

1964

SHURE



MICROPHONES • HIGH FIDELITY COMPONENTS

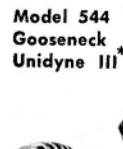
FAMOUS UNIDYNE MICROPHONES

THE UNIDYNES
ARE FEATURED IN
IMPORTANT INSTALLATIONS
THROUGHOUT THE
NEW YORK WORLD'S FAIR.
SELECTED FOR QUALITY
AND DEPENDABILITY

Model "545"
Unidyne III *Model 545S
Unidyne III *

The world's finest moderately priced dynamic cardioid microphone for public-address system use. The Unidyne III approaches the theoretical ideal of the cardioid pickup pattern. This means completely uniform pickup about the axis at all frequencies—in all planes. Remarkably faithful reproduction of the human voice makes the Unidyne III a superior choice for public-address applications. Low frequency characteristics of the Unidyne III eliminate boominess, and make it a favorite for pickup of drums and bass instruments. Striking black and satin chrome finish in compact modern design makes the Unidyne III a stylish addition to any platform. Model 545 is suitable for handheld and/or stand use with Model A25 Swivel Adapter included. Model 545S is mounted on lifetime swivel and includes on-off switch. Model 544 is furnished with cable attached and is designed for gooseneck mountings. 544-G6 includes 6" gooseneck; 544-G12 includes 12" gooseneck; 544-G18 includes 18" gooseneck.

TYPE: Dynamic. FREQUENCY RESPONSE: 50-15,000 cps. POLAR PATTERN: Cardioid (Uniform with frequency, symmetrical about axis). MAGNETIC CIRCUIT: uses Alnico V magnet. CASE: Die cast zinc and "Armo-Dur". FINISH: Satin chrome and black. CABLE CONNECTOR: Equivalent to Amphenol MC4M plug. CABLE: 18 ft., 3 conductor shielded. STAND THREAD: $5/8$ "—27 thread. DIMENSIONS: Length— $5\frac{1}{16}$ ", Diam.— $1\frac{15}{64}$ ". NET WEIGHT: 6/10 lb., Shipping Weight 2 $\frac{1}{8}$ lbs. FURNISHED ACCESSORIES: A25 type swivel adapter. OPTIONAL ACCESSORIES: A86A cable type transformer, S33B desk stands.

Model 546
Broadcast
Unidyne III *Model 544
Gooseneck
Unidyne III *

* U.S. Patent D190,864
other Patents Pending

IMPEDANCE TABLE	OUTPUT LEVEL
L-50-250 ohms	—57 db (0 db = 1 milliwatt per 10 microbars) .141 millivolts/microbar
H-High	—55 db (0 db = 1 volt per microbar); 1.760 millivolts/microbar

MODEL	LIST PRICE
545	\$ 85.00
545S	\$ 89.95
544	\$ 80.00
544-G6	\$ 83.00
544-G12	\$ 83.75
544-G18	\$ 85.00

BROADCAST UNIDYNE III

MODEL 546. Ultra compact, unidirectional, distinctive design, weights only 1 lb.! Recommended for critical broadcast and theater-stage sound system operation and highest quality public address and recording applications. Truly uniform cardioid pick-up pattern, symmetrical about axis. Special live-rubber vibration-isolating shock mount. Improved self-adjusting lifetime swivel permits tilting of head 180°. Cannon XL-3-11 connector. 20 ft. 2-conductor shielded broadcast type cable. Head only $1\frac{1}{4}$ " diam., $5\frac{1}{8}$ " long. 50-15,000 cps frequency response.

IMPEDANCE TABLE	OUTPUT LEVEL	MODEL	LIST PRICE
L — 50 Ohms	—55 db (0 db = 1 milliwatt per 10 microbars); .079 millivolts/microbar	546	\$135.00
H — 150 Ohms	—55 db (0 db = 1 milliwatt per 10 microbars); .176 millivolts/microbar		

UNIDYNE II SERIES

Famed Throughout the World for Ruggedness and Reliability

The Unidynes are the largest selling microphones throughout the world—used consistently by famed celebrities for those important events where the faithfulness of sound reproduction is critical. A sturdy construction provides immunity of the moving-coil system to abnormal atmospheric conditions and severe mechanical shock. Model 55S is highly recommended for fine quality public address, theater-stage sound systems, recording and remote broadcasting, and low-gain tape recording. It is also the field-proved standard for fixed station use in the police, fire, transportation, forestry and commercial services. Smooth frequency response from 50 to 15,000 cps. Furnished with an 18-foot cable and plug assembly. Model 55SW is same as Model 55S except it has On-Off switch.

Model 556S is specially constructed and tested to meet the requirements of the broadcast and television studio, and is held within close tolerances in frequency response and directivity. It is a moving-coil type microphone with a frequency range of 40 to 15,000 cps, production uniformity guaranteed to plus or minus $2\frac{1}{2}$ db. As a further precaution against mechanical vibration pickup, the 556S is provided with an additional isolation unit, of live rubber construction in combination with the stand connector and a built-in high quality cable connector. Furnished with a 20-foot, high quality, shielded, 2-conductor cable with Cannon plug attached. Both the 55S and the 556S feature the patented "Uniphase" network system. All units include multi-impedance switch for High, Medium or Low Impedance.

Model "555"
UnidyneModel "556S"
Broadcast

IMPEDANCE TABLE	OUTPUT LEVEL
L-35-50 ohms	—54 db (0 db = 1 milliwatt per 10 microbars); .063 millivolts/microbar
M-150-250 ohms	—55 db (0 db = 1 milliwatt per 10 microbars); .125 millivolts/microbar
H-High	—57 db (0 db = 1 volt per microbar); 1.410 millivolts/microbar

MODEL	LIST PRICE
556S	\$135.00
555	\$ 83.00
555W	\$ 85.00

SHURE

NEW $\frac{3}{4}$ " DIAM. PROBE MICROPHONES

$\frac{3}{4}$ " DIAMETER...40% SMALLER DIAM....60% SMALLER AREA
...than popular omnidirectional dynamic microphones

MODEL 570 LAVALIER MICROPHONE ($\frac{3}{4}$ " DIAMETER)

Miniature size Professional Quality dynamic microphone designed for lavalier use in television, for lectures, etc. Features special "shaped" response for superior lavalier performance. Reduces pickup of clothing and cable noise. Can be used on stand with Model A57S Swivel Adapter. Designed for inconspicuous use with "Flex-Grip" lavalier assembly — the most versatile available. "Flex-Grip" design holds microphone firmly, yet permits easy and quick removal. Lavalier clip opens right or left or can be removed. Lightweight, flexible 30 ft. microphone cable attached. Non-reflecting gray metal case with stainless steel grille.

SPECIFICATIONS — ELEMENT TYPE: Dynamic. FREQUENCY RESPONSE: 50-12,000 cps, shaped for optimum lavalier performance, with rising response to 6,000 cps. DIAPHRAGM: Shure Duracoustic. POLAR PATTERN: Omnidirectional. MAGNETIC CIRCUIT: Uses Alnico V Magnet. CASE FINISH: Non-reflecting gray. CABLE: 30' two-conductor shielded. DIMENSIONS: $\frac{3}{4}$ " diameter, $2\frac{1}{2}$ " overall length. NET WEIGHT: 2 ounces (less cable). FURNISHED ACCESSORIES: Model A57L "Flex-Grip" lavalier cord, and belt clip for cable. OPTIONAL ACCESSORIES: Model A57S Swivel Adapter, Model A86A Transformer.

IMPEDANCE TABLE	OUTPUT LEVEL	MODEL	LIST PRICE
150 Ohms — to match all low impedance inputs; 50 to 250 Ohms.	-50 db (0 db = 1 Milliwatt per 10 microbars); .095 millivolts/microbar	570	\$95.00
		570S	\$105.00



570S 570 LAVALIER

**FINEST PERFORMING
DYNAMIC LAVALIER
MICROPHONE —
REGARDLESS OF PRICE!**

MODEL 578 OMNIDYNE ULTRA SLIM PROBE

No Change in Pickup Pattern or Sensitivity from 50-17,000 cps.

An outstanding new public address microphone combining striking modern ultra-slim ($\frac{3}{4}$ " diameter) design with exceptional performance, proved in severe field testing. Inconspicuous because of slender shape. Smooth, natural response from 50 to 17,000 cps. Built-in wire mesh "pop" filter reduces breath noises. Extremely rugged construction makes the Omnidyne an excellent choice for quality P.A. use indoors and outdoors. Satin chrome steel case provides magnetic shielding as well as good looks. Model 578S is mounted on swivel-switch assembly with attached Cannon XL3-11 cable connector. Model 578 has exceptional "feel" and "balance" making it ideal for hand-held use. Dual impedance. Complete with "On-Off" switch and special slip-in swivel stand adapter. Locking switch plate is included to lock switch in "On" position. Available in Matched Pairs for Stereo Recording (Matched to plus or minus 1 db in level and $1\frac{1}{2}$ db in frequency response).

SPECIFICATIONS — TYPE: Dynamic. FREQUENCY RESPONSE: 50-17,000 cps. DIAPHRAGM: Shure Duracoustic. POLAR PATTERN: Omnidirectional. MAGNETIC CIRCUIT: Uses Alnico V Magnet. CASE FINISH: Satin chrome. SWIVEL ADAPTER: Furnished with swivel adapter having $\frac{5}{8}$ "-27 thread. CABLE: 18' — three-conductor shielded. SWITCH: Supplied with "On-Off" switch and optional cover plate. DIMENSIONS: $\frac{3}{4}$ " diameter, $7\frac{3}{8}$ " overall length. NET WEIGHT: 7 ounces (less cable). OPTIONAL ACCESSORIES: Model S33B Desk Stand, Model A86A Transformer, Model S39A Vibration-Isolation Stand, Model A45 Quick-Disconnect Isolation Unit.

IMPEDANCE TABLE	OUTPUT LEVEL	MODEL	LIST PRICE
200 Ohms	-60 db (0 db = 1 Milliwatt per 10 microbars); .100 millivolts/microbar	578†	\$82.50
High	-59 db (0 db = 1 Milliwatt per microbar); 1.11 millivolts/microbar	578S†	90.00

578S Stand
Mounted578 Hand
Held

MODEL 576 STUDIO OMNIDIRECTIONAL DYNAMIC

Super-smooth Response Avoids Feedback Common with other Omnidirectionals

A new, superb, dynamic probe microphone designed for television and radio broadcasting and super-critical public address applications. Proved superior for ruggedness and performance under typical broadcasting conditions in advance field tests. Strikingly modern in ultra-slim $\frac{3}{4}$ -inch diameter that provides maximum view of performer for on-camera use. Features smooth, natural, wide-range response for authentic pickup of voice or music. Dual impedance, 50 and 150 ohms. The 576 is an ideal hand-held microphone because of its unique "feel" and "balance" in the hand. Rugged steel case provides effective magnetic shielding as well as good looks. Finished in non-reflecting gray with stainless steel grille. Available in matched pairs for stereo, broadcasting and recording. (Matched to plus or minus 1 db in level and $1\frac{1}{2}$ db in frequency response.)

SPECIFICATIONS — ELEMENT TYPE: Dynamic. FREQUENCY RESPONSE: 40-20,000 cps. POLAR PATTERN: Omnidirectional. DIAPHRAGM: Shure Duracoustic. CASE FINISH: Non-reflecting gray. SWIVEL ADAPTER: Furnished with Model A57S Swivel Adapter having $\frac{5}{8}$ "-27 thread. CABLE: 25' three-conductor shielded broadcast cable. DIMENSIONS: $\frac{3}{4}$ " diameter, $5\frac{3}{8}$ " overall length. NET WEIGHT: 7 ounces (less cable). OPTIONAL ACCESSORIES: Model S33B Desk Stand, Model A86A Transformer, Model S39A Vibration-Isolation Stand, Model A45 Quick Disconnect Isolation Unit.

