

# CB World

For Citizens Band and  
two-way radio enthusiasts  
FEBRUARY 1982 70p

## Emergency 10-34

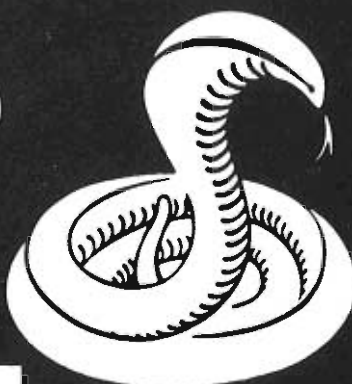


2-Way radio for  
"The Professionals"

Guide to CB radios  
CB and the farmer



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been bitten*



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The advent of legalised c.b. has been likened to a damp squib. *CB World* announces a trade seminar to be held on February 24 in **COME ON**.  
p5

There are many breakers who do not know how to use a two instrument SWR meter. This month we tell you **HOW TO SWR** using one of these meters on  
p6

With so many rigs currently on the market and more promised during 1982, we summarise what will be available in our **RIG SPECIFICATION TABLES** on  
p10



Farms are spread over many acres and employees are spread out between fields and buildings. Immediate contact can be easily made using c.b. We tell you about **CB FOR THE FARMER**.  
p14

More detailed rig specifications will be found in **RIG ROUND UP**.  
p18

One reader has written **A LETTER TO THE EDITOR**. His views will be found on  
p20

We continue our series **INTRODUCING MARINE VHF RADIOTELEPHONY** on  
p22



This month we took a Fukuyama Electronics FDK 750A 2M transceiver and give it a full **LAB TEST**.  
p24

Your letters are still increasing in numbers. Our latest selection in **BRING IT BACK** start on  
p28



Number 12 February 1982

<b>5</b>
<b>Come on</b>
<b>6</b>
<b>How to SWR</b>
<b>10</b>
<b>Rig specification tables</b>
<b>14</b>
<b>CB for the farmers</b>
<b>18</b>
<b>Rig round-up</b>
<b>20</b>
<b>A letter to the editor</b>
<b>22</b>
<b>Introducing marine telephony</b>
<b>24</b>
<b>Lab test — FDK 750A 2 metre transceiver</b>
<b>28</b>
<b>Bring it back</b>
<b>32</b>
<b>The professionals</b>
<b>40</b>
<b>This and that</b>
<b>44</b>
<b>Rig review — Provident Grant</b>
<b>46</b>
<b>Junior bring it back</b>
<b>50</b>
<b>AA and radio</b>
<b>52</b>
<b>Handles</b>
<b>55</b>
<b>Femme scene</b>
<b>56</b>
<b>Breaker to ham</b>
<b>58</b>
<b>Club corner</b>
<b>60</b>
<b>Cartoon</b>

Ever watched **THE PROFESSIONALS**? Do they use real radios? The answer is revealed beginning on

p32



Information on the conversion of illegal c.b. radios to conform with Home Office specification MPT 1320 will be found in **THIS AND THAT**.

p40

The **PRESIDENT GRANT** is a popular rig for those who are allowed to use it. Here are the details.

p44

During the school holidays many junior breakers put pen to paper. A selection of their letters are found in **JUNIOR BRING IT BACK**.

p46

With the recent bad weather many a motorist has been thankful to see the yellow AA vehicle. They probably received a message via their radio. We look at **AA AND THEIR RADIO**.

p50

Handles, Handles and more **HANDLES** are being sent in. Here is the latest selection.

p52

Smiler disregarded advice about staying at home and thought she knew better. Her tale of woe is recounted in **FEMME SCENE**.

p55

**FROM BREAKER TO HAM COURSE** continues to describe how a c.b. rig works

p56

**CLUB CORNER**.

Who said clubs are no longer active? The latest selection of club news will be found on

p58



We are always pleased to receive letters from readers and club members, but we do reserve the right to edit them. Full names and addresses will not be published.

The Lowe TX 40 should now be available from your local High Street CB shop at a price of around £69.50. Visit your neighbourhood CB man and pick up a rig. Once again Lowe Electronics knowledge and experience of radio communication has produced another first class transceiver.

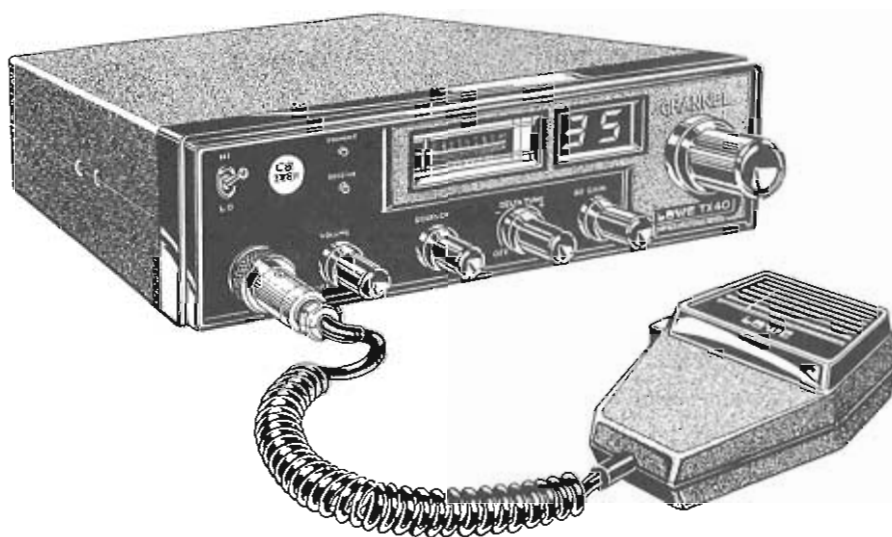
If you can't get your hands on a "CB Video Film" then why not fill in the coupon below, mark whether you require VHS or Betamax, include £8.95 for the tape, post and packing and send it to: Tuff Video Limited, Studio C, Floral Hall, Covent Garden. See for yourself this informative full colour documentary on CB Radio.

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# COME ON



The advent of c.b. in the U.K. can be likened to a damp squib. There was much talk before November 2 but when c.b. became legal the whole subject became a non event. Long waiting lists for rigs were non existent and importers started talking about dumping. At the time of writing even my local ICE specialist has over 200 unsold RADIOMOBILE rigs. What has gone wrong?

The answer is simple. New markets and applications of c.b. have not been sought by the industry. Retailers relied on AM's converting to FM and children being given c.b. rigs for Christmas. This is not good enough and unless the industry pulls it socks up the damp squib will go out. It will not have the energy to jump but could well become a liability.

Rig and accessory suppliers do not know what public relations, contact with the press on special promotions is all about — we know by the difficulties editorial staff has in obtaining detailed information about c.b. equipment from the people who ought to know. With all this in mind CB World is organising a one-day trade discussion/seminar in London on 24th February. Any readers from the trade interested please telephone.

On a pleasant note I must congratulate the following for winning our competition for a new c.b. rig and also the walkie talkies for three runners-up. All will be receiving their rewards in the next couple of weeks.

Winner: Sam Shannon, 18 Feguslie Walk, Paisley.  
Runners-up: (1) Tom Parkinson, Bachari, Beneath, Dyfed, SA37 0ET.  
(2) Mrs G. Powell, 17 Maori Drive, Frodsham, via Warrington, Cheshire WA6 7BS.  
(3) Nic Small, 3 Windlesham Gardens, Brighton BN1 3AJ.

The correct answers were: (1) Standing Wave Ratio; (2) £10 in UK, £12 overseas; (3) Frequency Modulation; (4) Uniform; (5) CB World; (6) The correct time; (7) 10-9; (8) £10 per three sets; (9) Channel 9; (10) Open Channel.

*Brian L. Chalmers-Hunt*

## NEXT MONTH

The theme c.b. for the disabled is continued next month. We will be setting up a Grandstand home base for a bed-bound patient. In addition we will be looking at the Elftone range of multi-wave band radios, and also some lab test gear for the enthusiast. Lifeboats have been in the news recently so we decided to see what radio equipment is fitted on board.

An LCL FM rig will be put under our microscope and reported on in our monthly lab test report. We

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will also be giving ideas on the setting up of c.b. patrols as well as including our usual features, Club Corner, This and That, Bring it Back, Handles, Femme Scene and From Breaker to Ham.

*It is an offence to operate, import or install an unlicensed transmitter in the UK. CB WORLD realises this and points out that it is not our deliberate intention to encourage the use of illegal c.b. equipment.*



# How to SWR

This month we tell you how to use a 3 function two instrument SWR meter.

## 3 Function test meter

Looking at the shelves of a local c.b. store and seeing a vast array of SWR meters is enough to confuse even the most experienced breaker.

Meters come in all shapes and sizes but their use is similar.

Last month we looked at how to set up and use a single meter unit. This month we show you how simple it is to use a 3 function test meter.

We once again went to a typical High Street store selling c.b. equipment and this time purchased a Harvard H652 and patch lead. (A patch lead is a piece of co-axial cable with plugs on either end.) — Photo

Before showing you how to use the instrument it is necessary to give a little information on what the instrument does.

The H652 is a compact 3 function test meter which has been designed to indicate the condition of any 50 ohm c.b. antenna system and transmitter by testing the Standing Wave Ratio, relative RF power and Field Strength.

