, PUBLISHED QUARTERLY

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# Stentorian HIGH FIDELITY UNITS

#### **MODEL H.F. 816**

8'' p.M. Unit, 16,000 gauss magnet. Fitted with cambric cone, die-cast chassis and universal impedance speech coil providing instantaneous matching at 3, 7.5 and 15 ohms. Handling capacity 6 watts. Frequency response, 50–15,000 c.p.s. Bass resonance, 63 c.p.s.

#### MODEL H.F. 1012

10" Die-cast Unit, incorporating 12,000 gauss magnet. Fitted with cambric cone and universal impedance speech coil providing instantaneous matching at 3, 7.5 and 15 ohms. Handling capacity, 10 watts, Frequency response, 30 c.p.s. to 14,000 c.p.s. Bass resonance, 35 c.p.s.

#### MODEL H.F. 1016

10" P.M. Unit, 16,000 gauss magnet. Fitted with cambric cone, die-cast chassis and universal impedance speech coil providing instantaneous matching at 3, 7.5 and 15 ohms. Handling capacity, 10 watts. Frequency response, 30 c.p.s. to 15,000 c.p.s. Bass resonance, 35 c.p.s.

#### MODEL T359

Cone Tweeter Unit, high standard of reproduction when used with Stentorian 10" or 12" units. 9,000 gauss magnet. Frequency response 3,000–15,000 Hz. Voice coil impedance 15 ohms or 5 ohms. Powerhandling capacity 15 watts when used with a 3,000 Hz cross-over.

#### CROSSOVERS

CX500 500 Hz C/O CX1000 1000 Hz C/O CX1500 1500 Hz C/O CX3000 3000 Hz C/O

#### **CARRIAGE & PACKING**

Speakers 30p, Tweeter 15p, Crossover 12½p.







Price	5.25 8.87 6.25 9.97	
Weight	20   00 <del> </del>	2
4		2
Frequency Response	50-12K 50-12K 30-15K 30-15K	
Bass Res.		2
Handling Capacity Watts	5 6 10	
tmp. Ohme		
Total Flux Maxwells	47,000 63,000 47,400 63,000	
Pole Dia.	0.0.0.0	
Flux Density Gauss	12,000 16,000 12,000 16,000	
Dimensions Depth Dia.	4½" 8" 4.218 8" 4.19/32" 10" 4.61/64" 10"	
Type	HF.812 HF.816 HF.1012 HF.1012	

U' means Tapped Impedance 3/4, 7/8 and 15/16 ohms.

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# GOODMANS CHASSIS SPEAKERS

(ALSO SEE NEW POWER RANGE)

NOTE: ALL SPEAKERS AVAILABLE FOR 8 OR 15-16 OHMS - STATE WHICH REQUIRED









TWIN AXIOM 8



AXIOM 10

TREBAX 100



AXIETTE 8

TWIN AXIOM 10

**TWIN AXIETTE 8** 

TWIN AXIOM 8

TWIN AXIOM 10

8"

8"

8"

12" 15 watt

12" 15 watt

12" 20 watt

12" 20 watt

MIDAX

**AXIETTE 8** 

AXIOM 10

AXIOM 201

AXIOM 301

AUDIOM 51

AUDIOM 51

AUDIOM 61

AUDIOM 61

TREBAX 100



AXIOM 201 & 301

6 watt 40-18KHZ. Twin Cone

10" 15 watt 40-18KHZ. Twin Cone

12" 15 watt 30-16KHZ. Twin Cone

12" 20 watt 30-16KHZ. Twin Cone

7 watt 40-15KHZ.

10" 10 watt 40-15KHZ.



AUDIOM 51 & 61

£ 6.95 £ 7.95 £ 8.95 £ 9.50 £11.95

£16.50

£ 9.95

£ 9.95

£13.95

£13.95



TREBAX 5K/20XL



CROSSOVERS

 25 watt tweeter
 25 watt Mid-range
 20 watt Tweeter with

 2½-20KHZ. 1½" hole
 650-8,000 HZ.
 20 watt Tweeter with

 3 hole fixing on 2¼"
 Attenuator.

 PRICE £6.50 post 25p
 PRICE £11.25 pp.30p
 PRICE £7.95 post 30p

 CROSSOVERS X05000
 £2.25
 X0950 £6.25
 X0950/5000 £7.75

 Post etc. 8", 10" 30p, 12" 50p, Crossovers 20p.
 20 watt Tweeter with
 Crossover and

Bass

Bass

Standard

Standard

PRICES ARE CORRECT AT TIME OF PRESS - REFER TO HI-FI STOCK LIST, Ref. 16/ 17 PUBLISHED QUARTERLY, FOR LATEST PRICES.

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TREBAX 5K/20XL

# **KEF LOUDSPEAKERS**

#### T15 Mk. 2 TWEETER

A wide range, low distortion high frequency radiator; fitted with exclusive hemispherical diaphragm made from alumised Melinex, giving wonderfully smooth response to beyond 20,000 Hz with wide dispersion of the higher frequencies. The Mk. 2 has an improved acoustical circuit which ensures level response in the critical frequency range below 4 kHz.

#### Price £6.25 post 25p

#### **T27 TWEETER**

This new high-frequency unit is of the very latest design and gives the highest standard of performance so far achieved from a moving-coil device. The domed Melinex diaphragm is small enough to give a broad radiation pattern up to the highest audio frequency. The high-frequency response extends smoothly beyond 30 kHz. The T27 is beautifully engineered in a moulded plastic case with large ferrite magnet assembly.

Price £5.121/2 post 271/2p

#### B110

The latest speaker developed by KEF technicians suitable for use as a bass driver in 2-way or as a midrange unit in 3-way systems. Long voice coil, highly compliant linear roll suspension plus Acoustilene diaphragm combine to give low harmonic distortion, minimum coloration and extra smooth response.

> Price £8.62% Carr. 27%p

#### NEW B200 SPEAKER £9.00 post 40p

#### B139 Mk. 2 WOOFER

One of the most highly developed bass drivers in the world, the B139 is an ideal unit for compact systems. The aluminium stressed plastic diaphragm of the B139 gives complete freedom from transient distortion and break-up. The special shape of the diaphragm is designed to give very wide dispersion up to 1,000 Hz where the response is only 1 dB down at 45, off axis. The Mark 2 version has a neoprene roll surround.

> Price £10.99 Carr. 51p

> > **DN12**



# DN9

A 9-element printed circuit dividing network for use in combining the T27, B110 and B139. The crossover frequencies are approximately 300 and 4,000 Hz. Supplied with edge connector. Specification Size: 61/4" x 21/2" x 1 1/8 Weight: 6% oz.

£4.49

#### DIVIDING NETWORKS

A 3-element printed circuit dividing network for use in combining the T27 with a suitable woofer having an impedance of 5-8 ohms. The crossover frequency is approximately 4 kHz. Specification Size: 21/2" x 21/2" x 11/4" Weight: 2% oz. £149

#### DN8

A 3-element printed circuit dividing network for use in combining the B139 and T15 with crossover at 1 kHz.

Specification

Size: 13" x 19½" x 3".

Weight: 10 lb. (4.5 kg)

Impedance: 8-16 ohms.

Max. Input: 15 watts RMS.

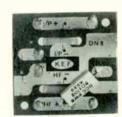
Flux Density: 10,500 oersted.

Total Flux: 137,000 Maxwells.

Frequency Range: 30-1,000 Hz.

Fundamental Resonance: 25 Hz.

Specification Size: 21/2" x 21/2" x 11/4". Weight: 3 oz. £1.69



#### Size: $3\frac{3}{4}$ dia. x $1\frac{7}{8}$ deep. Weight: 2 lb. (1 kg). Impedance: 8-16 ohms. Max. Input: 6 watts continuous RMS above 1 kHz; 15 watts music rating. Flux Density: 12,000 oersted. Total Flux: 43,000 maxwells. Frequency Range: 800-20,000 Hz. Fundamental Resonance: 550 Hz.

Specification:

Specification: Size: 4%" dia. x  $1\frac{3}{8}$ " deep. Weight: 1 lb. 6% oz. (.64 kg). Impedance: 4-8 ohms. Max. Input: 6 watts continuous RMS above 3 kHz. 15 watts music rating. Flux Density: 12,500 oersted. Total Flux: 24,700 maxwells. Frequency Range: 3-30 kHz. Fundamental Resonance: 900 Hz.



#### Specification Size: $5\frac{1}{8}$ " dia. x $3\frac{1}{8}$ " deep. Weight: 3 lb. 10 oz. (1.6 kg). Impedance: 4-8 ohms. Flux Density: 12,000 oersteds. Frequency Range: 50-5,000 Hz. Fundamental Resonance: 35 Hz.

Max. Input: 15 watts RMS. Total Flux: 64,000 maxwells.

DN13 X/OVER 3500 c/s £4.50





NEW RANGE OF SPEAKER KIT SYSTEMS SUPPLIED COMPLETE WITH CROSSOVER UNITS, BASS SPEAKERS, TWEETERS, ETC. CABINET PLANS AND INSTRUCTIONS ARE INCLUDED. ENABLES QUALITY SPEAKER SYSTEMS TO BE ASSEMBLED ECONOMICALLY, ALSO ALLOWS CABINET DESIGN TO BE FLEXIBLE TO SUIT YOUR OWN REQUIREMENTS.

#### KIT 2-8

A two way speaker system kit with  $6\%^{\prime\prime}$  woofer (8.65W) and  $2\%^{\prime\prime}$  tweeter (MT 25 HFC) and including loose components for 4,000 Hz cross-over. Frequency range in 16 litre enclosure 50-18,000 Hz. 10 watts. Complete with wiring diagram and cabinet leaflet. Impedance 8 ohms.

PRICE £5.99 pp.31p

#### KIT 3-15

A three way speaker system kit with 8" woofer (P825 W), 5" mid-range (GT 50 MRC) and 2" tweeter (MT 20 HFC) and including loose components for cross-over network, 750 and 4000 Hz. Frequency range in 30 litre enclosure 45-18,000 Hz. 15 watts. Impedance 8 ohms. Complete with instructions and cabinet leaflet.

PRICE £11.50 pp.30p

#### KIT 20-3

New three way speaker system kit with 8" wo ofer (L 825 WG), 5" mid-range (G 50 MRC) and 2½" tweeter (MT 225 HFC) and including cross-over network, frequencies 1500 and 6000 Hz. Frequency range in 20 litre enclosure 40-20,000 Hz. Max. power input 40 watts, Impedance 8 ohms. Complete with instructions and cabinet leaflet,

PRICE £16.75 pp.50p

#### KIT 20-2

The very latest high fidelity two way speaker system kit with 8" woofer (L 825 WG) and 2½" tweeter (MT 225 HFC), and including cross-over network 2500 Hz and four special fixing brackets for the woofer. Impedance 8 ohms. Complete with instructions. Frequency range in 20 litre enclosure 40-20,000 Hz. Maximum power input 30 watts.

PRICE £11.25 pp.31p

#### KIT 4-30/12

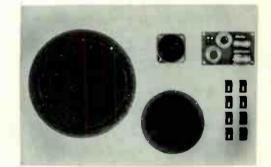
A three way 4 speaker kit system with 12" woofer (D 120 WL). 5" x 7" mid-range (0 570 MRC) and 2 tweeters (MT 25 HFC). Complete with ready wired and assembled cross-over network 4--30, frequencies 500 Hz and 3500 Hz. Impedance 8 ohms. Frequency range in 50 litre enclosure 30--18,000 Hz. Input 40 watts max. Complete with instructions and cabinet details.

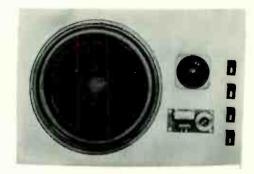
PRICE £22.75 pp.51p













CRYSTAL MICROPHONE WITH BASE This 5" stick microphone is well finished in satin aluminium with a black and silver protective surround to the diaphragm. An ON/OFF switch is fitted, and the angle adjustable 'U' bracket can be screwed direct onto a floor stand. Supplied complete with table stand as illustrated plus a Lavalier neck cord. Price £2.15

Model 100C

As above, but less stand Price £1.97



#### DYNAMIC MICROPHONE Model DFIX

Certainly one of the most widely used and respected of microphones on the British market, this dynamic pencil model has been further improved for this season. The 31/4" microphone is now in matt black with recessed silver insert cover and a clever new matching silver and black stand includes a 'U: shaped adjustable bracket with fitting suitable for direct connection on to floor stands. Frequency Response: 100 10,000 Hz. Supplied with stand, 'U' stem and lavalier cord and available in three impedance choices-High: 50k ohms. (During the early currency of this catalogue, some models of the DFI microphone may be in the previous twotone finish with a chrome stand.)

#### Price £2.75

State: 50 ohms, 600 ohms or 50 K ohms when ordering



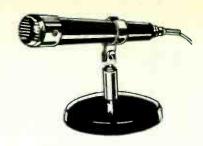
#### The famous crystal stick microphone. Frequency response: 30-12,000 Hz. Sensitivity: -62 db ref. IV/dyne/cm2 Recommended load 4.7M ohms for above response. Price £1.75

SEE PAGE 2 FOR POST AND PACKING CHARGES.



#### EAGLE CRYSTAL MICROPHONE Model 300C WITH STAND A very attractive and robust high-output

microphone, complete with adjustable desk stand and detachable cable. Finished in metallic grey with chrome trim. Dimensions: 114" x 314". Price £2.75



#### CRYSTAL MICROPHONE WITH BASE Model B1201 (B3)

This most refined of the original BM3 style models, the 81201 is both robust and smart in its jet black and chrome slim presentation. 7" long stick microphone with ON OFF switch and screwon connector; variable angle 'U' bracket which also fits floor stands, and matching black base. Price £2.25



DYNAMIC MICROPHONE WITH SWITCH Model B1019 This high-impedance microphone is

attractively presented in black with silver metal front and has a built-in strut making it suitable for desk or hand use. The B1019 incorporates an ON/OFF switch at the side and has a really excellent performance with an extremely sensitive pick-up.

Price £1.971/2



#### DYNAMIC MICROPHONE WITH Model B1017 STAND

This microphone is particularly fine value for money, offering dynamic performance with good non-directional characteristics. The black and silver 41/4" stick microphone simply slides into a receiving funnel in the matching black base provided. 3' lead already fitted with plug. 50k ohms.

Price £1.50

#### CRYSTAL MICROPHONE Model CM.73

A well-styled low-cost stick microphone supplied complete with ON OFF switch and 2 metres of cable fitted with a standard jack plug. A new type of high output cartridge ensures adequate loading for high impedance microphone inputs.

Impedance: 1 M ohm. Response: 60-10,000 Hz, Average Output: 8mV. Price £1.20



#### COMMUNICATIONS DYNAMIC Model DF50B MICROPHONE

Of particular interest for communications application (radio hams, cab call, air to ground, etc.), this rugged moulded model is hand shaped and fitted with a spring-pressured ON/OFF switch, Provided with this model is a screw-on bracket for accepting the built-in boss on the rear of the microphone which also has over 4' of selfcoiling cable, Frequency Response: 200-8,000 Hz 50 k ohms.

PRICE £3.15

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## ACOS MIC 91 CRYSTAL OMNI-DIRECTIONAL MICROPHONE

#### Price 80 p

Frequency Response: 40-7.000 Hz Sensitivity at 1kHz: -50 dB ref.

IV/dyne/cm<sup>2</sup> (3.2 mV) Nominal Capacitance: 1150 pF at 20<sup>0</sup>C. Recommended Load: 1 M ohm

C.



## BM36R MINIATURE MAGNETIC MICROPHONE

Medium impedance hand microphone ideal for recording, public address and other general uses. 2 K ohms impedance. Complete with screened lead.

Price 50 p

## MINIATURE CRYSTAL MICROPHONE CM10

Handy unit ideal for portable tape recording and general entertainment uses. 15 in. dia. Fitted with coat lapel clip. Very sensitive. Response 4 3 dB 100 c s to 9 kc/s. Complete with 5 ft. screened lead.

Price 35p

## B. 1212 DYNAMIC CASSETTE MIC.

Beautifully styled in jet and chrome finish, model 8.1212 has an impedance of 200 ohms and ON/OFF switch for operation with most types of cassette tape recording machines. The tapering 4% " body has a 3' lead fitted with moulded 2.5 mm and 3.5mm plugs for fitting into machine sockets. 50-10,000 Hz. Sensitivity: 96db.

### Price £1.47





Especially recommended for tape recording, this 50 Kohm dynamic model is neatly styled in black and white. The moulded housing includes a metal fold-back strut. 3°6" lead with 3.5mm sealed plug already fitted. 100 ~8,000 Hz. PRICE £1.25

## CRYSTAL CONTACT MICROPHONE



B. 1019 DYNAMIC MIC. WITH SWITCH

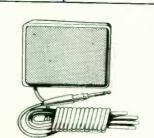
This high impedance 50K ohm microphone is attractively presented in black with silver metal front and has a built-in strut making it suitable for desk or hand use. The B.1019 incorporates an ON/OFF switch at the side and has a really excellent perfornance with an extremely sensitive pick-up. Fitted lead and 3½mm jack plug.



PRICE £1.47

A sensitive high impedance contact microphone particularly suitable for musical instruments. Clips onto soundboard of guitar, Ideal for any amplifier. Supplied with screened cable.

SEE PAGE 2 FOR POST AND PACKING CHARGES



EAGLE CM.20

General purpose, low-cost crystal microphone with built-in wire stand, Dimensions: 60 x 42 mm.

Price 60 p

## TELEPHONE RECORDING ADAPTOR



Designed for use with amplifiers or tape recorders for listening to or recording telephone conversations. Impedance about 2 k ohm with sufficient output for valve or transistor equipment. Miniature size, fitted with rubber sucker which presses on to telephone in position giving maximum volume.

ACOS 45 HAND MICROPHONE

Crystal microphone styled for comfort

in either hand. Robust die cast case

for stability and freedom from hand

capacity effects. Neat foldaway

stand.  $\pm$  3dB30 c s to 6kc/s. Supplied with 6 ft. screened cable and detach-

able clip. Very sensitive.

Price £1.15

Price 60 p

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Price 70 p

### RESLOSOUND

#### SUPER CARDIOID DYNAMIC MICROPHONE Type UDI

A high output uni-directional microphone. Suitable for hand or stand use. An internal "anti-pop" filter is fitted and the bass response is well rolled off to prevent boom or heavy speech. Its smart and modern styling will be appreciated as well as its acoustical properties. The 6 yards of cable supplied is directly connected but can be easily replaced when required. A simple slide-on nylon stand holder is provided and the microphone is packed in a welldesigned black presentation case.

#### Specification:

Frequency Response: 100 to 16,000 Hz. Sensitivity: 58 dB below 1 volt/dyne/cm<sup>2</sup> (HI-z) Response: Uni-directional. Rear response better than -14 dB overall. Finish: Main case in beige enamel. Top case, natural satin anodised.

#### Models Available

UDI/L: Dual impedance 30-50 ohms or 600 ohms. UDI/M: Medium impedance 200-300 ohms. UDI/MT: Medium impedance 600-1,000 ohms. UDI/H: High impedance. 50 K

#### BI-DIRECTIONAL RIBBON MIC. Type: RBT and RBTS

The miniature ribbon microphone type RB is most versatile for use in general sound re-inforcenient or recording purposes. It is most realistic when used for semi-professional recordings. A special feature of its design is the ability to fit alternative combinations of "acoustic correction" pads to alter the response characteristic. Supplied with side entry cable set, 6 yards (548 cm.). Available with switch, RBTS or without switch, RBT.

#### Specification:

Frequency Response: 40-16,000 Hz. Sensitivity: 58dB below 1 volt/dyne /cm<sup>2</sup> (High-Z).

Response: Figure of eight unless altered by the use of special acoustic correction pads.

Finish: Satin Chrome overall,

#### Models Available

RBT/L or RBTS/L: 30-50 ohms only. RBT/M or RBTS/M:

250 ohms or 600 ohms (with cable set to choice).

RBT/MT: Special version for transistorised inputs 600-1,000 ohms.

RBT/H or RBTS/H: Dual Impedance, 30-50 ohms or High-Z. (with cable set to choice.)

## MICROPHONE CHECK CHART - Types listed are in stock

110 (50010)	Impedance (Ohms)	HENRY'S PRICE
TTC/FOSTER		
DF72 Dynamic Stick with detachable shield	50K + 600	£ 5.75
B1006 Dynamic for stand with switch (DM304)	50K + 600	£ 4,50
B1053 Unidirectional Hand or Stand and switch	50K + 600	£ 5.75
CM70S Crystal with table stand and switch	HI-Z (Xtal)	£ 2, 121/2
B3(B1201) Crystal with table stand and switch	HI-Z(Xtal)	£ 2.25
*DFI-X Dynamic Pencil with table stand	50K/600/50	£ 2.6712
B1017 Dynamic Pencil with table stand	50K	£ 1.50
MDF619BC Cardiod/Windshield/Wallet/Switch	50K + 600	£ 9.97'2
MDF611BC Cardioid/Switch/Wallet/for Stand	50K + 600	£11,97'2
B1212 Cassette Recorders - switched	200	£ 1.4712
B1019 Hand or Desk - switched	50K	£ 1.47 2
DF50B Communications - switched	50K	£ 3,15
B1078 Hand Mic switched	50K + 600	£ 6.25
*State Impedance Required	000	£ 0.25
A.K.G.		
D202ES Dynamic Hand Cardiod with	200	£32.00
D190E Dynamic Pencil Cardiod connector	200	£32.00 £19.50
	200	£19.50
EAGLE		
100 C Crystal Pencil with on/off switch	Hi-Z (Xtal)	£ 1.9712
200 C Crystal Pencil with on/off switch	Hi-Z (Xtal)	£ 2.25
DM 14S(DFI-X) Dynamic Pencil with table stand	50K	£ 2.97'2
DM 16 HL Dynamic Omni Directional	50 + 50K	£ 5.25
DM 18 HL Dynamic Pencil with base	600 + 50K	£ 6.50
DM31C Dynamic Cardioid Pencil	50K	£ 6.25
DM34C Dynamic Cardioid Pencil	50K	£ 5.25
DM614 (B1017) Dynamic Pencil with table stand	50K	£ 1.75
UD50 HL Dynamic Unidirectional	600 + 50K	£ 6.97%
DM58 HL Dynamic Cardioid	200 + 50K	£ 8.75
CM73 Crystal Stick and switch	HI-Z (Xtal)	£ 1.20
300C Miniature Xtal and stand	HI-Z(Xtal)	£ 2.75
UD76 HL Studio Microphone - hand held	50K + 600	£17.50
CO92 Condenser mic switched	600	£10.98
CO96 Cardioid condenser Mic switched	600	£12.98
CRAMPLAN		
GRAMPIAN		
DP4/L Moving coil pencil type	25	£ 8,87½
DP4/X Moving coil pencil type	200	£10.50
DP4/M Moving coil pencil type	50	£10.50
DP4/H Moving coll pencil type	50	£10,50
RESLO		
RBT/H Ribbon Cardioid	50K	£13.50
UDI/H High Impedance Cardioid	50K	£19.50.
COMPLETE RANGE OF AKG, RESLO, SHURE AND GRAMPIA	MICPOPHONES	
STANDS AND A	CCESSORIES AVA	
	COLOSONIES AVA	ABLE.

## FREE Latest complete lists of microphones can be found on Leaflet Ref.no: 18. Issued regularly, free on request.



**RB**T



UDI

See Page 2 for post and packing charges

f

## CO.92 OMNI Directional Condenser Microphone

The CO.92 Condenser Microphone uses an entirely new condenser insert powered by a single dry cell and built in solid-state low noise pre-amplifier thus dispensing with the costly and bulky power supplies usually associated with ordinary condenser microphones. Supplied with 6 metres of low noise cable and detachable windshield.

IMPEDANCE: 600 ohms. RESPONSE: 30-16,000 Hz. SENSITIVITY: 75 dB.

PRICE £10.98

## CO.96 Cardioid Condenser Microphone

Similar to CO.92 but with a better than 20dB cardioid response.

IMPEDANCE: 600 ohms. RESPONSE: 30-16,000 Hz. SENSITIVITY: 70 dB.

**PRICE £12.98** 

## B 1078 Undirectional Cardiod Dual Impedance Microphone

Cardioid undirectional microphone with polar pattern. Dual Impedance 50K ohm and 600 ohms. Sensitivity 55dB. Response 50–15000 Hz. Features wiremesh windscreen with built in filters, ON/OFF switch, microphone holder and stand adaptor included. Supplied with 20ft cable. Simple impedance change.

PRICE £6.25

## MX.5 & 6 Microphone Matching Units

These switched transformer units (MX.5 – low impedance; MX.6 – medium impedance) give the following facilities: feed balanced low and medium impedance mikes into an unbalanced high impedance input; similarly feed unbalanced mike; extend high impedance mike lead; feed high impedance mike to low impedance, balanced or unbalanced input.

#### MX . 5

Impedance Matching: 20-50 ohms. MX.6

Impedance Matching: 200-6000hms. OUTPUT: 50 K ohms. DIMENSIONS: 70 × 65 × 30 mm.

PRICE £2.10 each type.

## ALWAYS IN STOCK - BEST PRICES EVERYTIME

## MICROPHONES

FEATURES:



## MICROPHONE STANDS & ACCESSORIES

FOR EVERY APPLICATION

LARGE RANGE IN STOCK

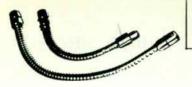


## GRAMPIAN RESLO SHURE AKG etc

MICROPHONES AND ACCESSORIES

AVAILABLE AS REQUIRED

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**GOOSENECK STEMS** 



ADAPTOR KIT



'U' BRACKET



QUICK RELEASE



#### DSI STAND

SEE PAGE 2 FOR POSTAL CHARGES.

NEW Condenser microphone with built in preamplifier/power supply. 600 ohms impedance.

MODEL EX220 £11.50

8″ FLEXIBLE GOOSENECK STEM High quality flexible metal stem 8." long and with male and female thread terminations. Fully hollow tube making these ideal for use as microphone extensions. PRICE 75p

13" FLEXIBLE GOOSENECK STEM

13" version of the above. PRICE 871/2 p

#### ADAPTORS FOR MICROPHONE STANDS

Chrome steel threaded adaptors as used on table and floor microphone stands, 1/4" inside thread; 5/11 outside,

PRICE 17½p each

#### MICROPHONE ADAPTOR KIT

The three microphone adaptors provided in this kit enable most imported and British-made microphones, stands and accessories to be matched for fitting. Supplied in a presentation box.

PRICE 50p

## "U" BRACKET AND STEM

A most useful microphone accessory enabling stick and pencil type microphones to be fitted onto stands. The strongly moulded "U" shaped cradle accepts most types and screws onto the tops of a wide variety of floor stands. Adjustable swivel bracket. PRICE 371/2p

### QUICK RELEASE MICROPHONE ADAPTOR

Allows instant removal of microphone from stand. PRICE 47½p

### **MICROPHONE MATCHING** TRANSFORMERS

O/P to 50K ohms (suitable up to 100K ohm). Completely enclosed fitted jack sockets and on/off switches,

MODEL		For 20-50	ohms.
MODEL	MX6	For 200-600	ohms.

PRICE £2.12% each

## BATTERY OPERATED MATCHING PREAMPLIFIER

'IMP-VERTA'. Low impedance input suitable for 200-600 ohm microphones. Output for 50 to 100K ohms. Fitted jack sockets. PRICE £2.971/2 post etc. 171/20

#### LOW COST MICROPHONE STAND DSL

Single section stand for desk or table. 5" diameter plastic base. Chrome rod 3½" high. PRICE 671/2p

IN STOCK Range of Shure. AKG and Beyer microphones in stock. Ask for list Ref. 18.



#### MDF.619BC CARDIOID STICK MIC

A superbly constructed microphone for professional requirements, Built-in mesh protective windshield; ON/OFF switch; ready-wired connections for 50 Kohms or 600ohms. Satinised sand grey and polished metal finish. Leather carrying wallet with zip sealing. Extra long 16' heavy duty lead with top quality screened standard jack plug. The appearance and performance of this model places it amongst the elite.

Response: 200-10,000 Hz Sensitivity: -76dB 600 ohm -58dB 50K

PRICE £9.97%



#### MDF.611BC CARDIOID STUDIO MICROPHONE

This is another model answering the exacting demands of professional, studio and high fidelity users intended for fitting onto the widest possible variety of stands and booms. Strong 'cage' surround to cardioid patterned insert with similar easy-change facility for high (50 Kohm) and low (600 ohm) impedance. ON/OFF switch; 180<sup>0</sup> angle fixing bracket. Provided with carrying wallet and extra-long lead.