IMPEDANCE TABLE	OUTPUT LEVEL	MODEL	LIST PRICE
50 Ohms	-60 db (0 db = 1 Milliwatt per 10 microbars); .050 millivolts/microbar	576	\$175.00
150 Ohms	-60 db (0 db = 1 Milliwatt per 10 microbars); .095 millivolts/microbar		

576 Stand
Mounted576 Hand
Held

RIBBON MICROPHONES



Model "333"
Studio Uni-Ron *



Model "330"
"Professional Uni-Ron" *



Model "300"
Studio
Gradient †



Model "315"
Gradient †

The characteristically wide-range response of the ribbon element has made it the most widely used type of microphone for broadcasting and professional recording. Shure engineers have designed remarkable ruggedness* into Shure ribbon microphones, making them an excellent choice for any indoor application where highest quality response is required.

*Shure ribbon microphones actually have been used "to pound nails" and subjected to severe drop tests — without affecting the performance characteristics.

STUDIO UNI-DIRECTIONAL RIBBON MICROPHONE

This small, ultra-cardioid "333" is highly recommended for motion-picture studios, TV studios, radio stations, professional recording, and all other uses where quality requirements are of the highest. The "333" is ultra-cardioid, uni-directional — greatly reduces the pickup of random noise energy to solve feedback problems. Following are the features that make the "333" Studio so outstanding in performance, so dependable in operation: (1) patented, world-famous "Uniphase" system; (2) a true ultra-cardioid pickup pattern; (3) ribbon transducer provides extended smooth response, production uniformity guaranteed to plus or minus 2½ db, 30-15,000 cps; (4) multi-impedance switch; (5) voice-music switch; (6) anti-“PFF” filter screen; (7) Shure self-adjusting “lifetime” swivel; (8) high output; (9) sturdy, one-piece metal case; (10) vibration-isolation unit mounted in live rubber; (11) Cannon XL connector. Head dimensions: Width, 1½"; height, 3½"; depth, 1¾".

IMPEDANCE TABLE	OUTPUT LEVEL
L — 50 Ohms	—60 db (0 db = 1 Milliwatt per 10 microbars); .049 millivolts/microbar
M — 150 Ohms	—59 db (0 db = 1 Milliwatt per 10 microbars); .089 millivolts/microbar
H — 250 Ohms	—59 db (0 db = 1 Milliwatt per 10 microbars); .111 millivolts/microbar

MODEL	LIST PRICE
"333"	\$250.00

P.A. UNI-DIRECTIONAL RIBBON MICROPHONE

Designed to meet the exacting requirements of professional tape recording and highest quality indoor public-address systems where highest quality is essential, yet cost is a factor. Supercardioid pickup pattern, 30 to 15,000 cps. The Professional "Uni-Ron" is equipped with multi-impedance (50, 150 and 250 ohms) switch, life-time swivel, vibration-isolation shock mount, Cannon XL-3-11 cable connector, 20 ft. 2-conductor shielded broadcast-type cable. Satin-chrome finish with natural anodized aluminum grille.

IMPEDANCE TABLE	OUTPUT LEVEL
L — 50 Ohms	—59 db (0 db = 1 Milliwatt per 10 microbars); .049 millivolts/microbar
M — 150 Ohms	—57 db (0 db = 1 Milliwatt per 10 microbars); .089 millivolts/microbar
H — 250 Ohms	—58 db (0 db = 1 Milliwatt per 10 microbars); .111 millivolts/microbar

MODEL	LIST PRICE
"330"	\$120.00

STUDIO BI-DIRECTIONAL GRADIENT MICROPHONE

Rugged, high fidelity, multi-impedance microphone is widely used for television, radio broadcasting, professional recording and high-fidelity uses. The "300" reduces reverberation and the pickup of random noise by 66%. Combines the best features of conventional velocity microphones with advanced acoustic design — including an anti-“PFF” filter screen. Its bi-directional polar pattern is effective over a broad frequency range. Provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. Can be placed at a much greater distance from the performer than is possible with omni-directional microphones! Non-reflecting "Baked Bronze" finish. Readily accessible Voice-Music switch, vibration-isolation unit mounted in live rubber, and a multi-impedance switch, providing low, medium and high impedance. Extended response, production uniformity guaranteed to plus or minus 2½ db, 40-15,000 cps. Furnished with a 20-foot two-conductor, rubber-covered, shielded cable with Cannon XL-3-11 connector attached.

IMPEDANCE TABLE	OUTPUT LEVEL
L — 30-50 Ohms	—60 db (0 db = 1 Milliwatt per 10 microbars); .044 millivolts/microbar
M — 150-250 Ohms	—59 db (0 db = 1 Milliwatt per 10 microbars); .100 millivolts/microbar
H — High	—57 db (0 db = 1 volt per microbar); 1.410 millivolts/microbar

MODEL	LIST PRICE
"300"	\$150.00

P.A. BI-DIRECTIONAL GRADIENT MICROPHONE

Features frequency response of 50 to 12,000 cps — will reproduce voice and music in a clear, natural tonal quality in auditoriums, night clubs, schools and churches. Provides unusual freedom of motion on the platform. Bi-directional "Fig. 8" pickup pattern extends over a broad frequency range — permits the sound system to be operated at a level almost 6 db higher than is possible with non-directional (omni-directional) microphones! Greatly reduces reverberation and the pickup of random noises to control feedback. It is "PFF"-proof — filters out the "PFF"-type noises often heard over conventional microphones. Dimensions: 6" x 1½" wide x 13½" deep. Furnished with 18-foot, high quality, two conductor, shielded cable with the equivalent of the Amphenol 91-MC3M plug. Model "315S" is same as model "315" but has On-Off switch.

IMPEDANCE TABLE	OUTPUT LEVEL
L — 35-50 Ohms	—59.5 db (0 db = 1 Milliwatt per 10 microbars); .044 millivolts/microbar
M — 150-250 Ohms	—60 db (0 db = 1 Milliwatt per 10 microbars); .100 millivolts/microbar
H — High	—57 db (0 db = 1 volt per microbar); 1.410 millivolts/microbar

MODEL	LIST PRICE
"315"	\$89.50
"315S"	\$91.50

* U. S. Patent D178,018

† U. S. Patent D171,055

SHURE

P. A. SYSTEM MICROPHONES

MODEL 550S—
"PROBE-DYNAMIC"

A new rugged, high quality Dynamic Microphone designed for use in top-quality sound reinforcement applications. Features smooth, wide-range response from 50-15,000 cps. Excellent for pickup of voice and music. Performance and appearance characteristics make the "Probe-Dynamic" a wise choice for use in meeting rooms, auditoriums, for tape recording or wherever a quality omnidirectional microphone is required, and moderate cost is an important consideration. Dual impedance. Comes complete with on-off switch, swivel and 18 ft. 2-conductor cable. Model 550S in satin chrome finish. Model 550S(Gold) in gold finish. Available in matched pairs for stereo recording. (Matched to ± 1 db in level and $1\frac{1}{2}$ db in frequency response.)

List Price: Model 550S \$69.00
Model 550S (Gold) \$79.00

Type: Dynamic
Frequency Response: 50 to 15,000 cps
Output: 57.5 db
58.5 db

(0 db = 1 volt/microbar); 1.18 millivolts/microbar

Impedance: Dual: Choice of 50 to 250 ohms and High

Shure Duracoustic
Model 550S

Satin finished chrome case, stainless steel mesh grille

Model 550S (Gold)
Gold finished case and grille

Dimensions: (not including swivel)
1 1/2" diameter, 6 1/2" long

Net Weight: 15 oz.



SONODYNE II

MODEL 540S. A compact, modernistic microphone with high output dynamic element at moderate cost. The "Sonodyne II" features adjustable frequency response which allows the user to tailor the microphone to the application—One of the most versatile microphones on the market! High output Dynamic element Omni-Directional pick-up pattern. Frequency response: 60 to 10,000 cps with provisions for alternate response for voice intelligibility in paging and communications systems. Reliable on-off switch. Model 540 also available without switch. Improved positive action lifetime swivel permits tilting head 150°. 15 ft. 2-conductor shielded cable, equivalent to Amphenol MC3M connector.

IMPEDANCE TABLE	OUTPUT LEVEL
L—50-250 Ohm	—56.5 db (0 db = 1 Milliwatt per 10 microbars); .141 millivolts/microbar
H—High	—55 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar

LIST PRICE	Model 540S (with switch)	\$49.95
LIST PRICE	Model 540 (without switch)	\$47.95



SONODYNE

MODEL 51. The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. Ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. The wide range frequency response is 60 to 10,000 cps. This rugged microphone is one of the pressure type, with conventional semi-directional characteristics, and it may be used for close-talking without undue low frequency emphasis. Multi-impedance—for low, medium and high impedance. Has built-in receptacle and a 15-foot, two-conductor shielded cable with microphone plug attached. Satin chrome finish. Model 51S is same as Model 51 except it has on-off switch.

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 Ohms	—52.0 db (0 db = 1 Milliwatt per 10 microbars); .089 millivolts/microbar
M—150-250 Ohms	—52.5 db (0 db = 1 Milliwatt per 10 microbars); .238 millivolts/microbar
H—High	—49.5 db (0 db = 1 volt per microbar); 2.510 millivolts/microbar

LIST PRICE	51	\$49.50
LIST PRICE	51S	\$51.50

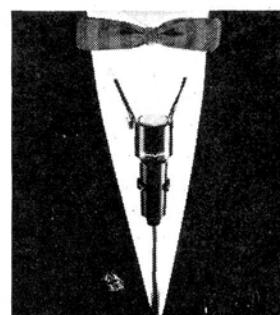
MODEL 560 DYNAMIC LAVALIER

Model 560 Dual Impedance, Dynamic Microphone with "tailored" response specifically designed for lavalier use. A truly excellent general purpose lavalier microphone at a very practical price. Compact and lightweight. Modern black satin all-metal case with stainless steel grille meets virtually every lavalier application, with quick change from High to Low impedance by simply moving pin jacks. New design clip-grip lavalier assembly holds microphone securely to wearer. Lightweight 18 foot attached cable permits maximum freedom of movement.

SPECIFICATIONS—**FREQUENCY RESPONSE**: Specially adapted to give optimum performance for lavalier use. **DIAPHRAGM**: Shure Duracoustic. **CABLE**: Non-detachable 18 ft., two-conductor shielded. **CASE**: Non-reflecting, black satin finished all-metal case with stainless steel grille. **DIMENSIONS**: $3\frac{29}{32}$ " long by $1\frac{1}{3}$ " diameter. **NET WEIGHT**: 5 ounces; packaged weight: 13 ounces.

IMPEDANCE TABLE	OUTPUT LEVEL
150-250 Ohms	—55.5 db (0 db = 1 Milliwatt per 10 microbars); .149 millivolt/microbar
High	—56.5 db (0 db = 1 volt per microbar); 1.33 millivolt/microbar

MODEL	LIST PRICE
560	\$42.50



560 Lavalier

MONOPLEX

The only Super-Cardioid Crystal Microphone made — far superior to conventional Crystal Microphones! Excellent for high-quality public address, communications, recording, and similar applications. Excellent solution for feedback problems! Moistureproof "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. Has 15 ft. shielded cable. Rich satin chrome finish. High impedance.



MODEL	OUTPUT	LIST PRICE
737A	—53 db (0 db = 1 volt per microbar); 2.510 millivolts/microbar	\$46.00 U. S. Patent D154,781

MODEL 561 DYNAMIC GOOSENECK

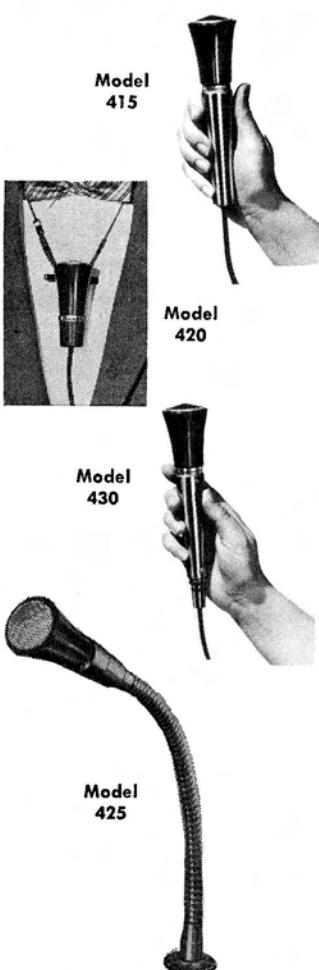
Compact, high quality, tamper-proof dynamic microphone with attached cable and standard $\frac{5}{8}$ "-.27 thread for direct mounting on flexible gooseneck or fixed pipe. Extremely rugged, dynamic cartridge (Model R50) easily replaced in field. Excellent voice response for language lab systems, paging applications, base-station communications and talk-back and cuing from professional control-room installations. Low impedance. Matches 50 to 250 Ohms.