It also is possible to tune c.b. transceivers when using this instrument as a field strength meter as well as comparing different antennae.

The H652 has been designed to be used for base or mobile stations and can be permanently fitted into the antenna system without any measurable loss of power.



## SWR Function

The SWR function of the instrument is probably the most useful of all its capabilities. Testing the SWR (Standing Wave Ratio) provides the c.b.er with a good indication of the condition of the antenna and antenna co-axial cable because most antenna are located away from the transceiver.

In order to get the maximum amount of power radiated from the antenna, the co-axial cable and antenna must be matched to the transceiver. Unfortunately it is not possible to get a perfect match but it is possible to ascertain the amount of mismatch by measuring the Standing Waves that exist in the co-ax cable or antenna feed line.

Measuring the Standing Waves can be easily achieved by sampling the forward power (FWD) and the reflected power (REF) and comparing them, expressing the difference as a ratio of reflected power to for-

ward power. The following ratios are examples of the amount of power loss for the Standing Wave Ratio:

SWR	Power loss
1:1	0%
1.3:1	2%
1.5:1	3%
1.7:1	6%
2:1	11%
3:1	25%
4:1	38%
5:1	48%
10:1	70%

From experience it has been found that ratios between 1.1:2 and 2:1 are usually satisfactory for most c.b. purposes.

## Power Meter Function

The power meter function is provided to monitor the condition of the transmitter by measuring the relative RF power being generated in the transmitter. This meter will measure up to 10 watts of RF power. (Remember the maximum U.K. legal power is 4 watts.)

This is achieved by measuring a small amount of RF energy from the transmission line.

There will be no measurable power loss if the meter is left in circuit as a permanent installation.

## Field Strength Function

This meter will operate as a small receiver and detect energy radiated from the c.b. set antenna.

Energy is picked up by a small whip antenna, detected by two diodes and controlled by the SWR adjustment knob. It must be disconnected from the antenna feed line and placed near to but not touching the c.b. set antenna for this test.

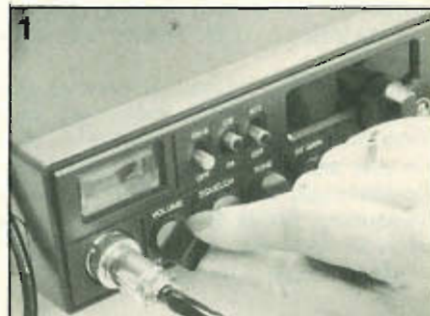
## SWR and Power Measurements

Let us begin with the SWR function, for this you should have set-up and connected, your transceiver, a power supply and antenna.

A patch lead not longer than two feet is also required to connect the H652 from the antenna terminal on the transceiver to the SWR meter. (Photo.)

1. Before making any of the following connections, make sure the transceiver is switched off. (Photo.)
2. Disconnect the co-axial cable from the antenna terminal. (Photo.)
3. Using the patch lead, connect the antenna terminal of the transceiver to the socket of the SWR power meter marked TRANS. Ensure that the knurled sleeves are secure. (Photo.)
4. Connect the antenna to the socket of the

SWR power meter marked ANT. (Photo.)



5. The meter is now set up to monitor for SWR or power measurements. (Photo.)

## SWR Measurements

1. With the meter properly connected, place the lower slide switch to the FWD position.
2. Switch on the set.
3. Turn the channel selector switch to channel 20.



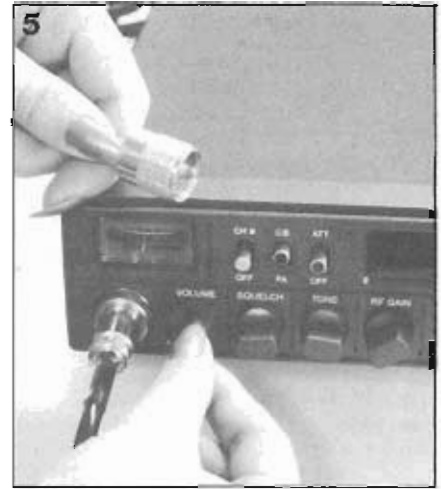
## RF Power Measurement

For an accurate power reading, the SWR should be no higher than 1.5.

There are two power settings included; 0.5W which is used for the standard c.b. transceivers and 5W used for the business band transceivers.

1. Select the 0.5W position. (Photo.)
2. Turn the transceiver on.
3. 'Key' the microphone by depressing the switch on the side.
4. Note the RF power reading on the right hand meter. (Photo.) A reading equivalent to the rated power of the transceiver should be indicated, any reading above this could prove to be a fault in the

4. Key the microphone while adjusting the SWR control for a full scale deflection (FSD) corresponding to the SET indication marked on the meter scale. (Photo.)



## Field Strength Measurement

1. Turn the set off.
2. Disconnect the antenna lead and transmitter lead from the meter and reconnect the antenna to the radio antenna socket. Connect the small telescopic antenna provided with the instrument. It is screwed into the connector located at the side of the meter. (Photo.)
3. Check that this connection is secure before transmitting. DO NOT, at any time, allow the small meter antenna to touch the radio antenna.
4. Turn on the set.
5. Adjust the SWR control to obtain an indication on the left-hand meter. It may be necessary to re-position the meter for a better reading. (Photo.)
6. After a good location has been found for the meter tune the transceiver and antenna for a full scale deflection. ●

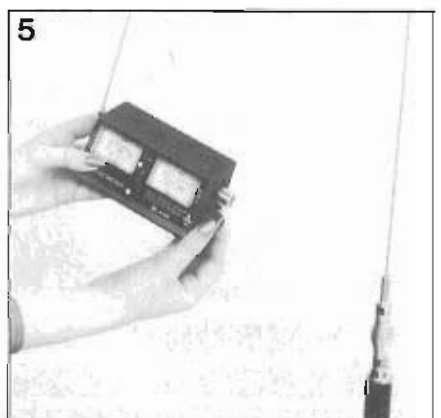
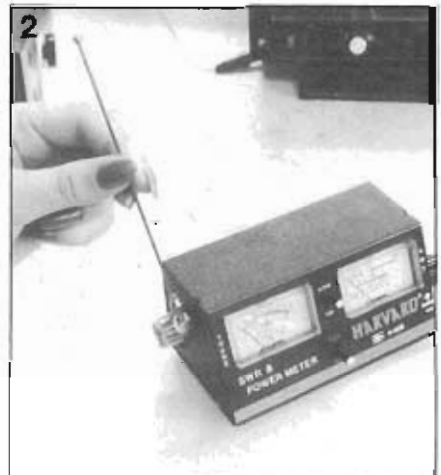
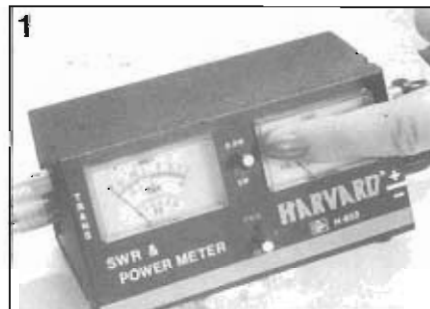


antenna system or inter-connections.

5. DO NOT, under any circumstances, turn the set on while the antenna and test meter are disconnected. (Photo.)

5. Move the FWD-REF switch to the REF position and note the reading on the upper scale. (Photo.) It should be between 1.1 and 2.1; anything over this reading, the antenna may need tuning or there may be a fault in the antenna system.

6. Several antenna manufacturers provide a means for tuning by either a slide adjustment or a control at the base. Whichever type you have, follow the manufacturer's instructions to adjust the antenna until the desired reading is obtained. (Photo.)





# WHEN YOU FOR A SQU DON'T CO WITH A'



It's the easiest thing in the world to walk into a CB store and walk out with a rig.

But, be warned!

Some are good. Some are not so good. And some are strictly for the birds.

So get it right. First time.

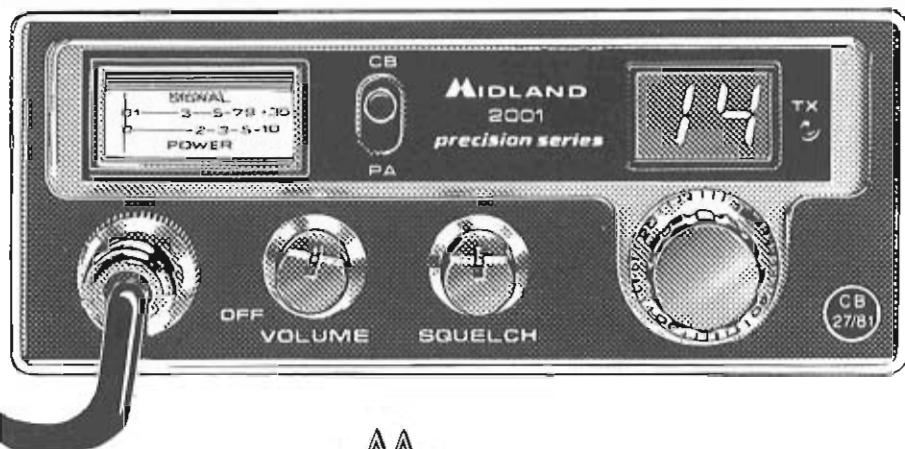
Get Midland. The big name in CB with 20 years experience behind it in the USA.