Response: 100-10,000 Hz Sensitivity: -76dB 600 ohms

PRICE £11.97%



#### EAGLE UD.76HL CARDIOID DUAL IMPEDANCE MICROPHONE

Top microphone in the Eagle Range, the UD.76HL is a studio quality instrument fitted with a Music/Speech contour control as well as a dual impedance switched transformer. For maximum cable length, regardless of impedance in use, the transformer is built into the heavy duty jack plug which can be instantly switched from one impedance to the other, thus enabling inputs to be changed in a second.

Impedance:	Dual-600 ohms or 50k ohms.	
Response:	25-20,000 Hz.	
Sensitivity:	At 50K ohms - 56 db;	
	At 600 ohms — 76 db.	
Cord Length:	9 metres, Carrying Case.	

**PRICE £17.50** 

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World Radio History

-58dB 50K ohms

## MICROPHONE ACCESSORIES (ILLUSTRATIONS

ARE NOT TO SCALE)

#### B.1410 FLOOR STAND

A 63" high adjustable 3 section stem with triple adaptors. Quick locking 1112" spread folding legs with non-slip rubber ferrules. Very well made, strong yet easily portable. Chrome -black crackle finish. PRICE £4.371/2 Carr. 3212P

### 3,1415 MATCHING MICROPHONE BOOM

Intended mainly for use with stand B.1410 this matching Boom is 33" long and weighs 2 lb Finish is in chrome with black cast brackets adjustable for stem fitting, angle of boom arm and counter balancing. Supplied with adaptors on boom end and "U" bracket to receive a wide range of microphones.

PRICE £2.871/2 Carr. 32' 2P

#### FLOOR STAND Model B1403B

An ever popular model with heavy cast base. 3 section chrome plated strong stem extending to 56". Supplied with adaptor couplings. PRICE £3.50 Carr. 35p

## STUDIO MICROPHONE STAND Model B.1411

A genuinely heavy-duty microphone stand with sophisticated refinements such as easy-grip sten-locking device, selection of three coupling screw terminations, microphone pord retaining clip and satin silver grey sprayed finish. This is a strong two-section stand extending to 63" (closed: 35") with extremely heavy steel screw-in tripod legs fitted with rubber ferrules. PRICE £6.30 Carr. 35p

MATCHING MICROPHONE BOOM Model B. 1416 Intended for operation with model B.1411 stand, this colour matching boom is 32" long and angle adjustable through 190 with easy-grip boom travel locking and positive wrench type angle adjustment. Screw type coupling to boom and for acceptance of virtually all microphones.

PRICE £3.68 Carr. 32p

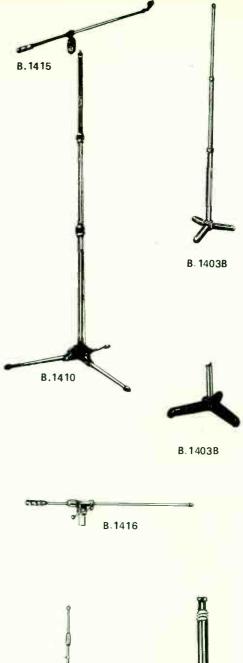
#### TABLE STAND Model B. 1402

Smart, two section desk or table microphone stand with chrome stem extending to 14" Heavy black base. Supplied with adaptor for most microphones.

PRICE £1.98 Carr.22p

#### SHAFTESBURY (Similar to A.K.G.)

3703	Heavy duty stand	PRICE £7.68	Carr.37p
3708	Matching boom	PRICE £3.88	Carr.32p

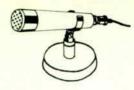


COMPLETE RANGE OF RESLO, GRAMPIAN, AKG, AND SHURE MICROPHONES, STANDS AND ACCESSORIES AVAILABLE.





TABLE STAND B.1402



## DUAL IMPEDANCE DYNAMIC MICROPHONE -- DM18HL

Flexible dynamic microphone for any application. Ruggedly constructed with tapering body and removable base for desk, floor or hand use. Impedance dual 600 ohm low. 50 K ohm high. Output -58db. Response 70-12,000 cps. With desk stand, floor stand adaptor and cable.

PRICE £6.25



## CARDIOID DYNAMIC MICROPHONE - MODEL DM.31C

Superb quality with ball head for dis tributed cardioid frontal pickup. Feed back is kept at a minimum. Ball head and body finished in all chrome.

Output: -52db. Response: 40-13,000 c.p.s. Impedance: 50K ohm. With on/off switch, shielded cable and stand adaptor.

PRICE £6.25



A high quality omni-directional microphone designed to give outstanding performance for applications where high quality is essential, yet cost is an important factor. Features a \*popproof\* and 'blast-proof' mylar diaphragm and superb antifeedback properties to allow greater working distance from microphone. Built-in high or low impedance switch, allowing longer mike lines without frequency loss. Impedance dual 50 ohm low, 50 K ohm high. Output -62 db. Response 40-15,000 cps. With impedance switch, cable and stand adaptor 6¼in. x 2 in. x 1½ in.

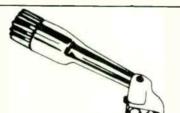
## LOW COST RECOMMENDED DYNAMIC MICROPHONES



## B.1053 DUAL IMPEDANCE UNI-DIRECTIONAL MICROPHONE

This shapely 9½" model tapers to ½" diameter before terminating in a crows nest' diaphragm housing. Features include an ON/OFF switch provision of 2 pre-wired connector leads (black for 50 K ohm and grey for 600 ohms) and felt-padded adjustable 'U' bracket for easy fitment onto stands. Uni-directional pick-up characteristics.

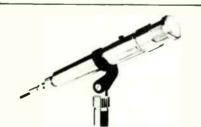
PRICE £5.75



### B.1006 (DM.304) DUAL IMPEDANCE DYNAMIC MICROPHONE

A chrome-plated die-cast body houses this excellent microphone with its dual impedance (50 K ohms and 600 ohms) specification. The heavy duty variable angled bracket incorporates an ON/OFF switch and fits directly onto floor stands. All round diaphragm with ribbed protection. Frequency response: 100– 10,000Hz. Supplied with screw-on lead and data for quick impedance change.

PRICE £4.50



### CARDIOID DYNAMIC MICROPHONE MODEL DM.34C

An ideal dynamic microphone with a cardioid pattern for communication, recording, Public Address and professional applications. Output: -55 db. Response: 50-13,000 cps. Impedance: 50 K ohm.

With on/off switch, shielded cable and adaptor.

PRICE £5.25

## DM58HL DUAL IMPEDANCE CARDIOID MICROPHONE

Designed for radio, television broadcasting and PA applications. Superior performance under typical broadcasting conditions. Cardioid pick-up pattern to reduce any chance of feedback. Spherical wire mesh 'Pop' and 'Boom' free screen. On/off switch. 20ft.detachable cable.

Dual Impedance: 200 ohm Iow. 50 K ohm high. Response: 35-15,000 cps. Output: -53 db.

PRICE £8.75



## UD.50HL UNI-DIRECTIONAL DUAL IMPEDANCE MICROPHONE

Reproduces true-sound completely eliminating unwanted pick-up from sides or rear due to a sensitive uni-directional pick-up pattern. Spherical wire mesh screen, on.'off switch, 20ft. detachable cable with plug.

Dual Impedance: 600 ohm low, 50 K ohm high. Response: 100 12,000 cps. Output: -52 db.

PRICE £6.99

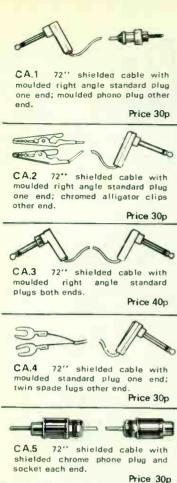


## DUAL IMPEDANCE MICROPHONE WITH WINDSHIELD DF. 72

A well styled plastic stick microphone incorporating an ON/OFF switch, precision engineered for smooth acceptance of detachable heavy duty windshield provided. Dual impedance of 50 K ohm and 600 ohm. Frequency response: 80-12,000 Hz. with non-directional characteristics. Overall dimension: 7½ in. with 2¼ in. round windshield when in place. Black and silver finish. With lead, stand fixing bracket and wire meshed screen.

PRICE £5.63

SEE PAGE 2 FOR POST AND PACKING CHARGES





CA.8 STEREO CONNECTING LEAD -fitted with a black and a grey phono plug at each end this 1.3 metre lead inter-connects stereo units quickly and easily. Price 40p

72" shielded cable with moulded phono plug one end;

72" shielded cable with

Price 30p

Price 25p

chromed alligator clips other end.

moulded 3.5 mm plug one end;

moulded phono plug other end.

CA.6

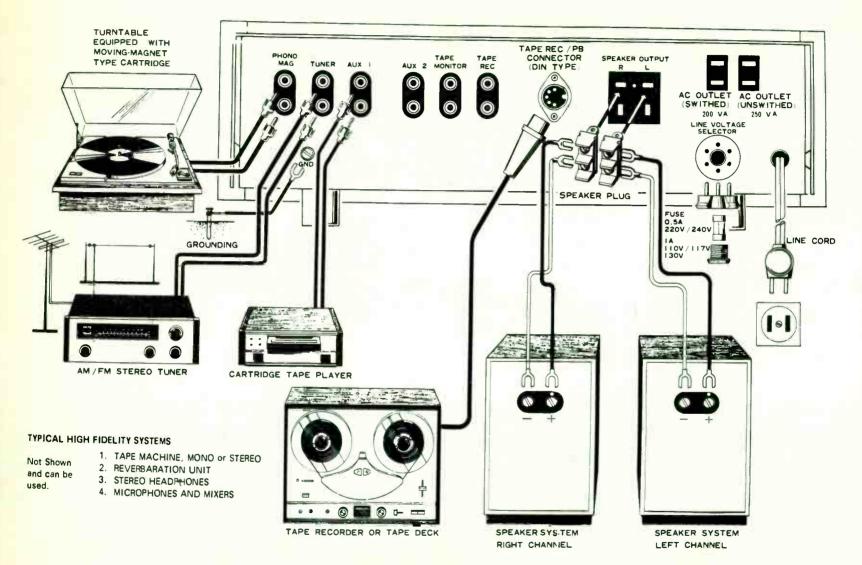
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CA7



Price £1.10

Jack socket.



298

## ALL HENRY'S PRICES ARE LOW - PLUS GUARANTEES -PLUS CREDIT FACILITIES (£30 MINIMUM PURCHASE FOR HI-FI STORE EQUIPMENT AND FOR CALLERS ONLY) – PLUS DEMONSTRATIONS AUTOCHANGER OR --TRANSCRIPTION UNIT STEREO AMPLIFIER FOR CABINET MOUNTING OR FOR SHELF STANDING a P **BASIC STEREO HI-FI SYSTEMS** п MONO OR STEREO RADIO TUNER SPEAKER SYSTEMS TAPE EQUIPMENT STEREO REEL TO REEL 1000 **HEADPHONES** CASSETTE OR FOR PRIVATE 8 TRACK CARTRIDGE LISTENING **MACHINES** 000

CHOOSE A SYSTEM TO SUIT YOUR NEEDS

AUTOMATIC RECORD CHANGER OR SINGLE/TRANS-CRIPTION PLAYER WITH STEREO CARTRIDGE. STEREO AMPLIFIER WITH A SEPARATE TUNER IF REQUIRED OR COMBINED AMPLIFIER/TUNER. ALL UNITS CAN BE FREE STANDING ON A SHELF USING A PLINTH FOR THE RECORD PLAYER DECK OR BUILT INTO A CABINET AS REQUIRED. SPEAKERS CAN BE BUILT IN OR FOR SHELF OR FLOOR STANDING. HEADPHONES, TAPE EQUIPMENT & RADIO TUNERS WILL COMPLETE YOUR STEREO ENJOYMENT. IDEAS FOR JUST THAT LITTLE BIT BETTER OR PLAIN ONE-UPMANSHIP.

- ✓ RECORD AND STYLUS CLEANERS -- PROTECT YOUR EQUIPMENT
- **¥** STEREO HEADPHONES FOR ANY AMPLIFIER
- ➡ REVERBERATION ~ ECHO SYSTEMS
- ✓ PSYCADELIC LIGHTING AND LIGHTING PATTERN PROJECTORS IN YOUR OWN HOME - WHY NOT? ADDS A NEW DIMENSION TO SOUND BY USING COLOUR LIGHTING.

## YOU HEAR THIS EVERYWHERE - HENRY'S FOR HI-FI

ALL HIGH FIDELITY EQUIPMENT IS SOLD AT SPECIAL DISCOUNT PRICES AND WITH FULL GUARANTEE. YOU CAN GET AN EXTRA 10% OFF HENRY'S LISTED SPECIAL PRICES FOR STEREO HEADPHONES, RADIO TUNERS AND. ALL TAPE MACHINES IF PURCHASED AT THE SAME TIME AS ANY OF HENRY'S 'AA', 'A', 'B' OR 'C' RECOMMENDED STEREO SYSTEMS. SEE LATER PAGES FOR STEREO SYSTEMS OR LATEST HI-FI STOCK LIST Ref.16/17 PUBLISHED QUARTERLY.



## Accessories



## PIN-TYPE ADAPTER CABLE

For connecting Stereophones to portable phonographs with plug-in speakers. Stereophone jack on one end; 2 monaural pin-plugs on other end. Price £1.75



## VWA STEREOPHONIC PLUG ADAPTER CABLE

Same as above, but for phones and tape recorders with 2 standard phone jacks for speakers. Price £3.00



#### 2 PHONE EXTENSION CABLE Connects 2 sets of Stereophones to single headphone jack. Adds one vard to phone cord length. Price £2.75



## **T 1**0

### CHAIRSIDE LISTENING STATION

Hansome new connecting box for plugging in Koss Stereophones beside your favourite chair, or at any other remote location. Wires directly to amplifier or receiver. Accepts 2 sets of Stereophones. Separate volume control for each set of phones. Speaker on/off switch. Walnut finished sides.

Price £13.50



## T3 SPEAKER/HEADPHONE TRANSFER SWITCH

Provides a speaker on/off switch and a Stereophone jack. Connects to speaker terminals of amplifier or receiver. Adds low-impedance jack to system for wide range performance of Stereophones. Price £3.50



## **T5 REMOTE CONTROL STATION**

Similar to T-10. Provides Stereophone and speaker control from remote location. Has jacks for 2 sets of Stereophones. Left and right channel volume controls and speaker on/off switch. Metal cabinet. Price £4.50



T1 MONITORING ADAPTER For use with dynamic phones in monitoring tapes from high-impedance sources such as tape recorders with preamps only. This Adapter contains matching transformers to match 600 to 10,000 ohm outputs down to 4 ohms. Equipped with 2 output jacks for Stereophones and 2 pin-type jacks for inputs. Price £4.50





## EC 25KK COILED STEREO EXTENSION CORD

25' long. Can be used with any Stereophones fitted with 3-conductor, standard phone plug. Price £3.50



## SMA STEREO/ MONAURAL/ADAPTER CABLE

Equips Stereophones for either stereo or monaural sound reproduction. Switch converts operation from stereo to monaural and vice versa. Price £3.00

## **T4 CONNECTOR BOX**

A junction box that accepts up to 5 sets of Koss Stereophones. 10° cord with 3-conductor phone plugs fits standard headphone jack. Provides private stereo listening by up to 5 people at one time. Used in schools, libraries and homes. Price £4.50

SEE PAGE 3 FOR POST AND PACKING CHARGES.

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#### KOSS K6LC LEVEL CONTROL STEREOPHONES

A combination of the famous Koss sound, and comfortable, efficient fit, with the added convenience of a volume control in each cup. These controls allow the weater to make fine adjustments in volume as well as balance without returning to his receiver or control centre. 10' coiled cord. Impedance: 4-16 ohms. PRICE £11.45



#### KOSS K6 STEREOPHONES

All the features of the K6LC, above, except the level controls. Spring steel headband and foam filled cushions form an effective seal to make possible the wide frequency response. Impedance: 4-16 ohms. 10' coiled cord. PRICE £9.95



KOSS KO727B WIDE RANGE STEREOPHONES

Designed to provide breathtaking. full dimensional stereo with outstanding realism. This is sound to delight the truly discriminating audiophile. Highly sensitive sound reproducers will accept up to 60 watts per channel from any normal programme source. The adjustable headband is combined with foamfilled ear cushions to furnish comfortable, private listening for hours on end. This close, yet comfortable fit also accounts for the exceptionally high cancellation of external noise. Can be used with systems having 4, 8 or 16 ohm output taps. Distortion is less than 1% at maximum output of 143 db SPL. Complete with 10' coiled cord.

**PRICE £13.50** 

KOS ESP6 ELECTROSTATIC STEREOPHONES Design breakthrough gives distortion-free, wide-range frequency response never before possible in headphones.

Reproduces 9 of the 10 audible octaves. A new era in personal listening is now available to the discriminating music lover at 10% the price of the finest speakers. Sound is heard as originally recorded, without loss of stereo from wall and ceiling reflections. Spurious room resonances are banished by the controlled listening environment exactly tailored to the human ear. Completely self-energized and selfcontained. Frequency Response: 27-19.000 Hz ± 5 db, Complete with 10' coiled cord, T3 connector box and speaker on/off switch. carrying case, instructions and machine-run response curve.

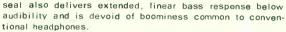


PRICE £36.00

#### KOSS PRO4AA DYNAMIC STEREOPHONES Professional Wide Range

You get full-range, uncoloured stereo sound never before possible with dynamic headphones. New, efficient element was designed to minimize weight and give uniform extended high range. Oversize diaphragm compliance ring allows reproduction of deep sonorous organ tones below 32 Hz.

New soft, wide headband cushion for maximum comfort. Patented, liquid-filled, removable cushions conform to any head shape for almost complete seal against outside noise, even over glasses. This



Designed for use with high fidelity amplifiers, will operate on any unit from 1-500 watts. The efficiency of the PRO4AA has been developed to complement amplifier gain so that hum and noise are inaudible. 10° extended coiled cord. PRICE £22.50



for critical, controlled monitoring of finest recording sources. Delivers all 10 audible octaves. 15-15,000 Hz  $\pm$  2 db, 4 octaves beyond ordinary headphones.



**Distortion free Performance** 

through precision electrical balancing of push-pull acoustical circuitry to give fatigue-free listening through long recording sessions. Elements cancel all 2nd harmonic distortion, unlike conventional units.

Lightweight for comfort — Fluid-filled cushions for distributed gentle pressure with good seal. Coupling transformers and circuitry are located in E9 energizer. Adjustable stainless-steel headband with wide cushion for perfect fit and restful listening.

No Special Amplifiers Required - Connects to low impedance speaker terminals of any good amp.

Electrostatic Stereophones, complete with E9 energizer, a.c. line cord, machine-run response curve, instructions. PRICE £53.50





World Radio History

**PRICE £15.50** 

## AUDIO CONTROL UNITS SERIES II

### AUDIO SWITCH Mk.II

The Audio Switch is for use in installations where two sets of speakers are employed or where a stereo headphone socket is not available.

Both pairs of speakers can be operated at the same time or either pair may be selected for independent use. When the unit is switched to headphones both pairs of speakers are disconnected.

The connections on the rear of the unit are by colour coded screw terminals clearly labelled and marked by the appropriate symbols. The wooden cabinet is finished in teak. Size: Length 6", Height  $7\frac{5}{8}$ ", Depth  $3\frac{1}{8}$ ". Weight: 16oz. Price £5.971/2

### **DE LUXE AUDIO SWITCH Mk,II**

This is substantially the same as the standard Audio Switch but has the added facility of giving individual volume control on both speakers of system B.

This means that the main pair of speakers can be controlled direct from the amplifier in use, and the second pair can be controlled from the switch unit. Size: Length 6", Height  $1\frac{7}{8}$ ", Depth  $3\frac{1}{8}$ ". Weight: 17oz.

## **HEADPHONE CONTROL Mk.II**

The Headphone Control is for use where two persons wish to use stereo headphones simultaneously from the same source. In order that both persons may enjoy comfortable listening conditions at their own preferred levels, four controls are available giving a separate volume setting for each ear-piece.

Speakers may be switched on or off during this operation. The controls use high-grade wire-wound potentiometers to prevent burn-out, and they are entirely independent and non-interacting.

Amplifier and speaker connections at the rear are by colour coded screw-on terminals clearly labelled and marked by the appropriate symbols. The wooden cabinet is finished in teak,

Size: Length 6", Height  $2\frac{7}{8}$ ", Depth  $3\frac{1}{8}$ ". Weight: 18oz.

### MULTI-CONTROL Mk.II

This is an extremely versatile control unit which caters for almost all domestic listening requirements.

Two pairs of stereo speakers may be connected or alternatively, one pair of stereo speakers in room A and one speaker each in rooms B and C. Both pairs of speakers can be used independently or they may be used together. All four speakers have independent volume controls giving complete control in practically all listening conditions.

Two stereo headphone sockets are fitted and when the function switch

is at "Phones" all speakers are cut off. As in the Headphone Control all four earpieces have independent volume control without interaction. High grade wire wound potentiometers are used throughout. Connections are as on the previous units. The unit is finished in teak.

Dimensions: Length 12", Height 3¼", Depth 3 1/8". Weight: 34oz.

### INPUT-OUTPUT COMPARATORS Mk.II

Both the input and output comparators were initially evolved as dealer aids for demonstration rooms and for use at exhibitions where comparison facilities were required, and where manufacture of a complicated and expensive installation was not suitable. This type of situation still remains the basic purpose of both comparators, but a more general demand for these mobile and inexpensive units has enabled us to offer them for general sale through our normal dealer outlets.

#### INPUT COMPARATOR Mk.II

Enables any of six stereo turntables or other programme sources to be connected to any of six stereo amplifiers giving a possibility of 36 different combinations.

Size: Length 614", Height 314", Depth 3 3 ". Weight: 19oz.

## OUTPUT COMPARATOR Mk.II

Allows any of six stereo amplifiers to be connected to any of nine pairs of loudspeakers giving a possibility of 54 different listening combinations or if used in conjunction with the input comparator a possible 324 equipment combinations are made available. Switch position "10" is for use with headphones instead of loudspeakers.

Connections are made on the rear of the input comparator by means of 5-pin DIN plugs and on the output comparator by DIN speaker plugs. Both units are finished in teak. Weight: 29oz.

Size: Length 12", Height 3¼", Depth 3 3 ". See Page 3 for post and packing charges.

Price £19.00



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Price £13,75





Price £7.50

Price £6.97 1/2





Price £12.75

## TURNTABLE ACCESSORIES

GARRARD

Large record spindles for 45's. LRS20 (For 2025TC, 3000, 3500, SL658) 95p



## ASSEMBLED TURNTABLES WITH PLINTHS & COVERS

ALL TYPES READY WIRED AND MOUNTED INTO PLINTH. OTHER TYPES AVAILABLE AS REQUIRED. YOUR ENQUIRY INVITED.



Carriage/Packing etc. 70p - any model.

### HL2025 TC

Garrard 2025TC with Sonotone 9TAHC diamond ceramic stereo cartridge. Plus standard plinth/cover. Teak finish. £14.50

#### HL 25/ G800H

Garrard SP25 mk.III with Goldring G800H compatible stereo magnetic cartridge, plus standard teak plinth with cover. £22.50

SM25/G800H As above, but with satin metal plinth, plus cover. (P) £24.50

HL 76/G800

Garrard AP76 with Goldring G800 cartridge, plus DeLuxe teak plinth and cover. (P) £36.00

#### TDIP\*

BSR-McDonald MP60 in BSR-McDonald DeLuxe teak plinth with cover (less cartridge). (P) £19.50

#### BD2\*

Connoisseur BD2 turntable with arm in DeLuxe plinth with cover (less cartridge). (P) £35.75

HL69/G800 Goldring GL69 mk.II with G800 cartridge plus DeLuxe teak plinth with cover. (P) £39.00

#### GL 69 PC\*

Goldring GL69 mk.11 in Goldring plinth with cover (less cartridge). (P) £31.00

#### HL75\*

Goldring GL75 in DeLuxe teak plinth with cover (less cartridge). (P) £39.00

#### GL75PC\*

Goldring GL75 with Goldring plinth and cover (less cartridge). (P) £42.00

#### TD 150 AB\*

Thorens TD150 with arm and plinth/cover (less cartridge). (P) £43.50

#### PL 12AC\*

Pioneer belt driven transcription unit with DeLuxe plinth/ cover (less cartridge). (P) £39.98

(\*CHOOSE A CARTRIDGE FOR THESE MODELS TO SUIT YOUR PURPOSE – ALSO SEE DECK/CARTRIDGE SELECTION CHART FOR OUR RECOMMENDATIONS ON PAGE 352). (P) PLAYS WITH COVER IN PLACE

PRICES ARE CORRECT AT TIME OF PRESS ~ REFER TO HI-FI STOCK LIST, Ref. 16/17 PUBLISHED QUARTERLY, FOR LATEST PRICES.

## 303

## GARRARD AUTOCHANGERS





3000







(Carriage and Packing 40p any model).

#### 2025TC

Exceptionally attractive four-speed automatic record changer. incorporating cur and pause control and low-mass pick-up arm. Fitted with Sonotone 9TAHC diamond turn over cartridge. Size:  $13\frac{1}{2}$ " x  $11\frac{3}{8}$ " x  $4\frac{3}{16}$ " above and  $2\frac{1}{8}$ " below.

PRICE £9.50

#### 3000

Four-speed auto-changer with low-mass pick-up arm for use with high compliance cartridge-gives exceptionally low record wear. Fitted with Sonotone 97AHC Diamond Stereo turn over cartridge. Size: 131/2" x 117/8" x 45/16" above and 23/4" below.

#### PRICE £9.75

#### 3500

Three-speed automatic record changer having cue and pause facility, low-mass tubular pick-up arm, and calibrated stylus force adjustment. Fitted KS40A ceramic turn over cartridge. Size:  $13^{13}/_8$ " x  $11^{36}$ " x  $45^{6}$ " above and  $23^{4}$ " below.

## **PRICE £12.50**

### Plinths and Covers

P1/T1 for above Complete range in stock, see separate section. Some models mounted ready to use. e.g. 2025TC with Plinth/Cover wired ready to use, Ref. HL2025TC.

PRICE £14.50 Carr. 50p

## B.S.R. MCDONALD RECORD PLAYERS SPECIALLY PRODUCED FOR AUDIO ENTHUSIASTS

3500



## MODEL MP.60 SINGLE PLAYER

Features four speeds; high-precision low-mass pick-up arm with calibrated stylus pressure; lightweight cartridge shell; bias compensator; heavy balanced large turntable, simple operating controls; viscous cueing device; anti-skating control. Overall size: 333.4mm x 285.8mm (player only).

PRICE MP60	£11.75	Carr. 40p
McDonald Plinth and Cover		Carr.35p
or P6/T6 Henry's Plinth/Cover	£ 3.98	Carr.30p
MP60 in McDonald Plinth with		
Cover, wired ready for use	£19.50	Carr.50p



### MODEL 610

Combines the functions of a Hi-Fi stereo record changer, a fully automatic single player and a repeating turntable. Four speeds; automatic stop; precision synchronous motor; heavy balanced turntable; counter-balanced pick-up arm; tracking control; bias compensator; automatic changer mechanism; simple to operate controls and viscous cueing device; antiskating device. Overall size: 33.4mm x 285.8mm (player only),

PRICE 610	£14.50	Carr. 40p
	£ 6.50	Carr. 30p
or P6/T6 Henry's version	£ 3.98	Carr.35p

SPECIAL PRICES WITH CARTRIDGE OF YOUR CHOICE - See Separate Chart.

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World Radio History

PRICE £3.98 post 35p

#### GARRARD TURNTABLES QUALITY AT A REASONABLE PRICE





SL72B





**SL75B** 

AP76







401

SP25 mk.II

#### SI 658

SL65B

Three-speed automatic changer with cue and pause facility, weight counterbalanced pick-up arm, calibrated stylus force adjustment, slide-in cartridge carrier and adjustable bias compensator. Incorporates the Garrard Synchro-Lab motor. Size 1414" x 121/2" x 41/2" above and 3" below. **PRICE £14.50** 

#### SL72B

A transcription turntable with facility for automatic play if desired. Features a pick-up arm of advanced design with gimbal-type pivots, a non-magnetic turntable, cue and pause control, calibrated stylus force adjustment and bias compensator.

The SL72B is fitted with the Garrard Synchro-Lab motor. Size:  $14^{9}_{16}$ " x  $12^{11}_{16}$ " x  $4^{11}_{6}$ " above and 3" below. PRICE £26 Bigges motor Chan AP76

#### SL75B

Automatic transcription turntable fitted with the Garrard Synchro-Lab motor. Similar in many respects to the SL95B but featuring a different design of pick-up arm.

Both the SL95B and the SL75B incorporate a combined record-speed and size selector for 12" (78 rpm), 7" (45 rpm) and 12", 10" and 7" (333 rpm).