SPECIFICATIONS—**FREQUENCY RESPONSE**: 40 to 10,000 cps. **RISING CHARACTERISTIC** to 4500 cps. **DIAPHRAGM**: Shure Duracoustic. **CABLE**: Non-detachable 4 ft., two-conductor shielded. **STAND THREAD**: $\frac{5}{8}$ "-.27. **CASE**: Black and chrome satin finished all-metal case with stainless steel grille. **DIMENSIONS**: $2\frac{1}{4}$ " long by $1\frac{3}{4}$ " diameter. **NET WEIGHT**: 5 ounces; packaged weight: 9 ounces.

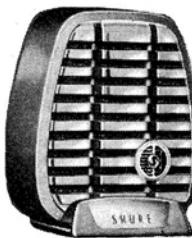
OUTPUT LEVEL	LIST PRICE
—56.0 db (0 db = 1 Milliwatt per 10 microbars); 1.41 millivolts/microbar	\$32.50



PUBLIC ADDRESS MICROPHONES



U. S. Patent 2,454,425



**THE
"REX"**
Models 710A
and 710S

A natural for "Hams" and low-cost public address system. A rugged unit designed for high speech intelligibility. Broad "tip-proof" table top base, with floor stand adapter. Die cast case. Frequency response 60 to 9,000 cps. 5 ft. shielded cable, Burgundy-red metallic finish. Only $2\frac{1}{2}$ " wide, $3\frac{1}{4}$ " high, $1\frac{1}{8}$ " thick. High impedance.

MODEL	OUTPUT	LIST PRICE
710A	-50 db (0 db = 1 volt per microbar); 3.150 millivolts/microbar	\$12.00
710S (with switch)	-50 db (0 db = 1 volt per microbar); 3.150 millivolts/microbar	\$14.00

U. S. Patent D156,774

THE COMMANDO SERIES

The Commando Series represents a significant achievement in providing quality performance at nominal cost — incorporating Shure's rugged, patented Controlled Magnetic cartridge in a dramatic-looking versatile series of microphones. Suitable for indoor or outdoor use, these microphones feature high output, smooth response, extreme ruggedness and ability to withstand severe moisture and temperature conditions. Model 420 is specially designed for lavalier use and it, as well as the Model 430, features adjustment for high or low impedance by simple pin-jack changing method. Model 430 includes an "On-Off" switch as well as detachable cable. Both Models 415 and 430 are furnished with Shure Model A25 Swivel Stand Adapter for Stand-mounted use. Model 425 is specially designed for gooseneck mounting but can also be utilized as stand-mounted units with A25B Swivel Adapter. Models with gooseneck attached are numbered 425-G plus number to indicate length of gooseneck in inches.

SPECIFICATIONS FOR "COMMANDO" MODELS 415, 420, 425 and 430

LIST PRICE: Model 415 - \$27.50; Model 420 - \$30.00; Model 425 - \$30.00; Model 430 - \$38.50; Model 425-G6 - \$33.00; Model 425-G12 - \$33.75; Model 425-G18 - \$35.00

TYPE: Controlled Magnetic

FREQUENCY RESPONSE: 60 to 10,000 cps

IMPEDANCE: Model 415 — High. Model 420-425-430 — Equipped with readily changeable pin-jacks (no soldering required) furnishing a choice of two impedances: H—High and L—150 to 250

OUTPUT LEVEL: High — 52 db (0 db = 1 volt per microbar); 2.510 millivolts/microbar. Low — 52 db (0 db = 1 milliwatt per 10 microbars); .225 millivolts/microbar

POLAR PATTERN: Omnidirectional

CASE: Model 415 — Impact-resistant polystyrene and die-case zinc. Model 420 — Impact-resistant polystyrene. Model 425 — Impact-resistant polystyrene and brass. Model 430 — Impact-resistant polystyrene and die-cast zinc.

FINISH: Model 415 — Non-reflecting gray and satin chrome. Model 420 — Non-reflecting gray. Model 425-430 — Non-reflecting gray and satin chrome.

CABLE: Model 415 — 7 ft. non-detachable single-conductor shielded. Model 420 — 20 ft. non-detachable two-conductor shielded. Model 425 — 7 ft. non-detachable two-conductor shielded. Model 430 — 15 ft. two-conductor shielded with Amphenol MC2M connector for attaching to microphone.

SWITCH: Models 415-420-425 — None. Model 430 — Press-to-talk switch — normally closed.

DIMENSIONS: Model 415 — Length $6\frac{1}{8}$ ". Diameter of head $1\frac{1}{4}$ ". Diameter of handle $1\frac{1}{16}$ ". Model 420 — Length $3\frac{1}{16}$ ". Diameter $1\frac{1}{4}$ ". Model 425 — Length $3\frac{1}{16}$ ". Diameter $1\frac{1}{4}$ ". Model 430 — Length $6\frac{1}{8}$ ". Diameter of head $1\frac{1}{4}$ ". Diameter of handle $1\frac{1}{16}$ ".

NET WEIGHT: Model 415 — $\frac{1}{2}$ lb. Models 420-425 — $\frac{1}{4}$ lb. Model 430 — $\frac{3}{8}$ lb. (Less cable)PACKAGED WEIGHT: Model 415 — $1\frac{1}{8}$ lbs. Models 420-425 — $\frac{3}{4}$ lb. Model 430 — $2\frac{1}{8}$ lbs.

FURNISHED ACCESSORIES: Model 415 — Model A25B Swivel Adapter. Models 420 — Lavalier Cord and clip assembly. Readily detachable for use of microphone as a hand-held type. Model 430 — Switch locking plate for keeping switch in "On" position, Model A25B Swivel Adapter.

OPTIONAL ACCESSORIES: Model 415 — Model S38B or S33B Desk Stand. A34L Lavalier Assembly. Models 420-425 — Model A86A Cable Type Transformer. Model 430 — Model A86A Cable Type Transformer and Model S38B or S33B Desk Stand. A34L Lavalier Assembly.



MODEL 707A

Ideal for low-cost P.A. systems, amateur phone transmitters and similar applications. Good quality at low cost. Has typical semi-directional pickup. 7 ft. shielded cable. High impedance. Pearl Gray case, satin chrome finish on front grille. Diam. $2\frac{1}{8}$ ". (Use with Shure Model S34B or S36A Desk Stands.)

MODEL	OUTPUT	LIST PRICE
707A	-50 db (0 db = 1 volt per microbar); 3.150 millivolts/microbar	\$19.50
710S (with switch)	-50 db (0 db = 1 volt per microbar); 3.150 millivolts/microbar	\$14.00



Model 510C

The "Hercules" is a hand-held unit, ideal for general purpose use in tropical countries and in all coastal areas where heat and humidity are a problem. The "510" provides the ruggedness, clear reproduction and high output for public address, communications and recording where high speech intelligibility is vital. It is recommended for Announcing; Mobile Public Address Systems; Communications; Home Recording, and High Quality Intercommunication. The "Hercules" can be used either Indoors or Outdoors, fits snugly in the hand, sits firmly on a desk. High impedance. Frequency response 100 to 7000 cps. Furnished with 7 ft. shielded cable. Green metallic finish. Die cast case. Furnished with stand adapter. Dimensions: $2\frac{1}{2}$ " wide, $3\frac{1}{4}$ " high, $1\frac{1}{2}$ " thick. Model 510 Series designed to be used with S34B or S36A Desk Stands.

MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
510C	-52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar	HIGH	\$17.00
510S (with switch)	-52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar	HIGH	\$19.00

U. S. Patents 2,454,425—D156,774

SHURE

LOW COST MICROPHONES

UNIPLEX UNIDIRECTIONAL CERAMIC MICROPHONE

Even a budget sound system can have a true unidirectional microphone with the Uniplex, incorporating the same "Uniphase" system found in higher priced Shure Unidirectional microphones. Its wide useful pickup angle at the front and effective elimination of pickup at the rear provides the ideal solution to feedback problems in low cost public address systems. Good voice reproduction for home recording and paging applications. Reliable, rugged ceramic cartridge performs at temperatures from -40° to 170°F. Available in four models, all with metal, die-cast case. Lightweight and versatile, it can be used as a hand-held or stand-mounted unit in Models 245S (with switch) and 245 (without switch). Model 245G is supplied with cable attached for gooseneck mounting.

SPECIFICATIONS — TYPE: Ceramic. FREQUENCY RESPONSE: 50 to 7,000 cps. OUTPUT LEVEL: -59 db (0 db = 1 volt per microbar); 1.100 millivolts/microbar. IMPEDANCE: High. Recommended load impedance: 1 to 5 megohms. POLAR PATTERN: Cardioid (unidirectional). CASE: Die-cast zinc. CABLE AND CONNECTORS: Models 245 and 245S provided with 15' (4.6 m) single-conductor shielded cable with a plug (equivalent of Amphenol MC1F) for attaching cable to microphone. Models 245G and 245GS have built-in "On-Off" switch. STAND THREAD: Models 245 and 245S provided with Model A25B swivel adapter with $\frac{5}{8}$ "-27 thread for use with S38B Desk Stand, or any convenient desk or floor stand. Models 245G and 245GS are especially designed for use with flexible goosenecks having a $\frac{5}{8}$ "-27 thread or for customized installation where a concealed cable is desired. DIMENSIONS (Microphone only): $4\frac{1}{2}$ " (119.9 mm) high, $1\frac{1}{8}$ " (28.6 mm) diameter. NET WEIGHT: (microphone only): $\frac{3}{8}$ lb., packaged weight $\frac{3}{4}$ lb. OPTIONAL ACCESSORIES: Model S38B Microphone Stand.

MODEL	TYPE	LIST PRICE
245	With A25B swivel-stand adapter, removable cable	\$35.00
245S	Same as 245 with on-off switch	\$37.00
245G	Gooseneck version with fixed cable, no adapter	\$30.00
245GS	Same as 245G with on-off switch	\$32.00

Imagine — SHURE
Unidirectional Microphones
at these Moderate Prices!



245 with
S38B stand

LOW COST, WIDE-RANGE "VERSADYNE" AND "VERSAPLEX" MICROPHONES

Smooth response makes these units a "best-buy" for general public address, home recording and call-system use where both performance and economy are important. High-performance dynamic cartridge is unaffected by temperature and humidity variations. Choice of high or low impedance dynamic or high impedance ceramic models each complete with switch plus stand adapter and lavalier cord. Small size and light weight, this unit is equally adaptable to hand-held, stand-mounted or lavalier use. Model 575S and 275S feature high impedance and high output, for applications where only a moderate length of cable is required. The low impedance, Model 575SB is designed for use in installations where long cable lengths are required, or for use with transistor amplifiers requiring a medium or low impedance microphone.

SPECIFICATIONS

LIST PRICE	MODEL 575S "VERSADYNE"	MODEL 575SB "VERSADYNE"	MODEL 275S "VERSAPLEX"
	\$24.00	\$21.00	\$15.00
TYPE	DYNAMIC		
FREQUENCY RESPONSE	40 to 15,000 cps		
OUTPUT LEVEL	-59 db (0 db = 1 volt per microbar); 1.100 millivolts/microbar	-62 db (0 db = 1 Milliwatt per 10 microbars); .071 millivolts/microbar	-59.5 db (0 db = 1 volt per microbar); 1.050 millivolts/microbar
POLAR PATTERN	OMNIDIRECTIONAL		
IMPEDANCE	High: 100,000 Ohms or Higher	150-250 Ohms	High: 1 to 5 Megohms Recommended
FINISH	Black high-impact plastic body with satin anodized cap and stainless steel grille		
DIMENSIONS	4 $\frac{1}{4}$ " long x 1 $\frac{1}{4}$ " diam.		