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# Rigs - what's available

	Base/Mobile/H-Held B M HH	RF gain control	Mic gain control	DX/local switch	Ch 9 feature	CB/PA switch	Tone control	Hi/Lo power switch	Transmit indicator	Receive indicator	PRICE inc VAT	Other facilities
Academy Electronics, KCL Buildings, 1st Way, Wembley, Middx HA0 0UG. 01-900 0341												
Academy & Compass												
501	M							Yes			£69.95	
502	M	Yes				Yes		Yes			£79.95	LED dimmer.
Alba (Electronics) Ltd, Bull Lane, London N18 1SD. 01-803 4451												
Alba												
CBM1	M	Yes			Yes			Yes			£74	Roger bleep
CBH1	HH										£23	Two channel
CBH2	HH				Yes						£65	40 channel. LED display
Amstrad Consumer Electronics Ltd, 1 Garman Street, London N17 0UF. 01-801 4431												
Amstrad												
CB900	M	Yes					Yes	Yes			£75	
CB901	M	Yes			Yes	Yes	Yes	Yes			£95	Roger bleep
Autumn Products Ltd, PO Box 30, Letchworth, Herts SG6 3DQ												
Ranger												
Ranger	M							Yes	Yes		£80	
Athole Music Ltd, 52 Saltoun Street, Glasgow. 041-334 2215												
Senfor Skyline												
SM2010	B	Yes			Yes		Yes	Yes			£99	AC/DC operation.
SM2008	M						Yes	Yes			£69.95	Headphones socket.
Bee Ware Ltd, Ripon Way, Ripon Road, Harrogate, N. Yorks HG1 2AU. (0423) 401151												
Grandstand												
Buzzing Bee	M	Yes						Yes			£74.69	Noise blanker
Hawk	M	Yes						Yes	Yes	Yes	£86.19	
Bluebird	M				Yes			Yes			£103.44	
Gemini	M	Yes				Yes		Yes	Yes		£141.39	Noise blanker
Base	B	Yes				Yes	Yes	Yes			£287.44	LED clock timer. SWR meter.
Interceptor	HH										£28.69	Headphones socket
Communicator	HH										£68.95	Two channel
Binatone International Ltd, Binatone House, Beresford Avenue, Wembley, Middx HA0 1YX. 01-903 5211												
Binatone												
Speedway	M							Yes			£79.95	
Route 66	M					Yes		Yes	Yes	Yes	£89.95	
5-Star	M	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	£99.95	Dimmer switch
Breaker Phone	M		Yes			Yes	Yes	Yes			£109.95	Spkr select switch
Long Ranger 6	HH								Yes	Yes	£59.95	6 channel
Long Ranger 12	HH								Yes	Yes	£69.95	12 channel
GT868	M	Yes					Yes	Yes				
HB940	M	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	£89.95	Panel dimmer

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- N.B. 'Planet' is the registered trade mark of Amateur Electronics UK.

- Trade enquiries invited.

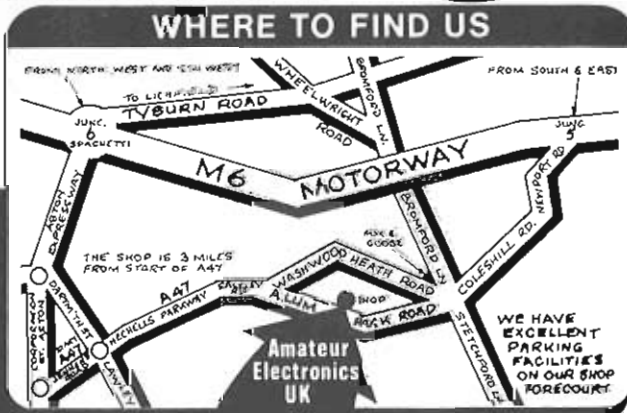
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# Rigs - what's available

	Base/Mobile/H-Hand B M HH	RF gain control	Mic gain control	DX/local switch	Ch 9 feature	CB/PA switch	Tone control	Hi/Lo power switch	Transmit indicator	Receive indicator	PRICE inc VAT	Other facilities
Dixons Photographic Ltd, Dept DS33, Camera House, Cartwright Road, Stevenage, Herts. 01-581 2268												
Harrier												
CBX	M	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	£99.99	40 channel, LED channel indicator
CB	M	Yes	Yes				Yes	Yes	Yes	Yes	£69.99	
CB HQ	B	Yes			Yes		Yes	Yes	Yes	Yes	£129.99	
WT1	HH								Yes	Yes	£25	
WT2	HH								Yes	Yes	£64.99	
Goodmans Loudspeakers Ltd, Downley Road, Havant, Hants PO9 2NL. (0705) 486344												
Cybernet												
Beta 1000	M							Yes			£72	LED dimmer control
Beta 2000	M			Yes		Yes	Yes	Yes	Yes	Yes	£80	
Beta 3000	M	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	£95	
Harris Overseas Ltd., Havard House, 14 Thames Road, Barking, Essex G11 0HX. 01-594 5533												
Havard												
400M	M	Yes			Yes			Yes	Yes	Yes	£80	Roger bleep
402MPA	M	Yes			Yes	Yes		Yes	Yes	Yes	£80	Made by Cybernet 40 channels 2 channels
420M	M	Yes			Yes	Yes	Yes	Yes	Yes	Yes	£100	
410T	HH	Yes			Yes		Yes	Yes	Yes	Yes	£80	
0-2-0	HH							Yes			£20	
Johnson, Star Warehouse Camden Goods Depot. Chalk Farm Road, London NW1 01-485 3918												
Johnson	M					Yes		Yes			£50	
John Woolfe Racing Ltd, Woolfe House, Norse Road, Bedford, Beds MK41 0LF. (0234) 41441												
JWR												
M2	M					Yes		Yes	Yes		£65	Dual polarity Available early 1982 Dual polarity AC operation. Integral SWR meter. Headphone socket. Selcall facility. Late 81.
M1	M			Yes		Yes		Yes	Yes		£86	
M3	M	Yes					Yes	Yes	Yes	Yes		
Diplomat 40	B	Yes			Yes		Yes	Yes	Yes	Yes		
LCL Imports, 101 Dixon's Green, Dudley, West Midlands DY2 7DY												
LCL												
2740	M						Yes	Yes			£79.95	
Harry Moss Ltd, 424 Kingston Road, London SW20 01-540 8277												
Audioline												
340	M						Yes	Yes			£99.95	
341	M	Yes	Yes			Yes	Yes	Yes	Yes	Yes	£124.95	
Major, Unit 2, Station Yard Wilbraham Road, Fulbourn, Cambridge												
Major												
2000	M							Yes	Yes		£69	
3000	M	Yes				Yes	Yes	Yes	Yes		£80	
5000	M	Yes	Yes		Yes	Yes	Yes	Yes			£89	
4000	B				Yes		Yes	Yes	Yes	Yes	£120	
Murphy Electronics, Engineers Way, Wembley, Middx HA9 0EB. 01-903 8081												
Murphy												
DS602N	M				Yes			Yes	Yes	Yes	£79	

Contd on Page 16

Contd on Page 16

# You godda hand it to the BANDIT!

SAYS MIKE DEVEREUX – COMPANY DIRECTOR FROM PORTSMOUTH

"I want the best C.B. Antenna I can possibly get and that's why I use a Bandit. I've tried them all and the Bandit beats the others cold. We've covered over 25 miles on the new FM frequency from my car with no problems at all. When they say you can't steal a better signal than on a Bandit, that's a big 10-4!"



*Take it from me-  
you can't **STEAL**  
a better signal*

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# C.B. for the farmer



1. Every tractor on the farm should have a c.b. rig permanently fitted.

Without electronic means it is physically impossible for a farm or agricultural manager to be in direct contact with his staff every minute of the day. The use of two way radio systems by the farming fraternity is increasing and it will not be too long before 'not having a radio system will be like not having a tractor'.

There are those farmers who will have used radio equipment during the recent adverse weather conditions to help save animal life and those who regretted not having the facility.

Once the initial capital investment has been justified farmers will find other benefits when using a two way radio system. It is not just the large farm but the poultry keeper and the two man market garden who will also benefit.

Besides giving the manager greater flexibility the reasons for investing in such radio systems are similar to those for the present and more familiar communication systems such as the post and telephone, to lower costs, introduce greater convenience and to speed up or increase the understanding of the flow of information generated within the business.

As complexities of management and technology increase the established communications systems tend to suffer. They are becoming increasingly expensive, slow or ineffective to provide the necessary control and flexibility that are necessary.

For the farmer, vehicles and special equipment such as tractors and combines form a major and essential investment and must be worked hard to justify the investment. Most

business managers can extend the earning potential or cost of running their vehicles without raising costs. The answer is two way radio and c.b. in particular.

Two way radio equipment can be used to keep in contact with employees out in the yard, sheds and barns, fields or offices. It can even be used to direct contractors' or suppliers' lorries to specific locations around the site — many lorries have c.b. radios in their cab. This will reduce time delays and bogged down vehicles.

Conversely help can be summoned in emergency such as a rolled tractor, stalled combine or animal out in the fields requiring immediate veterinary attention. Think of the applications during lambing or calving time. Also think how beneficial it would be if it were possible to inform motorists about cattle or combine movement in narrow country lanes. The uses are multitudinous and even more will be found as experience is gained with use.