Size:  $15_{16}^{9}$  x  $14_{16}^{1/1}$  x  $4_{8}^{1/1}$  above and 3" below. PRICE £29

#### SP25 mk.III

Single record play with fully automatic facility; three-speed with aluminium turntable; calibrated bias compensator; viscous-damped cue and pause system; a slide-in cartridge carrier; dynamically balanced low-resonance tubular pickup arm; calibrated fine stylus force adjustment. Size: 151/16" x 121/2" x 27/8" above and 21/8" below.

**PRICE £11.75** 

CARTRIDGES CHOOSE FROM MAGNETIC RANGE DETAILED ELSEWHERE IN THIS CATALOGUE: AUDIO TECHNICA, EMPIRE, GOLDRING, SHURE ETC.

#### SI 958

Automatic transcription turntable fitted with the Garrard Synchro-Lab motor. Features include automatic play of single records, cue and pause facility, bias compensator and calibrated fine stylus force adjustment. The low resonance, wood and aluminium pick-up arm with resiliently mounted counter-balance weight and slide-in cartridge carrier is fitted with gimbal-type pivots. Size:  $15\frac{5}{16}$  x  $14\frac{1}{6}$  x  $4\frac{1}{6}$  above and 3" below.

PRICE £38.50

#### 401

Precision engineered transcription turntable with variable speed control. The heavy, diecast turntable, fitted with an anti-static mat, features gear-cut stroboscopic markings illuminated by a high intensity neon lamp situated in the rigid aluminium base plate. The motor is completely encased for full magnetic screening.

Size: 1334" x 145/8" x 21/8" above and 4" below.

See separate section for a range of suitable arms

#### AP76

Auto/transcription three speed single player. Features counterbalanced arm, stylus force gauge, bias compensation for spherical and elliptical stylii, slide in cartridge carrier, 101/2" aluminium turntable, Garrard 4 pole induction motor and rotating spindle. Cue and pause control with viscous damping. Automatic return at end of record. Size:  $14^9 \Lambda_6^{"} \times 12^{11} \Lambda_6^{"} \times 25^{8"}_6$  above and  $2^{15} \Lambda_6^{"}$  below.

Wichi under LH From Corner

PRICE £22

#### PLINTHS AND COVERS

SEE SEPARATE SECTION FOR LARGE RANGE AVAILABLE. ALSO MANY OF ABOVE AVAILABLE READY MOUNTED.

#### CARTRIDGES

ALL TYPES SUITABLE FOR ALL CRYSTAL, CERAMIC AND MAGNETIC CARTRIDGES - SEE SEPARATE CHART FOR SPECIAL PRICES WITH CARTRIDGES.

POST AND PACKING 40P ANY TYPE

#### PRICES

ARE CORRECT AT THE TIME OF GOING TO PRESS-REFER TO HI-FI STOCK LIST, Ref. 16/17, PUBLISHED QUARTERLY, FREE ON REQUEST.

PRICES ARE CORRECT AT TIME OF GOING TO PRESS - CHECK WITH CURRENT STOCK LIST, Ref. 16/17, PUBLISHED QUARTERLY.

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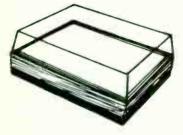
World Radio History

PRICE £32

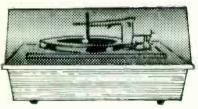
PLINTHS AND COVERS \* GOLDRING \* THORENS \* BSR-McDONALD \* DUAL \* UNCUT TYPES \* SME



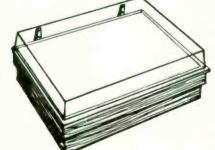
GOLDRING



HW1, HW12



HW15



SME

JP601 TYPE



HW14

DUAL

PLAYVIEW

		SME System 2000	£4 <mark>0.0</mark> 0 post 40p
GOLDRING Solid Plinth with hinge lid	£12.50 post 40p	DUAL For 1209 Plinth/Cover For 1219 " "	£16.00 post 30p £22.00 post 30p
THORENS TX11 Cover for TD150AB TX25 " " "	£ 4.40 post 15p £ 8.50 post 20p	UNCUT PLINTHS WITH COVERS IN	TEAK
McDONALD - BSR		Playview senior	£ 9.98 post 30p
Solid teak type plinth and cover	£ 6.90 post 35p	HW1 Size 18¼ x 16½ x 8½	£11.75 post 35p
CLEARVIEW HW15 Plinth and Cover. Size 16%":	x 17½" x 9"	HW12 Size 19 x 23½ x 8½	£14.90 post 40p
HW15/1 For Garrard Series HW15/4 For Garrard Series AP76,	£ 9.50 post 35p	HW14 Size 18% x 19% x 9% Fully sprung, adjustable levelling	
SL72B, SL75B, SL95B	£ 9.50 post 35p	anti-feedback. Fitted all sockets. METROSOUND	£22.50 post 50p
HW For JP601 Transcription Turntable	£12.00 post 35p	For TD150AB. Solid sides hinged p teak. Size: 19½" x 12½" x 7"	erspex top. Solid
		PRICE	£14.98 post 37p

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PLINTHS AND COVERS FOR GARRARD, BSR-McDONALD, GOLDRING 'HENRY'S' QUALITY RANGE - TEAK



MODEL P1/T1 Overall size: 12%" x 14%" x 7%". For Garrard models SP25, SL65B, 2025TC, 3500, 3000, Deccadec etc. Teak with rigid smoked cover. PRICE £3.98 post 32p

MODEL P4/T4 Overall size 15" x  $14^{7}$ %" x  $7^{5}$ %". For Garrard models AP76, SL72B, SL75B, SL95B. Teak type with rigid smoked cover.

PRICE £5.90 post 35p

MODEL P6/T6 Overall size:  $12\frac{3}{8}$ " x  $14\frac{3}{8}$ " x  $7\frac{5}{8}$ ". For BSR-McDonald MP60, MP610. Teak with rigid smoked cover.

PRICE £3.98 post 32p

MODEL H4 Overall size: 17" x 14¾" x 6½". For Garrard models AP76, SL72B, SL75B, SL95B. Teak finish, black trim, with rigid smoked cover. PRICE £9.97 post 38p

MODEL H69

Overall size: 17" x 14%" x 6%". For Goldring model GL69. Teak finish with black trim and smoked cover.

PRICE £9.97 post 38p

MODEL H75 Size and appearance as HL69 PRICE £9.97 post 38p

TYPE 5

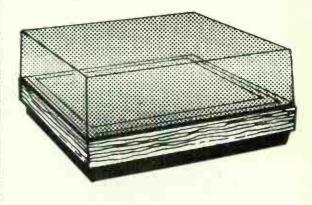
Sturdy satin enamelled finish with black matching trim for decks as P1/T1. Can be played with cover on. Overall size:

PRICE £6.85 post 35p

EXCEPTIONAL QUALITY AND VALUE

## HENRY'S DELUXE RANGE

Available in Teak, Rosewood or White. Sturdy and solid construction with black and satin metal trim. Covers light tint in rigid perspex. Sizes stated are for autochange versions, one inch lower for single play versions.



#### BNI

For Garrard Models 2025TC, 3000, 3500, SP25, SL65B and Deccadec. Overall size:  $1534" \times 1412" \times 7\frac{1}{6}"$ . Deck can be played with cover on.

DBI PLINTH	State colour	PRICE £4.75 post 20p
DCI COVER	State model	PRICE £4.25 post 20p
BNI (DBI/DCI)		PRICE £8.75 post 35p

#### BN4

For Garrard models AP76, SL72B, SL75B, and SL95B. Overall size: 15%" x 14%" x 7%".

DB4 PLINTH	State colour	PRICE £4.75 post 20p
DCI COVER	State model	PRICE £4.25 post 20p
BN4 (DB4/DCI)		PRICE £8.75 post 35p

#### GARRARD

WBI Plinth for models 2025TC, 3000, 3500, Deccadec, SP25, SL65B. Size: 14" x 17½" x 3 <sup>3</sup> / <sub>4</sub> "					
	PRICE £3.25 post 25p				
SPC1 Plastic lid/cover for WBI	PRICE £2.98 post 17p				
WB1/SPC1	£6.20 post 40p				
WB5 Larger version of WBI	£4.98 post 27p				
SPC4 Cover for WB5	£3.98 post 17p				
WB5/SPC4	£8.75 post 40p				
WB4 Plinth for models AP76, SL72B, SL75B, SL95B.					
Size: 15" x 15" x 4¼".	PRICE £4.98 post 27p				
WB4/SPC4	£8.75 post 40p				

#### METROSOUND

Deluxe Plinth/Cover cut for TD 150 AB. Solid teak base and sides. Hinged with perspex top and front. Size: 19½" × 12½" × 7". PRICE £14.98 post 42p



#### **MODEL 1219**

1219 is an automatic turntable valike any other The Dual the market. Every refinement of modern disc playing technique has been embudied in this design without compromise. Specifications: Gimbal pivot tubular tone arm, Effective length: 8 .in. Removable cirtridge holder with standard bin, mounting. Variable stylus-force adjustment covers 0 5.5 grms. Anti-skiting compensation can be set while record is playing with separate scale for conical or eliptical styli. Mode selector lever maintains correct vertical tracking angle whether 1219 is used as a single record player or automatic changer. Pitch (speed) control independent of lotid, can be adjusted up or down by a musical semitone. Synchronous-continuous-pole motor, has low stray hum field, and maintains constant speed inde-pendent of changes in fine voltage. Rotary lever type controls for easy actuation without jolting. Non-magnetic turntable platter 7lb., 12in. in diametur, with stroboscope disc. Spued: 33's, 45, 78 r.p.m. Finish: nott block with brushed satin trim. Size 144," x 12%".

PRICE £58.79 (Special prices with cartridge see lists). MODEL 1219 1219 with SHURE M91G £69.75 WALNUT PLINTH AND COVER \_£16.00



HYDRAULIC REFERENCE TURNTABLE pick-up arm. The turntable has been designed in the light of the most modern requirements, for use with the finest ancillary equipment. It is a free-standing unit mounted on adjustable anti-acoustic feedback legs, offering complete versatility for case of installation. Beneath the 20th century styling lies a synchronous motor giving speeds of 33 and 45 r.p.m. with 3% fine adjustment together with built-in stroboscope. Speed stability: 0.005% short term. 0.5% long term. Rumble, practically non-existent 58dB (at 33r.p.m.) Unique Reed switch on off control. 7lb, non-ferrous turntable. (Turntables up to 201b available for studio work). Soft rubber belt drive, PTFE type main bearings. Built-in spirit level, Hinged perspex cover with swing leg support. inished in polished aluminium and chrome together with black polyurethane baseboard. Size 163, in. x 17in. x 634in. (221n. back to front with lid open). Power Supply: available for all mains frequencies and voltages, including D.C.

PRICE £98.00 (Or less arm PRICE £78.00)

#### CONNOISSEUR BD-1 TURNTABLE KIT

The Connoisseur 8D1 turntable kit is a dual voltage precision engineered product, expressly designed to provide a top grade 'no compromise' performance at a moderate cost. Simplicity is the main feature of this unit so that excellent performance and reliability have been achieved and complex mechanisms avoided. The slow speed synchronous motor hum field is very low, so that even



the most sensitive pick-ups can be used. The two-speed flexible belt drive system virtually eliminates all mechanical vibration and transmission noise. Rumble: 60 dB. The turntable platter is a non-ferrous iluminium casting which is lathe turned to fine limits. The main turntable bearing incorporates a hard steel ball, reducing friction and wear to a minimum. This unit, because of its performance, simplicity and size, will be of particular interest to the home constructor and the enthusiast who may want to mount a separate transcription arm. Assembly should not take more than one hour using tools supplied.

BD1 KIT PRICE £11.98 Carr.420



#### DUAL PRECISION TRANSCRIPTION TURNTABLES

MODEL 1209 The Dual 1209 can be operated as a single play manual turntable, an automatic turntable, or as an automatic changer with up to 6 records. Technical features: All metal tubular tone-arm, torsionally rigid, with low dynamic mass. Effective length: 8.11n. Max. Tracing error 1<sup>0</sup>. Removable cartridge holder with finger lift and lock, for all cartridges with 12in, mounting. Tone arm lift mechanism actuated manually or automatically stylus force can be set from 0-5.5 grms. Anti-skating device tas separate scale for conical or eliptical styli. Pitch control covers approx. 1 semitone. Dual 4-pole synchronous motor provides con-stant speed independent of line voltage changes. Power equirements 110-220V A.C. 10%in., 4,21b non-magnetic platter, size 13 in. x 103, in.

MODEL 1209 PRICE £40.50 (Special price with selection of cartridges - see list).

1209 with SHURE M75 £56.00 WALNUT PLINTH AND COVER £16.00

#### SATURN TRANSCRIPTOR DECK

tion deck, styled on similar lines to the reference turntable is supplied complete with tone arm and moulded clear acrylic top Suitable for any mains voltage, this new unit has a unique adjustable floating' base board, reducing the



basic resonance to below 5cps. The 6lb non-ferrous platter is belt driven by a synchronous motor, thereby keeping rumble to a minimum. The friction free characteristics of the PFTE main bearing ensures a speec stability of a very high order. The tone arm is designed for use with most types of cartridges and incorporates a viscous damped lower control together with a light weight plug-in head shell. PRICE £57.00

PRICES ARE CORRECT AT TIME OF PRESS - REFER TO HI-FI STOCK LIST, Ref. 16/17 PUBLISHED QUARTERLY, FOR LATEST PRICES.

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#### \*GL75 AND GL75P-C TRANSCRIPTION UNIT

Integrated transcription motor unit and arm, but to instrument standards of quality and appearance. The drive system is the unique Goldring-Lenco constant velocity 4-pole motor with conical shaft coupled to the underside of the turntable by a knife-edged idler (automatically disengaged by the on/off switch, which is fully click-suppressed and also operates a turntable brake).

The turntable is die-cast from non-ferrous material, weighs 9 lb. and is dynamically balanced.

Speed is continuously variable from 80-30 r.p.m. and from 18-15 r.p.m., with adjustable positive stops for the four standard playing speeds. There is only 0.2% change of speed for 10% mains voltage change. The GL75 is available in chassis form or as the GL75/P mounted on an attractive teak base with a clear plastic dust cover. The transcription arm is the Goldring-Lenco L75 which is lowered onto the record by a viscously damped lowering device.

(GL75P supplied complete with PRICE £32 carr. 40p GL75 GL75P-C PRICE £42 carr. 70p plinth and cover with leads fitted).

#### \* GL69/2 AND GL69/2P-C TRANSCRIPTION UNIT

The Goldring-Lenco GL69 follows in the tradition of previous Goldring-Lenco Transcription Turntables in terms of quality and facilities. Its speeds can be continuously varied from 30 rpm. to 86 rpm. and there are pre-set click-in stops at 1613, 3323, 45 and 78 rpm. The mains on/off switch is fully suppressed, and the idler wheel is automatically disengaged from both turntable and drive as the unit is switched off. The GL69 is fitted with the L69 Arm which can be lowered onto the record by a viscously damped lowering device. The GL69 is available in chassis form or as the GL69/P, mounted on a very attractive teak base complete with a clear plastic dust cover.

Carr. 40p GL69/2P-C PRICE £31 GL69/2 PRICE £23 Carr.40p

#### COLDRING-HENRYS SALES DEMONSTRATIONS SERVICE GUARANTEE

## \* SPECIAL PRICES WITH CARTRIDGE - SAVE POUNDS

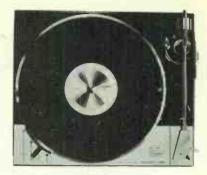
(CARTRIDGE SPECIFICATIONS ELSEWHERE IN THIS CATALOGUE)

CARTRIDGE	Less Cart- ridge	G800 G800H AT21	M55E 909EX	M44E 220XE	M75.611 G800E M75G	AT21X ATVM3	990XE	660EX M75E11 M75EJ	999EX	999 <b>SE</b> /X	G800SE 550XE
GL69/2	23.00	30.00	33.50	32.90	34.85	35.50	35.80	39.00	36.75	41.40	39.70
GL69/2 P-C	31.00	38.00	41.50	40.90	42.85	43.50	43.80	47.00	44.75	48.40	47.70
GL75	32.00	39.00	42.50	41.90	43.85	44.50	44.80	48.00	45.75	49.40	48.70
GL75 P-C	42.00	49.00	52.50	51.90	53.85	54.50	54.80	58.00	55.75	59.40	58.70
HL75 P-C	39.00	45.00	48.50	47.95	49.85	50.50	50.80	54.00	51.75	56.40	54.70





## GOLDRING

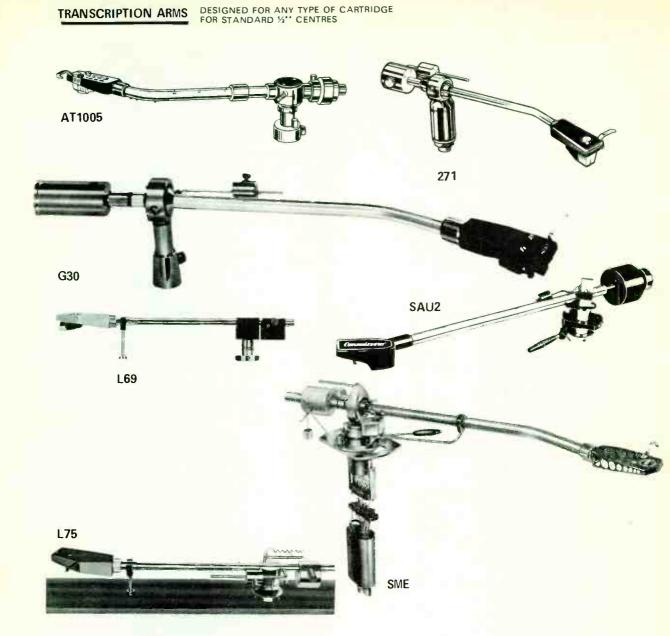




£10 Carr.30p

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AUDIO TECHNICA AT1005 Overall length 320mm. Fitted Anti-Skate D	PRICE £16.80	
HENELEC 271 (or AD 309K) Overall length 285mm. Offset Angle 24°,	Mounting hole size 7/16"	PRICE £ 5.50
NEAT G30 Overall length 13"	Mounting holde size 1/2"	<b>PRICE £ 9.75</b>
NEAT G30B As G30 Fitted Bias Adjuster	Mounting hole size 1/2"	<b>PRICE £12.50</b>
GOLDRING L69 As fitted to GL69 Transcription Unit		PRICE £ 7.97
GOLDRING L75 As fitted to GL75 Transcription Unit		<b>PRICE £10.50</b>
CONNOISEUR SAU2 Fitted Lowering Device		PRICE £11.98
SME 3009 9'' Arm		PRICE £30.00
SME 3012 12'' Arm		PRICE £32.00

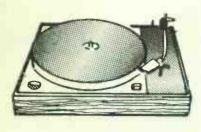
 NOTE FULL SPECIFICATIONS AVAILABLE ON REQUEST
 Post etc. 25p any type

 Complete range of accessories and arm lifts available from stock as required,
 PRICES ARE CORRECT AT TIME OF GOING TO PRESS – CHECK WITH CURRENT STOCK LIST, Ref. 16/17, PUBLISHED QUARTERLY

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## THORENS



## THORENS TD150 SERIES II

Two-speed transcription turntable. 45/ 33 gr.p.m. Low speed 375 r.p.m. double synchronous motor. 12" heavy cast twopart turntable platter. Integrated pickup arm with lowering device and lightweight shell. 15 gr x 123 x 5".

PRICE £34.60 Carr. 40p

TD 150 AB Mk.II As above but fitted to plinth.

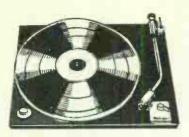
PRICE £41.35 Carr. 60p

TX11 Tinted hinged perspex cover PRICE £3.95

NOTE: TD 150 series accept any cartridge-special prices with cartridge. ASK FOR LATEST LISTS

PHILIPS BELT DRIVE AND ELECTRONIC TURNTABLES

## HOWLAND-WEST JP TURNTABLES



## JP601 BELT DRIVE

The 4 pole synchronous motor ensures powerful torque, quiet operation and a constant speed over a wide range of line voltage variations. The Turntable is a non-ferrous casting 30 cm in diameter, with a large moment of inertia minimising rotational irregularities. The drive is via a polyurethane belt possessing long term elasticity surpassing that of synthetic rubber, and having extra long life. The arm is a new design, possessing low friction in both planes making it suitable for use with high quality cartridges. Playing weight is easily set by means of coarse and fine adjustments, and a highly efficient lowering device is fitted which maintains the same lowering speed, regardless of seasonal temperature variations.

#### Specifications

Speeds	33'3 and 45 rpm					
Motor	4 pole synchronous					
Turntable	12" aluminium casting					
	1.5 Kg					
Wow	less than 0.1%					
S N ratio	more than 40 db					
Dimensions	W44 x D 33.5 x H 18 cm					
Weight	7.5 Kgm					
	Price £38 Carr.40p					

## PIONEER



#### PL-12AC

This turntable has a hysteresis synchronous motor (eliminating audible wow and flutter) and an extremely steady. reliable belt-drive. It is fitted with an a nti-skating control to lessen distortion and an hydraulic tone arm elevator that lowers the tone arm to gently caress your record. Accepts all cartridges.

PRICE £36.50 Carr.60p \*SPECIAL PRICES WITH CARTRIDGE ASK FOR DETAILS.



 THORENS TD125
 PRICE £59.65

 TD125AB
 PRICE £94.25

 TX25 COVER
 PRICE £8.50

Carriage etc. 75p

#### GA308

Two speed belt drive with light weight arm accepts all standard 12" cartridge fixing. Complete with teak plinth, hinged lid, etc. synchronous motor.

PRICE £34.75 Carr.50p

#### GA202

Electronic speed control 3-speed with photo electric on off switch. DC motor with Tacho generator. Complete with plinth and cover and Philips GP400 stereomagnetic cartridge.

PRICE £59.95 Carr.70p

G A202



PRICES ARE CORRECT AT TIME OF PRESS - REFER TO HI-FI STOCK LIST, Ref. 16/17 PUBLISHED QUARTERLY, FOR LATEST PRICES.

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NOTE: A large range of diamond stylii for most crystal and ceramic cartridges are in stock at 88p each.



## GOLDRING-LENCO VV7 PREAMPLIFIER

The Goldring-Lenco VV7 Stereo-Equaliser Preamplifier provides a simple and wholly effective answer to the problem of an amplifier too insensitive for today's high quality magnetic cartridges. Small enough to mount with a couple of screws under your turntable, it raises the very low output from the finest magnetic cartridges more than enough to ensure full output from any low-gain amplifier. Correct equalization is automatic.

Price £9.98 post etc.17p



### STEREO PREAMPLIFIER

Allows amplifiers restricted to the use of ceramic or crystal pick-up cartridges to be used with any of the much more satisfactory moving magnet type of cartridges.

This small mains-powered unit can be installed in any turntable unit to transform the performance from just average to the excellent standard that is available from moving magnet cartriges.

Fully transistorised for complete reliability. Supplied with dual phono sockets allowing it to be fitted in minutes.

#### Specification:

Model PRE402

Frequency Range: 20-24,000 Hz equalised for magnetic cartridge.

Output: 180 mV per channel.

Dimensions: 100 x 63 x 38 mm.

PRICE £3.80 pp.20p

For post and packing charges see page 2.

## COMPATIBLE MONO AND STEREO CARTRIDGES



#### Ronnette 105

A turnover type of Crystal Cartridge for the reproduction of Stereo records and Monaural records-both L.P. and Standard. Relatively high output and excellent frequency response. Sensitivity 250 mV./cm./sec. per channel. Load  $1M\Omega$  100 p.f. Frequency response 30-12,000 c/s. Stylus pressure 3-6 gms. £1.25

#### Ronnette 106

As '105' but output 580 mV./cm./sec. stylus pressure 4.7 grams. £1.25

#### DC 400SCM

Mono version of '106'. Plays stereo records as well. Price 97p

Price 97p

DC 400SCL Mono version of '105'



CARTRIDGE

BSR C1

### STEREO CERAMIC CARTRIDGE

C1 is a ceramic cartridge suitable for Monaural or Stereo use. Sensitivity at 1 Kc/s. 110 mV. Stylus pressure 2-6 grams according to type of arm. Load 2 meg. Frequency response 40-12,000 c/s. C1ST3 with sapphire styli. PRICE £2.65

NOTE: ALL CARTRIDGES FITTED 0.7 Mil STYLUS CAN BE CONSIDERED AS MONO AND STEREO COMPATIBLE.



#### LOW COST CRYSTAL/CERAMIC J2005

LP 78 Turnover single hole and "" fixing. Output 280mV. Response 30-10,000 Hz. Mono. PRICE 95p

#### J2006S

LP 78 Turnover stereo version. Output 250 mV. Response 30-12,000 Hz PRICE £1.15



ACOS GP67 (DC 400 SCM Replaces) Mono LP/78. Output 350-500mV. Response 30-9000 Hz.



## ACOS TURNOVER CARTRIDGES LP/78

GP91/1	Mono	200mV	output	75p
GP91/3	Mono	630m∨	output	90p



## ACOS STEREO TURNOVER CARTRIDGE

GP93-1	STEREO	CRYSTAL
30-18 K	Hz O/P	280 mV nor

~	10.1112.	200 zoon per	channet
		Sapphire stylus	£1.25
		Diamond stylus	£1.45

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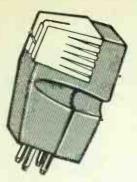
#### GP94-1 STEREO CERAMIC 30-

14	KHz	O/P	100	mν	per	channel
		Sap	phir	e sty	lus	£1.47
		Dia	mon	d sty	lus	£1.75

(NOTE GP95-1 use GP93-1 GP96-1 use GP94-1)

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## LOW COST HIGH PERFORMANCE CARTRIDGE



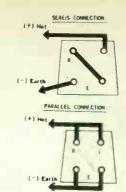
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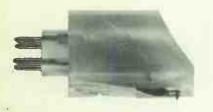
Sensitivity Stylus

#### HENELEC 940 MAGNETIC STEREO CARTRIDGE DeLuxe Low Cost Stereo moving magnet cartridge.

#### ST LP only Frequency Response 20 20,000 c/s 5mV at 1 KC, 20°C 5m sec, 45° velocity Dramond Channel Balance within 2dB Channel Separation 20 dB 10 x 10<sup>-6</sup> cm dyne Compliance (at 20°C) PRICE £3.50 Tracing Force 2 0.59 **5** g (Replacement Dimensions (LxWxH) 30 x 10 x 16mm Stylus £1.40)



(Stereo connections as marked, for mono use only see Figs below).



(Supplied with mounting bracket - not shown;



#### DECCA DERAM DIAMOND CERAMIC CARTRIDGE

This ceramic cartridge is manufactured in a variety of types to cater for both mono and stereo requirements. Output 50 mV cm. sec. (per channel). Frequency response · 3 dB 18 Hz 18 k Hz. Tracking weight 2 4 grams (transcription type). Stereo Transcription Cartridge, white outer shell red pocket. PRICE £4.75

Replacement stylus, code blue £1.35 Elliptical Dramond Gold £2.50

#### SONOTONE DIAMOND CERAMIC TURNOVER CARTRIDGE

High compliance cartridge output. 55-85 mV per channel. Response 30 Hz 20,000 Hz. Loading 1 to 2 megohms.

PRICE £2.40 (Replacement Stylus £1)

(Also available with clip for 2025TC)

Also 9TA version output 80-120mV diamond stylus £2.40



#### CONNOISSEUR DIAMOND STEREO CERAMIC CARTRIDGE Type SCU1

5-6 mil diamond stylus, output to 2 meg ohms 150 mV per channel or 47K to 100K ohms RIAA equalised O P 50 mV per

channel. PRICE £5.25 (Replacement Stylus



#### TELETON DIAMOND STEREO CARTRIDGE Type NM33

Type: Stereo moving magnet Output: 9mV (@ 1,000 Hz 5cm 's) Separation: 20 db (@ 1,000 Hz) Compliance: 5 x 10 cm dvne Stylus: 0.7 mil diamond Weraht: 9.5 grams Frequency Response: 20 20,000 Hz Channel Balance: 2 dB (at 1,000 Hz) Recommended Load: 100 k Tracking Force: 3 grams Mounting: E.I.A. (12")

PRICE £3.98 (Replacement Stylus

FOR POST AND PACKING CHARGES SEE PAGE 2.

## Compliance Tip Mass Recommended Load: Sensitivity:

Frequency Response 50 Hz - 15 kHz

Recommended Downward Pressure: 5-10 grammes Compliance: TID Mass: Recommended Load: 1M ohm

Sapphire Stylus PRICE 90p (ANY MODEL)

MONO COMPATIBLE CARTRIDGES

(Plays Mono or Stereo records with mono equipment.)