Surprising Quality
for these Low Prices.



Models
275S - 575S

Patent Pending



Model 215
and 715

"STARLITE"

Beautifully designed economy microphone. Excellent for voice reproduction. Extremely low price and good quality make them a "natural" for home recording, intercom systems and inexpensive P.A. systems. Can be held in the hand, or used on a desk with built-in stand. Semidirectional, high impedance; impact resistant polystyrene cases.

Model 215, a ceramic unit, has a response from 50-8000 cps. Model 715, a crystal unit, has a response range from 50-10,000 cps. Both supplied with 5 ft. fabric covered single conductor shielded cable.



MODEL 777 "SLIM-X"

The "777" Slim-X Microphones are rugged little microphones weighing only 6 ounces. They use a "Metal Seal" crystal for long operating life under adverse conditions of heat and humidity. Designed for good-quality voice reproduction, their versatility and "hand-ability" make them ideal for use by lecturers, announcers, instructors, and Hams; for audience participation shows; carnivals; and for use with home recorders. When mounted on either cradle or swivel the "777" can be removed in a flash. This makes it an ideal "walk-around" hand-held microphone. All models are furnished with a lavalier cord.

MODEL	TYPE	LIST PRICE
777	Includes A22L Lavalier cord and molded stand adapter	\$25.00
777S	Same as 777 with on-off switch	\$27.00
777A	Same as 777 with S38 Desk Stand	\$33.00
777SA	Same as 777S with Desk Stand	\$35.00

MODEL	OUTPUT	LIST PRICE
215 Ceramic	-56.5 db (0 db = 1 volt per microbar); 1.480 millivolts/microbar	\$8.00
715 Crystal	-50 db (0 db = 1 volt per microbar); 3.150 millivolts/microbar	\$8.00

SHURE

COMMUNICATIONS MICROPHONES

More Shure Mobile and Fixed Station Microphones are used in Professional Installations
than all other makes combined!

THE "404" WITH HIGH IMPACT "ARMO-DUR" CASE

MODEL	OUTPUT LEVEL	IMPED-ANCE	CABLE LENGTH & TYPE DESCRIPTION	SWITCH MIC. CIRC.	RELAY CIRC.	LIST PRICE
404B	-50 db (0 db = 1 milliwatt per 10 microbars); .293 millivolts/microbar	150-250 Ohms	5½ ft. Coiled cord, Copper, 4 conductor (2 shielded)	CLOSED*	OPEN	\$33.00
404C	-50.5 db (0 db = 1 volt per microbar); 2.930 millivolts/microbar	High	5½ ft. Coiled cord, Copper, 3 conductor (1 shielded)	CLOSED*	OPEN	\$33.00
405T ***	-1 db loaded with 500 ohms (0 db = 1 milliwatt per 100 microbars)	100-500 Ohms	5 ft. extended 4 conductor stranded coiled cord	—	OPEN	\$48.50

* Provision for simple change to normally open.

** Transistorized for direct replacement of carbon microphones.

The Shure Controlled Magnetic "404" is recommended for those applications where a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields, carnivals, etc.) and for mobile communications. The "404" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Leaf-type switches control the mic. circuit and an external relay or switching circuit. Omni-directional. Freq. response 200 to 8000 cps. Only 3½" high, 2¾" wide, 1¾" deep. Includes mounting bracket.

U. S. Patent 2,454,425



a new breakthrough in microphone design . . .

SHURE MODEL 488 NOISE-CANCELLING MICROPHONE!

Outperforms and obsoletes all others . . . confirmed by laboratory and field comparison tests!

Provides highly intelligible speech communication in mobile and fixed-station use where high volume background noise is found, such as airplanes, helicopters, motorcycles, trucks, fire engines, power boats, sporting events, drop forges, press-rooms, engine-rooms, factories. The 488 incorporates the patented Shure Controlled Reluctance cartridge into a distance discriminate microphone that effectively cancels background noise to permit transmission under conditions that would be impossible with any other microphone. Correct placement of microphone for close-talk use is assured by convenient rubber lip-guard. Rugged, impact-resistant "Armo-Dur" case is lightweight, easier to handle in extremes of temperature. Four versions of the 488 are available: 488A — high impedance; 488B — low impedance; and 488C and 488T — transistorized for direct replacement of carbon microphones (488T FAA Certified for Aircraft applications). All models equipped with coiled-cord and long-life heavy-duty push-to-talk switches. Field-testing these blade-type switches confirms their operating life rating to be in excess of one million cycles.



SPECIFICATIONS

MODEL	488A High Impedance	488B Low Impedance	488C Transistorized	488T Transistorized Aircraft
List Price	\$57.50	\$57.50	\$62.50	\$72.50
Far Superior to Standard Communication Microphones				
(SPECIALLY TAILORED FOR BEST INTELLIGIBILITY) 200 to 4000 Cycles Per Second				
Type	Controlled Reluctance			
Output Level (0 db = 1 volt per 100 microbar field)	.125 volts (-18 db)	.014 volts (-37 db)	0.45 volts (-7 db) using 6 volts and 500 ohm load	0.71 volts (-3 db) using 12 volts and 500 ohm load
Impedance	High: Recommended Load 100,000 ohms or more	150-250 ohms	Recommended Load 500 ohms	Recommended AC Load 100 to 800 ohms
Cable	Three-Conductor (One-conductor shielded) cadmium copper coiled cord (5½' extended)	Four-Conductor (Two-conductor shielded) cadmium copper coiled cord (5½' extended)	Four-Conductor cadmium copper coiled cord (5½' extended)	Three-Conductor Tinsel coiled cord (5½' extended) with PJ 068 — plug attached
Switch Mic. Circuit Relay Circuit	Normally closed* Normally open	Normally open** Normally open	Normally open Normally open	Normally open Normally open
Case	GRAY HIGH IMPACT "ARMO-DUR" WITH PERFORATED STEEL GRILLE AND RUBBER LIP-GUARD			
Dimensions	3½" high x 2¾" wide x 2½" deep			
Weight	¾ lb.			
Accessories	MOUNTING BRACKET FOR PERMANENT PLACEMENT			

* Provision for simple change to normally open

** Provision for simple change to normally closed

U. S. Patent 2,454,425

MODEL 100 SERIES CARBON MICROPHONES

Now featuring "Armo-Dur" high impact, corrosion-proof units. Used around the world for police, taxi, bus, track and commercial applications — more than all other makes combined! Adopted as standard microphones for professional two-way radio communications equipment. The "100 Series" microphones are provided with a bracket for permanent placement in portable or mobile equipment. They fit naturally and comfortably in the palm of the hand. They are light, compact and rugged units — with a reputation for long-life performance under "rough and tumble" operating conditions.



SPECIFICATIONS — TYPE: Carbon. **FREQUENCY RESPONSE:** 300 to 4,000 cps. (Tailored voice response). **OUTPUT LEVEL:** 5 db below 1 volt for 100 microbar speech signal. **IMPEDANCE:** Recommended load — 50 to 100 ohms. **POLAR PATTERN:** Omnidirectional. **CASE:** High-Impact "Armo-Dur". **FINISH:** Gray. **CABLE:** Cadmium copper coiled cord with trimmed and tinned leads. **SWITCH:** Model 104A — DPST normally open switch to control microphone and relay. Model 104B — SPST normally open relay switch (no microphone switch). **DIMENSIONS:** 3½" high, 2¾" wide, 1¾" deep. **NET WEIGHT:** ¾ lb. **PACKAGED WEIGHT:** 1 lb.

MODEL	LIST PRICE
104A	\$30.00
104B	\$30.00

SHURE

COMMUNICATIONS MICROPHONES

MODEL 444
ADJUSTABLE HEIGHT
"HAM"MICROPHONE
**Made of Rugged "ARMO-DUR"—
 Won't Crack—Peel—Rust—Dent.**

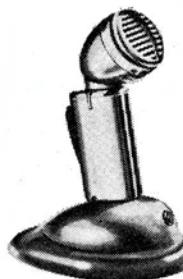

Patent Pending

At last! A microphone specifically designed to meet the needs of the discriminating amateur radio enthusiast! Shure has built into an entirely new, modern microphone the unmatched performance characteristics of the famed Model 440SL. Special features include press-to-talk switch with optional locking feature, providing ideal switching functions for both press-to-talk and VOX operation, adjustable stand that raises or lowers microphone for most comfortable talking position.

SPECIFICATIONS — ELEMENT TYPE: Controlled Magnetic. FREQUENCY RESPONSE: 300 to 3000 cps. OUTPUT: -52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar. IMPEDANCE: High. CASE: Gray "Armo-Dur". CABLE: 7 ft. two-conductor shielded. SWITCH: Push-to-talk switch button with optional locking feature to operate relay control and microphone muting circuits. Separate switch enables user to disable relay control circuit for VOX operation. DIMENSIONS: 4" wide, 5 1/8" deep, 10 1/8" high (adjustable). NET WEIGHT: 1 1/2 pounds.

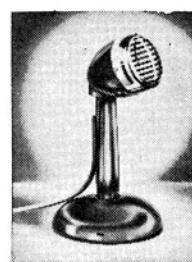
MODEL	LIST PRICE
444	\$42.50

U. S. Patent 2,454,425

**MODEL 440 SL**

Response characteristic tailored to meet the demands of radio communications; ideally suited for single-sideband. Rising response characteristic with sharp cutoff below 300 and above 300 cps eliminates the need for audio filters. Rugged, time-proven controlled magnetic element, with high output equaling that of a crystal unit. Ideal for use with all types of amateur transmitters. Frequency response: 300 to 3000 cps. High impedance, output level -52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar 7 ft. 2-conductor shielded cable with equivalent to Amphenol MC3M plug, switch and desk stand.

MODEL	LIST PRICE
440SL	\$47.50

**MODEL 440**

Basic microphone same as above but with 7 ft. single conductor shielded cable. Less switch, stand, connector. Use with S34B or S36A stand.

MODEL	LIST PRICE
440	\$25.00

A87K
MODIFICATION KIT

Modifies 440 SL to obtain maximum flexibility between either VOX or push-to-talk operation. List: \$3.25.

**NEW CERAMIC NOISE-CANCELLING AND
 LOW COST PALM MICROPHONES FOR CB, AMATEUR, MOBILE**

New, Model 202 effectively reduces Background Noise for use in Mobile Ham and CB rigs. All models are . . .



U. S. Patent D194,749

Loaded with features—yet priced unusually low. "Shaped" voice response is patterned after professional mobile and SSB amateur response curves... assures maximum intelligibility. Professional design and construction. Long-life slide-switch, guaranteed full year. Virtually indestructible "Armo-Dur" wonder plastic case; Shock-, shatter-, corrosion-, rust-, and weather-proof. Coiled-cord won't kink. "Lifetime" hang-up bracket. Choice of ceramic (model 201) or controlled magnetic (model 401A and 401B) elements. (401B recommended for parallel balanced line operation where long cable lengths are required.)

SPECIFICATIONS

	Model 202	Model 201	Model 401A*	Model 401B*
LIST PRICE	\$20.00	\$18.00	\$22.00	\$22.00
TYPE	CERAMIC	CONTROLLED MAGNETIC		
FREQUENCY RESPONSE	200 to 4,000 cps free from undesirable peaks.			
OUTPUT LEVEL	-55.5 db (0 db = 1 volt per microbar); 1.680 millivolts/microbar	-49 db (0 db = 1 volt per microbar); 3.500 millivolts per microbar	-48 db (0 db = 1 milliwatt per 10 microbars); .390 millivolts/microbar	
IMPEDANCE	High—Recommended load impedance; 1 to 5 megohms	High—Recommended load impedance; 100,000 ohms or more	High—Recommended load impedance; 100,000 ohms or more	Low—Recommended load impedance; 150-250 ohms
POLAR PATTERN	Special Noise Cancelling		OMNIDIRECTIONAL	
DIMENSIONS	4" High x 2 3/4" Wide x 1 1/8" Deep			

* U. S. Patent 2,454,425

"VERSAPLEX" CB IMPROVEMENT MICROPHONE

Model 275SK

Patent Pending

Citizen's Band broadcasters will find this new ceramic unit ideal for replacing original equipment crystal or ceramic type microphone. Comes complete with wall or panel bracket for handy hanging, and coiled-cord. "Momentary" push-to-talk switch activates relay circuit. Smooth response from ceramic cartridge that is resistant to extremes of temperature and humidity. Lightweight impact-resistant "Armo-Dur" case with black finish and anodized satin-finish cap.