No farmer would attempt to run his business without the facility of an ordinary telephone. Two way radio and c.b. is an extension of this facility providing the ability to communicate with others in the organisation similarly equipped.

The term mobile refers to vehicle mounted equipment; equipment where driver or carrier are kept in contact either through a base station or direct with one another.

Many c.b. suppliers are able to offer a model range for mounting in a vehicle or item of self propelled farm equipment as well as portable hand held units and base stations. They are also able to supply the special

5. Co-ordination at harvest time is critical for farmers. C.b. would make this one management function more effective.





antennae required and there is no reason why a mobile unit need cost more than £100 fitted. Base stations are a little more expensive at £125-£175.

So how can a farmer decide if c.b. will be a worthwhile investment? This means a pencil and paper exercise. First list all the employees and then the vehicles and self propelling machinery such as tractors and combines.

Next decide which items of equipment would require a c.b. transceiver permanently connected. This would include the lorries, Land Rovers, tractors and, of course, management cars.

Combines, seed drills etc. which are required for seasonal activities would only need transceivers fitted whilst being used so decide how many sets should be available for "seasonal fitment" from a pool.

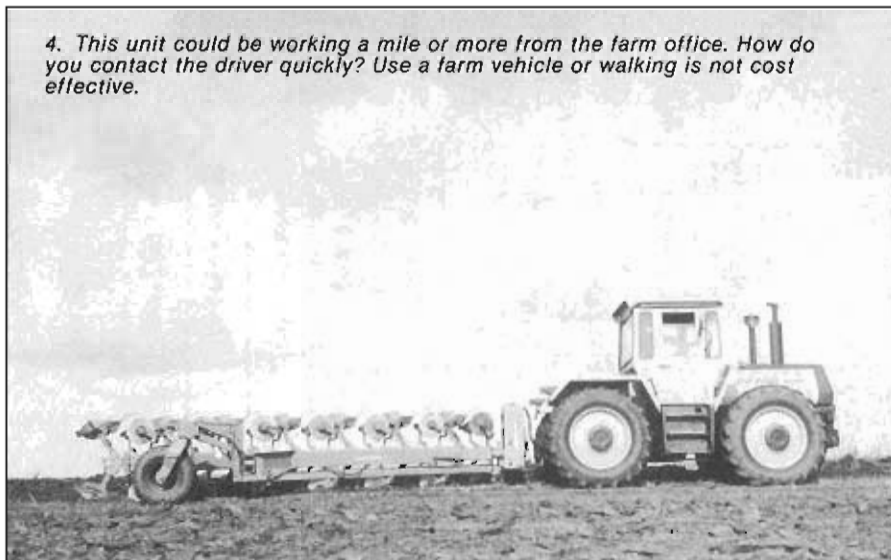
Then decide how many of the employees would benefit by having a hand held set available. These are available with shoulder straps to enable the employee to carry out his normal daily routine. The base station would need to be back in the office or farmhouse for continual monitoring. The ideal location is beside the master telephone.

Installation of c.b. sets presents no

**2. Management of this poultry unit would benefit by using c.b. to keep in contact with staff.**



**4. This unit could be working a mile or more from the farm office. How do you contact the driver quickly? Use a farm vehicle or walking is not cost effective.**



**3. Drivers of these two units could communicate with each other if c.b. radios were fitted.**



problem provided that there is a 24 or 12 volt battery available (for mobiles) or a mains supply for the base station. Hand held units can be fitted with special batteries which can be recharged overnight.

Work out how many times a day it would be beneficial to be able to immediately contact the various employees. Not just those in the yard but those out in the fields. The result will be astounding, particularly if the time spent in finding the stockman or ploughman is taken into account.

Why not also ascertain how much time is being spent by managers driving around in vehicles on the daily rounds? Remember time costs money.

When contemplating such a project it is recommended that the farmer discusses the total exercise either with his local c.b. specialist, or the main supplier of the transceivers, as opposed to the multiple or high street store. They will be able to advise on suitable antennae, whether headphones or earpieces and voice activated microphones might be useful in certain areas, and of course carry out the installation and any training that might be required.

The use of c.b. on the farm will be cost effective provided that it has been planned correctly and the system kept simple. Farmers have sometimes been told that they are too conservative so why not obtain two sets and try them? The benefits will become immediately apparent.

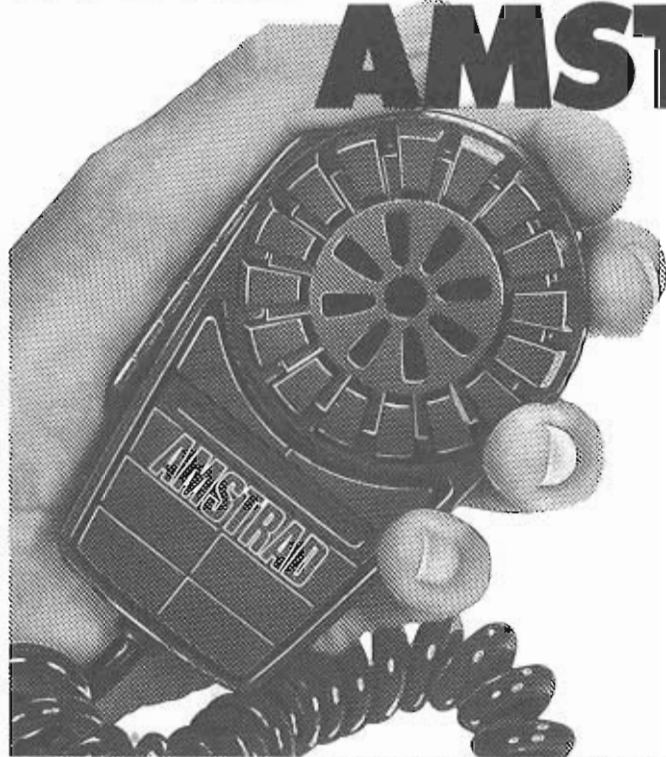
Later in the year *CB World* will be featuring in depth studies into various aspects of the farming industry and show how c.b. is used. ●

# Rigs - what's available

	Base/Mobile/H-Hand B M HH	RF gain control	Mic gain control	DX/local switch	Ch 9 feature	CB/PA switch	Tone control	Hi/Lo power switch	Transmit indicator	Receive indicator	PRICE inc VAT	Other facilities
Plustronics Ltd, Hempstalls Lane, Newcastle, Staffs ST5 0SW. (0792) 615131												
<b>Midland</b>												
2001	M					Yes		Yes	Yes		£69.95	
3001	M	Yes		Yes		Yes	Yes	Yes			79.95	
4001	M	Yes	Yes	Yes		Yes	Yes	Yes	Yes		£89.95	LED dimmer
79-200	B							Yes			£149.95	LED dimmer. AC and DC power leads.
77-810												Ch9 and 14 highlighted. 40 channel.
Ready Rescue	HH				Yes				Yes		£72.95	Ext power lead. Magnetic base for ext antenna.
75-720	HH								Yes		££59.95	Three channel. Ext power socket.
Radiomobile Ltd, Goodwood Works, N. Circular Road, London NW2 7JS. 01-452 3333												
<b>Radiomobile</b>												
CB201	M							Yes			£103.50	
CB202	M	Yes			Yes	Yes	Yes	Yes	Yes	Yes	£138	February 1982
CB203	B							Yes			£149.50	February 1982
CB204	B							Yes			£230	
Radiotechnic Ltd, Grove View, Bel Royal, St Lawrence, Jersey Cl. (0534) 78831												
<b>DNT (W. Germany)</b>												
M40FM	M			Yes				Yes	Yes		£95.43	Positive or negative earth.
B40FM	B			Yes				Yes	Yes		£95.52	Mains operation
HF12/3FM	HH										£41.35	Three channel
HF13/40FM	HH										£70.82	Ext battery. Ext antenna.
Rotel Hi-Fi Ltd, 2 Erics Road, Stacey Bushes, Milton Keynes, Bucks. (0908) 317707												
<b>Rotel</b>												
RVC220	M							Yes			£70	All three sets have
RVC230	M	Yes				Yes	Yes	Yes			£80	floating earth and
RVC240	M	Yes	Yes		Yes	Yes	Yes	Yes			£90	diode protection
Shadow Communications Ltd., Lumen Road, Royston, Herts. (0763) 46631												
<b>Shadow</b>												
Alpha 1000	M							Yes	Yes		£79.85	All mobile sets have floating earth
2000	M	Yes				Yes	Yes	Yes	Yes		£79.95	and reverse polarity protection. LED
3000	M	Yes	Yes		Yes	Yes	Yes	Yes	Yes		£89.99	dimmer. Mains operation. Integral
4000	B	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	£140	SWR meter. Headphone socket.
Shellpost Ltd., 185 The Rock, Bury, Greater Manchester 061-797 7146												
<b>Colt</b>												
Colt 295	M							Yes	Yes	Yes	£85.40	
Sirtel (UK) Ltd, 24 Alfric Square, off Maxwell Road, Woodston Industrial Estate, Peterborough PE2 0JP. (0733) 236010												
<b>Sirtel</b>												
Searcher FM	M					Yes		Yes	Yes		£79.95	
Steepletone Products Ltd, Park End Works, Croughton, Brackley, Northants NN13 5RD. (0869) 810081												
<b>Steepletone</b>												
SCB1FM	M							Yes	Yes	Yes	£79.95	Automatic frequency selection.
Sulkin (UK) Ltd., 73 Grosvenor Street, London W1 01-629 8368												
<b>York</b>												
JC8861	M						Yes	Yes			£69	
JC8863	M	Yes	Yes		Yes	Yes	Yes	Yes			£94	LED dimmer.
Sunrise Products, 8a Smithfield, London EC1												
<b>Sunrise</b>												
Samurai	M					Yes		Yes	Yes	Yes		

Contd on Page 38

# 'WALL TO WALL AND TEN FEET TALL, AMSTRAD!



Nobody knows more about in-car electronics than Amstrad. That's why we're at the forefront of CB in the GB with everything you need for wall to wall reception. A choice of two high performance, 40-channel rigs—both designed from the ground up for the 27MHz FM band and featuring MOSFET technology. Amstrad also offer a unique 1.5 metre triple-fixing antenna.