#### ACOS SERIES

Single screw or 12" fixing centre, Turnover Stylus for LP and 78

GP 91-1SC Frequency Response: 50 Hz 17 KHz Sensitivity: 200mV 1.2 cm sec. Recommended Downward Pressure: 3 6 grammes Compliance: 4 x 10<sup>-6</sup> cms dyne Tip Mass Recommended Load: 1 M ohm

2.5 mgm dynamic

Frequency Response: 50 Hz = 17 kHz

360m V 1.2cm set.

Downward Pressure: 5 10 grammes 2 x 10<sup>-6</sup> cms dyne

3.5 mgm dynamic

1 M ohm

## GP 91-3SC

GP 91-2SC

Sensitivity:

Recommended

630 mV 1,2cm sec.

2 x 10 ° cms/dyne 3.5 mgm dynamic

Diamond Stylus PRICE £1.15 (ANY MODEL)





10Hz-20kHz±3dB

50Hz-10kHz

.0007 x .0003

R.90X/E

Blue dot

660X/E

3/4 to 21/29

25 dB from

<1%

30

15<sup>0</sup>

5mV

47K

lvory/Black

**PRICE £12.98** 

10Hz-20kHz±2dB

50Hz-12kHz

.0007 x .0003

RO-60X/E

Yellow dot

ADC 25

1/2 to 11/4g

30dB from

.0007 x .0003

.0009 x .0003

**PRICE £81.50** 

Black/Gold

.0006 R253 White

R251 Red

R252 Blue

AND GUARANTEE

<0.5%

15<sup>0</sup>

4mV

47K

50

lvory/Black

**PRICE £15.98** 

10Hz-24kHz±2dB

50Hz-15kHz

## 990X/E 1 to 3g

Compliance (x10 <sup>6</sup> cm/dyne) 25 Frequency response Channel separation 20 dB from Vertical tracking angle 15<sup>0</sup> Output at 5.5 cm/sec 5mV Rec load (not critical) 47K

Stylus radius Stylus replacement number and colour Body code colour

Tracking force range

Tracking force range Compliance (x10 <sup>6</sup> cm/dyne) Frequency response Channel separation I.M. Distortion (400 & 4000 Hz at 14.3

cm/sec) Vertical tracking angle Output at 5.5 cm/sec Rec load (not critical) Stylus radius Stylus replacement number and colour Body code colour

Tracking force range Compliance (x10 <sup>6</sup> cm/dyne) Frequency response Channel separation

I.M. Distortion (400 & 4000 Hz at 14.3 cm/sec) Vertical tracking angle Output at 5.5 cm/s-c Rec load (not critical) Stylus radius

Stylus replacement

number and colour Body code colour



## HIGH QUALITY STEREO CARTRIDGES



220X/E

1 to 3g

20 dB from

.0007 x.0003

10Hz-18kHz±3dB

50Hz-10kHz

20

 $15^{\circ}$ 

6mV

47K

R-20X/E

Green dot

550X/E

3/4 to 21/29

25dB from

35

<1%

15<sup>0</sup>

5mV

47K

lvory/B:ack

PRICE £9.98

10Hz-20kHz±2dB

50Hz-12kHz

.0007 x .0003

RO-50X/E

ADC 26

1/2 to 11/4g

30dB from

<0.5%

15<sup>0</sup>

4mV

47K

**R-26** 

50

Orrange dot

lvory/Black

**PRICE £16.75** 

10Hz-24kHz± 2dB

50Hz-15kHz

.0007 × .0003

White/Gold

White/Gold

(REPLACEMENT STYLII AVAILABLE AS REQUIREO).

SALES – DEMONSTRATIONS – SERVICE

APPOINTED ADC DEALER

**PRICE £58.50** 



220X 11/2 to 3g 20

10Hz-18kHz± 3dB 20 dB from 50Hz-10kHz 15<sup>0</sup> 6mV 47K .0007 R-20X Red dot lvory/Black

#### PRICE £5.98

10/E mk II

1/2 to 11/20

35 10Hz-20kHz± 2 dB 30dB from 50Hz-15kHz <0.5%

15<sup>0</sup> 4m∨ 47K .0007 x .0003 R-12/E Black Black/Gold **PRICE £34.50** 

ADC 27 1/2 to 11/20

40 10Hz-22kHz± 2dB 30dB from 50Hz-15kHz <0.5%

15<sup>0</sup> 4mV 47K .0007 x .0003 R-27

Beige/Gold Beige/Gold

**PRICE £45.50** 

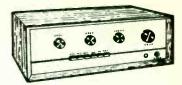
HENRY'S RADIO

APPOINTED J.E. SUGDEN DEALER

SALES - DEMONSTRATIONS SERVICE AND GUARANTEE

PRICES ARE CORRECT AT TIME OF PRESS-REFER TO HI-FI STOCK LIST, Ref. 16/17 PUBLISHED QUARTERLY, FOR LATEST PRICES.

J.E. SUGDEN CLASS 'A' AMPLIFIERS



MODEL A21 II Stereo Integrated Amplifier 12+12 watts rms output into 8 ohms. All facilities. Size 151/2" x 5" x 9"

PRICE £53.00 Carr.50p



MODEL C51

High performance stereo control unit. All facilities. Designed for use with Model A51 below. Size 11" x 33/4" x 63/4" Chassis construction for building in.



MODEL A51 High quality stereo power amplifier. output 25+25 watts rms into 8 or 15 ohms. Distortion under 0.05%. Power and frequency response ± 0.5dB 10-20,000 Hz. Size 131/2 x 81/2 x 10".

MODEL A51 PLUS MODEL C51 PRICE £110.00 Carr. 80p



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## HIGH FIDELITY STEREO CARTRIDGES

#### ALL MODELS FITTED STYLUS GUARD AND ARE STEREO COMPATIBLE

Deluxe 999E/X Designed to track from ¾ to 2 grams in many of today's better changers. Nill faithfully reproduce frequencies between 10-30,000 Hz while maintaining 35 dB of channel separation. .3 x .7 mil bi-radial hand polished elliptical diamond stylus.

**PRICE £16.50** 

Deluxe 999/X For changers capable of tracking at less than 3 grams, Frequency response 10-30,000 Hz. The hand polished spherical diamond has a tip radius of .7 mil. £11.50

Popular 909E/X Perfect cartridge for popular automatic record players. Tracks 1 to 4 grams. A fine .4 x .7 mil bi-radial elliptical diamond stylus, frequency response 12-PRICE £12.75 25.000 Hz.

Popular 909/X A frequency response of 15-25,000 Hz. Tracked properly by record changers requiring up to 4 grams. .7 mil radius spherical diamond stylus. PRICE £9.00

Economy 90EE/X With 11/2 to 4 gram tracking this economy elliptical produces a frequency response from 15-25,000 Hz. .4 x .7 mil bi-radial elliptical diamond. Great value for changers PRICE £9.75

#### Measurement Standard 1000ZE/X and Professional 999VE/X

1000ZE X TRACKS AS LON AS 0.1 GRAM IN LABORATORY PLAYBACK ARMS. Each 1000ZE X and 999VE/X cartridge is individually adjusted to have a flat frequency response within ± 1 dB from 20-20,000 Hz. Stereo separation is better than 35 dB at 1 KHZ and remains 25 dB or better all the way out to 20,000 Hz. Overall frequency response a phenomenal 4-40,000 Hz. There are no electrical or mechanical peaks and total IM distortion at the standard 3.54 cm/sec groove velocity does not exceed .05% at any frequency within the full spectrum. Uses a .2 x .7 hand polished miniature diamond for exceptionally low mass. 999VE/X RECOMMENDED TRACKING FORCE 14 to 114 GRAMS. Model 1000ZE/X PRICE £63 Model 999VE/X PRICE £44.00

Deluxe 999TE/X Surpassed in overall quality only by the 999VE/X and the 1000ZE/X, this cartridge combines high compliance with low tip mass for excellent tracking between 12 and 112 grams. Full frequency response is 6-36 KHz, Separation 35 dB, .2 x .7 mil bi-radial hand polished elliptical d amond. Recommended for high performance turntables and changers. **PRICE £27.50** 

Deluxe 999SE/X Delivers a fine frequency response of 8-32,000 Hz in top quality manual and automatic turntables and tone arms tracking at 11/2 grams or less, .2 x .7 mil bi-radial hand polished elliptical diamond stylus. **PRICE £21.00** 















## audio-technica... MAGNETIC STEREO CARTRIDGES

Recommended magnetic stereo cartridges used in many of HENRY'S Special Stereo HI-FI Systems. Also offered at special prices with GARRARD, THORENS, BSR and GOLDRING record player decks. A real opportunity to purchase a quality magnetic cartridge at a value for money price - JUST LOOK AT THE SPECIFICATIONS! NOTE: 0.7 mil types are compatible mono and stereo, ton name and the second

SPECIFICATIONS	AT-21	AT-66	AT-35X	AT-33	ATVM8	ATVM3
Response (Hz)	10-25,000	20-20.000	10-25,000	20-20,000	20-22.000	20-25,000
Channel Separation (d8, at 1kHz)	30	25	30	27	30	30
Output Voltage(mV. D1kHz 5cm sec rms)	4	4	5	5	4	4
Impedance (ohms, at 1kHz)	5.000	5,000	5,000	5 000	4 800	4 800
Recommended Load Impedance (ohms)	50,000	50,000	50,000	50,000	50 000	50,000
Compliance (x 10 ° cm dyne)	30	30 (18 L/C version)	23	23	10	26
Tracking Force (grs.)		0.5-2.5	0.5-2.5	0.5-2.5	3-5	1-2 5
External Dimensions (mm L x W x H)	31.7 x 15.5 x 17	31.7 x 15.5 x 17	28.2 x 15.6 x 17.3	28.5 x 15.6 x 17.3	28.5 x 15.4 x 19.3	28.6 x 18.4 x 19.
Effective Moving Mass (mg)	0 6	0.6	0.8	0.8		
Vertical Tracking Angle	15 <sup>0</sup>	15 <sup>0</sup>	15 <sup>0</sup>	15°		
	AT-21 stylus * 0 7 mil spherical diamond or 0.5mil AT-21X stylus * 0.5mil elliptical diamond	AT-66 stylus = 0 7 mil spherical diamond or 0.5 mi or Lower Compliance	AT-35X stylus = 0.3 x 0.7 mil elfiptical diamond AT-35	AT-33 stylus O 7 mil spherical diamond	ATVM8 Stylus 0.7 mil sphericat diamond	ATVM3 stylus = 0.5milspherical diamond

ALL REPLACEMENT STYLUS ASSEMBLIES IN STOCK

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315

Goldning Products Itd. Anglian Lane, Bury St Edmund, Suffolk. 701101 GOLDRING

(Replacement Stylus always in stock)

#### 800/H

The 800/H is designed for inexpensive changers to track between 212-31/2 grams and has a high output of at least 8mV. Fitted compatible stylus for Mono and Stereo

Type Output Senarátion Channel balance Tracking weight Compliance Tin mass Stylus Frequency response Tracking angle 15 Weight

800/H 8mV @ 5cm/sec 20 db ± 1 db 21/2 31/2 grams 18 x 10<sup>-6</sup> cm/ dyne 1.2 mg. .0007" diamond - DIIOH RED 20 Hz-20 kHz PRICE £7.15 7.5 grams

#### 800 Super E

The 800 Super E is for those to whom perfection is barely good enough. Extraordinarily low mechanical impedance for ultimate tracking capabilities is achieved by a duo-pivoting arrangement, membrane controlled to avoid any longitudinal or tortional modes which could blemish its exceptionally smooth and extended response. Each cartridge is supplied with its individual curve and calibration certificate.

Туре	800 Super E
Output	4 mV @ 5cm/sec
Separation	25 db
Channel balance	± 0.5 db
Tracking weight	1/2 11/4 grams
Compliance	35 x 10 <sup>-6</sup> cn1/dyne
Tip mass	less than 1 mg.
Stylus	elliptical diamond DIIOS/EGREY
Frequency response	10 Hz 23 kHz
Tracking angle	15
Weight	7.5 grams PRICE £19.97



## **GOLDRING 850 STEREO MAGNETIC CARTRIDGE**

4 mm

Type: Frequency Response: Sensitivity at 5 cm/sec. Separation: Load. Stylus Point Tracking Weight: Head Weight: Connection: Fixing:

Magnetic stereo and mono 20-18,000 Hz 8 mV 20 dB at 1 kHz 47 k - 100 k ohms .0007" diamond 2 31/2 grams 7 grams

Standard 1/2" centres

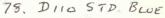
Mu-Metal Shield for hum protection. Removable Stylus G850

800

The 800 is designed for standard arms and changers where the requirements of high fidelity and robustness usually conflict

Type 800 Output Senaration Channel balance Tracking weight Compliance Tip mass Stylus Frequency response Tracking angle 15 Weight

5mV @ 5cm sec 20 db · 1 db 112-212 grams 20 x 10<sup>-6</sup> cm/dyne 1 ma .0005" diamond -DILO WHITT-20 Hz 20 kHz 7.5 grams PRICE £7.50



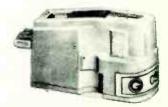


#### 800F

The 800/E is designed for transcription arms and a microelliptical diamond is fitted to a finer cantilever, end damped against natural tube resonances, and is accurately terminated in a special conical hinge to give pin-point pivoting.

Type Output Separation Channel balance Tracking weight Compliance Trp mass Stylus Frequency response Tracking angle Weight

800/F 5mV @ 5cm sec 20 db \* 0.5 db 34-112 grams 30 x 10" cm dyne less than 1 mg. .0008 x .0003" elliptical diamond 10 Hz 23 KHZ DIIOE GREY 15 **PRICE £11 97** 7.5 grams



GOLDRING CS90 AND CS19E CARTRIDGES These are a stereo-ceramic cartridge with excellent frequency response and cross-talk separation. Low tip mass, replaceable diamond stylus (CS90/5-0.0005" tip radius; CS90 7-0.0007" tip radius; CS91/E Elliptical) coupled with high compliance enables these cartridges to be played at low tracking weights. Note: CS90/7 suitable to play mono as well as stereo.

CS90	PRICE	£4.50
CS91/E	PRICE	£6.50

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PRICE £5.15

## M75B for 78's.

## SHURE CARTRIDGES & STYLI

### MODEL M75E TYPE 2

Tracks at 34 112 grammes, Freq	uency res-
ponse 20 20,000 Hz. Bi-radial	elliptical
diamond stylus.	£16.50
,	

#### Replacement Stylus Assembly, Model N75E Type 2 £10.35

#### MODEL M75EJ TYPE 2

Tracks at 1	1 <sub>2</sub> 3 gramm	nes. Frequ	Jency res-
ponse 20-2	20,000 Hz.	Bi-radial	elliptical
dramond st	ylus.		£16.00

Replacement	Stylus Assembly,	
Model M75E	J Type 2	£8.90

#### MODEL M75G TYPE 2

Sir	mlar	to	M75E	but	fitted	with	spheric	cal
dia	amono	d s	tylus,	3/4-	1'agra	mmes	tracki	ng.
							£12 (	0

Replacement	Stylus	Assembly.	
Model N750			67.00
WOUGH N/SC	1 1 1 1 1 1	2	£7.90

#### MODEL M75-6 TYPE 2MB

Ideal for upgrading systems	using units
and arms tracking at 112-	
Spherical stylus.	£12.00
Replacement Stylus Assembl	IV.
Model N75-6 Type 2	£6.65
induct into a type E	200.00
Stylus Assembly for 78 reco	

Type II	and M75 Series).	
Model	N75-3	£6.25

#### MODEL M3D-M

Tracking at 3–6 grammes this, the first of the Shure Stereo-Dynetic Cartridges is of almost universal application and ideal for any changer. £5.95 Replacement Stylus Assembly, Model N3D £4.45

#### MODEL M31E

Low-cost cartridges with bi-rad	hal elilip-
tical diamond styli, for 1-2	grammes
tracking.	£9.45
Replacement Stylus Assembly,	
Model N31E	£7.45
MODEL M32E	

For 212-5 grammes tracking.	£8.75
Replacement Stylus Assembly, Model N32E	£6.65

#### MODEL M32-3 MONO-DYNETIC CARTRIDGE

For 78 records. Frequency respon	ise 20
17 500 Hz. 212 5 grammes tracking	ng. Dia-
mond stylus.	£8.90
Replacement Stylus Assembly	
records (for Model M32-3 and	Models
M31E and M32E). Model N32-3	£5.20

## MODEL M44E

Tracks at 134 4 grammes. Frequency response 20 20,000 Hz. Bi-radial elliptical dramond stylus. £9.98 Beplacement Stylus Assembly,

Model N44E	433611019,	£7.50

#### M44 SERIES

Frequency response 20-20,000 Hz. Spherical diamond styli.

MODEL M44-5 For 34-112 grammes tracking.	£8.50
Replacement Stylus Assembly, Model N44-5	£6.42
MODEL M44-7 For 112-3 grammes tracking.	£8.25
Replacement Stylus Assembly, Model N44-7	£5.20
MODEL M44C For 3-5 grammes tracking.	£8.25
Replacement Stylus Assembly, Model N44C	£5.20
Stylue Assembly for 78 reco	rds (for

Stylus	Assembly	for	78	records	(for
M55E ar	nd M44 Ser	ies).			
Model	N44-3			£6	5.42

#### MODEL M55E

Tracks at  $\frac{3}{4}$ -2 grammes. Frequency response 20-20,000 Hz. Bi-radial elliptical diamond stylus. £10.50

Replacement Stylus Assembly, Model N55E £7.98

#### MODEL V15 TYPE II (IMPROVED) STEREO-DYNETIC CARTRIDGE

Tracks at  $\frac{3}{4} - \frac{11}{2}$  grammes. Frequency response 20--25,000 Hz. Bi-radial elliptical diamond stylus. £30,00

Replacement Stylus	Assembly,
Model VN15E	£14.70

#### GARD-A-MATIC

CARTRIDGE HEAD ASSEMBLIES The cartridge, mounted in a rectractile safety suspension system provides scratchproof and bounceproof operation in high quality automatic turntables. Track at 112 grammes maximum. Frequency response 20-20,000 Hz. Bi-radial elliptical diamond styli.

MODEL M75E-95G TYPE 2 for Garrard SL95

£17.98





Replacement Stylus Assembly for Models M75E-G95 Type 2, M75E-D19. Model N75E Type 2 £10.35



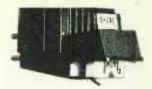


M75-2

M31E M32E

M44E

M55E









M44 SERIES





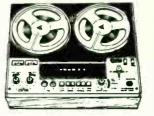
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## TANDBERG HIGH FIDELITY EQUIPMENT









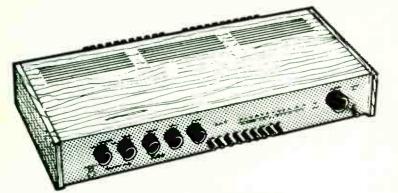


3000X	4000X 6000	OX	1700	
3000X SERIES	Stereo Tape Deck, 3 speed ¼ track stereo. Model 3041X	PRICE	£93.95 Carr.	etc. 75p
4000X SERIES	Stereo Tape Recorder. 3 speed ¼ track stereo with built 10+10 watt amplifiers with speakers. Model 4041X		£1 <mark>65.00 "</mark>	
6000 X SERIES	Semi-Professional Stereo Tape Deck. 3 speed ½ track. N	Nodel 6041X PRICE	£187.00 "	0.0
1700 SERIES	Mono Compact Tape Recorder. 9 watts output. 4 track m	odel. PRICE	£67.00 "	11 11

HENRY'S APPOINTED TANDBERG DEALER

SALES - DEMONSTRATIONS - SERVICE & GUARANTEE

## GOODMANS MODULE 80



A High Fidelity Stereo FM Tuner, 'Amplifier with a performance which places it in the highest class. The rich simplicity of its ultra-modern styling and its sleek profile hide its massive 70 watts capability – which is coupled to a stereo FM tuner with an exceptionally high specification. All possible requirements are catered for by the comprehensive controls and facilities provided on MODULE 80- making this altogether the outstanding choice among professional quality receivers.

#### **SPECIFICATIONS**

Output 70 watts RMS at 4 ohms.

Frequency Response 30-20,000 Hz  $\pm 1\frac{1}{2}$  db.

#### Input Sensitivities

Magnetic Phono: Aux and Crystal Phono: Tape Playback: 2 mV

60 mV

320 mV

FM Sensitivity Better than 1,5 uV Dimensions Length: 22" Depth: (134" Height: 334"

Transistor and Semiconductor Complement 68, including 2 FET.

Power Supply 120 V, or 220 V, or 245 V a.c. 150 watts max. PRICE £76.95

Carr. 50p AVAILABLE IN TEAK OR WHITE

HENRY'S APPOINTED GOODMANS DEALER

SALES-DEMONSTRATIONS-SERVICE and GUARANTEE

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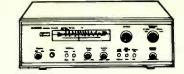
## PIONEER® HIGH FIDELITY EQUIPMENT

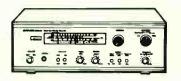




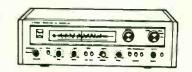


















HENRY'S-APPOINTED PIONEER DEALER KX 330 MW SW FM Stereo FM Tuner Amplifier 5:5 watts rms output PRICE £67.00

SX 440 MW/FM Stereo FM Tuner Amplifier 15\*15 watts rms output PRICE £91.00

LX 440 MW LW/FM-Stereo FM Tuner Amplifier 15<sup>+</sup>15 watts rms output PRICE £95.00

SX 770 MW FM - Stereo FM Tuner Amplifier 17<sup>+</sup>17 watts rms output. PRICE £130.00

SX 990 MW FM-Stereo FM Tuner Amplifier 28<sup>+</sup>28 watts rms output. PRICE £155.00

SX 1500 TD MW FM - Stereo FM Tuner Amplifier with mic. mixer, 70 + 70 watt rms output, PRICE £178.00

SA 500 12<sup>+</sup>12 watts stereo amplifier. PRICE £45.00

TX 500 Matching MW FM - Stereo FM Tuner. PRICE £64.00

SA 700 30+30 watt Stereo Amplifier. PRICE £72,50

SA 900 60 \* 60 watt Stereo Amplifier. PRICE £99.98

TX 900 Matching high quality MW FM - Stereo FM Tuner, PRICE £125.00

PIONEER – HENRY'S SALES, DEMONSTRATIONS SERVICE and GUARANTEE.

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# **PIONEER**<sup>®</sup>

## HIGH FIDELITY AND AUDIO EQUIPMENT





turntable, complete with arm and hinged lid and plinth. Beautifully made – terrific value. Takes any cartridge (½'' fitting). Size: 16½" x 13" x 6<sup>5</sup>/<sub>16</sub>" PRICE £40.00 Carr. 50p

**SE50** 

PL12AC



HENRY'S APPOINTED PIONEER DEALER

PIONEER – HENRY'S SALES – DEMONSTRATIONS SERVICE AND GUARANTEE

NOTE PIONEER SPEAKER SYSTEMS AVAILABLE AS REQUIRED

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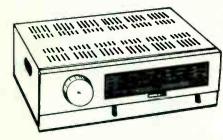
## **QUAD** HIGH FIDELITY EQUIPMENT





QUAD 33

1111 1111 1111 1111 1111 1111 1111



QUAD EUROPEAN TUNER

QUAD OVERSEAS TUNER

QUAD 303



in

## HENRY'S APPOINTED QUAD DEALER



PRICE £43.00 **QUAD 33** Preamplifier/Control Unit 45+45 watts 8 ohm, 28+28 watts **QUAD 303** 16 ohms stereo power amplifier. **PRICE £55.00 PRICE £69.00 VHF FM Stereo Tuner** QUAD STEREO FM 3 PRICE £48.00 QUAD AM3 EUROPEAN SW/LW/MW Tuner PRICE £48.00 MW/SW/SW Tuner QUAD AM3 OVERSEAS Famous electrostatic speaker QUAD ELECTROSTATIC PRICE £69.00 system. Size 341/2" x 31" x 101/2"

ALL ITEMS CARRIAGE PAID

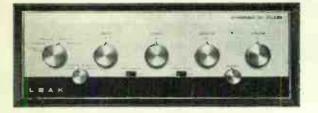
QUAD ELECTROSTATIC SPEAKER SYSTEM

## QUAD – HENRY'S SALES – DEMONSTRATIONS SERVICE AND GUARANTEE

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## LEAK HI-FIDELITY EQUIPMENT



STEREO 30 PLUS



**STEREO 70** 

95



#### STEREOFETIC

'600'

## STOP PRESS - NOW IN STOCK

NEW LEAK MODELS

DELTA 30, DELTA 70, LEAK 150, 250 and 600, DELTA FM TUNER, DELTA AM/FM TUNER, DELTA 75 TUNER-AMPLIFIER AND DELTA TURNTABLE - PRICES ON REQUEST

STEREO 30 PLUS	Chassis Version 15+15 watts (IHFM) into 8 ohms (4-16 ohms suitable)	13" x 4½" x 8¾" deep
STEREO 30 PLUS	Cased version - as above, available in teak or walnut	13½" × 4¾" × 9¾"
STEREO 70	Chassis version, 35+35 watts RMS into 8 ohms (816 ohms suitable)	13" x 41/2" x 83/4" 262.
STEREO 70	Cased version - available in teak or walnut	13½" × 4¾" × 9¾"
	Single cases for Stereo 30 Plus or Stereo 70, teak or walnut	13 <sup>1</sup> 2" × 4 <sup>3</sup> 4" × 9 <sup>3</sup> 4"
STEREOFETIC TUNER	Chassis version, FM mono and stereo	11'2" × 4¼" × 7¾"
STEREOFETIC TUNER	Cased version - available in teak or walnut	12" × 4¾" × 9¾"
Tuner/Amplifier Case-	-Takes Stereo 30 or 70, plus Tuner. Teak or walnut.	25¼" x 4¾" x 9¾"

SANDWICH 200 18 watts RMS 8 ohms, 15% x 10 x 8½ deep. 60 Hz to 18,000 Hz, 3 speaker system.

SANDWICH 300 18 watts RMS 8 ohms. Size 19%" x 11" x 10" deep. 3 speaker system, 50 Hz - 18,000 Hz.

SANDWICH 600 40 watts RMS 8 ohms.  $26" \times 15" \times 11\%"$  deep. 3 speaker system. 40 Hz -20,000 Hz.

★ LEAK—HENRY'S

SALES – DEMONSTRATIONS SERVICE AND GUARANTEE

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200'

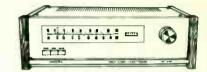
**300** 

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## ROTEL HIGH FIDELITY EQUIPMENT







RA310

RA610

RT320



#### RX200

RA310	Quality 15+15 watt Stereo Amplifier	£36	
RA610	30+30 watt Stereo Amplifier with slider controls.		
RT320	Matching RA310, RA610. MW-FM Stereo FM Tuner. £		
RX200	10+10 watt Stereo Tuner/Amplifier MW-FM and Stereo FM		
	ROTEL STEREO HEADPI	HONES £4.85	



	ROTEL	STEREO	HEADPHONES
	RH600		£4.85
	RH711		£8.50
1			



TURNTABLE

#### **ROTEL TURNTABLE**

This is a superbly designed piece of precision equipment, ranking as one of the world's finest transcription units. It is fitted with a precision motor, with belt drive to the turntable, 2 speeds. The balanced arm is fitted with anti-skating device and micro lift. Installed in the handsome walnut plinth with removable hinged tinted perspex cover.

Price to be announced.



HENRY'S APPOINTED

★ ROTEL – HENRY'S SALES DEMONSTRATIONS SERVICE AND GUARANTEE

PRICES ARE CORRECT AT TIME OF GOING TO PRESS, CHECK WITH CURRENT STOCK LIST, Ref. 16/17, PUBLISHED QUARTERLY



## FERROGRAPH STEREO EQUIPMENT



F307 mk.II

#### HIGH QUALITY STEREO AMPLIFIER F307 mk.II

20 + 20 watts RMS output into 8 ohms. Inputs for all cartridges and impedances. Also Radio and Tape record/play facility. Full range of controls, filters etc. plus headphone socket. Overall size: 161/" x 5" × 9%".

PRICE £53.00 (Carriage 50p)

## MODELS 702-704-722 and 724 2 and 4 TRACK STEREO TAPE MACHINES USUALLY IN STOCK

### NOTE

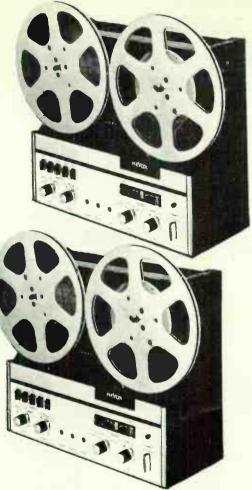
ALL OTHER 'SERIES SEVEN' MACHINES AVAILABLE **X** PRICES ON APPLICATION **X** 



HENRY'S RADIO

APPOINTED **FERROGRAPH** DEALER

## REVOX STEREO TAPE EQUIPMENT



Revox stereo 4 track machines are well known for their performance, reliability and quality.