SPECIFICATIONS — FREQUENCY RESPONSE: 40 to 10,000 cps free from undesirable peaks. OUTPUT LEVEL: -59.5 db (0 db = 1 volt per microbar); IMPEDANCE: High—recommended load 1/2 to 5 megohms. CABLE: Coiled Cord extends to 5 feet. 3 Conductors, one shielded. FINISH: Black high impact plastic body with satin anodized cap and grille. DIMENSION: 4 3/4" long x 1 1/2" diam.

MODEL	LIST PRICE
275SK	\$16.50

SHURE

DISPATCHING.. GENERAL PURPOSE MICROPHONES

MODEL 450 "DISPATCHER" MICROPHONE *

New modern design fits every decor for paging use. Integrated case design, made of gray "Armo-Dur", features telescoping height adjustment for maximum convenience. Rugged Controlled Magnetic element with impedance switch for low or high impedance. Push-to-talk switch bar with optional features provide every desired switching option.

SPECIFICATIONS — ELEMENT TYPE: Controlled Magnetic. FREQUENCY RESPONSE: 100 to 9000 cps. CASE: Two-tone Gray "Armo-Dur". CABLE: 7 ft., four-conductor (two-conductor shielded). SWITCH: Push-to-talk switch button with optional locking feature to operate independent microphone and relay circuits. Relay portion of switch is normally open. Microphone portion of switch is normally open or normally closed as required. DIMENSIONS: 4" wide, 5 1/16" deep, 10 1/8" high (adjustable). NET WEIGHT: 1 1/2 lbs.

MODEL	IMPEDANCE	OUTPUT LEVEL	LIST PRICE
450	50-250	—54 db (0 db = 1 Milliwatt per 10 microbars); 2.380 millivolts/microbar	\$49.50
	High	—52.5 db (0 db = 1 volt per microbar); .281 millivolts/microbar	



THE "GREEN BULLET"

Designed to provide quality music and speech reproduction at moderate cost. Rugged! Practically immune to the effects of high temperatures and humidity. Features: high output, good response, high impedance without the need of transformer. Modern metallic green finish with plated grille. Frequency response is 100 to 7000 cps. Furnished with 7 ft. single-conductor shielded cable. High impedance. Use with Shure Model S34B or S36A Desk Stands.

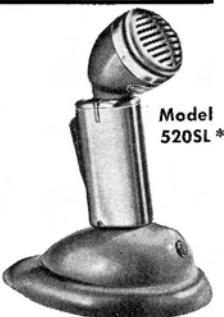
MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
520	—52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar	High	\$22.50
520B	—51 db (0 db = 1 milliwatt per 10 microbars); .281 millivolts/microbar	150-250 Ohms	\$22.50

MODEL 520SL
"DISPATCHER"

Model 520SL recommended for mobile and fixed station use, also for public address, recording call systems, radio telephone and amateur use.

Model 520SL equipped with grip-to-talk switch DPST — normally closed-normally open, and 7 ft. 2-conductor shielded cable, equivalent to Amphenol MC3M plug.

Model 520SLB has grip-to-talk switch DPST — normally closed-normally open, and 7 ft. 4-conductor (2 conductors shielded) cable, equivalent to Amphenol MC4M plug.

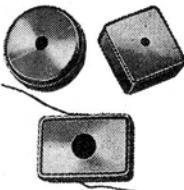


MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
520SL	—52.5 db (0 db = 1 volt per microbar); 2.38 millivolts/microbar	High	\$45.00
520SLB	—51.0 db (0 db = 1 millivolt per 10 microbars); .281 millivolts/microbar	150-250 Ohms	\$49.25

SMALL CONTROLLED
MAGNETIC MICROPHONES *

The MC Series of small microphones are specially designed for use in vacuum-tube devices, such as small, compact hearing aids, amplifiers, transmitters, dictating equipment — wherever size and weight are important factors. They also are highly recommended for use in small transistor-type devices. The MC Series are metal cased for hum protection. They are rugged units immune to mechanical shock and to varying conditions of heat and humidity. The MC Series of microphones have also proven to be extremely useful in concealed microphone applications.

MC11-J (Circular) LIST PRICE: \$12.50
MC20A-J (Rectangular) LIST PRICE: \$14.00
MC30-J (Square) LIST PRICE: \$20.00



SPECIFICATIONS FOR MODELS MC11-J, MC20A-J, and MC30-J — TYPE: Controlled Magnetic. FREQUENCY RESPONSE: MC11-J — 400 to 4,000 cps, MC20A-J — 400 to 4,500 cps, MC30-J — 400 to 3,500 cps. OUTPUT LEVEL: MC11-J — 73 db (0 db = 1 volt per microbar), MC20A-J — 73 db (0 db = 1 volt per microbar), MC30-J — 76 db (0 db = 1 volt per microbar). IMPEDANCE: MC11-J — 1,000 ohms, MC20A-J — 2,000 ohms, MC30-J — 1,850 ohms. CASE: Brass. FINISH: Cadmium plated. TERMINALS: MC11-J — Eyelet solder type, MC20A-J — 1 1/2" flexible lead type, MC30-J — Eyelet solder terminals. DIMENSIONS: MC11-J (circular) 1 1/16" diameter, 2 3/4" thick, MC20A-J (rectangular) 10/16" wide, 1 1/16" long, 5 1/4" thick, MC30-J (square) .5" wide, .5" long, .265" thick. NET WEIGHT: MC11-J — 12 1/2 grams, MC20A-J — 9.6 grams, MC30-J — 3.7 grams.

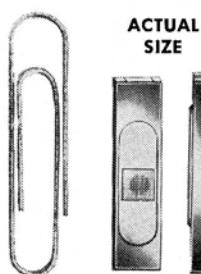
MODEL CA5A ULTRA-MINIATURE CERAMIC
MICROPHONE

The CA5A is a rugged ultra-miniature ceramic microphone. The frequency response is equivalent to standard microphones of much greater size. The CA5A is ideal for hearing aids, small headpiece microphones, pocket walkie-talkies, dictating machines, musical instruments, intelligence work and other applications requiring a miniature microphone with high stability.

The generating element is Lead-Zirconate-Titanate enabling use over wide temperature ranges.

The ceramic structure is inherently more stable than electro-magnetic units of similar size. The low end response is easily controlled by external load.

SPECIFICATIONS — LIST PRICE: \$20.00. TYPE: Ceramic element. FREQUENCY RANGE: 50 to 4500 cps. IMPEDANCE: Equivalent to 400 pf. OUTPUT LEVEL: —73 db (0 db = 1 volt per microbar). TEMPERATURE RANGE: —20° to 200° Fahrenheit. HUMIDITY RANGE: Unaffected by humidity. SIZE: 1.000" x .250" x .100" (2.54 cm x .635 cm x .254 cm). WEIGHT: 3/4 gram.



MICROPHONE STANDS

S34B TAKE-APART STAND

MODEL S34B. Handy low-cost gray stand for desk or hand use. One twist of wood handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base. Suitable for use with Models 510, 520, 707A and 710. NET WEIGHT: 5/8 lb. Packaged weight, 7/8 lb. LIST PRICE \$4.50



S38 ROUND STAND

This stand is a heavy die-cast base. Metal screw machine stud connects microphone adapter to stand base. NET WEIGHT: 5/8 lb. Packaged weight, 1 lb. **MODEL S38.** (Bronze) for use with 245, 777 Series microphones. **MODEL S38B.** (Black) for use with Models 275S, 275SK, 415, 430, 575S, 575SB. LIST PRICE \$4.50.



S33 MODERN DESK STAND

MODEL S33. Baked bronze finish. For use with Models 300, 333, 525, and 535. NET WEIGHT: 2 1/2 lbs., Packaged weight, 3 lbs. LIST PRICE: \$15.00



MODEL S33B. Same as S 33 — in black finish. For use with Models 330, 530, 544, 545, 546, 556S, 576, 578, 415, and 430. LIST PRICE: \$15.00.

S36A "TEARDROP" DESK STAND MODEL S36A. Streamlined gray desk mount fits all Shure connector-type microphones including 51, 51S, 55S, 55SW, 315, 315S, 540S, 545S, and 737A. Accommodates A25 type Swivel Adapter. NET WEIGHT: 1 lb., packaged weight, 1 1/8 lbs. LIST PRICE: \$6.50.



SHURE

MICROPHONE ACCESSORIES

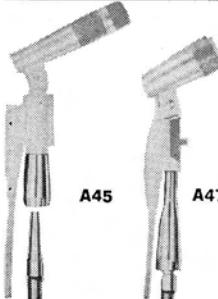


MODEL 539A VIBRATION-ISOLATION STAND

Ideal for use on table, desk, in the footlight area of a stage, for remote broadcasting (particularly for sporting events, conference tables, panels, and for all applications where vibration is a problem. The S39A provides maximum isolation from extreme mechanical vibration by its capacity to absorb mechanical shock as a sponge absorbs water. The Model S39A Stand is designed for all Shure microphones and Swivel Adapter assemblies. An extension adapter is furnished to increase the height of certain microphones for cable connector clearance. Made of durable black crackle finish plastic with heavy duty foam rubber isolation.

NET WEIGHT: 2 1/8 lbs., Packaged Weight, 2 1/8 lbs.

LIST PRICE: \$25.00.



QUICK DISCONNECT MICROPHONE ISOLATION UNITS

Designed for use with microphones normally mounted on desk or floor stands but which must be periodically removed from stand for hand-held or carry-around use. In addition, because of a molded rubber insert, the adaptors effectively isolate the microphones from mechanical vibration, shocks and noises carried to the microphone through the desk or floor stand. Quick disconnect operation is instant, easy, and silent. Made of aluminum and anodized for beauty and long wear despite frequent handling. Model A45 is designed for microphones incorporating an isolation assembly such as the Shure Models 556, 330 and 546. Model A47 is designed for microphones with connectors such as Shure Models 55S, 51, 545S, 540S, 737A or nearly all microphones with a standard 5/8"-27 thread.

	A45	A47
LIST PRICE	\$12.00	\$12.00
DIMENSIONS	3 1/2" high x 1 1/8" diam. assembled	5 1/2" high x 1 1/8" diam. assembled
WEIGHT ADDED TO HAND HELD MICROPHONE	2.3 oz.	3.6 oz.
NET WEIGHT	3.3 oz.	4.6 oz.

NEW CABLE TYPE TRANSFORMER



Model A95A is a high-quality, cable-type transformer which makes it possible to connect a low impedance microphone (35-50 ohm and 150-250 ohm) to a high impedance amplifier. It is housed in a compact, sturdy and magnetically-shielded case, 2 1/2" long x 3/4" diameter. Use of this transformer solves the problem of excessive high frequency loss and objectionable hum when long lengths of microphone cable are necessary. Model A95A may also be used in specialized applications requiring high impedance to low impedance circuit connections. Attractive gray and black case furnished with Cannon XL-3-11 input and Amphenol MC1F output plugs installed. Frequency response: 20 to 20,000 cps, plus or minus 1 db.