All come supplied with full fixing and mounting kits. And, with the rigs, we also give a free operating manual and CB guide.

Smokey and Buzby like Amstrad CB equipment too—it all fully conforms to the UK legal specification, MPT-1320.

Amstrad CB Rigs start from around

**£79**

excluding antenna.

**PERFECT MATCH  
PERFECT RECEPTION**

Ensure peak reception with the unique Amstrad CBA 1500 antenna. A 1.5 metre shock spring, base-loaded, stainless steel whip with a choice of magnetic, clip-on or hard fixing. Around

**£15**

**LOOK FOR THE SIGN  
OF THE CB LEADERS**

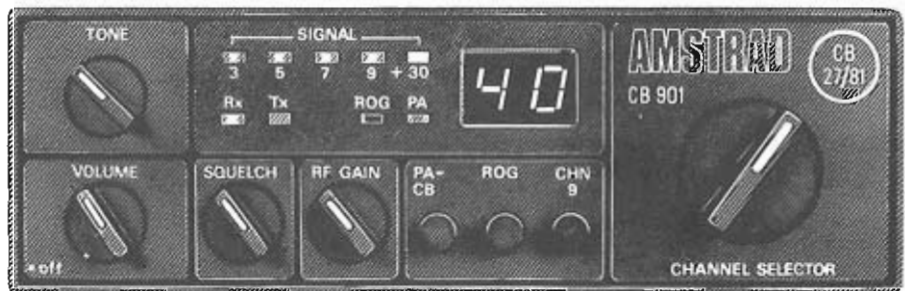


Amstrad CB900 Rig. Highly advanced rig with squelch control, RF gain, LED "pound" meter, ALC system, tone control and LED transmit/receive displays. Note the CB 27/81 Certificate of Compliance symbol.

Around  
**£79**

Amstrad CB901 Super Rig. Features Roger Bleep, CB/PA, instant Channel 9 switching, squelch control, RF gain, LED "pound" meter, ALC system, tone control and LED transmit/receive displays

Around  
**£95**



For full details of Amstrad Citizen Band Radio and the address of your nearest stockist, write to Amstrad Consumer Electronics Limited, (Dept C3) 1-7 Garman Road, London N17 0UF.

AVAILABLE AT SELECTED STORES OF:

**Argos COMET Currys HALFORDS RUMBELOWS**





# RIG ROUND UP

Continuing our monthly series on the latest F.M. Rigs.  
NOTE: All specification data is that as supplied by the manufacturer or importer.

## LCL Imports

Since publishing brief details of the LCL range of transceivers last month the following additional specifications have been released to us for publication.

### Model 2740

The LCL was technically developed in Germany and is manufactured to LCL quality specifications, and fully complies with Home Office regulations MPT 1320 and CB 27/81.

Model 2740 is a top quality unit. It can be used as a home base station if supported by a suitable regulated power supply — 13.8V DC 240V mains, 3 amp constant, 5 amp surge or 5 amp constant, 7 amp surge.

#### Specifications:

Frequency:	26-28MHz/operational 27.60125-27.99125MHz
Channels:	40 switched
Frequency tolerance:	0.0010/0
Operating temperature:	-10°C+55°C
Operating voltage:	12V battery/13.2V nominal
Operating voltage range:	11-16V DC
Dimensions:	165×155×50mm
Semi conductors:	24 transistors, 14 diodes, 4 IC's
Ceramic filter:	2 LED, 1 channel display
Weight:	3 1400 gr



The LCL upmarket set, known as the 'Communicator' has logic synthesizer circuitry.

#### Receiver section:

Sensitivity:	>than 0.4µV for 10 dB S+N/N
Selectivity:	±3.6kHz-6 dB, 10kHz-85 dB
Adjacent channel rejection:	80 dB
IF frequencies:	455kHz/10.695MHz
Squelch:	0.1-1.5µV
Image rejection:	>than 90 dB
Audio output:	2 watt/8 ohms

#### Transmitter section:

RF output:	0.4-4.0 watt (Lo-Hi)
Type of modulation:	FM
Modulation deviation:	2.5kHz maximum
Harmonic:	>than -43 dBm
Spurious rejection:	>than -37 dBm

#### Conversion systems:

IF:	Dual conversion superheterodyne
	10.695MHz 1st and 455kHz 2nd

Channel display:	Digital 7 segment LED's
Audio output power:	>1.5W into 8 ohm
Sensitivity:	<1 microvolt@20 dB S/N
Adjacent channel rejection:	>50 dB
Spurious emission:	<20nW
Squelch sensitivity:	1 to 100 microvolt
Recommended retail price is £79.95.	
The LCL 2740 is expected to	

LCL Imports Ltd.,  
101 Dixon's Green,  
Dudley,  
West Midlands DY2 7DJ  
Telephone: (0384) 59185.

## Major (UK) Ltd.

### Major CB Radios — Facts and Specifications

Major is an established name among c.b. enthusiasts and is popular in Europe. It is manufactured by Cybernet which ensures not only



The major 3000 is the middle model in a range of four sets produced by Cybernet.

very high quality and reliability but also the long term availability of parts and accessories.

Major c.b.'s are simple to install and operate. They come complete with microphone, mounting brackets, cable, and instruction manual. Three transceiver models are available — the 2000, 3000 and 5000 — plus the Model 4000 base station.

#### Specifications:

Channels:	40 channels. PLL digital logic synthesizer circuitry
Power requirements:	Consumption 18 watts. Current drain 1.3 amps (100% mod) at 1.38 volts DC
Power supply:	12 volts DC nominal (positive or negative ground)
Semiconductors:	Integrated circuits, transistors and diodes
Operating temperature range:	-30 to +50°C
Microphone:	Dynamic with push-to-talk switch, 500 ohm
Built-in speaker:	8 ohms impedance 77MM (3ins. in size)

Controls: Model 2000 — volume, squelch, channel selector.  
Model 3000 — volume with on/off switch, squelch control, channel selector, CB/PA control, RF gain control, tone high/med/low  
Model 4000 — 'Base Unit' features include: walnut cabinet, volume with on/off switch, squelch control, tone control, delta tune, DX/LOC switch, phone jack, on-the-air light, receive light, S/R/F meter, channel selector  
Model 5000 — 'Up-market product' features include: volume, RF gain, squelch, tone, CB/PA, Channel 9 priority, ext/int speaker switch, d/tune, channel selector, S/R/F meter, TX and RX lights  
Connectors: External speaker jack 3.5mm (8 ohms impedance)

antenna receptacle to match PL-259 coax plug (50 ohm impedance), 12 volt DC power jack (polarized type)  
Circuit protection: Prevents transistor burn-out when transmitting without antenna (5 minute limit), 2 amp fuse in Dc power cord

#### Receiver:

Sensitivity: Better than 0.5µV for 500mW audio output at 'min' position squelch setting  
Frequency coverage: 27.60125 to 27.99125MHz

Audio output power (power to speaker):

@ 10% DIST better than 2.2 watts

Squelch range (sensitivity): 0.5µV nominal

#### Transmitter:

Frequency coverage: 27.60125 to 27.99125MHz

Transmitting power output RF (radio frequency) power to antenna; 4 watts maximum as limited by Home Office regulations.  
Modulations: Capable of 100% factory preset limit 85%-100%.

**Major (UK) Ltd.,**  
Unit 2, Station Yard,  
Wilbraham Road,  
Fulborn, Cambridge CB1 5ET  
Telephone: (0233) 881055

## Radiotechnic Ltd.

Radiotechnic have introduced four new transceivers onto the market:

The B40FM 40-channel base unit, the M40FM 40-channel mobile unit, the HF12/3FM 3-channel hand-held unit and the HF13/40 FM 40-channel hand-held unit.

### Model M40 FM CB Radio

#### Specifications:

Frequency range: 27.60125-27.99125MHz

Channel spacing: 10kHz

Number of channels:

40 (switchable)

Mode of operating:

Simplex

Modulation:

Angular (FM)

Operating temperature range:

-10°C + 55°C

Antenna impedance:

50 ohms

Power supply:

13.2V DC nominal, positive or negative ground

Controls and indicator lamps:

On/off switch. Volume control. DX-near switch. Hi-Lo power control switch. Channel selector switch. Transmit indicator. Channel free indicator. LED readout channel indicator.