## IN STOCK

1104 STEREO TAPE MACHINE 1124 10+10 WATT STEREO TAPE RECORDER

## ➡ PRICES ON APPLICATION ➡

REVOX DUST COVERS £ 5.25 REVOX REMOTE CONTROL UNIT £11.55



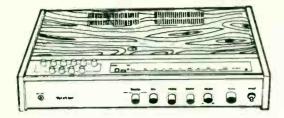
**REVOX DEALER** 

HENRY'S OFFER SALES, DEMONSTRATIONS SERVICE AND GUARANTEE

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## TELETON HIGH FIDELITY EQUIPMENT

## NOTED FOR PERFORMANCE AND APPEARANCE



TSF 50LA

**TSF50LA** 15+15 watts RMS Stereo Tuner Amplifier. Inputs for crystal and magnetic cartridges. Tape in and out. Fitted headphone socket. Covers MW, LW and Stereo FM. Response 20-20,000 Hz. All facilities. Size 4" x 19½" x 12". Dual speaker switching.

Price £65.00 Carr.50p

TSF50 MW - Stereo FM version Price £56.00 Carr.50p

**CR55** 25+25 watts RMS Stereo Tuner Amplifier. Every facility. Size 4" x 22½" x 10½". Response 30-20,000 HZ. Dual speaker switching.

Price £92,50 Carr.50p

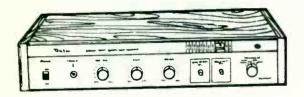


**CR55** 

SAQ206 Replaces the well known model SAQ203E. Even better in quality, now completely restyled. 6+6 watts RMS output. Inputs for magnetic and crystal/ceramic cartridges, tape record and play, aux. etc. Features wide range tone controls, loudness and top cut filter. Slider type balance control. Fitted headphone socket. Size 3¼" x 15½" x 9½".

## Price £19.97 Carr.40p

AS FEATURED IN MANY COMPLETE STEREO SYSTEMS AVAILABLE ONLY FROM HENRY'S -ASK FOR LATEST LISTS



SAQ 206

**FXB510D** Stereo 2 track, mono 4 track 2/3 speed tape machine for use with any stereo tuner/amplifier or amplifier. For use horizontally or vertically. Fitted twin level meters. Uses 4 pole synchronous motor. Inputs for Mic. 5mV and Aux. 100mV. Size  $14\frac{5}{6}$ " x  $6\frac{5}{2}$ " x 14" deep.

Price £52.00 Carr.50p



FXB510D

TELETON DEALER SALES – SERVICE DEMONSTRATIONS AND GUARANTEE



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## TELETON HIGH FIDELITY EQUIPMENT

## VALUE AND QUALITY

## SPECIAL COMPLETE SYSTEMS AVAILABLE USING TELETON EQUIPMENT - ASK FOR LISTS

PRICE £37.50

**PRICE £45.00** 

PRICE £26.00

**PRICE £29.95** 

PRICE £45.00

Carr. 50p

Carr. 85p

(Carriage etc. 40p unless stated)

styling. Size: 43/4" x 161/2" x 101/2"

Size: 4" x 16" x 111/2".

334" x 15" x 91/2".

#### F2000

F2100

R4300L

CR10T

OR

OR

MW + stereo FM Tuner/Amplifier 5+5 watts RMS output, Balance Meter, Loudness control plus separate treble, bass and volume. Inputs for crystal/ceramic cartridge, tape in and out. Headphone PRICE £32.50 socket. Size 4" x 161/2" x 9"

F2300 Similar to F2000, but different styling.	Size:	4½''	×	161⁄2"	x	10"	
			D	RICE	\$1	12 00	2

As F2000 and F2300, but output 6+6 watts RMS and different

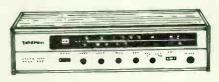
As above, but with single tone control. Also with LW Band.

21/2 + 21/2 watts output MW and Stereo FM Tuner Amplifier. Size:

with 2 x SA1003 bookshelf speakers

with 2 x SA1003 and Garrard 2025TC

plus Plinth/Cover and ceramic cartridge



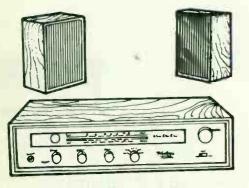
F2000



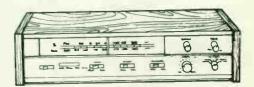
F2300



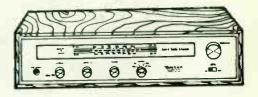
F2100



CR10T with 2 x SA1003 Speakers.



R4300L



CR10T



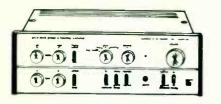
707

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SALES, DEMONSTRATIONS, SERVICE AND GUARANTEE

HENRY'S RADIO

APPOINTED LUX DEALER



SQ707

CARRIAGE ETC. 50p ANY MODEL

17+17 watts output into 8 ohms or 20+20 into 4 ohms. Inputs for magnetic cartridge, tuner, tape, etc., tape facilities, fitted headphone socket. Response 30-30,000 Hz. Independent treble and bass controls each channel. Size 5" x 143/" x 9". Output up to 2 pairs of speakers. **PRICE £50.00** 

Teak Sleeve/casing for SQ707 £5.90

S Q 5 0 3 30+30 watts 8 ohms, 20+20 watts 16 ohms. Facilities as per SQ707, response 20-50,000 Hz. Supplied fitted with rosewood appearance casing. Size 65/16" x 173/4" x 109/16" PRICE £74.50



- WL515 Medium wave, FM and Stereo FM Tuner to match SQ503 and SQ507 amplifiers. Rosewood appearance. Size  $5^{13}/_{6}$ " x  $17^{3}$ 4" x  $10^{9}/_{6}$ " **PRICE £96.00**
- WL717 Medium wave, FM and Stereo FM Tuner to match SQ707 Stereo Amplifier. PRICE £65.50



LUX - HENRY'S SALES, DEMONSTRATIONS SERVICE and GUARANTEE



717

## ALWAYS SOMETHING NEW AVAILABLE FROM HENRY'S

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515

507

# NIKKO EQUIPMENT







**TRM 30-**

TRM.40-IC

FAM.10

STA.301







ST.501



**TRM.50** 



FAM.12



ST.701B



TRM.1200

'HENRY'S' APPOINTED NIKKO CLASS A DEALER





ST.1101

TRM 30	Stereo	Amplifie	er 9½	+ 91/2	watts	RMS	£30.00	FAM 1	0 AM	FM	/Stereo	FM	Tuner	£42.50
TRM 40	e-			+ 15		11	£40.00		2 -		11	н	87	£60.00
TRM 50	10 C	11	17	+ 17	11		£50.00	FAM 1	4 **	11	**	11	11	£83.00
TRM 1200	11	11	45	+ 45	11		£86.00							
STA 301	AM/FM	/Stereo	FM Tu	iner	Amplif	ier	12 + 12	watts RMS	output		£	85.5	0	
ST 501	9 n			н	19		18 + 18				£1	10.0	00	Carriage
SF 701B	FE 21	11	Ť1	11	-0		25 + 25	11 17	11		£1	120.0	ю	& Packing
ST 1101	17 U	11	19	11	11	:	37 + 37	н П	19		£2	230.0	00	50p ANY MODEL

Note: ALL NIKKO AMPLIFIERS AND TUNER AMPLIFIERS SUITABLE FOR 4-16 ohm SPEAKERS

NIKKO STEREO HEADPHONES (8+8 ohr	ns)
HW3S HW4SV with Controls HW8S with Controls, twin speakers 77S DeLuxe plus overload protection	£ 4.00 £ 6.75 £11.50 £12.75
HW4ST Speakers plus tweeters and controls	£ 7.95

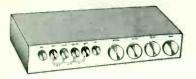
★ NIKKO – HENRY'S SALES – DEMONSTRATIONS SERVICE AND GUARANTEE

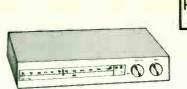


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## SINCLAIR EQUIPMENT





**2000 TUNER** 



## HENRY'S APPOINTED SINCLAIR DEALER

2000 AMPLIFIER MK II



3000 AMPLIFIER



#### NEOTERIC AMPLIFIER

2000 AMPLIFIER MK II	17 + 17 watts output. 3–16 olims output. All inputs.	Size 12" x 6" x 2" silver f <mark>inish</mark>	£25.00
2000 FM TUNER	Matching Stereo FM Tuner	Size 12" x 6" x 2" silver finish	£29.00
3000 AMPLIFIER	17 + 17 watts Runs. 8–16 ohms output. All inputs.	Size 12" x 6" x 2" black finish	£35.00
3000 FM TUNER	Matching Stereo FM Tuner	Size 12" x 6" x2" black finish	£29.00
NEOTERIC AMPLIFIER	15 + 15 watts Runs. 8—16 ohms output. All facilities	Size 8½" x 9¼" x 2¼" alluminum and Rosewood finish	£46.00
O A SPILA OF A NUP DA OU			

CARRIAGE AND PACKING 50p EXTRA ANY MODEL



COMPLETE RANGE IN STOCK See earlier section of this Catalogue.



### HL AUDIO SA707

7 + 7 watts Runs output into 8 ohms. (10 + 10 watts speech and music). Response 40-20,000 HZ.  $\pm 15$  dB boost and cut on tape controls. Inputs 4mV and 100mV for Pickup, 60mV Radio and tape input, 150mV Tape output. Full range of controls plus headphone socket on front panel. Overall size  $14\frac{1}{2}$ " x  $9\frac{1}{2}$ " x  $3\frac{1}{2}$ ". Finished in dark wood with black control panel and matching knobs. Price £18.75 carr 40p



## HENELEC 5-5 STEREO AMPLIFIER MK II

5 + 5 watts Runs output into 8 ohms. Response 40– 18,000HZ. Inputs for crystal or ceramic cartridge – 80 to 150mV per channel and radio tuner or auxiliary nominally 100mV 100Kohm. Cartridge input is equalised Other controls are input and mono/stereo switches, treble, bass and volume control plus balance control. Standard phono sockets for input and screw teminals for speaker output. Twin fuse protection. Overall size:  $13\frac{1}{2}$ " x  $3\frac{1}{2}$ " x 6" approx. Finish matt black, silver matt control panel and knobs with wood ends.

PRICE £13,50 carr 35p

ALL EQUIPMENT ON THIS PAGE IS BRITISH DESIGNED AND MADE

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## STEREO AMPLIFIERS Recommended for quality and value



**ROTA 1500** 



## **ROTA 1500**

TECHNICAL DATA TOTAL OUTPUT POWER: TOTAL HARMONIC DISTORTION:

OUTPUT IMPEDANCE:

FREQUENCY RESPONSE: TONE CONTROL:

S/N RATIO:

POWER CONSUMPTION:

DIMENSIONS:

	20 Watt (2 Channels)
N:	BELOW 1.2% BELOW 0.8% at 16 Watt total
	4 - 16 OHM
	PHONE MAG; 5mV X'TAL/CERAMIC: 200 mV AUX – 200 mV
	20 – 20,000 Hz ± 1 db
	BASE ± 10 db at 100 Hz TREBLE ± 10 db at 10,000 Hz
	BETTER THAN 50 db (MAG) BETTER THAN 60 db (AUX)
	AC 50/60 Hz 100-120V or 200-240 V. at 30 Watt
	WIDTH: 285 m/m HEIGHT: 85 m/m
	DEPTH: 205 m/m
	(List £25) PRICE £16.50

## **ROTA 2200**

TECHNICAL DATA	
TOTAL OUTPUT POWER:	40 WATTS (2 CHANNELS)
TOTAL HARMONIC DISTORTION:	BELOW 1% BELOW 0.2% at 30 W total
OUTPUT IMPEDANCE:	4-16 OHM
INPUT SENSITIVITY:	MAG 4mV; MIC-5.5mV; TAPE, AUX, TUNER-200mV
FREQUENCY RESPONSE:	20-40,000 Hz ± 1 db
TONE CONTROL:	BASE ± 10 db at 100 Hz TREBLE ± 10 db at 10,000 Hz
S/N RATIO:	BETTER THAN 60 db (MAG) BETTER THAN 60 db (MIC) BETTER THAN 75 db (AUX) BETTER THAN 75 db (TAPE) BETTER THAN 70 db (TUNER)
POWER CONSUMPTION:	AC 50/60 Hz 100-120 V. or 200-240 V. at 60 Watts
DIMENSIONS:	W:350 H:90 D:220 m/m
	(List £34.75) PRICE £23.95

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## METRO SOUND AUDIO PRODUCTS



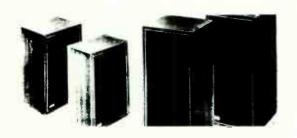
#### ST20 Stereo Amplifier

10+10 watts RMS output. Size 15%" x 3%" x 10". Teak finish with aluminium and chrome trim.



## 448 Stereo Tape Cartridge Player

8 track cartridge player with built in amplifiers, 4+4 watts output. Size  $12\%'' \times 4'' \times 10''$ . Finish matches ST20. Can be used just with a pair of speakers.



#### Metrosound Speaker Systems

MODEL HFS.10 10 watts handling capacity. 8 ohm impedance. Teak finish. Size 14" x 9" x 7". As used in the Stereo 10-10 Compact System and available in matched pairs.

MODEL HFS.20 20 watts handling capacity. 8 ohm impedance. Teak finish. Size 23" x 11% " x 10% ".



#### SS.30 Stereo Amplifier and Cartridge Player

Offers the same features as the 448 unit plus the facilities of the Metrosound ST20 Stereo Amplifier giving 10 watts r.m.s. per channel with inputs for magnetic and crystal cartridges and radio tuner. Size  $203^{4*} \times 32^{4*} \times 10^{4*}$ .



## Stereo 10-10 Compact System

Expertly designed and providing outstanding quality reproduction. Not just another compact system but a true "sound centre" incorporating an all silicon transistor amplifier, Garrad 3000 autochanger and two Metrosound HFS.10 speaker systems. Output 20 watts rms. (10 watts rms. per channel) Bass, Treble, Volume and Balance controls. Input for tuner. Tape record outlet.



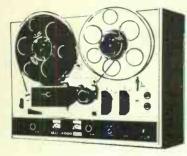
## MKIII 8-track Stereo Car Unit

Listen to your favourite 8 track stereo tape cartridges as you drive. All solid state featuring press button programme selector and illuminated track change indicator. Output 4 watts r.m.s. per channel. Easily fitted to any car. Supplied with speakers and fixing kit. (Speaker pods £1.30 each).

METROSOUND – HENRY'S SALES, DEMONSTRATIONS, SERVICE AND GUARANTEE

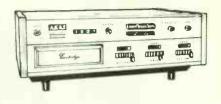
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# AKAI HIGH FIDELITY TAPE EQUIPMENT



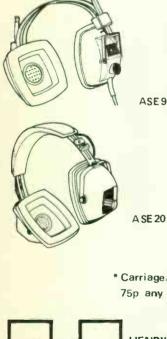
4000 D





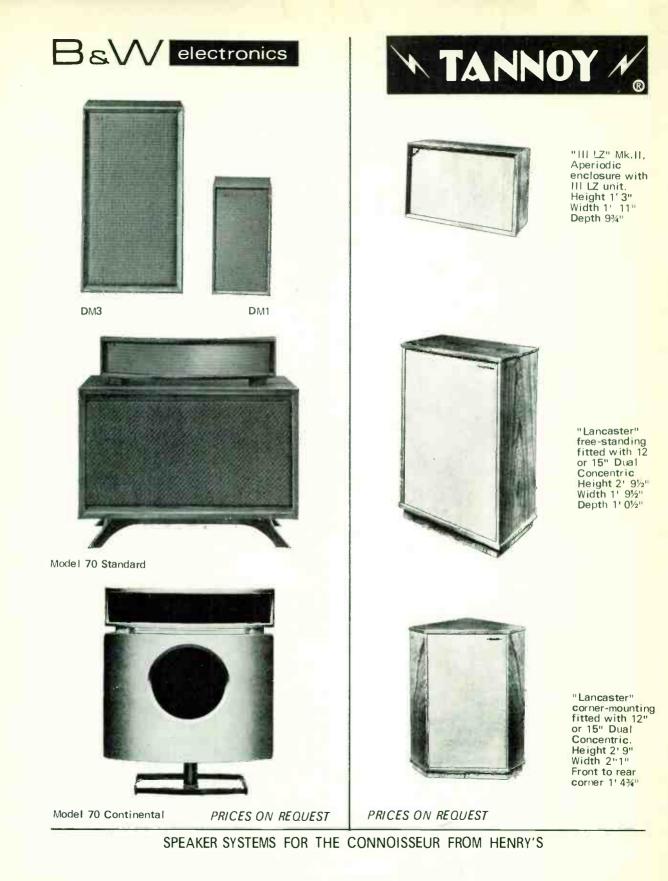
1710 L and 1720 L

CR 80 and CR 80 D



ASE 95	4000 D CR 80 D CR 80	4 track stereo tape deck, 2 speed 8 track stereo cartridge tape record/play unit. As CR80 D, but with 6+6 watt amplifier built in (no speakers)
	1710L	4 track, 3 speed stereo tape recorder 4+4 watt output-built in speakers
A SE 20	1720L	New all silicon transistor version of 1710L. 3+3 watts output.
	HEADPHONES	ASE9S ASE 20
* Carriage/Insurance 75p any machine.	CS50D	Stereo Cassette Recorder Deck with with automatic cassette reverse.
HENRY'S HENRY'S RADIO	CS50	As CS50D but built in stereo amplifier (no speakers). Power output 8+8 watts.
AKAI – HENRY'S	X1800SD	4-track Stereo reel to reel recorder with 8 track cartridge stereo recorder built in. Output 6+6 watts to built in speakers.
SALES – DEMONSTRATIONS SERVICE AND GUARANTEE	X200D	Four track stereo recorder deck reel to reel 3-speed with 3-motors and auto reverse.
AVAILABLE FROM HENRY'S Your Enquiries Invited.		

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## WHARFEDALE HIGH FIDELITY EQUIPMENT



DENTON



SUPER LINTON



100.1 STEREO TUNER-AMPLIFIER

MELTON



ASTON

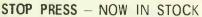


DOVEDALE III



COCE

ROSEDALE



DENTON - 2, SUPER LINTON - 2, TRITON - 3, MELTON - 2, DOVEDALE - 3, LINTON AMPLIFIER, LINTON TURNTABLE, PRICES ON REQUEST

#### DENTON

Two speaker system. 15 watt 4-8 ohms 65 Hz-17,000 Hz. Teak or White or Walnut. Size:  $9^3_4$ " x 14" x  $8^3_4$ ".

#### ASTON

18 watt two speaker system, 4-8 ohms, 65-17,000 Hz. Finish white lacquer. Size: 19" x 11" x 6"2".

#### SUPER LINTON

Popular two speaker system. 15 watt 4-8 ohms. 55-17,000 Hz. Teak, White or Walnut. Size:  $19" \times 10" \times 10"$ .

#### TRITON

New three speaker system 18 watts 8 ohms 55--22,000 Hz. Size: 2134" x 934" x 93". Teak or Walnut.

#### MELTON

Two speaker system with extra bass sound. 15 watts 4-8 ohms. 45-17,000 Hz. Teak or Walnut. Size: 21" x 13" x 10'4".

#### DOVEDALE III

Three speaker system. 25 watts 4  $\,$  8 ohms 40- 20,000 Hz. Size: 24" x 14" x 12". Teak or walnut.

#### ROSEDALE

Professional quality three speaker system. 30 watts 4-8 ohms 35-20,000 Hz. Size: 24" x 21" x 14". Teak or walnut.

#### 100.1

MW/LW/FM Stereo FM Tuner Amplifier. Output: 35+35 watts RMS into 8 ohms or 4 ohms 25+25 " " 15 " 16 "



TRITON

WHARFEDALE DOLBY DC9 STEREO CASSETTE RECORDER IN STOCK

KING WHARFEDALE - HENRY'S SALES - DEMONSTRATIONS SERVICE AND GUARANTEE

See separate section for Wharfedale chassis speakers and Unit 3, 4 and 5 speaker kits.

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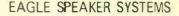
## CELESTION HIGH FIDELITY SPEAKER SYSTEMS



DITTON 120 New bookshelf system from celestion

DITTON 15 15 watt three speaker system. 4–8 ohms Size 21" x 9½" x 9¼". 30–15,000 Hz. Teak or walnut finish.

DITTON 25 25 watt five speaker system 4-8 ohms 20-40,000 Hz. Size 32" x 14" x 11" Teak or walnut finish.



DL25 Low cost pair 4 watts RMS 8 ohms. 40-16,000 HZ. Size 230 x 140 x 120mm. Finish Walnut



DL50 Low cost pair 5 watts RMS 8 ohms. 40–19,000 HZ. Size 360 x 224 x 160mm. Teak finish.

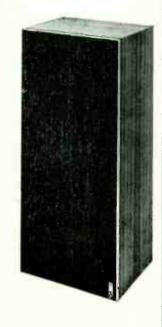






DL67 10 watts RMS 8 ohms two speaker system. 35-20,000 HZ with tweeter control. Size 300 x 220 x 170mm, Finished in Teak.





DITTON 15

DITTON 25

CELESTION -- HENRY'S SALES -- DEMONSTRATIONS SERVICE AND GUARANTEE

## NARVICK SPEAKER SYSTEM

A 3 speaker system finished in Teak. Comprises 12" bass unit, 3½" mid range and fitted 2" x 2" tweeter and crossover network. Teak finish!

Frequency range: 35-22,000 c/s

Power Rating: 25 watts RMS 40 watts music

Impedance:8 ohms Size:

H.23<sup>1</sup><sup>2</sup>" x W.17<sup>3</sup>4" x D.12" Weight: 32<sup>1</sup><sup>2</sup> lbs.

**ON DEMONSTRATION NOW!** 





## KEF HIGH FIDELITY SPEAKERS AND KITS





CRESTA



CELESTE



CHORALE



CONCORD

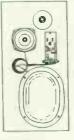


CRESTA II, White finish

CHORALE, White CADENZA, White

CONCERTO, White

KK2



ккз



HENRY'S APPOINTED

SALES – DEMONSTRATIONS SERVICE AND GUARANTEE

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CRESTA II 15 watt rating two speaker system 4– 8 ohms. 45–30,000 HZ. Size:  $12\frac{1}{2}$ " x  $7\frac{1}{2}$ " x  $8\frac{5}{3}$ ".

CELESTE 20 watt two speaker 8 ohm system. 40-20,000 HZ. Size 18" x 1014" x 612". Finish:

CHORALE 20 watt two speaker 8 ohm system. 35-30.000 HZ. Size:  $18\frac{1}{2}$  x  $11^{"}$  x  $8\frac{5}{6}$ . Finish

CONCORD 25 watt two speaker 8 ohm system. 35-20,000 HZ. Size: 24" x 15" x 10". Finish:

CADENZA New 25 watt three speaker quality 8 ohm system. 35-30,000 HZ response. Size: 24\* x

CONCERTO 30 watt three speaker system 8 ohms. 30-30,000 HZ. Size: 28" x 17" x 12". Finish:

KEF KITS - ASSEMBLED BAFFLES FOR YOUR OWN CABINET CONSTRUCTION OR INSTALLATION.

KK2 As Concord. Size 22'2" x 13'2" x 4"

KK3 As Concerto. Size 28" x 14" x 1012"

14" x 12". Finish: Teak or Walnut.

Finish Walnut or Teak.

Carriage 50p

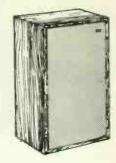
Walnut or Teak. (Carriage etc. 60p)

Walnut or teak. (Carriage etc. 60p)

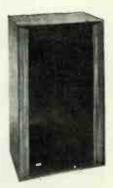
Walnut or Teak. (Carriage 90p)

(Carriage 90p)

Walnut, Teak (Carriage 90p)



CADENZA



CONCERTO

337











## GOODMANS HIGH FIDELITY LOUDSPEAKERS

## Maxim

Minister

Mezzo 3

Range: 40-22,000 Hz. Power: 30 watts. Impedance: 4 to 8 ohms. Design Centre approved

15" x 24" x 11¼" deep. Range: 30-22,000 Hz. Power: 40 watts. Impedance: 4 to 8 ohms.

 $27'' \times 20'' \times 14_8'' \text{ deep.}$ Range: 26-22,000 Hz. Power: 50 watts. Impedance: 4 to 8 ohms.

IN TEAK OR WALNUT.

Magnum K-2

Magister

The first miniature, truly High-Fidelity loudspeaker system. Only 10½" x 5½" x 7½" deep. Design Centre approved. Range: Range: 45-20,000 Hz. Power: 12 watts. Impedance: 8 to 16 ohms.

A superb system designed to meet the public demand. Using an 8" Bass unit and Goodmans Special 1" dome Tweeter.

The Goodmans bookshelf speaker system, it incorporates a 12" bass unit and Goodmans special 1" Dome Tweeter, Distinctive styling, 12" x 19½" x 9" deep.

Studio quality three speaker system, 12" bass unit, 4" mid range and 1" Dome Tweeter, Design Centre approved.

This is the loudspeaker system for the perfectionist. Three speaker assembly incorporating a 15" bass unit, 4" mid range and Goodmans 1" Dome Tweeter.

ALL THESE CABINETS ARE AVAILABLE

Size: 19" x 10½" x 10" deep. Range: 45-22,000 Hz. Power: 20 watts. Impedance. 4 to 8 ohms. Packed in pairs.



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## HENRY'S – GOODMANS SALES-DEMONSTRATIONS SERVICE AND GUARANTEE

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## HENRY'S QUALITY SPEAKER SYSTEMS

DESIGNED TO STRICT SPECIFICATIONS SPECIFIED FOR MANY OF 'HENRY'S' RECOMMENDED HI-FI SYSTEMS QUALITY BUILT, QUALITY PERFORMANCE AND 12 MONTHS GUARANTEE

#### SDL1

The SDL1 compact loudspeaker is designed for use with amplifiers from 4 to 15 watts output on 8-16 ohms. Features a dual cone 13" x 8" speaker with relled surround to give improved response and sensitivity. The cabinet is attractively veneered and polished with matching Vynair front and metal trim. Fully lined with sound absorbent material. Packed in pairs for stereo.

Size: 15" x 1014" x 812" deep

Response: 40 Hz to 15 KHz.

Impedance: 8 ohms

(8-16 ohms suitable)

Drive Unit: Fane 13 x 8, 10,000 gauss with tweeter cone and rolled surround.

Power Handling: 15 watts RMS (suitable 4 to 16 watts)

PRICE £19.95 pair (carr.etc.65p)

#### SDL2

The SDL2 is a development of the SDL1, featuring a slightly larger cabinet with the addition of a domed pressure unit,  $13^{\circ} \times 8^{\circ}$  dual cone bass/midrange speaker with rolled surround, combined with the pressure unit, provides a rich tone throughout. Designed for use with all amplifiers in the range of 4 to 15 watts RMS at 8 to 16 ohms. Fully lined. Veneered and polished with matching front and metal trim. Packed in pairs for stereo.

- Size: 18" x 101/2" x 7" deep
- Response: 40 Hz to 20 KHz.
- Impedance: 8 ohms (8-16 ohms suitable)
- Drive Unit: Fane 13 × 8 10,000 gauss with centre cone and roll surround. Tweeter Fane 8000 gauss domed pressure unit.
- Power Handling: 15 watts RMS (suitable 4 to 16 watts).

PRICE £23.95 pair (Carr.etc. 75p).

#### SDL3

The SDL3 is the largest in the range. Designed to provide full bass, midrange and high frequencies combined with clarity and sensitivity from amplifiers with 6 to 20 watts RMS output on 8 to 16 ohms. Features 12" twin cone rolled surround. Bass/midrange speaker and two domed pressure units with crossover. Veneered and polished with matching front and metal trim. Fully lined. This speaker system provides performance combined with value.

=5/0/1

Size: 21" x 15" x 101/4" deep

Response: 20 Hz to 20 KHz

Impedance:	8 ohms (8-16 ohms suitable)
Drive Unit:	Fane 12" 10,000 gauss with 2" voice coil, rolled surround and centre cone.
Tweeters:	Two Fane 8000 gauss domed pressure units.

Power Handling: 20 watts RMS (suitable 6 to 20 watts)

PRICE £39.50 pair (Carr.etc.90p).

SDL - HENRY'S SALES - SERVICE - DEMONSTRATIONS AND GUARANTEES

## 8 TRACK SLOT STEREO REPLAY AND RECORD-PLAY EQUIPMENT

AVAILABLE FOR USE WITH YOUR OWN STEREO SET UP OR WITH BUILT-IN AMPLIFIERS



#### NIVICO CHR-100 uH

**PIONEER H82** 

8 track stereo replay machine for use with your Hi-Fi equipment. Self contained mains operated, built into walnut cabinet. Size: 35/11 x 63/11 x 9<sup>5</sup>/<sup>11</sup>. Response: 40-12,000 Hz.