List Price: \$17.50

COILED CORD SETS

Tinsel Coiled Cord with trimmed and tinned leads and Amphenol MC4M connector attached (3 conductor shielded) for use with General Electric EM10A and 505K microphones.	List Price: \$12.00
Model: C10C	
Tinsel Coiled Cord with Amphenol MC4M plug for use with General Electric EM10A-2 and Shure 405K and 405 KB Microphones.	List Price: \$12.00
Model: C11C	
Standard Coiled Cord with trimmed and tinned leads for use with Shure 404C, 488A microphones.	List Price: \$9.75
Model: C12C	
Standard Coiled Cord with trimmed and tinned leads for use with Shure 404B, 488B microphones.	List Price: \$10.00
Model: C14C	
Standard Copper Coiled Cord with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.	List Price: \$6.25
Model: C15C	
Tinsel Coiled Cord with Amphenol MC4M Connector for use with General Electric equipment.	List Price: \$9.50
Model: C16C	
Tinsel Coiled Cord with spade lugs for use in Motorola equipment.	List Price: \$7.75
Model: C17C	
Standard Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.	List Price: \$9.50
Model: C18C	
Tinsel Coiled Cord with Amphenol MC4M Connector for use with Motorola equipment.	List Price: \$9.50
Model: C19C	
Tinsel Coiled Cord for use with Shure 201, 401A.	List Price: \$7.00
Model: C20C	
Tinsel Coiled Cord for use with Shure 401B.	List Price: \$7.75
Model: C21C	
Tinsel Coiled Cord with PJ-068 connector for use with Shure 488T.	List Price: \$15.00
Model: C22C	
Tinsel Coiled Cord for use with Shure 275 SK.	List Price: \$6.00
Model: C23C	

MICROPHONE REPLACEMENT CARTRIDGES

CARBON REPLACEMENT CARTRIDGE—MODEL R10

Rugged microphone cartridge replacement for "CB", "100", and "120" Series Carbon Microphones. Includes mounting hardware, installation instructions. Model R10

List Price \$8.50

Model 99A149 replacement cartridge for microphone models: CB20, CB21, CB50 and 115. Model 99A149

List Price \$8.50

CRYSTAL CARTRIDGE — MODEL R7

Available as a replacement for the cartridges in the Shure Crystal Microphones of the 707A and 708A Series, and other microphones of similar design. High output — 48 db below 1 volt per microbar. Supplied with rubber mounting rings and installation instructions. Model R7

List Price \$8.25

DYNAMIC — MODEL R50

Replacement cartridge for Shure Dynamic Microphones, Models: 540 (Series II), 540S (Series II), 560, 561, 575S and 575B.

List Price \$15.00

Model R50

SLIM-X MICROPHONE CARTRIDGE

The Model 99A186 replacement cartridge assembly for the 777 Series Slim-X Microphones. Crystal element metal-sealed for long life under adverse conditions of heat and humidity. Requires only one solder connection. Model 99A186

List Price \$10.00

CONTROLLED MAGNETIC CARTRIDGE — MODEL R5 *

Direct replacement for cartridges used in the following Shure microphone models: 510C, 510MD, 510S, 520, 520SL, 505C, 505K, 404C, 405C and 405K. Also ideal for replacement of crystal cartridges in Shure cases of the Model 707A and 708A Series, where heat and humidity are a problem. Supplied with rubber mounting ring. Model R5

List Price \$11.00

LOW IMPEDANCE CARTRIDGE — MODEL R5B *

Model R5B is the replacement cartridge for cartridges used in microphone models 505B, 505T, 404B, 405B, 405T, 510SLB, 520SLB, and 520B. Model R5B is physically identical to Model R5; but low impedance (150 to 250 ohms). Can be used in any R5 applications which require a low impedance cartridge. Model R5B

List Price \$11.00

MODEL R4M FOR SHURE "COMMANDOS" *

The Model R4M controlled magnetic cartridge assembly is the direct replacement cartridge for use in the models 430, 425, 420 and 415 Shure "Commando" microphones. Model R4M

List Price \$15.00

MODEL R5T CONVERSION KIT *

Includes a controlled magnetic cartridge and transistor amplifier to convert carbon microphones into improved controlled magnetic transistorized microphones. Conversion takes only minutes with a screwdriver, long-nose pliers, soldering iron.

SPECIFICATIONS: Controlled magnetic with transistor amplifier. 200 to 4,000 cps, semi-directional. Output Level: 1 db loaded with 500 ohms (0 db — 1 milliwatt per 100 microbars). List Price: \$25.00.

NOTE: For complete Shure Microphone Cartridge replacement information, write for AL188, Microphone Cartridge Replacement Guide.

"GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

Heavy-Duty Switch withstands the most severe field requirements of paging and dispatching systems.

Ideal for Police, Taxi Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand. Rich satin chrome finish.



Model: A88A

List Price: \$12.50

Model A88A

ON-OFF PRESS-TO-TALK SWITCHES



Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-connector type Shure microphone.

Model: A83B

List Price: \$11.00



Model A84B. Momentary Press-to-Talk "On-Off" switch.

List Price: \$11.00

Model: A84B

List Price: \$11.00



Model A85C. Momentary Press-to-Talk Relay-Type Switch.

List Price: \$11.50

Model: A85C

List Price: \$11.50



NOW! THE ULTIMATE IN INDEPENDENT TONE ARMS

SHURE

SME

MODELS 3009-3012 SERIES 2

The most remarkable independent tone arm ever made — by any standard. Brings out the very best from any high quality cartridge, mono or stereo. Virtually frictionless bearings, both horizontal and vertical . . . pivot friction at stylus tip measures less than .020 gram! Knife edge bearings are absolutely protected against dust. Manufactured to incredibly close tolerances for Shure by skilled British craftsmen. Unprecedented combination of adjustments: height, overhang, length (up to 17"), tracking force (so accurate no pressure gauge is required, ever) . . . even bias (to counteract tendency of arm offset to pull toward center of record and "favor" one side of stereo groove over the other.) The result is an independent tone arm that carries the cartridge over the record surface with rock-like steadiness and precision — literally eliminates wear on the record and stylus. Lever operates arm through hydraulic damper.

No resonances within audible spectrum! Complete with shell, alignment protractor, sockets.

MODEL 3009 Series 2 (for 12" records)	\$92.50 net
MODEL 3012 Series 2 (for 16" records)	\$102.50 net
MODEL A38A Extra plugin shell	\$ 5.50 net
Ultra-Lightweight Shell for Shure-SME Arms	
MODEL S2W/12 for Shure SME 3012 Arm.	
With counterweight	\$ 8.75 net
MODEL S2W/9 for Shure SME 3009 Arm.	
With counterweight	\$ 8.75 net
MODEL S2 Separate extra Shell (can only be used with companion balance weight)	\$ 6.00 net

Shure studio
SERIES M222-M226

Stereo Dynetic

high fidelity "integrated" tone arm and cartridge



. . . FOR STEREO PERFECTIONISTS

NOW! Improved Performance.

The overwhelming first choice of perfectionists who appreciate the full importance of "integrated" tone-arm and cartridge to optimum stereo performance. *Tracks at incredibly light 3/4 to 1.5 grams*—with unparalleled fidelity . . . absolutely minimizes record wear, and CANNOT scratch records! We urge you to make listening tests of this unit before buying any stereo cartridge or arm—you'll hear the difference.

The Studio Stereo Dynetic has a special advantage for those music lovers who like to "index". The cartridge stylus is placed far in front, making it extremely easy for you to position the stylus on the exact spot of the record you want to play. Includes stereo cable.

U. S. Patents 3,055,988; 3,077,521; 3,077,522 and D183,366

SPECIFICATIONS	STEREOPHONIC M226, M222	MONOPHONIC M16; M12
Tracking Force	3/4 to 1.5 grams	1-2 grams
Frequency Response	20-20,000 cps ±	20-20,000 ±
Channel Separation	2 1/2 db over 22.5 db at 1000 cps	2 db *
Sensitivity: Output at 1000 cps	6 mv per channel (On Westrex /4 Test Record)	14 mv for 10 cms/sec
Recommended load impedance	47,000 ohms	10,000 ohms
Compliance: (Vertical, *Lateral)	22 x 10 ⁻⁶ cms/dyne	8 x 10 ⁻⁶ cms/dyne
Inductance	600 millihenrys	130 millihenrys
D.C. Resistance	750 ohms	180 ohms
Stylus	.0005" diamond	.0007" diamond

* Applies to stereo units only.

Model M226—Studio Stereo Dynetic for records up to 16" including M22 cartridge with .0005" Diamond Stylus Audiophile Net: \$89.50

Model M222—Studio Stereo Dynetic for records up to 12" including M22 cartridge with .0005" Diamond Stylus Audiophile Net: \$89.50

Model M22—Studio Stereo Dynetic Cartridge with .0005" Diamond Stylus. Audiophile Net: \$49.50

SHURE REPLACEMENT STYLI

The Dynetic stylus assembly used in Shure cartridges is the most critical component. To maintain the original performance standards of your cartridge, be certain that any replacement stylus you buy bears the following certification on the package: "This Dynetic stylus is precision manufactured by Shure Brothers, Inc."

Avoid inferior imitations. They will seriously degrade the performance of your cartridge. All genuine "Dynetic" stylus are manufactured by Shure Brothers, Inc.

Select the appropriate replacement stylus for your cartridge in the chart below. If you choose a stylus that upgrades your cartridge, check to be certain your tone arm will track at the force required by the stylus.

Shure Replacement Stylus Model Number	For Use in Shure Dynetic Cartridge Model Number	Tracking Force	Tip Description	Type Records Played	Net Price
N1	M1	1-3 grams	.0007 diamond	Mono L.P.'s	\$21.00
N2	M2	1-3 grams	.0027 diamond	Mono 78 rpm	21.00
N3D	M3D; upgrades	3-6 grams	.0007 diamond	Stereo and Mono L.P.'s	9.95
	M7D, M8D				
N5D	M5D	2-6 grams	.001 diamond	Mono L.P.'s	16.50
N6S	M6S	2-6 grams	.0027 sapphire	Mono 78 rpm	5.00
N7D	M7D, M8D	4-7 grams	.0007 diamond	Stereo and Mono L.P.'s	7.95
	M3D, M7D				
N21D	M21; M7/N21D	1-2 1/2 grams	.0007 diamond	Stereo and Mono L.P.'s	12.50
	M3/N21D; upgrades				
	M3D, M7D				
N22D	M22; M7/N21D, M3/N21D, M3D, M7D	3/4-1 1/2 grams	.0005 diamond	Stereo	24.75
	M3/N21D, M3D, M7D				
N33-1	M33, M77	1 1/2-3 grams	.001 diamond	Mono L.P.'s	19.50
N33-5	M33-5	1 1/2-3 grams	.0005 diamond	Stereo	19.50
N33-7	M33-7	1 1/2-3 grams	.0007 diamond	Stereo	19.50
N44-1	M44-5/M44-7	1 1/2-3 grams	.001 diamond	Mono L.P.'s	9.75
N44-3	M44-5/M44-7	1 1/2-3 grams	.0025 diamond	Mono 78 rpm	9.00
N44-5	M44-5	3/4-1 1/2 grams	.0005 diamond	Stereo	11.35
N44-7	M44-7	1 1/2-3 grams	.0007 diamond	Stereo	9.75
N77	M77	3-6 grams	.0007 diamond	Stereo	10.50
N78	M77; M33-5, M33-7	4-6 grams	.0027 diamond	Mono 78 rpm	8.55
N99	M99/A; M99/AT6, M99/M10	1 1/2-3 grams	.0007 diamond	Stereo and Mono L.P.'s	12.95
VN2E	V-15	3/4-1 1/2 grams	Bi-Radial Elliptical Diamond	Stereo and Mono L.P.'s	25.00

The sound from this new Shure cartridge is awesome in its vitality & clarity

A NIGHT-AND-DAY DIFFERENCE

From the very first prototype, the sound from the new Shure Series M44 Stereo 15° Dynetic Cartridge was incredible. Even skeptical high fidelity critics have expressed unconcealed surprise at the audible increase in brilliance, clarity, transparency, presence, fullness and smoothness of this amazing new Shure development. A close analysis of its performance reveals startling differences in this cartridge—although not extraordinarily improved in the “usual” areas of frequency response (still a virtually flat 20-20,000 cps) or in compliance (25×10^{-6} cm/dyne)—rather it is in the distortion measurements where Shure engineers have achieved a highly significant and dramatic reduction of 75% to 90% in IM and harmonic distortion from even such admirably distortion-free cartridges as earlier versions of the Shure Stereo Dynetic. Further, cross-talk between channels has been effectively negated in the critical low frequency and mid ranges... providing superior channel separation throughout the audible spectrum.

SCRATCH-PROOF RETRACTILE STYLUS

And, as if that were not enough, the new 15° cartridge incorporates a totally efficient retractile stylus that momentarily retracts whenever excessive forces are applied to the tone arm. This feature protects your records and prevents annoying “clicks.”