Dimensions: 165×155×50mm

Weight:

1120 grams

#### Transmitter:

Power output: 4W or 500mW (switchable)

Duty cycle: At 25°C continuous transmit

Modulation frequency range:

300-3000Hz

Frequency deviation:

±2.5kHz

Microphone:

Fist — dynamic

#### Receiver:

Signal to noise: better than 0.4µV at 10 dB

S+N/N

Selectivity:

±3.6kHz/-6 dB, 10kHz/-85 dB

IF frequency:

1st IF 10.695MHz, 2nd IF 455kHz

Squelch sensitivity:

0.1µV — 1.5mV

Spurious response rejection:

Better than 90 dB

Sound output power:

1.7 watts into 8 ohm load

Price: £85.43.

### Model B40 FM CB Radio

#### Specifications:

Frequency range:

27.60125-27.99125MHz

Channel spacing:

10kHz

Number of channels:

40 (switchable)

Mode of operating:

Simplex

Modulation:

Angular (FM)

Operating temperature range:

-10°C + 55°C

Antenna impedance:

50 ohms

Power supply:

240V 50Hz AC

Controls and indicator lamps:

On/off switch. Volume control. DX-near switch. Hi-Lo power control switch. Channel selector switch. Transmit indicator. Channel free indicator. LED readout channel indicator.  
165×155×50mm  
1120 grams

Dimensions:

Weight:

#### Transmitter:

Power output:

4W or 500mW (switchable)

Duty cycle:

At 25°C continuous transmit

Modulation frequency range:

300-3000Hz

Frequency deviation:

±2.5kHz

Microphone:

Fist — dynamic

#### Receiver:

Signal to noise:

Better than 0.4µV at 10 dB

S+N/N

Selectivity:

±3.6kHz-6 dB, 10kHz-85 dB

IF frequency:

1st IF 10.695MHz 2nd IF 455kHz

Squelch sensitivity:

0.1µV — 1.5mV

Spurious response rejection:

Better than 90 dB

Sound output power:

1.7 Watts into 8 ohm load

Price: £95.52

**Radiotechnic Ltd.,**  
c/o Direct input Ltd.,  
19 Clos Du Briand,  
St. Helier, Jersey  
Telephone: (0534) 36493

## Rotel HiFi

Rotel have three high quality 27MHz FM legal units. They are available nationally through existing Rotel accounts, as well as new specialist c.b. outlets.

Rotel has been known for superb quality hi fi for 20 years. Since moving to new headquarters two years ago in Milton Keynes, Rotel believes it is able to offer excellent spares, repairs, delivery and after-sales service. This same professionalism will now encompass all c.b. products.

Brief specifications and features are:

### RVC

- Spec to MPT 1320
- 40 channel
- Volume ON/OFF control
- Squelch control
- Signal strength meter
- LED channel readout
- 10dB attenuator on rear
- EXT. speaker socket

### RVC 230

- Spec to MPT 1320
- 40 channel
- Volume ON/OFF control
- Squelch control
- PA switch
- 10dB attenuator switch on front
- Hi/Lo tone
- RF gain

### RVC 240

- Spec to MPT 1320
- 40 channel
- Delta tune
- Channel 9/PA switch
- Squelch control
- Speech processor
- 10dB attenuator switch on front
- Mic gain
- RF gain

All complete with dynamic microphone and fitting kit. Floating earth and diode protection.

Expected selling price between £70-£100.



Meet the Rotel Hi Fi range.

**Rotel HiFi Ltd.,**  
2-4 Erle Road,  
Stacey Bushes,  
Milton Keynes,  
Bucks MK12 6HS  
Tel: (0908) 317707.

# A letter to the Editor

Dear Editor,

Well, there we are, well into Citizens Band legalisation. As I drove along with my dear old faithful tucked comfortably away, crackling like a contented hen, under the dash, I wonder what all the fuss and bother is about. You've all heard it; "They can poke f.m., what we want is a.m. and we are not going to use f.m." "I've been on a.m. for years and no-way will I change."

"What do they expect me to do, chuck my rig out of the window, spend £100 for f.m. and pay £10 for a licence just to please a load of wally's in parliament".

So it goes on and on, even to the pathetic suggestion that we drive to Trafalgar Square, cause on hell of a traffic jam, upset and inconvenience the public, and then, believe it or not, tear licence forms up into little pieces and scatter them to the four winds. What do the originators of this earth shattering idea think it would achieve? Certainly without a doubt annoy the general public and to what purpose? They haven't done us any harm. Or there again, upset the 'Old Bill' who, let's face it, have been upset enough lately. Mind you some breakers do ask to be caught, don't they?

Instances of 'Old bangers' held together with 'fibre glass', sporting firesticks, slowly driving past the 'law' with the occupants openly challenging the 'Peelers' to make a bust. Then the exaggerated tale which in turn grows in the telling until we hear of gestapo type raids on poor old so & so — who by the way, promptly obtains a new rig out of his c.b. club's bust fund. Or there's Charlie Mouse at home on base station, happily modulating day and night, totally ignoring the havoc being caused to the neighbours TV or stereo, always increasing power with boots or aerial, or both. No wonder complaints via the British Telecom are increasing. A little consideration, a few £'s spent on filters, a reduction in power during TV viewing hours and most of the complaints would not see the light of day. Think of all the

busts you've heard of, sort out and discard the 'ask for it' variety and it's odds on you'll find an unlucky breaker who just happened to be in the wrong place at the wrong time.

But what about this f.m.? Seems to be that someone had their facts wrong. Didn't we hear that it wasn't going to be noisy, would not interfere with TV, would give copies at a distance equal to a.m. In fact, would be the 'Almighty's gift to breakers'. But what have we got — plenty of background noise, it's also having a field day with the TV, reception. Agreed, clear copies are achieved but don't they come to a sudden halt when another transmission slips in between. Frustration isn't the word. At least with a.m. you did have a chance. This leads me to another point. What right do a.m. followers think they have which entitles them to purposefully go up to high channels just with the sole intention of playing hell on the f.m. frequencies? A.M. have ample channels to use over and above the 1 to 40. Play the game. A.M.'ers get upset when the continentals bleed all over them, why inflict similar aggravation on others? Leave them alone and they will remain in blissful ignorance of the joys of a.m.!

Has anyone else noticed the absence of some of the mouth's. Is it too much to hope that they have finally given up — or have they gone f.m. — time will tell?

So what have we obtained after many months of campaigns, with the weight of *CB World* using its influence at the top end f.m. instead of a.m. Pity, but that's life, let's be grateful that *legalised c.b.* is here anyway. Think of what this means to the real house-bound who, up till now, have sat in their isolated world, perhaps just looking out of a window watching the real world, as we know it, pass by. Now they are able to do exactly the same as us, meet on equal terms over the air, make friends of *all ages* with a common bond and interest. This is c.b. coming into its own, also a ready means of prompt contact if help is required — presupposing they

are unable to use the telephone for whatever reason; or a mobile breaker in an unfamiliar district obtaining directions. C.B. uses are endless and treated with respect, will give pleasure and be a certain benefit to all.

A.M. breakers should take care, if they intend to remain aloof they walk a very narrow path. To annoy the f.m. followers, (like the Italians do to those on a.m.), will inevitably result in f.m. rigs being tweaked above their legal limit of 4 watts, followed by burners (linear amplifiers) which will attract the attention of the authorities. So what you a.m.ers may say, that's their problem. But it's not, it's yours. In forcing them to open 'Pandora's Box' the next move will be to put this power into a.m. rigs to follow the skip to modulate the world. Now we are back to where we began and this time there can be no 'blind eye'. This time it *will* be the heavy hand of the law and the loser's will be you on a.m. F.M. will continue with its cloak of legality and our world will shrink to copies of a very few miles. Leave f.m. alone and you have a chance to continue with your hobby: I believe that it is acknowledged by 'those above' that a.m. is here to stay, left alone it will, by natural wastage, grow smaller in numbers as the new generation of f.m. users grow larger, certainly during '82.

Those are my thoughts — fully open to discussion. Chew them over, agree or disagree, give me a call on 14, I could well be in your district as I am a 'Travelling Man'. It's the freedom of speech we wanted wasn't it? Well we've got it, maybe not what we want but we did at least make them in the H.O. sit up didn't we.

One more thing, the 3w's (what rig, what 20, what handle) I can live with but isn't it about time we lost this American slang. We just do not need to further spoil our language in following their garbled interpretation. What do you think? I would be interested to hear from you. Regards,  
Travelling Man

## SANTA'S 10-33 CAPTIONS

For the majority of *CB World* readers the only sharp reminder of Santa's visit are the pine needles that have fallen from the Christmas tree. They appear in the most unlikely places; dad's slippers, in the dog's bed or sticking out of the cushions on the settee.

Readers will be relieved to know that Santa's call for help was heard by a local monitor and within an hour a long reach crane was gently lifting Santa from his perch.

Well done to the local monitor.

Here are your suggestions for the caption:

"I don't care who you are Fat Man, but get that reindeer off my roof." (Dundee Drifter — Tayside)

"O.K. Santa, you got the Winch Boy. How's that for a wind up?"

"O.K. Santa, if it's not a wind up what do you want a crane for?" (Cochise — Chelmsford)

"Yeah I copy you Santa; Virgil is on his way in Thunderbird 2, what's your 20?"  
"Deershit Santa, my dad says you don't exist and my teddy bear agrees with him."