8-track stereo replay to use

with your Hi-Fi set up. Mains

operated. Response 50-10,000

Hz. Output 775 mV. Finished

in dark wood with matching

brushed trim. Overall size:

Price £46.20 Carr.40p

 $4^{5}/_{16}^{11} \times 8^{15}/_{16}^{11} \times 10^{7/11}$ 

**METROSOUND** 448

Price £37.50 Carr.40p

## LERJET H310

New 8-track replay machine to use with your Hi-Fi. Mains operated.

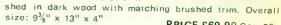


Size: 71/8 x 91/8 x 31/4"

Price £31.95 post 35p

#### PIONEER HR82

8-track stereo record and play machine for use with your Hi-Fi. Response: 50-8000 Hz. Input for microphone, radio tuner etc. Output: 670 mvolts. Fitted level indicator, phono and din sockets. Fini-





PRICE £69,90 Carr.50p

AKAL CR 80

8-track stereo record and play machine with built in 6+6 watt amplifiers. For use with your Hi-Fi or just a pair of speakers, preferably good ones. Response: 50 - 16.000



Hz. Inputs for microphone, radio etc. Overall size: 1312" x 51/2" x 10". Fitted stereo headphone socket.

PRICE £80.80 Carr.50p

Or complete with speakers £99.00 Carr.75p

#### AKAI CR80D

As above, but without amplifiers for use with your Hi-Fi. or just amplifiers.

PRICE £64.60 Carr.50p



### METROSOUND \$\$30

8 track stereo replay combined with full facility stereo amplifier. Response 40-12,000 Hz for tape and 30-30,000 Hz for amplifier. Output 10+10 watts RMS. Teak cabinet size 2034" x 10" x 31/2". Use any type of quality speaker system. PRICE SCE ED OF

		FRICE	200.50	Carr.50p
With pair of	SDL2 Speaker	Systems	£85.50	Carr.75p

ALL MODELS FEATURE AUTOMATIC TRACK CHANGE WITH PRESS BUTTON MANUAL OVERIDE TRACK CHANGE. MAINS OPERATED AND GUARANTEED AGAINST FAULTY WORKMANSHIP FOR 12 MONTHS.



#### 8 track stereo replay housed in teak cabinet. Mains operated for use just with a pair of speakers. 4+4 watts output. Response 40-12,500 Hz. Size: 121/2" × 101/4" × 33/4".

(Less speakers) Price £43.35 Carr.50p or with pair SDL1 speakers

Price £59.50 Carr.80p

#### **TELETON STP801**

Stereo 8-track replay equipment designed as a low cost set up. Supplied complete with a pair of speakers. Unit size is 141/4" x 101/4" x 4". This model is a new



improved version. Output power: 21/2 watts channel. Response: 40-10,000 Hz. Speaker size: 11" x 8" x 51/2".

PRICE £42.97 post 53p

#### ACCESSORIES

30 minutes.	Blank 8	track c	artridges	£1.15
60 "	" 8			£1.50
80 "	" 8		11	£1.80
Head cleani	ng cartri	dge		£1.70
Capstan cle	aning ca	rtridge		£1.70
	-			





#### AKAI CS50D As CS50, but less amplifiers, to use with your existing equipment.

PRICE £80,80 post 50p

#### AKAI CS50

High quality stereo cassette recorder with cassette auto reversing mechanism. Output 8+8 watts and every facility. Size: 15" x 614" x 1114"

PRICE (Less speakers) £96.50 post 50p

CS50 with pair of recommended speaker systems (value £24)

PRICE £99.50 Carr.£1

## CASSETTE STEREO QUALITY EQUIPMENT

PHILIPS N2503 STEREO CASSETTE DECK Stereo cassette recorder deck for use with your Hi-Fi. All facilities complete with mic. etc. Size: 21.6 cm x 21.6 cm x 7.5 cm, Most popular deck made.

PRICE £44.95 post 35p

N2506 with noise limiting circuit

WHARFEDALE DOLBY DC9

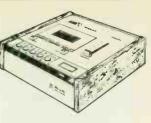
**STEREO** 

CASSETTE DECK MK. H

Superb cassette recorder with

built in Dolby noise reducing circuits. For use with your existing stereo amplifier.

PRICE £92.50 post 50p



PRICE £49.95 post 35p (Available spring 1972).



## TOSHIBA KT403D STEREO CASSETTE DECK

Hi-Fi quality stereo recording/playback via your existing amplifier/speaker system. 4-track. Constant speed. Twin in-meters with slide controls for accurate recording modulation. Fitted headphone jack. Size:  $11\frac{7}{8}$  x  $4\frac{1}{8}$  x  $7\frac{7}{8}$ .

> PRICE £55.95 post 35p.

PHILIPS N2400 STEREO CASSETTE RECORDER



Supplied complete with stereo microphone. Full range of controls with light pressure plano key operation. Wood style with chrome cabinet. Power output 4+4 watts.

PRICE £56.30 post 40p OR with SDL2 speaker systems PRICE £75.00 post 75p.



Wide Response: 30Hz - 18,000Hz with CHR. DIOX. Tapes or 30-16,000 Hz with standard tapes. All features and facilities. For use with existing amplifiers. Fitted headphone socket.

PRICE £69.95 post 40p

## GXC40

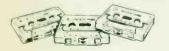
AKAI STEREO

NEW DESIGN

AND CRYSTAL

As above, but with 4+4 watt built in amplifiers. PRICE £87.50 post 50p

GXC40 with pair of recommended speaker systems (value £24) PRICE £92.50 post £1.00



See Pages 48 and 49 for portable and car cassette equipment.

FROM STOCK BASE, SCOTCH or AGEA QUALITY CASSETTES

LATEST PRICES C 60 C 90 77p each or 69p each 6 or more 81p · " " 74p ' 6 " 9**8**p C120 1.08 11 - 11 .... 6

ALSO 'COBALT', 'CHROMIUM DIOXIDE' AND 'SDC' TAPES IN STOCK

PRICES ARE CORRECT AT TIME OF GOING TO PRESS, CHECK WITH CURRENT STOCK LIST, Ref. 16/17, PUBLISHED QUARTERLY

341



#### HENRY'S RADIO LIMITED HIGH FIDELITY STOCK AND STEREO SYSTEMS PRICE LIST

	No.	16	17	
Γ	JAI	N	197	2

All equipment is guaranteed for 12 months and available subject to the Company's standard An equipment is guaranteed for 12 months and eventories subject to the Company standard conditions of sale. Prices and specification are correct at time of printing, but subject to change without notice (E. & O.E.). Goods despectived by Palcel Post of 8RS. (Securicor Delivery extra.) CREDIT SALE (Min.£56 purchase – callers only.) Deposit 25, Balance 1–3 years. OR PURCHASES £40 (E80 (Callers only.) Deposit 10, Balance 9 months. (Ask for details.)

OR PURCHASES £40 £80 (Callers	only). Dep	v.) osit
(T)         SP25 mk.III         £3 or 1           (a)         SL658         BN1£8 1           (T)         AP76         Plinth cover 2           (a)(T)         SL728         P4 T4 £4.25	9.50 9.98 2.50 1.30 5.15 9.97 3.95 6.50	ASS (+)( (*)( (s)( (s)( (s)( (s)( GOL 69 72
(T)         Zero 100S         4           (a)         401 Deck         20           (2025TC, 3000, SL658, SP25111)         WBI         Plinth 14 x 12 <sup>14</sup> x 3 <sup>3</sup> h <sub>8</sub> SPC1         Cover for WB1         DB1           DB1         Plinth 1         21 <sup>14</sup> x 3 <sup>3</sup> h <sub>8</sub> DC1         Cover for WB1         B1           DB1         Plinth 1         Delve plays           DC1         Cover for WB1         B1           BNI         (DB1/DC1)         15 <sup>14</sup> x 14 <sup>3</sup> x 7 <sup>14</sup>	1.95 9.50 3.25 2.97 6.95 3.25 8.75	75 85 72 75 85R (T) (a) (T) Tea
WB5           SPC4         Cover for WB5           (For AP6, SL728, SL958, SL958, Zero           P4/T4         14" x 14" x 7"           H4         17 x 14" x 7"           WB4         Plinth 15 x 15 x 414"           SPC4 Cover for WB4 and WB4Z           D84         Plinth Deluxe           DC1         Cover for WB4 and MB4Z           D84         Plinth Deluxe           DC1         Cover for WB4 and T4"	4.98 3.98 100.1 4.95 9.97 4.98 3.98 6.95 3.25 8.75	BSR HEN ASS (T)( (T)( (T)( (T)( (a)( CO
WB4-Z for 100S           ASSEMBLED GARRARD TURNTAB           (a)(') HL2025TC/9TAHC           (T)(') HLAP76 (G800           2           GOLDRING TURNTABLES           (T) GL35           (T) GL75           (T) GL72	5.95 LES 3.95	(T) (T)( DU (T) (T) (T) (T)( (T)( (T)(
	22.00	

ASSEMBLED GOLDRING					
(+)(T) HL75 P-C	37.35				
(*)(T) HL72 PC G800 (FEB)	35.95				
(s)(T) GL75 P 39.95					
(s)(T) GL69/2-P 28.75					
(s)(T) GL72P	32.95				
(s)(T) GL85P	61.00				
GOLDRING PLINTHS & COVER	S				
69 Cover	3.40				
72 Cover	4.00				
75 Cover Deluxe	4.50				
85 Cover	5.80				
72 Plinth	7.95				
75 Plinth	7.95				
BSR McDONALD					
(T) MP60 Plinth cover	11.30				
(a) MP610 P6 T6 £3	15.15				
(T) HT70 or BSR £6 25	16.60				
Teak Plinths/Covers for above					
BSR For MP60, 610 and HT70					
models Plinth Cover	6.70				
HENRY'S P6 T6 14'2x 12'4 x 7					
A DEFINITED DED MODONALD					
ASSEMBLED BSR MCDONALD	17.65				
(T)(+) MP60 PC (T DIP)	17.65				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC	24.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800	24.00 29.95				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC	24.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800	24.00 29.95 20.97				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800 (a)(+) MP610 PC CONNOISSEUR (T) & BOL Kit	24.00 29.95 20.97 11.98				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800 (a)(+) MP610 PC CONNOISSEUR	24.00 29.95 20.97				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800 (a)(+) MP610 PC CONNOISSEUR (T) & DI Kit (T)(+) 8D2 PC Assembled	24.00 29.95 20.97 11.98				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC (8800 (a)(+) MP610 PC CONNOISSEUR (T) 8D1 Kit (T)(+) 8D2 PC Assembled DUAL	24.00 29.95 20.97 11.98 32.25				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70PC G800 (a)(+) MP610 PC CONNOISSEUR (T) & DI Kit (T)(+) & D2 PC Assembled DUAL (T) 1215	24.00 29.95 20.97 11.98 32.25 39.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70 PC (A)(+) MP610 PC CONNOISSEUR (T) & 01 Kit (T)(+) 8D2 PC Assembled DUAL (T) 1215 (T) 1219	24.00 29.95 20.97 11.98 32.25				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70 PC (a)(+) MP610 PC CONNOISSEUR (T) 8DJ Kit (T)(+) 8D2 PC Assembled DUAL (T) 1215 (T) 1219 TRANSCRIPTORS	24.00 29.95 20.97 11.98 32.25 39.00 55.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70 PC (G800 (a)(+) MP610 PC CONNOISSEUR (T) 8D1 Kit (T)(+) 8D2 PC Assembled DUAL (T) 1215 (T) 1219 TRANSCRIPTORS (T) Reference Less arm	24.00 29.95 20.97 11.98 32.25 39.00 55.00 78.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70 PC (T)(+) HT70PC G800 (a)(+) MP610 PC CONNOISSEUR (T) 8D2 PC Assembled DUAL (T) 4215 (T) 1215 (T) 1219 TRANSCRIPTORS (T) Reference Less arm (T)(+) " With arm	24.00 29.95 20.97 11.98 32.25 39.00 55.00 78.00 98.00				
(T)(+) MP60 PC (T DIP) (T)(+) HT70 PC (T)(+) HT70 PC (G800 (a)(+) MP610 PC CONNOISSEUR (T) 8D1 Kit (T)(+) 8D2 PC Assembled DUAL (T) 1215 (T) 1219 TRANSCRIPTORS (T) Reference Less arm	24.00 29.95 20.97 11.98 32.25 39.00 55.00 78.00				



THORENS           (T)(•) TD1500           (T)         TD150A II           (T)(•) TD125A           (T)(•) TD125A8           Teak Plinths/Covers for THOR           TX11 Cover for TD150 Series           TD150Plinth           TX25 Cover for TD125           TD125 Pointh           TX25 Cover for TD125           TD125 Pointh           TV25 Pointe           TV25 Pointe           String Frame	29.20 34.60 41.35 59.65 94.25 ENS 4.20 4.00 8.50 6.75 5.00 1.50
SME 2000 system	37.50
Metrosound hinged for 150 series. 19'2×12'3×7	14.98
H W JP601 (T)	37.98
PIONEER (+)(T) PL12 AC (+)(T) PL A25	36.50 67.35
PHILIPS (+)(T) GA 308 (*)(T) GA202 Electronic	34.75 59.95
WHARFEDALE (*)(T) Linton turntable (MP60)	28.95
LEAK (*)(T) Delta turntable (GL75)	57.95
UNCUT MOTOR BOARDS Playview, undrilled	9. <b>9</b> 7
For JP601 HW1 18% x 16% x 8% HW12 19 x 23% x 8% HW14 Fully sprung, anti- feedback, adjustable level- ling. Fitted plugs, sockets etc. Size: 18% x 19% x 9%	12.00 11.75 14.90 22.50

SELECT REQUIRED CARTRIDGE/PLINTH/COVER AS APPLICABLE FROM LISTS OR LET US ADVISE YOU & YOUR ENQUIRIES INVITED

(\*) Deck Cartridge/Plinth/Cover (.) Transcription unit less Arm/Cartridge (\*) Deck Plinth/Cover less Cartridge (T) Single Play/Transcription

(s) Deck/Arm/Plinth less Cartridge and Cover.

(a) Automatic

(c) Deck with Arm and Cartridge.

CARRIAGE/PACKING /INSURANCE (UK only) Deck only 50p or with Plinth Cover 70p Post: Plinth only 25pt. Covers 20p or Plinth Cover 30p.

STEREO	CARTRIDGES	POST 12(1 (m.)		MAGNETIC AND C			
AUDIOTE	CHNICA (Replace	SHURE	(0) p1 + 4		(Brp1 i a		
AT55 AT66.7 AT66.5 AT66 LC AT21	3.82 ( ) 4.95 ( 3.00) 4.95 ( 3.00) 4.95 ( 3.00) 9.60 ( 6.25)	*) MGD-M M44-C M44-7 M44-5 M445	4.77 ( 4.10) 7.45 ( 4.79) 7.45 ( 4.79) 7.90 ( 5.45) 8.70 ( 6.12)	G850 4 G800 6 G800H 6 G800E 10		909 X 909 X 909 EX 999 X 999 EX	7 70 7 32 9 87 8 90 12 90
AT215 AT21X AT33	9,60 (6,25) 14,90 (12,40) 9,00 (5,40) 20,00 (16,00) 8,50 (1)	M55E M75G11 M75E 11 M75E 11	9 40 ( 6.70) 12.85 ( 6.79) 15 40 ( 9.40) 12.97 ( 6.12) (14 20) ( 8.18)		.95 ( 1.70 .90 ( 3.80	) 999 SEX	16.85 21,65 34,75 48,85
	11,75 ( ) ADC	M91E V15-1/	15.88 (12.27) 28.88 (12.00)	SUGDEN SCU1 (Cer) TELETON	4.96	Deram cerar 3.97 Deram ellip	(1.33)
	57 00 220 XE 16.95	9.45		NM33	3.82	GRADO F' cartridges in a	
LOW PRI	CED CARTRIDO	ES (CRYSTAL	AND CERAMIC)	Mono Storee Comp	tible (PC	ST 12p each)	
MONO				STERED (M no Ster	eo]		
• J2010C		12106 Ceramic	2.10			9TA Diamond	2.38
GP91 1		3 460	97p			J2006S Sapphire	1.15
GP91 3		SP91+15C Diam	1,15			BSRC1 Sapphire Romette 105	2.62
J2005		3P91-2SC Diam. 3P91-3SC Diam.	1.15			Romette 105	1.25
*DC400 SC *DC400 SC	1 0.70			Sunotone			
·DC400 SL	T avb	Sapphire version	90p each.	91AH/C Oxamond	2.38	BSR SC5M	2.62
				em. 17p per two or i	more		
COLTON	Menual Pickup Li			ECIL WATTS	1.20	Sweep Arm	3 70
	Variscale Trackil Megnalift Centre		3 00 D	ust Bug Isc Preemen	0.34	Stylus Brush	2.30
	Stylus Life Timer	Fui On		anual Paramet	2.40	Stylus Scales	3.70
	X50 Microscope			Fi Parasal	2.25	ory the provide	0110
	Sorrit Level			umid Map	0.15	GARRARD	
DECCA	Microlift			ush Pad	0.09	M6 and	
DECCA	Decca Lift		8 60 A	nti-static Fluid	0.12	M7 Shells	0.55
NEAT	Lift for G30 Arm G30 Headabett		3.69 1.66	lylus Bruth	0.30	C1 and C2 Shells	0.56
	Bias for G30			OLDRING		BIB	
			C	182 Gauge	0.93	Stylus /Turntabl	
SME	Spare Headshells			Inclean Cleaner	2.99	Cleaning Kit	0.34
	P1 - Spacer			enclean Fluid	0.70	Transcription	
THORENS	TP50 headshell AS13 8ias Compe		1.75 L	89 Spare Headshells 75 Spare Headshells	2.60	Dust Bug	1.75
	COMPLETE RAN	GE OF PLUGS	AND SOCKET	S IN STOCK DIN WITHOUT PLUGS	ND ADAF	JACK, COAN.	
TRANSC	RIPTION ARMS	POST & PAG	CKING 22p any	type.			
GOLDRIN	G L69 6 95 L75 9.97	SUGDEN SAU	J2 12.50	EAT G30 11.97 G308 13.97		NELEC Model 271 0309K Less Cart.)	5.20
J1111 + . (* 271 + S		SME 3009 II 3012 II		ECCA Completeran vailable, ask for dat		DIO TECNIXA	15.95



BIB GROOV-KLEEN \* DUST BUG VALUE £1.99

\* ALL LEADS ETC.

\* 12 MONTHS GUARANTEE

WHEN YOU BUY A STEREO SYSTEM FROM HENRY'S. SEE INSIDE FOR COMPLETELY NEW RANGE OF RECOMMENDED SYSTEMS.

\* DEMONSTRATIONS, ADVICE AND GUARANTEES, PLUS VALUE -ONLY FROM HENRY'S

CALL IN AND DISCUSS YOUR STEREO SYSTEM WITH HENRY'S STAFF - THREE FULLY EQUIPPED DEMONSTRATION ROOMS AND LARGE STOCK ENSURE YOUR SATISFACTION.

ALWAYS BARGAINS FOR CALLERS - PAY A VISIT

### TAPE RECORDERS AND REPLAY MACHINES, TAPES, CASSETTES AND ACCESSORIES

BATTERY & BATTERY/MAINS PORTABLE CASSETTE RECORDERS. (Post 35p) Complete with microphone, batteries and tape

£ 21.65 £ 16.45

ALL AT SPECIAL PRICES BRAND NEW, FULLY GUARANTEED HP AVAILABLE, ANY PURCHASE OVER £60 (Callers only)

STEREO TAPE MACHINES (Carr.etc. 75p)           [For use with existing equipment]           AKAI 4000D         4 track         £ 66.90           TANDBERG 3000X (3041½)         4 "         £ 93.95           TANDBERG 6000X         4 "         £ 180.00           REVOX 1104         4 "         12100000000000000000000000000000000000	PHILIPS N2202         £         21.65           ELIZABETHAN LZ216         Battery Cassette         £         16.45           PHILIPS L3302         HANIMEX HC1000         £         15.50           CROWN CTR 8750         CROWN CTR320W         Battery Cassette         £         23.00           STANDARD T119         PHILIPS N2204         Portable         £         28.40           PHILIPS N2205 (Pye 9115)         Recorders         £         33.65           PANIMEX HC2000         £         17.70
STEREO TAPE RECORDERS (Post 75p)         £ 62.50           AKAI 1720L 4 track 4+4 watts         £ 62.50           PHILIPS N4404 4 track 212+212 watts         £ 71.00           FERROGRAPH 722 724 2 & 4 track Prices on	TELETON TC110 Mains Battery upright cassette record play £ 19.25 TELETON TCR130 As above, built in MW-FM Radio £ 28.75 STANDARD T183FL Cassette Recorder
REVOX 1124 10+10 watt 4 " ∫application REVOX Dust Cover REVOX Remote Control 4 track 10+10 watts £ 11.55 TANDBERG 4041X £165.00	Battery Mains, plus MW LW FM Radio £ 36.75 ELIZABETHAN LZ416 Cassette Recorder Battery Mains, plus MW LW FM Radio £ 33.95 HANIMEX Batt. Mains, radio cassette rec. £ 33.95
MONO TAPE RECORDERS (Post 75p)           PHILIPS N4307         4 track         212 watts         £ 37.50           PHILIPS N4308         4 " de luxe 212 " £ 47.50	PHILIPS N2000 Portable battery operated cassette player £ 10.50 CASSETTE & 8 TRACK CARTRIDGE TAPE MACHINES *N2503 Stereo Cassette R P Deck Philips £ 44.25
CAR STEREO MACHINES (Post 50p) ELPICO CSTB00A 8 track with speakers £ 24.97 EAGLE CSB 8 " " E 22.50 PIONEER TP83 8 track car player stereo £ 32.50 PIONEER TP83 with speakers £ 37.00 PHILIPS N2607-97 Cassette Car Player	*TOSHIBA KT403D * 57.70 *LER-JET 8 track stereo play H310 £ 31.95 WHARFEDALE DOLBY Stereo Recorder Cas. £ 89.95 *PIONEER H32 8 track play stereo £ 46.20 * METROSOUND 448 8 track player stereo £ 43.35
Stereo with speakers £ 35.00 Radiomobile 301CS Car Stereo Cassette Player with Speakers £ 41.00 LEAR-JET MODEL 277	<ul> <li>PHILIPS N2400 (Pye 9116) Cassette record play stereo £ 56.30</li> <li>*AKAI CRBOD &amp; track record play 54 watts £ 80.80</li> <li>* CRBO &amp; track record play 646 watts £ 80.80</li> </ul>
CASSETTE 8 TRACK EQUIPMENT AVAILABLE AT	AKAI CS50D Cassette deck £ 80,80 +AKAI CS50 Cassette recorder 8+8 watts £ 96,20 'AKAI GXC40D Cassette Deck £ 69,95 AKAI GXC40 Cassette Recorder £ 87,50 CR80 CS50 or GXC40 with sperakurs (view £23) Add £5 to price
SCOTCH DYNARANGE TAPES SAVE UP TO 30%	FOR USE WITH EXISTING AMPLIFIER ETC. FOR USE WITH EXISTING AMP. OR JUST A PAIR OF SPEAKERS. VE UP TO 30% LOW NOISE ea. 3 or more 0.98 0.94 ea. 5" 900' LP 1.48 1.39 ea.
5" 600' SP 0.04 0.00 op 5%" 900' SP	1.33 1.28 " 5 <sup>3</sup> 4" 1200' LP 1.75 1.63 "

SCOTCH DYNARANGE TAPES	BASE TAPES SAVE UP TO 30%	LOW NOISE
SAVE UP TO 30%           ea.         3 or more           5"         600' SP         0.94         0.90 ea.           5a"         900' SP         1.24         1.15         "           7"         1200' SP         1.24         1.16         "           5a"         900' LP         1.24         1.10         "           5a"         1200' LP         1.50         1.43         "           7"         1800' LP         2.18         1.99         "           5a         1200' DP         1.75         1.65         "           5a         1200' DP         1.75         1.65         "	ea.         3 or more           5"         600' SP         0.98         0.94 ea.           54,"         900' SP         1.33         1.28 "           7"         1200' SP         1.49         1.41 "           5"         900' LP         1.33         1.28 "           7"         1200' SP         1.33         1.28 "           5"         900' LP         1.45         1.41 "           7"         1800' LP         2.25         2.10 "           5"         1400' DP         2.25         2.10 "           5"         1800' DP         2.25         2.10 "           7"         1800' DP         2.25         2.10 "	<ul> <li>a. 3 or more</li> <li>b. 3 or more</li> <li>b. 48</li> <li>b. 39 ea.</li> <li>b. 48</li> <li>b. 48</li> <li>c. 139 ea.</li> <li>b. 48</li> <li>c. 139 ea.</li> <li>c. 148</li> <li>c. 139 ea.</li> <li>c. 148</li> <li>c. 148</li> <li>c. 139 ea.</li> <li>c. 148</li> <lic. 148<="" li=""> <lic. 148<="" li=""> <lic. 14<="" td=""></lic.></lic.></lic.></ul>
7" 2400' DP 3.25 3.00 "	Tapes (Tetal post & packing per end in) 15p. per ini reel 20p. per 3–5 r. el 25p. per 6 to 10 re. 1s.	80 min blank tape £1.80 Head cleaning cartridge £1.67 Capstan ' £1.67

#### SCOTCH - PHILIPS - BASF - MAXWELL CASSETTES SAVE UP TO 33<sup>1</sup>/<sub>3</sub>rd !! Pest and packing: 150 total per 1-6 case attes 2 point 7 a si tti MAXELL 1 C 60 42p each 38p each (6 or more) SCOTCH C 60 9.77 each 0.69 each (6 or more)

MASTERTAPE C 90 ELIZABETHAN C120				0.74 " 0.98 " " "
TDK PROFESSIONAL	PHILIPS C 60	().68 each	0.63 each (6 or more)	BASE CHROMIUM DIOXIDE
SDC60 0.98 SDC90 1.32	C 90 C120	0.98 "	0.88	C90 £1.75 C120 £2.25

TAPE ACCESSORIES POST AND PACKING: 150 total par 1 to 5 items, 20p per 6 to 12 items;

Leader Tap Splicing Set 7" Spools (boxed)	0.25 "	20 Tape splicer 24 Cassette Editing Kit 23 Tape J Head Cleaning Kit 30 Cassette Case Cassette cleaning Tape	1.45 1.35 0.49 1.20	EMI-Tape E	der Tape diting Tape plicing block ssette Head Cleaner 3) Head Demagnitisei	0.10 0.37 0.53 0.85
BATTERY/MAINS TV ELIZABETHAN 12'' TW - 12 - LZ	WITH PORTABL	BATTERY MAINS TV UHF E AERIAL ETC. BRAND N NTEED. (Recommended Price PRICE £52.50 Carr	EW. #£75) .£1.	Bulk Tape E Spool Retain	gnetiser AH6 raser ner	3.50 13.75 0.20 0.30
ELIZABETHAN 14" FI	4 14" Version o	of above. PRICE £58.75 C	arr.£1.			
MARCONI 4805	MAINS PORTAB	BLE 12" PUSH-BUTTON UP PRICE £49.50 Carr				
CAR RADIOS	ELPICO CR606	plus Speaker Baffle etc.	MW LW (Rec.	Price £15)	PRICE £12.95	post 50p
AERIALS (Post 20p)	ELPICO CR600	и и и и	нин	H 13	PRICE £21,50	post 50p
<ul> <li>(A) 3 section wing 0.97</li> <li>(8) Wing, dissappearing 1.50</li> </ul>	BC12 1 Amp Tr	rickle Charger £1.59, B2	10 4 amp cha	arger £3.50 pc	ost30p	
(C) Electric modul 5.97	ALL EQUIPM	ENT BRAND NEW WIT	H FULL GL	JARANTEE	- SAVE UP	TO 40%