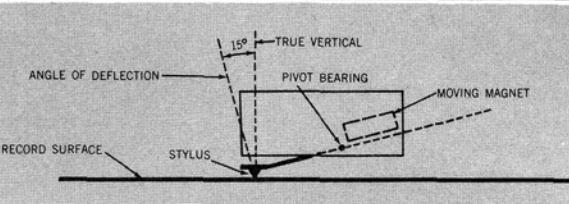
PERFECTION IS A MATTER OF DEGREE

It has been known for some years that a difference between the angle used to cut stereo records and the angle of the stylus of the cartridge used to play them would result in an increase in IM and harmonic distortion audible on certain records. With widely different cutting angles employed by the record companies, the effective angle of the playback cartridge stylus had of necessity to be a compromise so as to provide the best possible results from records of all makes.

Recently, industry attention was focused on this problem by a series of technical articles ascribing the difference in effective vertical angles between the cutter stylus and the playback cartridge stylus as a cause of distortion and urging the adoption of a standard effective angle to which records would be cut.

Major record companies have now begun to use an effective cutting angle of 15°, which is the proposed standard of the RIAA (Record Industry Association of America) and EIA (Electronic Industries Association.)

With the emergence of the single standard effective vertical tracking angle for cutting records, Shure engineers immediately began what seemed on the surface the seemingly simple but in actuality the arduous and exacting task of converting their formidable Stereo Dynetic cartridge to the 15° effective tracking angle. It couldn't be done. So Shure designed this radically new moving-magnet cartridge that will track at an effective angle of 15°. Graphically, this is the kind of cartridge geometry involved in the new Shure Series M44 15° Stereo Dynetic Cartridge:



THE ULTIMATE TEST

You must hear this cartridge to appreciate the totality of the sound improvement. It will be instantly recognizable to the ear without the necessity for elaborate test instruments or A-B listening tests—although we assure you, instruments and A-B tests will more than substantiate our claims.

M44 SERIES SPECIFICATIONS

	M44-5	M44-7
Frequency Response:	20-20,000 cps	20-20,000 cps
Output Voltage at 1000 cps (Per Channel, at 5 cm/sec peak velocity):	6 millivolts	9 millivolts
Channel Separation (at 1000 cps):	Greater than 25 db	Greater than 25 db
Recommended Load Impedance:	47,000 Ohms	47,000 Ohms
Compliance:	25×10^{-6} cm/dyne	20×10^{-6} cm/dyne
Tracking Range:	$\frac{3}{4}$ to $1\frac{1}{2}$ Grams	$1\frac{1}{2}$ to 3 Grams
Inductance (Per Channel):	680 millihenries	680 millihenries
D.C. Resistance (Per Channel):	650 Ohms	650 Ohms
Stylus:	.0005" diamond	.0007" diamond
Stylus Replacement:	N44-5	N44-7
Cartridge Price, Net (Including stylus):	\$21.95	\$19.95
Replacement Stylus Price, Net:	\$11.35	\$ 9.75

Monophonic Stylus:

Model N44-1—For monophonic LP records, with .001" diamond \$9.75 net
Model N44-3—For 78 rpm records, with .0025" diamond \$9.00 net

SHURE

Stereo **15°** *Dynetic®*

**SERIES M44 SCRATCH-PROOF CARTRIDGE
WITH RETRACTILE STYLUS**

the new standard
in distortion-free
hi-fi cartridges

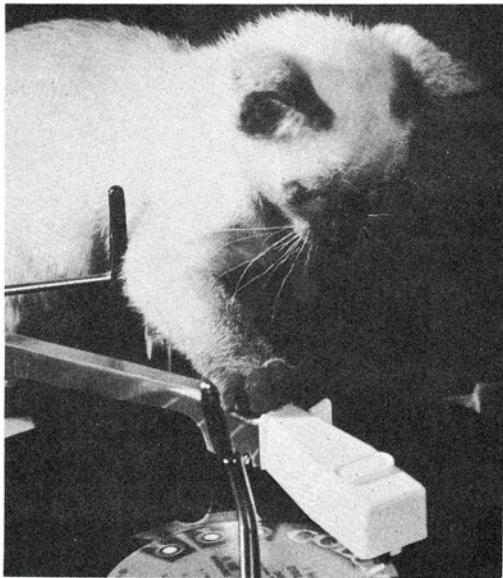
LITERATURE: Shure Brothers, Inc. 222 Hartrey Avenue, Evanston, Illinois

Manufactured under U.S. Patents 3,055,988; 3,077,521 and 3,077,522. Other Patents Pending



**SCRATCH-PROOF
AND BOUNCE-PROOF
CARTRIDGE ASSEMBLY
FOR GARRARD AND
MIRACORD OWNERS**

Attention music lovers and felineophiles: interesting to note that both cat and cartridge have retractile styli for gentleness and protection from scratching.



SHURE

Stereo Dynetic®
GARD-A-MATIC®

high fidelity cartridge assembly

**GREATER RECORD AND NEEDLE PROTECTION...
FINER RECORD REPRODUCTION**

Now, owners of Garrard Laboratory® Type "A" and AT-6 and Miracord Model 10 and Model 10H Automatic Turntables can assure themselves unprecedented and unparalleled record and needle protection, and highest sound quality simply by plugging in the Shure Stereo Dynetic GARD-A-MATIC "floating" cartridge assembly. Nothing else to buy . . . no wiring, no soldering, just plug in.

Ingenious GARD-A-MATIC cartridge inside a special tone-arm shell ends scratching due to dropping the tone arm or accidentally dragging it across the grooves . . . records stay new, sound new. Needles last longer—can't be damaged by pressing arm on record. Does away with tone arm "bounce" from floor vibrations, etc. Even plays warped records. And, the performance characteristics are those of the famed Shure Stereo Dynetic cartridges.

SPECIFICATIONS

Frequency Responses:	From 20 to 20,000 cps
Output Voltage:	6 millivolts per channel
Channel Separation:	More than 22.5 db at 1000 cps
Recommended Load Impedance	47,000 ohms
Compliance:	20.0×10^{-6} cm per dyne
Tracking:	1.5 to 3.0 grams
Inductance:	600 Millihenries
D.C. Resistance	750 ohms
Stylus:	.0007" diamond
Stylus Replacement:	N99

MODEL M99/A. Fits Garrard Laboratory® model "A". Includes tone arm head, factory mounted cartridge, .0007" diamond, \$24.75 Audiophile Net. MODEL M99/AT6. Fits Garrard AT-6. Includes tone arm head, factory mounted cartridge, .0007" diamond, \$24.75 Audiophile Net. MODEL M99/M10. Fits Miracord Models 10 or 10H. Includes tone arm head, factory mounted cartridge, .0007" diamond, \$24.75 Audiophile Net. MODEL N99. Replacement stylus assembly, .0007" diamond, \$12.95 Audiophile Net.

Manufactured under one or more of the following U.S. Patents: 3,055,988; 3,077,521; 3,077,522; D193,006; D193,934; Other patents pending.

THE WORLD'S BEST-SELLING QUALITY PHONO CARTRIDGES

SHURE
MODEL M3D

Stereo Dynetic®

high fidelity phono cartridge

MODEL M3D

The M3D Stereo-Dynetic is the famed original Shure stereo phono cartridge. It reflects quality control of a high order, based on critical tolerances in all performance characteristics.

Model M3D

Stereo Dynetic cartridge . . . including N3D Stylus assembly with .0007" diamond
Audiophile Net Price \$15.75

Model N3D

Stereo Stylus assembly for M3D, including .0007" diamond
Audiophile Net Price \$ 9.95

SHURE
MODEL M7/N21D

Stereo Dynetic®

high fidelity phono cartridge

MODEL M7/N21D

A famed cartridge acclaimed by consumer product test labs and professional musicians for its warm, sweet tone. High compliance and extended response at modest price. For use in finest quality independent tone arms or record changers capable of tracking at $2\frac{1}{2}$ grams or less. Will not perform satisfactorily at forces greater than $2\frac{1}{2}$ grams.

Model M7/N21D

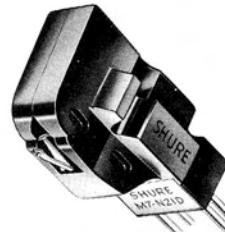
Stereo Dynetic cartridge . . . including Shure N21D Tubular Stylus with .0007" diamond
Audiophile Net Price \$17.95

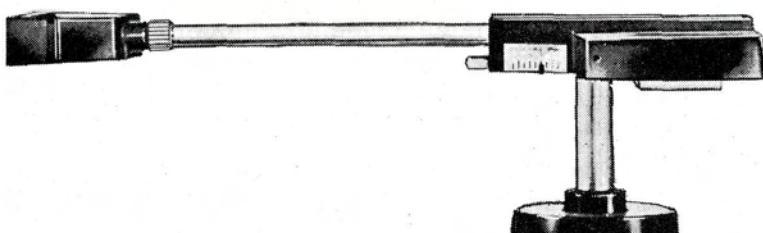
Model N21D Stylus

Tubular Stereo Stylus assembly for higher compliance and response with Shure M7D and M3D Cartridges. Includes .0007" diamond. (See tracking force note above)
Audiophile Net Price \$12.50

SPECIFICATIONS

	M3D	M7/N21D
Channel Separation	Over 20 db	Over 20 db
Frequency Response	20 to 15,000 cps	20 to 20,000 cps
Output Voltage (per channel, at 1000 cps)	5 mv	4 mv
Recommended Load Impedance (per channel)	47,000 ohms	47,000 ohms
Compliance: Vertical and Lateral	4.0×10^{-6} cent. per dyne	9.0×10^{-6} cent. per dyne
Tracking Force	3 to 6 grams	2 gms. optimum ($2\frac{1}{2}$ max.)
Inductance	420 millihenries	420 millihenries
D.C. Resistance	280 ohms	280 ohms
Terminals	4 terminals.	
Mounting Centers	Furnished with 3-terminal adapter.	Fits standard $\frac{1}{2}$ "





U. S. Patent D189,144

PROFESSIONAL TONE ARM

for use with any quality cartridge, stereo or monophonic

The Shure M232 (and M236) Professional Tone Arm is a premium-quality independent tone arm that accepts practically all cartridges (Stereo and Monophonic) and permits their maximum potential performance characteristics to be utilized. Features precision ball bearings at all pivot points, plug-in head with positive-alignment lock, variable height adjustment. Pays for itself in reduced record wear and damage. Ingeniously simple and unprecedented combination of adjustments gives instant, positive, VISUAL control over balance (without altering overall arm length), tracking force (0.8 grams), and overhang. Floats the needle over the record . . . smoothly — without "drag" — without "skip" — without unnecessary (and ruinous) force. Furnished with cable having plug on each end to simplify and speed up installation (eliminates soldering).

SPECIFICATIONS: MODEL M232 — M236 PROFESSIONAL TONE ARMS

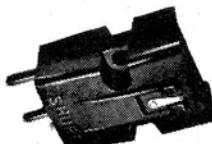
NET PRICE: TONE ARM M232, for 12" records	\$29.95
TONE ARM M236, for 16" records	\$31.95
Model A23H extra Plug-In Head	\$ 2.40

FURNISHED ACCESSORIES: Arm rest, mounting template, mounting hardware, 4 ft. cable assembly.

DIMENSIONS: M232 — 12 $\frac{1}{16}$ " long, M236 — 14 $\frac{1}{2}$ " long

MONOPHONIC PROFESSIONAL

Dynetic



STEREO PROFESSIONAL MONOPHONIC

For those who prefer monophonic cartridges with monophonic records, Shure offers the outstanding Model M5D Professional Dynetic.

SPECIFICATIONS:

Frequency Response: 20 to 20,000 cps.
Sensitivity: Output at 1,000 cycles—21 millivolts for 10 cms/sec.

Recommended Load Impedance: 27,000 ohms.
Compliance: 3×10^{-6} centimeters per dyne.

Tracking Force: 2 to 6 grams.

Inductance: 350 millihenrys

D. C. Resistance: 440 ohms.

Model M5D—has .001" diamond for use with micro-groove records, 33 $\frac{1}{3}$, 45 r.p.m.