"You can't fool me with that accent Cambox. What happened, Goldilocks' hubby come home early?"  
"Not your night, is it Santa." (Biggles — Basildon)

"O.K. Santa, this is Zeus. I'm afraid I haven't got a crane, but I'm quite happy to give you a thunderbolt!" (Honey Monster — Taunton)

"Breaker with the 10-33. I haven't got a crane, will a stork do?" (Hairy Hound — Gosport)

"Breaker with the 10-33, this is Mary Christmas saying, 'Pull the other leg, Santa, it's got Jingle Bells on!' (The Guineapig — Gnosall)

"10-4 Santa, I must be insane, I'll come and 'wind you up' with my big crane, We'll get you and your reindeer burnin' hoof again." (Night Owl — Standish)

"10-62 unable to copy, read *CB World* for a.m. and f.m." (T. Turnbull — Newbottle)

"If you want a pick up Santa, try Yeast-Vite." (Black Hawk — Darnley)

"Yea, Santa, you're causing Santaference."  
"10-33 Santa stuck on an aerial. I'm looking for a bear in the air."

The suggested alternative captions for Santa in his present predicament are as follows:

"Rudolph can smile, every time I key the mike his noise lights up." (Black Hawk — Darnley)

"Hi, this is the guy in the red siren suit. I got me a 10-33. The red nose pussy with the most has left me tied up and gone off down the ol' brown bottle." (Dragon Fly — Weymouth)

"Negatory, I am stuck on ANTENNAS not ANTLERS!" (Night Owl — Standish)

"As it's Christmas they should put up more fairy lights — a body could get injured here." (Hairy Hound — Gosport)

"Santa to Deer Hunter, could you make a 10-16 at No. 10 now instead of the Palace?" (Honey Monster — Taunton)



# Announcing the new 'Project Enterprise' range from LCL

## Britain's top value in CB radios and equipment



## 40 CHANNEL FM TRANSCEIVERS

The rigs illustrated are just two of a range of top value sets available from LCL.

LCL equipment is manufactured to our quality specifications and fully complies with Home Office Regulations MPT 1320 and CB 2781. We are the direct importers with large U.K. stocks. You can rely on us for immediate, personal service with prompt, reliable deliveries.

There's a full range of compatible LCL accessories and equipment, including CB books and information.

Don't wait. Send for more information and get your orders in fast. We have the equipment your customers will be looking for. Subject to availability.

LCL IMPORTS LTD., Units 1/4, Enterprise Trading Estate, Pedmore Road, Dudley, West Midlands.

CB  
27/81

**LCL**  
IMPORTS LIMITED

# Introducing Marine VHF radiotelephony

The third in our monthly series describing the use and operation of marine VHF Radiotelephony

## Operating Rule

### The Purpose of Standard Procedure

English is one of the recognised international languages of radiotelephony, but accents can easily make words difficult to distinguish, and radio interference can make the clearest voice difficult to understand. Standard procedure, familiar words and phrases, provide a common pattern, understood by radio-operators of most nationalities.

When the standard words or phrases are used in an expected order they are much easier to discern against a background of radio and weather interference. Departures from the standard procedure often create confusion, reducing the reliability and speed of communication.

### Transmission Rules

The following simple rules are essential to the efficient use of the radiotelephone frequencies and channels. In most cases they are necessary to conform with international rules of conduct.

The following are strictly forbidden:

1. transmissions which have not been authorised by the Master or other person in charge of the ship.
2. operation of a radiotelephone by unauthorised persons. Passengers or other members of the crew may make radiotelephone calls under supervision.
3. the transmission or circulation of false or deceptive distress, safety or identification signals.
4. transmissions made without identification, i.e. without ship's name or call-sign.
5. the use of christian names or other unauthorised identification in lieu of ship's name or call-sign.
6. closing down a radiotelephone before finishing all operations resulting from a distress call, urgency or safety signal; exchanging all traffic on hand (or indicated) with the Coast Radio Station

or other ships which have indicated a desire to communicate with you.

7. broadcasting messages or programmes. To broadcast means to transmit (without a reply being expected) information intended for reception by another person or persons. (Broadcasting safety messages to "All Ships" is an exception to this rule).
8. making unnecessary transmissions or the transmission of superfluous signals.
9. the transmission of profane, indecent or obscene language.
10. the use of frequencies or channels other than those covered by the ship's licence.
11. the broadcast transmission of music.

### Secrecy of Correspondence

Radio operators and others who become acquainted with the contents of radiotelegrams or radiotelephone calls are bound to preserve the secrecy of correspondence. No one shall divulge the contents or even the existence of correspondence transmitted, received or intercepted by a radio station.

The interception of radio communication correspondence, other than that which the station is authorised to receive, is forbidden and in the case where such correspondence is

involuntarily received, it must not be reproduced, nor communicated to third parties, nor used for any purpose, and even its existence shall not be disclosed.

### Avoidance of Interference

Before transmitting, first list on the frequency or channel or try to make sure that your transmission will not interfere with any other communications already in progress. If the frequency is occupied, then wait for a break before transmitting.

Having taken this precaution, if you do cause interference you must comply with any request from a Coast Radio Station to stop transmitting. The request will contain an indication of the time for which you should refrain from transmitting.

### Control of Communications

- (i) Ship-to-Shore: Except in the case of distress, urgency or safety, communications between a ship and a Coast Radio Station are controlled by the Coast Radio Station.
- (ii) Intership: The ship which is called controls communication. If you call another ship, then that ship has





control, or, if you are called by a ship, you must assume control. If a Coast Radio Station finds it necessary to break-in, both ships must comply with any instructions given by the Coast Radio Station.

It must be borne in mind that a Coast Radio Station generally has much better aerials and equipment than most ship stations and thus the area covered by its transmissions and reception is greater.

The diagram explains the reasons for these rules. Both ship stations are able to communicate with the Coast Radio Station but not with each other. Ship station 'B' could be transmitting; Ship station 'A', not able to hear 'B', thinks the Channel is clear to transmit. The Coast Radio Station receives both signals as interference, and requests 'A' to stop transmitting while he deals with 'B'. As soon as the channel is clear, the Coast Radio Station will call Ship station 'A'.

## Voice Technique

Operating a radiotelephone is an art in which plays a full part. There are two basic considerations when voice operating:

WHAT to say (e.g. voice procedure)

HOW to say (e.g. voice technique)

The necessity for clear speech on a radiotelephone cannot be over-stressed. If a message cannot be understood by the receiving operator it is useless.

Almost anyone can become a good radiotelephone operator by following a few simple rules:—

**PITCH.** The voice should be pitched at a slightly higher level than for normal conversation. In conversation there is a tendency to drop the pitch of the voice at the end of a word or phrase, which should be avoided.

**VOLUME.** The microphone should be held a few inches in front of the mouth and spoken directly into, at normal conversation level.

**CLARITY.** Speak clearly, so that there can be no confusion with other words; words with weak syllables should be emphasised (e.g. 'Tower', if badly pronounced, could sound like 'tar'). People who have a particularly strong accent must try to use as understandable a pronunciation as possible. **SPEECH RATE.** Radiotelegrams and other messages which have to be written down (copied) by the receiving station should be sent slowly. They should be spoken in natural phrases, not word by word and a pause made at the end of each phrase to allow sufficient time for it to be written down by the receiving operator. Remember, average reading speed is two hundred and fifty words a minute.

## The Standard Phonetic Alphabet

Whilst there are, and have been, numerous ways of identifying with certainty the letters of the alphabet, the one set below was worked out by an International Committee as being the most suitable for pronunciation by operators of many different nationalities, tongues and accents.

Letter	Phonetic	Spoken as
A	ALFA	AL FAH
B	BRAVO	BRAH VOH
C	CHARLIE	CHAR LEE or SHAR LEE
D	DELTA	DELL TAH
E	ECHO	ECK OH
F	FOXTROT	FOKSTROT
G	GOLF	GOLF
H	HOTEL	HOH TELL
I	INDIA	IN DEE AH
J	JULIETT	JEW LEE ETT
K	KILO	KEY LOH
L	LIMA	LEE MAH
M	MIKE	MIKE
N	NOVEMBER	NO VEM BER
O	OSCAR	OSS CAH
P	PAPA	PAH PAH
Q	QUEBEC	KEH BECK
R	ROMEO	ROW ME OH
S	SIERRA	SEE AIR RAH
T	TANGO	TAN GO
U	UNIFORM	YOU NEE FORM or OO NEE FORM
V	VICTOR	VIK TAH
W	WHISKEY	WISS KEY
X	X-RAY	ECKS RAY
Y	YANKEE	YANGKEY
Z	ZULU	ZOO LOO

It is recommended by the International Telecommunications Union (abbrev. ITU) for use on the Maritime Mobile Bands whenever radiotelephony is used.

Difficult words, or groups of letters within the text of messages may be spelled using this Phonetic Alphabet. The operator will precede this spelling with the words 'I SPELL'. If the word to be spelt happens also to be pronounceable, it should be included both before and after it has been spelt.

For example, if the operator wished to send a message 'I intend anchoring off Youghal' he would transmit as follows:—

'INTEND ANCHORING OFF YOUGHAL — I SPELL — YANKEE OSCAR UNIFORM GOLF HOTEL ALFA LIMA — YOUGHAL —'

Another example might be where a Coast Radio Station asks for your International Callsign. If your Callsign were MBDD, you would transmit:—

'MY CALLSIGN IS MIKE BRAVO DELTA DELTA'.