# SAVE up to - 40<sup>°</sup>/<sub>recom-</sub>

			_			and the second		_
Most A for Ster	mpli eo⊦	fiers lead	s and phones	Tuner 5 – see	Ampli separ	fiers ha	ave pr	ovision r range.
AMPLI								
		3-1	5 OHM	SPEAK	ERS UI	MODELS	TATEC	
						ag. Cert		
,								
LEAK								
DELTA	30	Amp	lifier "	15+15 35+35	watt	Cased Cased		£49.97 £62.95
DELTA DELTA DELTA	75	Tune	er/Amp	MW/F	M ster	eo Casi	ed £	133.95
DELTA	FM :	Stere /FM :	eo Tun Stereo	er Tuner		Cased Cased		£60,50 £71.25
DELIN								
<b>ROTA</b> "1500"		54 F	watt	Stereo	amplif	ier Ca	ased	£15.50
"2200"	1	0+10	watt	"		Ca	sed	£21.80
ARMST		c						
521 Ste	ereo	Amp	lifier	25+25	watts			£46.75
523 MW 524 FM	//LW	FM						£43.95 £34.95
525 FM	Ste	reo	Amplif	ier 25+2	25 wat	ts		£75.75
526 AN	⁄/FN	1 Ste	reo Ar	nplifier 526, 52	25+25	watts		1,85.75
100 00	COUR	51 10	525,	520, 52		,	I, O	pp.15p
TELETO	DN (	48	ohm s	peakers	5)			
SAQ20	6 S	tere	o Amp	Stereo	watts Amntif	ier		£18.50 £39.75
F2100	AM	Stere	eo FM	Stereo.	Amplif	ier		£37.50
R4300L	. MW	LW	Stered	Stereo	ereo A	mplifier		£42.00 £28.75
TSF50	MW,	Ster	eo FM	Amplifi	er 15	+15 ier 15+		£56.00
TSF50L	A N	W/L	W Ster	eo FM / /Stereo	Amplif	ier 15+	15	£62.50 £92.50
Choo .	2.5.2			/ gloree	1 (4)			402.00
CAMBR	UDG	F AL	IDIO			P	10	£65.00
CAMBR	IDG	EAU	JDIO			P	50	£65.00 £72.50
WHAR	FED	ALE				Р Р1	50 00	£72.50 £117.50
WHAR 100.1	FED	ALE Ster	eo FM			P : P1: 85+35 w	50 00 atts	£72.50 £117.50 £89.95
WHAR 100.1 Linton	FED AM/ Ste	ALE Ster	eo FM			Р Р1	50 00 atts	£72.50 £117.50
WHAR 100.1 Linton	FED AM Ste	ALE Ster	eo FM Amplif	ier 15+	15 wa	P P1 85+35 w tts cas	50 00 atts	£72.50 £117.50 £89.95 £47.95
WHAR 100.1 Linton ROTEL RA210 RA310	FED AM/ Ste	ALE Ster reo 8+8 15+	eo FM Amplif watts 15 wat	stereo	15 wa amplii eo amp	P P1i 85⊦35 w tts cas ier ilifier	50 00 atts	£72.50 £117.50 £89.95 £47.95 £25.95 £33.50
WHAR 100.1 Linton ROTEL RA210 RA310 RT 320	FED AM/ Ste	ALE Ster reo 8+8 15+ MW	eo FM Amplif watts 15 wat FM St	stereo ts stereo ereo FM	15 wa ampli o amp	P P1i 85⊧35 w tts cas ier ilifier	50 00 atts sed	£72.50 £117.50 £89.95 £47.95 £25.95 £33.50 £42.95 £52.95
WH AR 100.1 Linton RO TEL RA210 RA310 RT 320 RA610 RX150	FED AM Ste	8+8 15+ MW 30+3	watts watts 15 wat FM Sto 30 watts	stereo its stereo ereo FM it Stereo MW FM	15 wa amplit eo amp Tuner o ampl stere	P P10 35⊧35 w tts cas ier olifier ifier otuner	atts sed	£72.50 £117.50 £89.95 £47.95 £25.95 £33.50 £42.95 £52.95 £59.50
WH AR 100.1 Linton RO TEL RA210 RA310 RT 320 RA610 RX150 RX150	FED AM Ste	8+8 15+ MW 30+3 8+8 10+	eo FM Amplif vatts 15 wat FM Sto 30 wat watts 10 wat	stereo stereo ereo FM t Stereo MW FM t MW F	15 wa amplit o ampl Tunei o ampl I stere M ster	P P10 35⊧35 w tts cas lifier ifier otuner eotuner	atts sed amp	£72.50 £117.50 £89.95 £47.95 £25.95 £33.50 £42.95 £59.50 £69.50
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WH AR 100.1 Linton RO TEL RA210 RA310 RT 320 RA610 RX150 RX150	FED AM Ste	8+8 15+ MW 30+: 8+8 10+ 20+: 451 251	eo FM Amplif watts 15 wat FM Sta 30 wat watts 10 wat 20 wat Ampli Contr	stereo ereo FM MW FM t Stereo MW FM t MW F t MW F ifier ol Unit	15 wa amplit o ampl Tunei o ampl I stere M ster	P P10 35⊧35 w tts cas lifier ifier otuner eotuner	atts sed amp amp. amp.	£72.50 £117.50 £89.95 £47.95 £25.95 £33.50 £42.95 £52.95 £59.50 £69.50 £79.50 .60 pair
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LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Cased mk.II " " Amp. 15+15 watts Chass	£65.00 £43.00 £43.00 £39.50 is £36.60 £39.50 is £34.95
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Cased mk.II " " Amp. 15+15 watts Chass	£65.00 £43.00 £43.00 £39.50 is £36.60 £39.50 is £34.95
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass "FM Tuner Chass mk.II" "Amp. 15+15 watts Chass mk.II" "15+15 watts Chass mk.II" "25+25 watts Chass	£65.00 £43.00 £43.00 £39.50 is £36.60 £39.50 is £34.95 £38.95 is £45.95
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass mk.II " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Chass " " 25+25 watts Chass " " " " " Chass " " " " " Chass " " " " " " Chass " " " " " " " " " " " " " " " " " " "	£65.00 £43.00 £43.00 £39.50 is £34.95 £38.95 is £45.95 is £45.95 is £50.00
LW, NW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 25+25 watts Cased Ravensbourne " 25+25 watts Cased " EM Tuner Series II Stereo Cased " FM Tuner Series II Stereo Cased	£65.00 £43.00 £43.00 £39.50 is £36.60 £39.50 is £34.95 £38.95 £49.50 is £45.95 £49.50 is £50.00 £55.97
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass mk.II " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 25+25 watts Cased Ravensbourne " " 25+25 watts Cased " " " 25+25 watts Cased " FM Tuner Series II Stereo Chass " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2	£65.00 £43.00 £43.00 £39.50 is £36.60 £39.50 is £34.95 £38.95 £49.50 is £45.95 £49.50 is £50.00 £55.97
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass mk.II " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 25+25 watts Cased Ravensbourne " 25+25 watts Cased " " 25+25 watts Cased " FM Tuner Series II Stereo Cased " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STERD AMPLIFIER, TWIN SPEAKER SYSTEMS) TURNTABLE "CARTRIDGE etc. ALL WATCHING.)	£65.00 £43.00 £43.00 £43.00 is £36.60 £39.50 is £34.95 £38.95 £49.50 is £45.95 £49.50 is £50.00 £55.97
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass mk.II " " FM Tuner Chass mk.II " " Amp. 15+15 watts Chass mk.II " " 25+25 watts Cased Ravensbourne " 25+25 watts Cased " " 25+25 watts Cased " FM Tuner Series II Stereo Chass " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STERD AMPLIFIER, TWIN SPEAKER SYSTEMS) TURNTABLE "CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Matroscoud 10-10 Storeo Amplifier	£65.00 £43.00 £43.00 is £36.60 £39.50 is £34.95 £38.95 £49.50 is £44.50 £50.00 £55.97
LW, NW, SW Tuner European MW, SW SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Cased " FM Tuner Series II Stereo Chass " COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE 'CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier	£65.00 £43.00 £43.00 is £36.60 is £34.95 £39.50 is £44.95 £49.50 is £55.97 t5) £57.75 £62.50
LW, NW, SW Tuner European MW, SW SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II" " 25+25 watts Chase " Th Tuner Series II Stereo Chass " FM Tuner Series II Stereo Chass " COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10–10 Stereo Amplifier Teleton 25605 KMW FM Stereo Tuner Amplifier	£65.00 £43.00 £43.00 £3.00 £3.950 \$239.50 \$239.50 \$239.50 \$239.50 \$239.50 \$239.50 \$239.50 \$239.50 \$249.50 \$25.97 \$5\$ \$257.75 £62.50
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Cased " FM Tuner Series II Stereo Chass " COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE"CARTRIOCE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier	£65.00 £43.00 £43.00 £43.00 £39.50 is £34.95 £38.95 £45.95 £45.95 £49.50 £55.97 £5 £57.75 £62.50 £43.50 £53.00
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " Amp. 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 25+25 watts Chase " TUNER Series II Stereo Chass " FM Tuner Series II Stereo Cased " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNITABLE CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier Teleton 25605 KMW FM Stereo Tuner Amplifier STEREO SYSTEMS See later section for complete range of Stereo	£65.00 £43.00 £43.00 £43.00 £39.50 is £34.95 £38.95 £45.95 £45.95 £49.50 £55.97 £5 £57.75 £62.50 £43.50 £53.00
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " Amp. 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 25+25 watts Chase " TUNER Series II Stereo Chass " FM Tuner Series II Stereo Cased " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNITABLE CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier Teleton 25605 KMW FM Stereo Tuner Amplifier STEREO SYSTEMS See later section for complete range of Stereo	£65.00 £43.00 £43.00 £43.00 £39.50 is £34.95 £38.95 £45.95 £45.95 £49.50 £55.97 £5 £57.75 £62.50 £43.50 £53.00
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Cased " 25+25 watts Cased " FM Tuner Series II Stereo Chass " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER. TWIN SPEAKER SYSTEMS. TURNTABLE"CARRIOGE etc. ALL MATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier STEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops)	£65.00 £43.00 £43.00 £43.00 £39.50 is £34.95 £38.95 £45.95 £45.95 £49.50 £55.97 £5 £57.75 £62.50 £43.50 £53.00
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " Amp. 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 15+15 watts Chass mk.II" " 25+25 watts Chase " TUNER Series II Stereo Chass " FM Tuner Series II Stereo Cased " FM Tuner Series II Stereo Cased COMPLETE COMPACT SYSTEMS (Carriage £1.2 (STEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNITABLE CARTRIOGE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier Teleton 25605 KMW FM Stereo Tuner Amplifier STEREO SYSTEMS See later section for complete range of Stereo	£65.00 £43.00 £43.00 £39.50 is £34.95 £38.95 is £44.95 £49.50 £50.00 £55.97 5) £57.75 £62.50 £43.50 £53.00 \$\$ystems
LW, NW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Chass " TM Tuner Series II Stereo Chass " FM Tuner Series II Stereo Chass " TM Tuner Series II Stereo Chass " FM Tuner Series II Stereo Chass " Stereo Amplifier Metrosound 10–10 Stereo Amplifier Wyndsor 1550S Stereo Amplifier Teleton 2560F MW FM Stereo Tuner Amplifier STEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x 230, 1 x Stereo 60 Preamp 1 x P25 Power Supply (post 35p	£65.00 £43.00 £43.00 £39.50 is £34.95 £38.95 is £44.95 £49.50 £50.00 £55.97 5) £57.75 £62.50 £43.50 £53.00 \$\$ystems
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II" " " 15+15 watts Chass mk.II" " " 15+15 watts Chass mk.II" " " 25+25 watts Chass " FM Tuner Series II Stereo Chass " Stereo Amplifier Metrosound 10–10 Stereo Amplifier Metrosound 10–10 Stereo Amplifier StEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x Z30, 1 x Stereo 60 Preamp., 1 x PZ5 Power Supply (post 35f SP2 or with PZ6 Power Supply (post 35f	£65.00 £43.00 £43.00 is £36.60 is £34.95 £38.95 £44.95 £55.97 (5) £57.75 £62.50 £43.50 £53.00 \$\$ystems \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
LW, NW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Chass " FM Tuner Series II Stereo Chass " Stereo Amplifier Metrosound 10–10 Stereo Amplifier Metrosound 10–10 Stereo Amplifier StEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x 230, 1 x Stereo 60 Preamp., 1 x P25 Power Supply (post 355 SP2 or with P26 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 60 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 60 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 60 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 60 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP3 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP4 Power Supply (post 355 SP5 2 x 250, 1 x Stereo 50 Preamp., 1 x P28 Power Supply (post 355 SP4 Power Supply (post 355 SP5 Power Supply (power Supply (post 355 SP5 Power Supply (power Supply (power 355 SP5 Power Supply (power 355 SP5 Power Supply (power 355	£65.00 £43.00 £43.00 £39.50 is £34.95 £38.95 is £44.95 £50.00 £55.97 £5) £57.75 £62.50 £43.50 £53.00 • Systems
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " FM Tuner Cased mk.II " Amp. 15+15 watts Chass mk.II" " T5+15 watts Chass mk.II" " T5+15 watts Chass mk.II" " T5+15 watts Chass mk.II" " " T5+25 watts Chass mk.II" " " T5+25 watts Chass " FM Tuner Series II Stereo Chass Stereo Systems See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x Z30, 1 x Stereo 60 Preamp. 1 x PZ5 Power Supply (post 35; SP2 or with PZ6 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 10 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 10 Preamp. 1 x PZ8 Power Supply (post 35; PROJECT 605	£65.00 £43.00 £43.00 is £36.60 is £34.95 £38.95 £44.95 £55.97 (5) £57.75 £62.50 £43.50 £53.00 \$\$ystems \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " T5+15 watts Chass mk.II " " 25+25 watts Chass " FM Tuner Series II Stereo Chass " Stereo Amplifier Nerosound 10–10 Stereo Amplifier Wyndsor 1550S Stereo Amplifier Stereo SySTEMS Sea later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x Z30, 1 x Stereo 60 Preamp. 1 x PZ5 Power Supply (post 35; SP2 or with PZ6 Power Supply (post 35; SP2 or with PZ6 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP3 2 x Z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 35; SP4 y but with extra Harness Unit,	£65.00 £43.00 £43.00 £43.00 is £36.60 £39.50 is £34.95 £49.50 is £44.50 £55.97 £5) £57.75 £62.50 £43.50 £53.00 <b>5</b> Systems
LW, MW, SW Tuner European MW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II" " " 15+15 watts Chass mk.II" " " 15+15 watts Chass mk.II" " " 25+25 watts Chass " FM Tuner Series II Stereo Chass " STREO AMPLIFIER TWIN SPEAKER SYSTEMS COMPLETE COMPACT SYSTEMS (Carriage £1.2 ISTEREO AMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE" CARTRIOCE etc. ALL WATCHING.) Decca 603 Stereo Amplifier Wyndsor 1550S Stereo Amplifier Teleton 2560F MW FM Stereo Tuner Amplifier STEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x 230, 1 x Stereo 60 Preamp. 1 x P25 Power Supply (post 35; SP2 or with P26 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP4 2 x 250, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP5 2 x 250, 1 x Stereo 60	£65.00 £43.00 £43.00 £43.00 is £36.60 £39.50 is £34.95 £49.50 is £44.50 £55.97 £5) £57.75 £62.50 £43.50 £53.00 <b>5</b> Systems
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Cased " Tuner Series II Stereo Chass " FM Tuner Series II Stereo Chass " Stereo AMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE-CARRIOGE etc. ALL MATCHING.] Decca 603 Stereo Amplifier Metrosound 10-10 Stereo Amplifier Metrosound 10-10 Stereo Amplifier Stereo SySTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x 230, 1 x Stereo 60 Preamp. 1 x PZ5 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ5 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP3 2 x z50, 1 x Stereo 50 Preamp. 1 x PZ8 Power Supply (post 355 SP4 power Supply	£65.00 £43.00 £43.00 £39.50 is £34.95 £39.50 is £34.95 £49.50 is £49.50 £50.00 £55.97 £5) £57.75 £62.50 £43.50 £53.00 <b>5 y stems</b>
LW, NW, SW Tuner European NW, SW, SW Tuner Overseas ROGERS Ravensbrook Stereo FM Tuner Chass " " FM Tuner Cased mk.II " " Amp. 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 15+15 watts Chass mk.II " " 25+25 watts Chass " FM Tuner Series II Stereo Chass " Stereo AmpLifier, TWIN SPEAKER SYSTEMS TURNTABLE CAMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE CAMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE CAMPLIFIER, TWIN SPEAKER SYSTEMS TURNTABLE CAMPLIFIER, TWIN SPEAKER SYSTEMS STREEO SYSTEMS See later section for stereo Amplifier STEREO SYSTEMS See later section for complete range of Stereo SINCLAIR PROJECT 60 PACKAGE DEALS (Available from 356 and 303 Shops) SP1 2 x 230, 1 x Stereo 60 Preamp. 1 x P25 Power Supply (post 35; SP2 or with P26 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x P28 Power Supply (post 35; SP3 2 x z50, 1 x Stereo 60 Preamp. 1 x p28 Power Supply (post 35; SP4 2 x z50, 1 x Stereo 60 Preamp. 1 x p28 Power Supply (post 35; SP5 2 x z50, 1 x Stereo 60 Preamp. 1 x p28 Power Supply (post 35; SP4 2 x z50, 1 x Stereo 60	£65.00 £43.00 £43.00 £39.50 is £34.95 £39.50 is £44.50 £50.00 £55.97 55) £57.75 £62.50 £43.50 £53.00 <b>5 Systems</b>

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#### SPEAKER CABINETS

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TEAK FINISH Fabric Fronts	lined. All have provision for optional tweeter. Types B1
Type 8 '13. For 13½ x 8½ (type 150 or 450)	and C1 also have provision for a 4", 5" or 6" x 4" mid
plus baffle for single 8" £ 4.50 pp.30p	range speaker.
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*Model 108, Any 8" or 10"	TEAK 12" CABINETS
21%" x 11½" x 9½" £ 8.50 pp.40p	RTC12 21" x 15" x 8" 6.75 pp.40p
*Provision for optional Tweeter(s). Supplied with lining materials.	HR12 Heavy duty 24" x 15" x 9" 8.50 pp.40p
COMPLETE RANGE OF SPEAKERS IN CABINETS FOR A	UDIO. HIGH FIDELITY AND FOR PA/DISCOTHEQUE
USE UP TO TOO WATTS	See fellowing pages

USE UP TO 100 WATTS. See following pages. EOUIPMENT CABINETS Your enquiries invited. Record Housing, Polished Wood Cabinets to house decks, amplifiers, tuners, tape machines available.

## CHASSIS SPEAKERS/TWEETERS/CROSSOVERS/SPEAKER KITS - ALL AT 'HENRY'S' SPECIAL PRICES!

Power rating is R is (Couble for Peak or USA rating). All Speaker types Full Ringe unless PA (Public Address POST ANO PACKING FXTEA Up to and including 8" 25p, 10" 325p, 12" 421sp, 15" 50p, 18" 75p — UK ONLY (Unservice) (Creating Constructions and Constructions an

(Tweeters/Crossovers	etc. 12%p sepa	irately or post paid with speakers or other equipment). Specify
FANE (8 to 16 ohms)		GOODMANS (Available for 8 or 15 ohms) Bass or PA
Pop 15 15 watt 12" Twin cone	4.30 .	Axiette 8 8" 6 watt 6,95
Pop 25/2 (Replaces Pop 30) 25 watt 12"	6.50	Twinaxiette 8 8" 6 watt 7.95
Pop 50 50 watt	9.20	Axiom 10 10" 10 watt 8,95
Pop 60 60 watt	10.95	Twin Axiom 10 9.50
Pop 100 100 watt	18.50	Axiom 201 12" 15 watt 11.95
122/17TC 12" 50 watt twin cone	15.00	Axiom 301 12" 20 watt 16,50
183G 18" 100 watt Bass	30.00	Audiom 51 12" 15 watt Bass or PA* 9,95
Crescendo 12" 100 watt Full Range	25.00	Audiom 61 12" 20 watt Bass or PA* 13,95
Crescendo 15" 100 watt Full Range	32.00	Audiom 100 9,25
		Axcent 100 Tweeter 4,95
EAGLE (8 ohms)	3.62	Midax 650 Mid range unit 25 watt 11.25
FR.4 4" 5 watt		XO 5000 Crossover 5000 c/s 2.25
FR.65 6½" 10 watt	5.62	XO 950 Crossover 950 c/s 6.25
FR.8 8" 15 watt	6.62	XO 950/5000 950 c/s and 5000 c/s 7.95
CT.5 Tweeter 3½ watt	0.90	ARU 172 4.25
CT.10 Tweeter 10 watt	1.50	Type 8P 8" 15 watt 5.20
HT.15 Tweeter 15 watt	2.45	Type 10P 10" 15 watt 5,95
MHT.10 Tweeter 15 watt	2.62	Type 12P 12" 50 watt 10.95
CN23 3 ohm CN28 8 ohm CN216 15 ohm X/Over'	s 0.80ea.	Type 15P 15" 50 watt 16.95
WB-STENTORIAN		Type 18P 18" 100 watt 27.95
HF.816 8" 6 watt	8.87	
HF,1016 10" 10 watt 3, 7, 5 and	10.25	
HF.812 8" 6 watt 15 ohms	5.25	KEF
HF.012 0 0 Watt 15 0 mil	5.25	KK2 Kit (Concord) 15 watt 21.50
T359 31/2" Tweeter 15 watts		KK3 Kit (Concerto) 31.87
3/5 or 15 ohms available	2.25	T15 Mk.2 H.F. Unit 6 watts 6.00
CX3000 Crossover 3000 c/s	2.15	T27 H unit 8 ohms 25 watt 5,00
CX1500 Crossover 1500 c/s	2.70	B.110 LF/Med Unit 8.62
CX1000 Crossover 1000 c/s	2.70	B.139 Mk.2 LF Unit 11.50
CX500 Crossover 500 c/s	1.85	B200 8.50
CX500 Crossover 500 C/S	C0.1	DN.8 C/over 1 Kc/s 1.75
ADASTRA (8 ohms)		DN.9 C/over 4 Kc/s 1.50
HiTen 10" 10 watt	2.62	DN.12 C/over 300 c/s and 4 Kc/s 4.50
Top Twenty 12" 25 watt	5.75	DN.13 C/over 3500 c/s 2.40
K4004 X/Over and Tweeter Control	1.12	EMI
K2006 Tweeter 10 watt	1.25	13½ x 8½" 6 watts 3,8 or 15 ohms Type 150 2,12
WHARFEDALE		Twin cone version 3.8 and 15 ohms " 150TC 2.75
8" Bronze RSDD ) State 5 watt 8"	4.35	10 watt version with tweeters
	7.25	Set 450 3.8 and 15 ohms 3,50 ea
		20 watt version with tweeter
Super 10 RSDD Johms 10 watt 10"	13.40	Set 350 8 and 15 ohms 7.50 ea
Unit 3 8" system 15 watt 4-8 ohms	9.70	21/2" 6/8 watt 8 ohm Tweeter 0.75
Unit 4 12" system 25 watt 4-8 ohms	12.50	3" 10/20 watt Tweeters 3 to 8 ohms 0.98
Unit 5 12" system 35 watt 4-8 ohms	18.50	
PEERLESS (Contain multiple speakers, c/overs)	atc.)	
PECKLESS (Contain multiple speakers, Crovers)	5.98	1,25
2-8 10 watt 62 system 8 ohms	11.25	SINCLAIR 2000 3/8 ohms 10 watts 11.50
20-2 30 Watt 8	11.50	Q16 4/8 ohms 14 watts 8.50
315 15 watt 8	16.75	TANNOY Monitor Gold 12" 30.00
20-3 40 Wall 6	22.75	" " 15" 36.00
4-30/12 40 watt 12" " "	22.10	15 36.00

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FOR ALL TYPES OF AMPLIFIER, TUNER/AMPLIFIER & TAPE RECORDER POLISHED WOOD FINISHES ALL CONTAIN MULTIPLE. SPEAKER SYSTEMS

8 Bookshelf, pp.50p (85p pair) F=Floorstanding, large, pp.90p (£1.60 pair) (M)(8) & (M) Med., pp.80p (£1.30 pair)

MAKERS NAME AND REFERENCE	POWER HANDLING (Watts)	IMPEDANCE (Ohms)	SIZE (Inches or cms)	FINISH	HENRY'S PRIC
SDL1 Recommended (	) Up to 15	8	15 x 10½ x 7 ins	Teak	19.95 pair
SDL2 for quality (B	Up to 15	8	18 x 10½ x 7 "	Teak	23.95 pair
SDL3 and value. (N	) Up to 20	8	21 × 15 × 101/4 "	Teak	39.50 pair
KEF CRESTA II (E	15	4 - 8	13 × 9 × 7 "	Teak/Walnut (white")	39.50 pair
KEF CELESTE II (M) (E	20	8	18 × 10¼ × 6½ "	Teak/Walnut	46.50 pair
KEF CHORALE (M) (E	20	8	18½ × 11 × 8½ "	Teak/Walnut (white*)	57.50 pair
KEF CADENZA (F		8	24 × 14 × 12 "	Teak/Walnut (white*)	67.50 pair
KEF CONCERTO (F	25	4 - 8	28 x 17 x 12 "	Teak/Walnut (white*)	44.95 EACH
DYNACO A25 (A	0				75.00 pair
GOODMANS DOUBLE MAXI	30	4	17¾ × 6¾ × 7½ "	Teak	26.20 EACH
" MAXIM (white	) 30	4	17¾ x 6¾ x 7½	White	28.55 EACH
" HAVANT	20	4	18% × 10½ × 10½ "	Teak	44.00 EACH
" (white	) 20	4	18% x 10% x 10% "	White	49.15 EACH
GOODMANS MINISTER (M) (	20	4 - 8	19 × 10½ × 10	Teak	36.95 pair
MEZZO III(M)(E	·	4 - 8	19% x 12% x 9% "	Teak or Walnut	49.95 pair
" MAGNUM K2 (F		4 - 8	24 x 15 x 11 <sup>3</sup> / <sub>4</sub> "	0 11 0	59.95 pair
" MAGISTER (F		4 - 8	27 × 20 × 14% "	и <mark>н</mark> и и	39.95 EACH
" DIMENSION 8	60	4	30 <sup>3</sup> / <sub>4</sub> × 14 × 12 <sup>1</sup> / <sub>2</sub> "	Teak	48.30 EACH
" " 8 (white		4	30½ × 14 × 12½ "	White	52.50 EAC
WHARFEDALE DENTON 2 (E		4 - 8	35.5 x 24.6 x 22.2 cm	Teak or Walnut	31.50 pair
" LINTON 2 (M)(B		4 - 8	48.2×25.2×24 cm	0 11 11	39.50 pair
" TRITON 3 (M)(B		4 - 8	55.5 × 24.8 × 22.8 cm	u n u	53.95 pair
" MELTON 2 (M		4 - 8	53.5 × 37 × 26 cm		51,90 pair
" DOVEDALE 3 (F		4 - 8	61 x 35.6 x 28.7 cm	u in u	33.40 EACI
" ROSEDALE (F		4 - 8	60 x 58.5 x 34.5 cm	91 <b>19</b> 19	48.50 EAC
LEAK 600 (F	· • •	4 - 0	26 x 15 x 11% ins	Teak	73.00 pair
" 150 (E		8	40 x 25 x 22 cm	I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	38.95 pair
" 250 (M)(B		8	50 × 28 × 25 "		51.95 pair
	25	8	411/2 x 171/4 x 13 ins	"	87.50 EAC
" " R40 mk.II (F		8	31 × 13 × 13 "		59.50 EAC
B & W DM3 (M)(B		8	28½ x 15¾ x 11½ "	Walnut or White	51.50 EAC
B&W Model 70 (F		8	32 x 32 x 15 "	Teak or Walnut	115.00 EAC
TANNOY 12 (F		8	331/2 × 21 1/2 × 12 1/2 "	Teak	52.00 EACH
LANCASTER 15 (F	·	8	331/2 × 211/2 × 121/2 "	Teak	57.00 EACH
YORK 15 (F	·	8	5577 × 2172 × 1272	13	76.00 EACI
III LZ TANNOY (F		8	15 x 15% x 9% "	11	75.00 EAC
	·	-	10 4 10/4 4 0/4		
IMF COMPACT (E	·	8	10/2 × 10/2 × 10		62.00 pair
MF STUDIO EXPORT (F		4 - 8	00// 4 14 4 15	Teak or Walnut	74.00 EAC
IMF MONITOR DOM. (F		4 - 8	41 × 17½ × 20 "	90 90 90 10 90 91	100.00 EAC
IMF " EXPORT (F		4 - 8	41 x 17½ x 20 "		115.00 EAC
MORDAUNT SHORT MS077 (E	) 12 - 15	8	15% × 9½ × 8 "		63.00 pair
" " MS400 (M)(B	20 - 25	8	27 x 15 x 9 "	о о н	51.00 EAC
" SHORT MS700 (F		8	33 × 17 × 12 "	0 0 B	71.00 EAC
CELESTION 120 (E		4 - 8	17 × 7¾ × 8¾ "	Teak	44.95 pair
" 15 (M) (E		4 - 8	21 × 9½ × 9¼ "	"	63,95 pair
" 25 (F		4 - 8	32 × 11 × 11 "		51.50 EAC
QUAD ELECTROSTATIC (F	, ,	8	31 × 34½ × 10½ "	Gold/Metal	66.00 EAC
CELESTION 10 II (E		4 - 8	12 % x 6 % x 8 % "	Teak	37.50 pair
		4-8	30 × 14½ × 10 "	ieak	
" 44 (F TELETON SA125 (E		4-8	91/2 × 61/4 × 33/4	Walnut	42.50 EACI
NOTE: SDL1 & SDL2 Sys		1 *		i ina mut	6.50 pair

E. & O.E. KEF SPEAKERS - Alternative white finish. WHITE FINISH, CRESTA II £45,50 pair. CONCERTO £51,97 each. CHORALE £64.00 pair. CAOENZA £73,00 pair.