Model M65—has .0027" sapphire for use with standard records, 78 r.p.m.

Model M5D Monophonic Professional Dynetic Phono Cartridge for LP records including N5D .001" diamond stylus, Audiophile Net: \$27.50.

Model M65 Monophonic Professional Dynetic Phono Cartridge for 78 rpm records including N6S .0027" sapphire stylus.

Audiophile Net: \$15.00

Model N5D Monophonic Professional Dynetic stylus with .001" diamond tip.

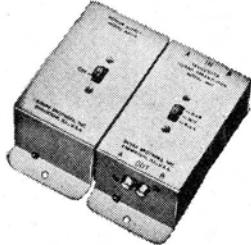
Audiophile Net: \$16.50

Model N6S Monophonic Professional Dynetic stylus with .0027" sapphire tip.

Audiophile Net: \$5.00

U. S. Patents 3,055,988 and D185,168

TRANSISTORIZED STEREO PREAMPLIFIER MODEL M61



Compact, rugged, transistorized unit with choice of AC line or battery power supply. Slide-selector switch offers three equalization inputs.

- (1) "phono" for conversion of ceramic phono inputs for use with magnetic cartridges;
- (2) "tape" for equalization of tape playback directly from tape head through hi-fi control preamplifier; and
- (3) "microphone" for flat amplification wherever a boost in microphone output is required.

SPECIFICATIONS:

Net Price: Model M61-1 (for 105-125 v. AC line) \$27.50
Model M61-3 (30 v. Battery, included) \$26.50

Gain: Phono: 45 db (5 mv input produces .88 v. output)
Tape: 40 db (2 mv input produces .20 v. output)

Microphone: 63 db (2 mv input produces 2.8 v. output)

Frequency Response: ± 2.5 db of each function's nominal characteristic from 25 cps to 15,000 cps.

Equalization: Phono: RIAA equalization (with additional treble boost of approximately 3 db at 10,000 cps to complement most magnetic cartridges).

Tape: NARTB equalization.
Microphone: Flat response. ± 3 db 20 to 15,000 cps.

Input Impedance: Phono and tape: approx. 50,000 ohms at 1,000 cps.

Microphone: Approx. 20,000 ohms.

Output Impedance: Low output impedance (less than 1,000 ohms at 10,000 cps for phono and tape functions).

Channel Separation: At least 50 db at 1,000 cps. Channel Balance: 2 db at 1,000 cps (for phono and tape functions). Hum Noise: 50 db below rated output. Overall Dimensions: Length 5"; Width 5 $\frac{1}{4}$ "; Height 2".

Additional gain also can be provided from tape recorder outputs on standard pre-amplifier to improve quality of recordings. Provides flat output response from 30 to 80,000 cps $\pm 1/2$ db. Low output impedance permits use of longer cable lengths (up to 50 feet) without loss of gain or deterioration in response when used with magnetic phono cartridges, microphones, etc.

SPECIFICATIONS:

GAIN: 17 db or 7 to 1 (5 mv. input gives 35 mv. output). Circuit change information provided to give one-third and two-thirds output.

IMPEDANCE: Input—47,000 ohms—Output—5,000 ohms.

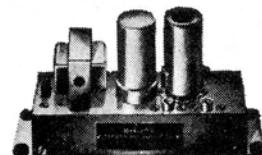
HUM & NOISE: 64 db below rated output.

DIMENSIONS: 5 $\frac{1}{2}$ " x 2 $\frac{1}{8}$ " x 3 $\frac{3}{8}$ ".

NET PRICE: \$19.95

STEREO LINE PRE-AMPLIFIER MODEL M60

High quality, low noise, stereo line pre-amplifier providing additional gain for use with magnetic stereo phono cartridges and microphones.



STEREO CONVERSION PRE-AMPLIFIER MODEL M65

Provides equalization with amplification for conversion of ceramic inputs to magnetic inputs. Gives smoother, more natural sound. As an added feature, 60 db of amplification without equalization is also provided. Permits the use of a magnetic cartridge with "package" consoles supplied with a ceramic cartridge. Also provides pre-amplification and equalization functions for other inputs (phono, tape, microphone).

SPECIFICATIONS:

GAIN: Phono: 44 db (5 mv input produces .76 v. output).

Special: 45 db (5 mv input produces .88 v. output).

Tape: 40 db (5 mv input produces .50 v. output).

Microphone: 63 db (2 mv input produces 2.8 v. output).

Frequency Response: ± 1.5 db of each function's nominal characteristic from 25 cps to 15,000 cps.

EQUALIZATION: Phono: RIAA equalization (with additional treble boost of approximately 3 db at 10,000 cps to complement the high frequency characteristic of most magnetic cartridges).

Special: A Shure-developed magnetic phono equalization circuit for use with high impedance amplifiers normally used with ceramic phono cartridges.

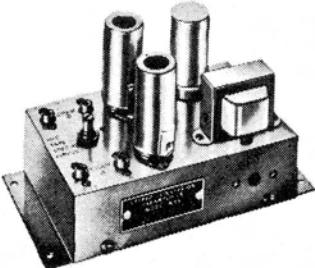
Tape: N A R T B equalization.

Microphone: Flat response. ± 3 db from 20 to 12,000 cps.

INPUT IMPEDANCE: 47,000 ohms (all functions).

OUTPUT IMPEDANCE: low output impedance (less than 5000 ohms at 10,000 cps for phono, special and tape functions). CHANNEL SEPARATION: 40 db. CHANNEL BALANCE: ± 1 db at 1000 cps. HUM-NOISE: 50 db below rated output. OVERALL DIMENSIONS: Length 6 $\frac{7}{8}$ "; Width 3 $\frac{1}{8}$ "; Height 3 $\frac{1}{4}$ ".

NET PRICE: \$24.00



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A MAJOR BREAK-THROUGH IN SOUND PURITY

... BY **SHURE**

THE SOUND FROM THE NEW SHURE V-15 STEREO DYNETIC® CARTRIDGE
WITH ITS REVOLUTIONARY BI-RADIAL ELLIPTICAL STYLUS
HAS NEVER BEFORE BEEN HEARD OUTSIDE AUDIO LABORATORIES

The sound from the new Shure V-15 Stereo Dynetic Cartridge is unique. The unit incorporates highly disciplined refinements in design and manufacture that were considered "beyond the state of the art" as recently as the late summer of 1963. The V-15 performance specifications and design considerations are heady stuff—even among engineers. They probably cannot be assimilated by anyone who is not a knowledgeable audiophile, yet the sound is such that the critical listener, with or without technical knowledge, can appreciate the significant nature of the V-15 music re-creation superiority. It is to be made in limited quantities, and because of the incredibly close tolerances and singularly rigid inspection techniques involved, it is not inexpensive. Perfection never is.

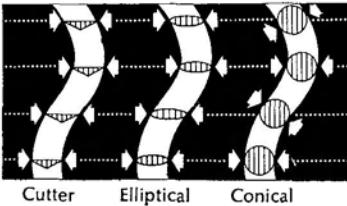
THE BI-RADIAL ELLIPTICAL STYLUS

The outstanding characteristic is that the V-15 Stylus has two different radii . . . hence the designation Bi-Radial. One is a broad frontal plane radius of 22.5 microns (.0009 inch); while the actual contact radii on each side of the stylus are an incredibly fine 5 microns (.0002 inch). It would be impossible to reduce the contact radius of a conventional spherical/conical stylus to this micro-miniature dimension without subjecting the entire stylus to "bottoming" in the record grooves.

The Shure Bi-Radial elliptical stylus, because of its larger frontal radius of 22.5 microns (.0009 inch), cannot bottom . . . and as you know, bottoming reproduces the crackling noise of the grit and static dust that in practice cannot be eliminated from the canyons of record grooves.

TRACING DISTORTION MINIMIZED

The prime objective in faithful sound re-creation is to have the playback stylus move in exactly the same way as the wedge-shaped cutting stylus moved when it produced the master record. This can't be accomplished with a spherical/conical stylus because the points of tangency (or points of contact between the record grooves and the stylus) are constantly changing. This effect manifests itself as tracing distortion (sometimes called "inner groove distortion"). Note in the illustration below how the points of tangency (arrows) of the Bi-Radial elliptical stylus remain relatively constant because of the very small 5 micron (.0002 inch) side contact radii:



The Shure Bi-Radial Stylus vastly reduces another problem in playback known as the "pinch effect." As experienced audiophiles know, the record grooves are wider wherever and whenever the flat, chisel-faced cutting stylus changes directions (which is 440 cycles per second at a pure middle "A" tone—up to 20,000 cycles per second in some of the high overtones). An ordinary spherical/conical stylus riding the upper portion of the groove walls tends to drop where the groove gets wider, and to rise as the groove narrows. Since stereo styli and cartridges have both vertical and horizontal functions, this unfortunate and unwanted up-and-down motion creates a second harmonic distortion. The new Shure Bi-Radial elliptical stylus, on the other hand, looks like this riding a record groove:



You'll note that even though it has a broad front face with a frontal plane radius of 22.5 microns (.0009 inch), and it measures 30 microns (.0012 inch) across at the point of contact with the groove, the small side or contact radii are only 5 microns (.0002 inch). This conforms to the configuration of the cutting stylus and hence is not as subject to the up-and-down vagaries of the so-called "pinch-effect."

SYMMETRY, TOLERANCES AND POSITIONING ARE ULTRA-CRITICAL

Frankly, a Bi-Radial elliptical stylus, however desirable, is almost impossibly difficult to make CORRECTLY. Diamond, as you know, is the hardest material . . . with a rating of 10 on the Mohs hardness scale. It's one thing to make a simple diamond cone, altogether another to make a perfectly symmetrical Bi-Radial stylus with sufficiently close tolerances, actually within one ten thousandth of an inch! Shure has developed unprecedented controls, inspections and manufacturing techniques to assure precise positioning, configuration, dimensions and tolerances of the diamond tip. It is a singular and exacting procedure...unique in the high fidelity cartridge industry. And, unless these inspection techniques and safeguards are used, an imperfectly formed elliptic configuration can result and literally do more

harm than good to both record and sound.

THE V-15 IS A 15° CARTRIDGE

The 15° effective tracking angle has recently been the subject of several Shure communications to the audiophile. It conforms to the effective record cutting angle of 15° proposed by the RIAA and EIA and now used by the major record producing companies and thereby minimizes tracking distortion.

The major features, then, of the V-15 are the Shure Bi-Radial Elliptical Stylus, the singular quality control techniques and standards devised to produce perfection of stylus symmetry, and the 15° tracking angle. They combine to reduce IM and harmonic distortion to a dramatic new low. In fact, the distortion (at normal record playing velocities) is lower than the inherent noise level of the finest test records and laboratory measurement instruments! In extensive listening tests, the V-15 proved most impressive in its "trackability." It consistently proved capable of tracking the most difficult, heavily modulated passages at a minimum force of $\frac{3}{4}$ gram (in the Shure-SME tone arm). The entire V-15 is hand-crafted and subject to quality control and inspection measures that result in space-age reliability. Precision machined aluminum and a special ultra-stable plastic stylus grip. Exact alignment is assured in every internal detail—and in mounting. Mu-metal hum shield surrounds the sensitive coils. The V-15 is a patented moving-magnet device—a connoisseur's cartridge in every detail.

SPECIFICATIONS

The basic specifications are what you'd expect the premier Shure cartridge to reflect: 20 to 20,000 cps., 6 mv output. Over 25 db separation. 25×10^{-6} cm. per dyne compliance. $\frac{3}{4}$ gram tracking. 47,000 ohms impedance, 680 millihenries inductance per channel. 650 ohms resistance. Bi-Radial diamond stylus: 22.5 microns (.0009 inch) frontal radius, 5 microns (.0002 inch) side contact radii, 30 microns (.0012 inch) wide between record contact points.

But most important, it re-creates music with a transcendent purity that results in a deeply rewarding experience for the critical ear.

Manufactured under U.S. Patents 3,055,988; 3,077,521 and 3,077,522. Other Patents Pending.

V-15 Cartridge—\$62.50 net
Replacement stylus VN-2E—\$25.00 net

SHURE BROTHERS, INC.
222 Hartrey Avenue, Evanston, Illinois