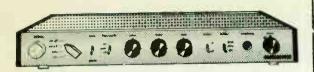
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SELECT A SPEAKER TO SUIT YOUR SIZE REQUIREMENT AND TO BE ABLE TO HANDLE THE POWER OUTPUT YOU ARE GOING TO USE. HENRY'S STAFF WILL ADVISE YOU AS TO SUITABILITY, PERFORMANCE AND YOUR PRICE REQUIRE-MENT - YOUR ENQUIRIES WELCOMED.

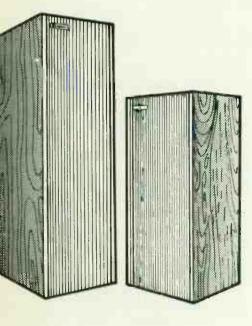
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## MANY OF THE ABOVE ARE ON PERMANENT DEMONSTRATION -CALL IN AND SEE FOR YOURSELF

## CAMBRIDGE AUDIO



P4015+15 watt stereo amplifierP5025+25 watt stereo amplifierP10050+50 watt stereo amplifier



R40Speaker systemR50Speaker system



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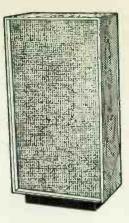
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## MORDAUNT SHORT

Technically and practically superb speaker systems.

#### MS077

Size: 15¾" x 9½" x 8", three speaker system. 15 watts speech and music. 8 ohms Impedance. Frequencyrange 40 20,000 Hz. Available in teak (walnut to order).



#### MS400

Size 27" x 15" x 9". Three speaker system. 25 watts speech and music. 8 ohms nominal impedance. Range: 35-25,000 Hz.



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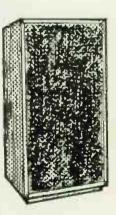
## IMF TRANSMISSION LINE SPEAKERS

IMF COMPACT New speaker  $16\frac{1}{2}$ " x  $10\frac{1}{2}$ " x  $10^{1}$ . x  $10^{1}$ . 15–30 watts. 8 ohms. Teak.

IMF STUDIO EXPORT

IMF MONITOR (DOMESTIC)

IMF MONITOR EXPORT



(LAST THREE AVAILABLE IN TEAK OR WALNUT)



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The Wonderful World of Stereo Sound MS RADIO

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Remember 12 months guarantee with all Stereo Systems

	A very p systems Garrard patible teak plu	popular system now with s. Teleton SAQ206B ste SP25 mk.III. Goldring magnetic cartridge, as nth and cover.	G800H com-
	System No. 1	SDL1 TWIN CONE SPEAKER SYSTEMS (B)	£54.95 Carr.£1
	System No.2	SDL2 TWIN CONE PLUS TWEETER SPEAKER SYSTEMS (E	£58.95 3) Carr.£1
Systems 1, 2 and 3	System No.2A	WHARFEDALE DENTON 2's (B)	£68.50 Carr.£1
	System No.3	SDL3 20 WATT PLUS 2-TWEETERS SYSTEM WITH THE EXTRA BASS SOUND (F)	;
	System No.3A	WHARFEDALE SUPER	R £76.50 Carr.£1.50
	System No.01	SAQ206 + HL2025TC + 2 × SDL1	£49.97 Carr.£1
	Features Garrard and Gold KEF spea	EO SYSTEMS Nos. s Rotel RA310 stere AP76 mounted in plintl dring G800 cartridge. S iker systems. KEF CRESTAS (B)	h with cover
Systems 4, 5 and 6	System No.4A	WHARFEDALE SUPER LINTON 2'S (M)	£102.50 Carr.£1 50
	System No. 5	KEF CHORALES (M)	£119.00 Carr £2
	System No. 6	KEF CADENZAS (F)	£129.00 Carr £2 50
	Features Garrard A	O SYSTEMS Nos. Nikko TRM50 stere AP76 with G800 eartrid with cover and KEF spea	bet mounted
	System No. 7	KEF CRESTAS (B)	£124.00 Carr.£1.50
	System No. 7A	WHARFEDALE SUPER LINTON 2's (M)	£124.00 Carr.£1.50
	System No. 8	KEF CHORALES (M)	£142.00 Carr.£2
	System No. 9	KEF CADENZAS (F)	£150.00 Carr.£2.50
	Features amplifier, tridge plu speaker s	Goodmans Module 80 s Garrard AP76, Goldring s plinth and cover and	6800 'car- Goodmans £139.50
	System No. 10 A	SDL2 (B)	Carr.£1.50 £128.00
1 1 min the	System	WHARFEDALE LINTON 2's (M)	Carr.£1.50 £142.00 Carr.£1.50
	System	MEZZO III's or MELTON 2's (F)	£153.00 Carr.£2
	System	MAGNUM K2 SPEAKERS (F)	£163.00 Carr.£2.50
Systems 19, 20 and 21			JAN 72

	GOIGTING G800E	EO SYSTEMS Nos. 1. the new Leak Oelta (HL) GL75 with plint Cartridge and Loak or Systems.	h and cover
	System No. 13	WITH LEAK 150's (B)	£148.00 Carr.£1 50
	System No.13A	WHARFEDALE	£148,00 Carr.£1.50
	System No. 14	WITH LEAK 250's	£ 160,00 Carr.£2
	System No.14A	WHARFEDALE MELTON 2's (F)	£160,00 Carr.£2
	System No.15	WITH LEAK 600's (F)	£182.00 Carr £2.50
	Features Garrard A	O SYSTEMS Nos. 16 the new Leak Delta 3 AP76 turniable with G80 fedale speaker systems.	and an and the
	System No. 16	WITH DENTON 2's (B)	£110.00 Carr.£2
	System No. 17	SUPER LINTON 2's	£118.00 Carr.£2
1	System No.18	MELTON 2's (F)	£131.00 Carr.£2
Ì	System No.18A	DOVEDALE 3's (F)	£145.00 Carr.£2.50
	SP25 MK.	O SYSTEMS Nos. 19 ar Sinclair 2000 mk.11 w III, plinth and cover e magnetic cartridge an ystems.	and G800H
	System No. 19	WITH SDL1 SPEAKERS (B)	£61.95 Carr.£1
	System No.19A	SDL2 (B)	£65.50 Carr.£1
	System No. 20	DENTON 2's (B)	£73.50 Carr.£1.50
I	System No.20A	LINTON 2's (M)	£81.00 Carr.£1 50
	System No. 21	SDL3 20 WATT (F)	£79.95 Carr.£2
	A good o Nikko TRA	1300 amplifier. Garrard 5 Cover with G800H cart	pood price
	System No.22	DENTON 2'S (B)	£79.95 Carr.£2
	System No.22A	SUPER LINTON 2's	£87.95 Carr.£2
	System No. 23	KEF CELESTE II SPEAKERS (M)	£94.50 Carr.£2
	System No.24	MEZZO III's or MELTON 2's (F)	£99.95 Cerr.£2.50
	TO SUIT	YOUR NEEDS PRICES	

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STEREO SYSTEMS Nos. 25, 26 & 27 new Wharfedale Linton amplifier Uses the McDonald MP60 with Shure M44.7 plus plinth and cover. Also Wharfedale speaker systems System DENTON 2's (B) £100.00 No. 25 Carr.£2 £93.00 System SDL 2's (B) No.25A Carr.£2 £108.00 System SUPER LINTON 2's (M) Carr.£2 No. 26 System SDL 3's (F) £106.00 No.26A Carr.£2 System MELTON 2's (F) £120.00 No. 27 Carr. £2.50 STEREO SYSTEMS Nos. 28, 29 & 30 Sinclair 3000 high power amplifier, Garrard SP25 mk.III. G800H cartridge, plinth and cover and matching speaker systems. £88.50 System LEAK 150 SPEAKERS Carr.£1.50 No. 28 (B) System DENTON 2's (B) £81.50 No.28A Carr.£1.50 £99.95 System LEAK 250 SPEAKERS No. 29 (M) Carr.£2 £89.50 System LINTON 2's (M) No.29A Carr.£2 £109.00 System GOODMANS MAGNUM K2's (F) Carr. £2,50 No. 30 £99.50 MELTON 2'S (F) System No.30A Carr. £2.50 × STEREO SYSTEMS Nos. 31, 32 & 33 Features Teleton TS50LA medium, long and stereo FM tuner amplifier, Pioneer PL12AC turntable, M44-7 cartridge and matching speaker systems. System £142.00 LINTON 2's (M) No.31 Carr.£2 £152.00 System GOODMANS MEZZO No. 32 III's (M) Carr.£2.50 MELTON 2'S (M) £153.00 System Carr.£2.50 No.32A System GOODMANS £162.00 No. 33 MAGNUM K2'S (F) Carr. £2.50 STEREO SYSTEMS Nos. 34, 35 & 36 opular E2000 MW stereo EM tuner amplifier Garrard 2025TC auto changer, 9TAH C ceramic cartridge with plinth and cover and matching speaker systems System SDL1's (B) £59.95 No. 34 Carr.£1 System TELETON SA125 (B) £48.95 No.34A Carr, £1 System SDI 2's (B) £64.00 No. 35 Carr.£1 System DENTON 2's (B) £74.00

No.35A

System

No. 36

SDL3 (F)

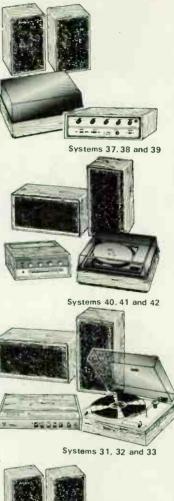
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New, we Garrand S plinth an	O SYSTEMS Nos.37 II made, British ampli SP25 mk.111 with G800H nd cover, plus matchin	d cartridge,
Systems. System No. 37	WITH SDL2 SPEAKERS (B)	£58.97 Carr.£1
System No.37A	SDL1 (B)	£54.97 Carr.£1
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System No.39	MELTON 2'S SPEAKERS (F)	£88.25 Carr.£2.50
System No.39A	SA707+HL2025TC+ 2 x SDL1	£49.97 Carr.£1
AP76, plr	O SYSTEMS Nos. 40 lar Armstrong 521 amplif nth and cover, Goldring KEF or Wharfedale speak	G800 cart-
System No.40	KEF CRESTAS (B)	£ 115.00 Carr £2
System No.40A	LINTON 2'S (M)	£115.00 Carr.£2
System No.41	KEF CHORALES (M)	£132.50 Carr.£2
System No.41A	MELTON 2's (F)	£127.50 Carr.£2
System No. 42	KEF CADENZAS (F)	£142.50 Carr.£2.50
Cambridge 8D2 asse	O SYSTEMS Nos. 43 Audio P40 amplifier. C mbled turntable with pl tridge and matching spe	inth cover.
System No.43	MORDAUNT SHORT MS077 (B)	£169.95 Carr.£2
System No. 44	KEF CADĖNZAS (F)	£175.00 Carr.£2.50
System No.45	LEAK 600 (F)	£180.00 Carr.£2 50
High power	OSYSTEMS Nos. 46, ered Rotel RA610 amplifi turntable with plinth tridge plus speaker syst	
System No.46	KEF CHORALES (M)	£156.50 Carr.£2
System No.46A	MELTON 2'S (F)	£150.00 Carr.£2
System No. 47	KEF CADENZAS (F)	£167.00 Carr.£2 50
System No.48	KEF CONCERTOS (F	£188.00 Carr.£2.50
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ALL SYSTEMS HAVE A CHOICE OF SPEAKER SYSTEMS TO ENABLE YOU TO CHOOSE BOOKSHELF (B). LARGER BOOKSHELF FOR SHELF OR FLOOR (M) OR FLOOR STANDING SPEAKERS (F). SELECT TO SUIT YOUR ROOM AND PRICE REQUIREMENTS. MOST SYSTEMS ON PERMANENT DEMONSTRATION AT '354' SHOWROOMS. FOR CALLERS: CREDIT FACILITIES FOR £60 MIN.PURCHASE AVAILABLE. YOUR ENQUIRIES INVITED.

DEMONSTRATION AT 354 SHOWROOMS. TO		
Systems 49, 50 and 51	x STEREO SYSTEMS       Nos. 49, 50 & 51         Features       Armatrong       526       MV       LW-FM       tuner         amplifier       with M8       stereo       decoder.       Garrad         AP76       turnable.       pitint       and cover.       Goldring         G800       cartridge       with Wharfedate       speakers.         System       LINTON 2's (M)       £ 162.00         No. 49       LINTON 2's (B)       £ 154.00         System       MELTON 2's (F)       £ 174.00         No. 50       Carr. £2       System         System       KEF CHORALES (M)       £ 178.00         No.50A       Carr. £2.50       System         System       DOVEDALE 3's (F)       £ 189.00         No.51       Carr.£2.50       System	STEREO SYSTEMS Nos. 61, 62 & 63 The famous Quad 303 33 amplifier, with Thorens TO150A8/TXII cover. Goldring G800SE cartridge, plus speaker systems. System LEAK 600 (F) £226,00 No. 61A Carr. 62 System KEF CONCERTOS (F) £242,00 Carr. 62 System QUAD ELECTRO- £285,00 No. 63 STATICS (F) Carr. 63 * STEREO SYSTEMS Nos. 64, 65 & 66 Features Cambridge Audio P50 amplifier, Connoisseur B02 turntable, plinith and cover Goldring G800SE cartridge and speaker systems.
	•STEREO SYSTEMS Nos. 52, 53 & 54 Low cost storeo system with the new 'Rota' 1500 stereo amplifier. Garrard 2025TC auto changer, plinth and cover. 97AHC ceramic cartridge and matching speaker systems. System WITH TELETON SA125 £35.95 No. 52 SPEAKERS (B) Carr.£1 System WITH SDL1 SPEAKERS £46.75 No. 53 (B) Carr.£1 System WITH SDL2 SPEAKERS £50.50 No. 54 (B) Carr.2 50	System         KEF CHORALES (M)         £175.00           No. 64         Carr.£2           System         MELTON 2'S (F)         £170.00           No.64A         Carr.£2           System         DOVEDALE 3'S (F)         £185.00           No.65A         Carr.£2.50           System         KEF CONCERTOS (F)         £205.00           No.66         SYSTEMS         Nos.67,68         69           * STEREO SYSTEMS         Nos.67,68         6900E
Systems 58, 59 and 60	<ul> <li>STEREO SYSTEMS Nos. 55, 56 &amp; 57</li> <li>Uses high power Lux 503 amplifier, Goldring (HL) GL75 with plinth and cover, GB/OE stereo cartridge and KEF speaker systems.</li> <li>System KEF CHORALES (M) £179.50 Carr.62</li> <li>System MELTON 2's (F) £173.00 Carr.62</li> <li>System KEF CADENZAS (F) £188.50 Carr.62 50</li> </ul>	Cartridge         with Leak or Wharfedale speaker           systems.         LEAK 150's (B)         £137.00           System         LEAK 150's (B)         £137.00           System         SUPER LINTON 2's         £136.00           No.67A         (M)         Carr.£2           System         LEAK 250's (M)         £149.00           No.68         MELTON 2's (F)         £149.00           System         LEAK 600's (F)         £149.00           No.68A         Carr.£2.50         System           System         LEAK 600's (F)         £149.00           Carr.£2.50         System         LEAK 600's (F)         £169.00
Systems 61, 62 and 63	System KEF CONCERTOS (F) £209.00 No.57 (F) £209.00 Carr.£2.50 x STEREO SYSTEMS Nos.58, 59 & 60 Features the new Nikko TRM400 amplifier, Garrard AP76 turntable, plinth and cover with G800 cartridge, matching speaker systems. System DENTON 2's (B) £99.95 Carr.£2 System SUPER LINTON 2's £108.00	<ul> <li>STEREO SYSTEMS Nos. 70, 71 &amp; 72 Nikko TRM1200 Sterio Amplifier, Thorens TD150AB with TXII cover, G800E cartridge and KEF speaker systems.</li> <li>System KEF CHORALES (M) £197.00 No. 70 Carr.£2 System MELTON 2'S (F) £192.00 No.70A</li> <li>System KEF CADENIZAS (F) £206.50</li> </ul>
	No. 59         (M)         Carr.£2           System         MELTON 2'S (F)         £121.00           No. 60         Chrr.£2.50           System         KEF CHORALES (M)         £127.50           Carr.£2.50         System         DOVEDALE 3'S (F)         £136.00           No. 60B         Carr.£2.50         Carr.£2.50	Carr.£2.50 System KEF CONCERTOS (F) £228.00 No.72 STEREO TAPE EQUIPMENT Adds on to your HI-FI CASSETTE STEREO - PHILIPS N2503 £44.25
Systems 55, 56 and 57	• ALL NECESSARY LEADS, ETC. • BI8 DUST 8UG, VALUE £1.99 WITH EVERY STEREO SYSTEM • 12 MONTHS GUARANTEE WITH ALL STEREO SYSTEMS	B TRACK RECOROER - AKAI CR800 664.60 CASSETTE STEREO-TOSHIBA KT4030 657.70 B TRACK REPLAY ONLY H310 631.95 REEL TO REEL RECOROER - AKAI40000 666.90 Your enquiries invited STEREO HEADPHONES for Private Listening Suggested for systems o SH650 D £2.25 × A SE95 £5.50 • RH711 £7.47
AO % AO % Prices	TUNER AMPLIFIER, TURNTABLE, CARTRIDG SYSTEMS-ADD UP 'HENRY'S' LATEST DISC	SELECT REQUIRED EQUIPMENT AMPLIFIER OR E. PLINTH & COVER AND PAIR OF SPEAKER COUNT PRICES (Allow extra for carriage, etc.) 818 DUST 8UG VALUE £1.99 ANTEES ONLY FROM HENRY'S

The Wonderful World of Stereo Sound HENRY'S RADIO

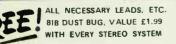
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## A RECOMMENDED SELECTION OF STEREO SYSTEMS AVAILABLE FROM HENRY'S RADIO LTD.

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Remember, 12 MONTHS GUARANTEE with	all Steleo Systems.	
STEREO SYSTEMS Nos. 73, 74 & 75 Features the new 'Rota' 2200 10 11 with times     stored and the stored SP26 million of the stored SP26 million of the stored SP26 million of the store of the stor	x STEREO SYSTEMS       Nos. 85, 86 & 87         Rotel RA310 amplifier, Garrard SP25 mk. III         with G800H compatible magnetic carrindge- plinth and cover, plus Whatfedale speaker system         System       DENTON 2's (B)         £83.50         No.85         System       DENTON 2's (B)         £83.50         No.85         System       DEL2's (B)         £76.00         No.85A         System       LINTON 2's (M)         £92.00         No.86A         System         Spistem         SDL3's (F)       £88.00         Carr.£2.50         System       MELTON 2's (F)       £103.00         No.87	Systems 79, 80 and 81
<ul> <li>X STEREO SYSTEMS Nos. 76, 77 &amp; 78</li> <li>New Leak Delta 75 stereo tuner amplifier MW-LW-FM. Goldring (HL) GL75 with blinth and cover, Shure W55E cartridge and Leak or Wharfedale speaker systems.</li> <li>System DENTON 2's (B) £210.00 No. 76</li> <li>System SUPER LINTON 2's £218.00 No. 76A</li> <li>System LEAK 250's (M) £230.00 No. 77A</li> <li>Carr.£2</li> <li>System MELTON 2's (F) £229.00 Carr.£2 50</li> <li>System DOVE 3's (F) £244.00 No. 77B</li> <li>Carr.£2 50</li> <li>System DOVE 3's (F) £244.00</li> <li>No. 77B</li> </ul>	* STEREO SYSTEMS Nos. 88, 89 & 90 Features the new Leak Oolta 70 amplifier. Goldring (HL) GL75 plinth/cover and G800E cartridge, plus speaker systems. System KEF CRESTAS (B) £150.00 No. 88 System LINTON 2'S (M) £150.00 No. 89 System KEF CHORALES (M) £168.00 No. 89 System MELTON 2'S (F) £162.00 Carr.£2.50 System KEF CADENZAS (F) £177.50 No. 90 System LEAK 600'S (F) £184.00	
System         LEAK 600's (F)         £250.00 Carr.£2 50           • STEREO SYSTEMS         Nos. 79, 80 & 81           Rotel RX200 sterus tuner amplifuer MW-FM. Garrard AP76 plinth and cover and G800 Goldring cartridge plus Wharfschle systems.           System         DENTON 2'S (B)         £131.50           System         LINTON 2'S (B)         £139.50           No. 80         (M)         Carr.£2           System         LINTON 2'S (F)         £151.50           No. 81         Carr.£2 50	No.90A         Carr.£2 50           X STEREO SYSTEMS Nos.91,92 & 93         ROTEL 'RX150 staree tuner amplifier. Med. Long and VHF. Garrard AP76, plus Wharledale speaker systems.           System DENTON 2's (B)         £120.00 No.91           System DENTON 2's (B)         £104.00 Carr.£2           System SDL 2's (B)         £104.00 Carr.£2           No.91         Carr.£2           System SDL 2's (B)         £104.00 Carr.£2           No.92         (M)           No.92         (M)           System SDL 3's (F)         £125.00 Carr.£2.50           System MELTON 2's (F)         £140.00 Carr.£2.50           System MELTON 2's (F)         £140.00 Carr.£2.50	Systems 82, 83 and 84
• STEREO SYSTEMS Nos. 82, 83 & 84 The new 'Rota' 1500 stored amplifier. Garrard SP25 mk.II with Gildring G800H. plinth ad covar, plus new range of SOL speaker systems. System SDL1 COMPACTS (B) £54.50 No. 82 System TELETON SA125 (B) £42.00 No. 82A Carr.£1 System SDL2 COMPACTS (B) £42.00 No. 83 Carr.£1 System SDL3 SYSTEMS (F) £69.50 No. 84 Carr.£2 System DENTON 2'S (B) £66.50 Carr.£2	System DOVEDALE 3's (F) £156.00 Carr.£2.50         X STEREO SYSTEMS Nos. 94, 95 & 96         'Bota' 2200 atereo amplifier, Garraf AP76 with G800 magnetic cartridge and Wharfedale spoaker systems.         System DENTON 2's (B) £83.00 No.94         System DLATON 2's (B) £74.00 No.94A         System SDL 2's (B) £74.00 No.95 (M) Carr.£1.50         System SDL3's (F) £86.00 No.95A         System MELTON 2's (F) £102.00         System MELTON 2's (F) £102.00	Systems 38, 89 and 90
LET US OUOTE FOR A STEREO SYSTEM TO SUIT YOUR NEEDS PRICES & OETAILS CORRECT AT TIME OF PRESS — SUBJECT TO CHANGE WITHOUT NOTICE AND OFFEREO	YOU CAN HAVE STEREO AT HO	2 95 and 96

CORRECT AT TIME OF PRESS – SUBJECT TO CHANGE WITHOUT NOTICE AND OFFERED SUBJECT TO AVAILABILITY. E & O.E.



STEREO HEADPHONES FOR PRIVATE LISTENING suggested for systems & SH650D £2.25 x ASE9S £5.50 \*RH711 £7.47

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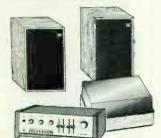
Systems 100, 101 & 102



Systems 103, 104 & 105



Systems No. 109, 110 & 111



Systems 115, 116 &



\* STEREO SYSTEMS Nos. 97, 98 & 99 Leak Delta 30 15115 watt stereo amplifier Goldring GL72 with M55E cartridge, plinth and cover, etc. plus Wharfedale speaker systems.

System No.97	DENTON 2's (B)	£125.00 Carr.£2
System No.98	LINTON 2's (M)	£133.00 Carr.£2
System No.99	MELTON 2's (F)	£145.00 Carr.£2
System No.99A	DOVEDALE 3's (F)	£159.00 Carr.£2.50

STEREO SYSTEMS Nos. 100, 101 & 102 Features Leak Dalta 70 35+35 watt stereo amplifier Thorens TD150ABH/TXII turntable. Shure M55E cartridge KEF or Wharfedale speaker systems.

System No.100	LINTON 2's (M)	£154,00 Carr.£2
System No. 101	KEF CHORALES (M)	£172.00 Ciarr.£2
System No.101A	MELTON 2'S (F)	£167.00 Carr.£2
System No.102	KEF CADENZAS (F)	£182.00 Carr.£2.50

\*STEREO SYSTEMS Nos. 103, 104 & 105 Armstrong 521 25 25 watt amplifier, Goldring (HL) GL75 Shure M44E cartridge, plinth and cover with selected speaker systems.

No.103	DITTON 15 (M)	£153.00 Carr.£2
System No.104	MELTON 2's (F)	£141.00 Carr.£2
System No.104A	DOVEDALE 3 (F)	£155.00 Carr.£2.50
System No.105	LEAK 600 (F)	£ 161.00 Carr.£2.50

×STEREO SYSTEMS Nos. 106, 107 & 108 Features the new Rotel RA210 8-8 watt stered amplifier, Garrard SP25 mk III with G800H cartridge plinth and cover, plus selected speaker systems.

System No.106	SDL 2's (B)	£67.00 Carr.£2
System No.106A	DENTON 2's (B)	£75.00 Carr.£2
System No. 107	SDL 3's (F)	£79.00 Carr.£2
System No.107A	LINTON 2's (M)	£83.00 Carr.£2
System No. 108	MELTON 2's (F)	£94.00 Carr.£2.50

STEREO TAPE EQUIPMENT JAN 72 Adds on to your HI-FI CASSETTE RECORDER-PHILIPS N2503 £44.25

 
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 CASSETTE STEREO - AKAI CR80D £64.60

 S TRACK REPLAY ONLY - H310 £31.95

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 CASSETTE STEREO TOSHIBA KT403D STEREO HEADPHONES £57.70

for Private Listening SUGGESTED FOR SYSTEMS • SH650D £2.25 \* ASE9S £5.50 \* RH711 £7.47

×STEREO SYSTEMS Nos. 109, 110 & 111 Features Rotel RX150 8+8 watts stereo tuner amplifier, Garrard SP25 mk.III with G800H cartridge, plinth and cover and selected speaker systems.

System No.109	SDL 2'S (B)	£102.00 Carr.£2
System No.109A	DENTON 2'S (B)	£110.00 Carr.£2
System No.110	SDL 3's (F)	£115.00 Carr.£2
System No.110A	SUPER LINTON 2's	£118.00 Carr.£2
System No. 111	MELTON 2's (F)	£129.50 Carr.£2.50

×STEREO SYSTEMS Nos. 112, 113 & 114

High power Rotel RX400 20+20 watts stereo tuner amplifier. Pioneer PL12AC belt drive transcription turntable with plinth and cover Shure M44E cartridge and selected speaker systems.

System	KEF CELESTES' (M) £168.00
No.112	Carr.£2.50
System	KEF CHORALES (M) £179.00
No.112A	Carr.£2.50
System	MELTON 2'S (F) £174.00
No.113	Carr.£2.50
System	DOVEDALE 3's (F) £187.00
No.113A	Carr.£2.50
System	KEF CADENZAS (F) £189.00
No.114	Carr.£2 50

STEREO SYSTEMS Nos. 115, 116 & 117 Rotel RA610 30+30 watt stereo amplitter Goldring (HL) GL75 with plinth and cover

Shure M55E cartridge, plus speaker systems.

System No.115	MELTON 2'S (F)	£149.00 Carr.£2.50
System No.115A	DITTON 15's (M)	£159,00 Carr.£2.50
System No. 116	MS077's (B)	£159.00 Carr.£2 50
System No.116A	DOVE 3's (F)	£163.00 Carr.£2.50
System No.117	LEAK 600 (F)	£169.00 Carr.£2.50

#### ×STEREO SYSTEMS Nos. 118, 119 & 120

Nikko TRM400 16+16 watt sterio amplifier Garrard SP25 mk.III with G800H stereo compatible magnetic cartridge, plinth and cover plus matching speaker systems.

P				
System No.118	SDL 2's (B)	£82.50 Carr.£2		
System No.118A	DENTON 2'S (B)	£89.95 Carr.£2		
System No.119	LINTON 2's (M)	£97.95 Carr.£2.50		
System No.119A	MELTON 2'S (F)	£109.00 Carr.£2.50		
System No.120	DITTON 15's (M)	£121.00 Carr.£2		

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