## Phonetic Numerals

When numerals are transmitted by radio-telephone, the following rules for their pronunciation should be observed.

Numeral	Spoken as
1	WUN
2	TOO
3	TREE
4	FOW-ER
5	FIFE
6	SIX
7	SEV-EN
8	AIT
9	NIN-ER
0	ZERO

Numerals should be transmitted digit by digit except that multiples of thousands may be spoken as such.

Numeral	Spoken as
44	FOW-ER FOW-ER
90	NIN-ER ZERO
1478	WUN FOW-ER SEV-EN AIT
7000	SEV-EN THOU-SAND
136	WUN TREE SIX
500	FIFE ZERO ZERO

## Alternative Numeral Phonetics

The numeral code words shown below are for use when communicating with non-English speaking stations. These are very seldom used.

Numeral	Code Word	Spoken as
0	NADAZERO	NAH-DAH-ZAY-ROH
1	UNAONE	OO-NAH-WUN
2	BISSOTWO	BEES-SOH-TOO
3	TERRATHREE	TAY-RAH-TREE
4	KARTEFOUR	KAR-TAY-FOUR
5	PANTAFIVE	PAN-TAH-FIVE
6	SOXISIX	SOK-SEE-SIX
7	SETTESEVEN	SAY-TAY-SEVEN
8	OKTOEIGHT	OK-TOH-AIT
9	NOVENINE	NO-VAY-NINER

## Punctuation

Punctuation marks should only be used where their omission would otherwise cause confusion.

Mark	Word	Spoken as
.	Decimal	DAY-SEE-MAL
,	Stop	STOP
,	Comma	COMMA

### IMPORTANT

*CB World* as a responsible journal does not under any circumstances suggest that c.b. is used as an alternative to marine transceiver. There are however many small pleasure boats where the fitment of a marine transceiver would not be practical. Many families who own cars and trail or carry boats on their roof racks will probably have a c.b. set in them so it will be a natural progression to have one in their boat, be it a powerboat, sail boat or even canoe.

We would like to thank the Royal Yachting Association for the valuable assistance in the preparation of this first of a series of articles. Thanks are also due to VTronix Communications Equipment and Accessories (Unit 10D, Dawkins Road, Hamworthy, Poole, Dorset BH15 4JP. Tel: 02013 82844) and also Greenham Marine Ltd (Enefco House, The Quay, Poole, Dorset. Tel: 02013 6363) for the supply of marine VHF radiotelephone equipment and antennae to *CB World*. Any reader interested in further information should make contact with any of the above.

More next month. ●

# 2m Transceiver

**Supplier: FUKUYAMA ELECTRONICS**

**Model: FDK 750 A**

WITH well over 4000 new amateur licences expected to be issued in 1982 the demand for commercially made equipment to enable these newcomers to get on the air as soon as possible is pretty formidable. Most of the new licensees will opt for the "B" amateur licence which permits telephony operation only on amateur bands 144MHz(2m) and above. To qualify for the "A" licence which allows operation on all amateur bands and all permitted modes it is necessary to pass an examination in the Morse code.

Many of the newcomers will concentrate on the very popular mobile operation in the 2m band where there are many repeaters scattered around the country which considerably increase the effective range of a mobile station. The majority, probably, of the 2m rigs on the market today are designed for mobile use from the vehicle's battery, generally 12V, although many operators take the rig out of the car when they are at home and run it as a base station from a mains power unit. Considering the number of thefts of equipment from cars in recent times this practise can be considered as a highly desirable one.

Typical of the very wide range of 2m mobile transceivers now on the market is the FDK 750A (or E) multimode rig made in Japan by Fukuyama Electronics. For the UK the 750E frequency coverage is from 144 to approximately 146MHz with the 750A covering 144 to 148MHz, again approximately, see specification. The battery supply is a nominal 13.8V but may vary between 11 and 15V in safety. The consumption under various conditions is shown in the table.

The digital frequency readout, in conjunction with the main rotary switch, indicates operational frequency and may be varied in steps of 100Hz or 5kHz depending upon the position of the Step switch on the front panel. With FM channels spaced at 25kHz the 5kHz steps are quite adequate on this mode but on SSB and CW the alternative 100Hz steps are absolutely essential. In addition there is a receiver incremental tuning knob giving a further 2.5kHz swing either side of zero without affecting the transmitted frequency.

For the repeater fiends there is a toneburst actuated by the PTT microphone switch plus automatic separation of the transmitted and received frequencies by the necessary 600kHz offset. The digital display shows the higher, receive channel frequency. Two pushbuttons A and B allow the VFO to be programmed for two frequencies apart from the dialled frequency, activated by pushing either button. The memory circuits retain this information as long as the DC supply voltage is maintained, regardless of whether

the set's on/off switch is on or off.

The offset switch is also part of the cross-mode function switch necessary for when the 750 is used with the FDK Expander-430 UHF converter, for the 70cms band.

The provision of CW on this rig is hardly likely to be used in mobile operation and the serious CW operator won't like it very much even if used as a base station, for two reasons. There is no keying sidetone provided, and the PTT switch on the microphone has to be kept pressed with one hand while keying with the other! No doubt this could be remedied by a little judicious fiddling of connections at the microphone socket without having to delve into the 750.

The rig was used with a vertical two-element colinear, and a six-element quad supplied by Halbar Electronics. During the three weeks that the set was in use no great DX was worked but plenty of local and semi-local stations both direct and through repeaters (naughty!) with favourable comments on the signal and audio quality. The best on CW was an F6 but very little CW activity at any time was noted.

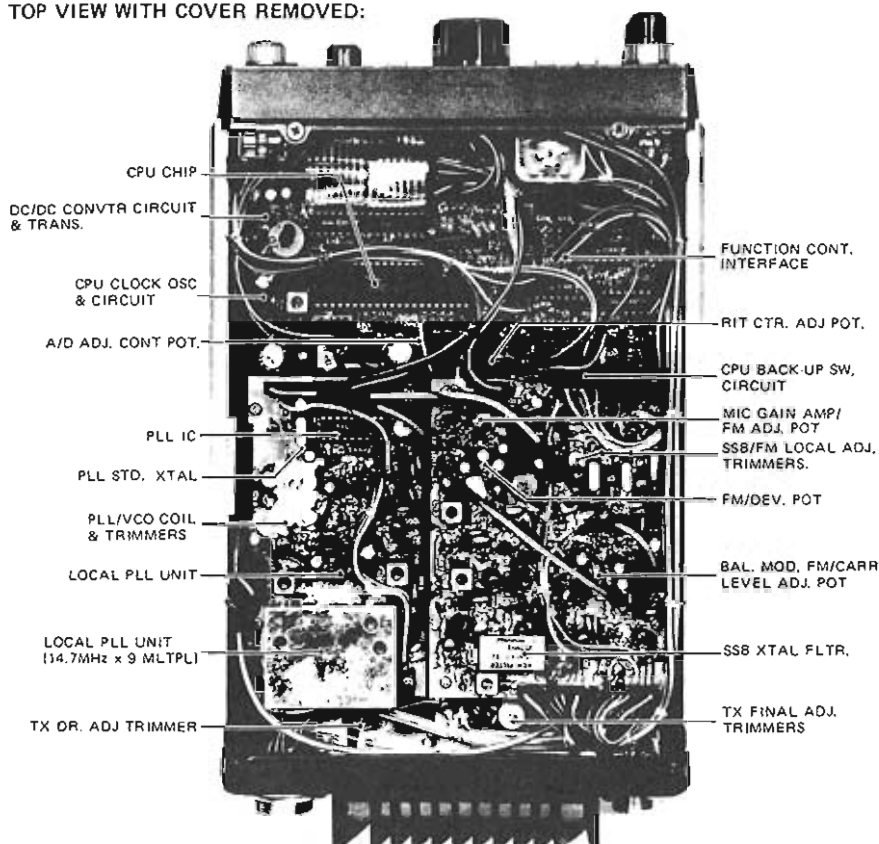
On SSB activity was also very sparse with the whole of 144 to 145MHz completely void of any signals for long periods. What "lifts" that did occur were missed! Mobile operation is obviously very popular and the input and output repeater frequencies are kept very busy, unfortunately often spoilt by "squeakies", and others broadcasting musical items!

The 750 was used as a mobile rig for a while with a simple quarter wave vertical aerial clipped on to the gutter. No trouble was found in accessing and nearest repeaters at ranges up to about 35 miles but is only to be expected the range obtainable depended a great deal on the location of the car at any time.

The facility for changing frequency by pressing buttons on the microphone is invaluable in mobile operation, allowing eyes to be kept where they should be, on the road ahead. It is a great pity that none of the new legal CB rigs have this facility but it will come in due course.

The 750 package includes a well-made mounting bracket for the car with several

TOP VIEW WITH COVER REMOVED:







## Basic Specification

### Power Supply:

13.8V nominal (11 to 15V) negative earth.

### Power Consumption:

3A on transmit, high power 10W.

2A on transmit, low power 1W.

800mA max audio volume on receiver.

400mA on receive with squelch operative.

1.4mA VFO memory back-up.

### Frequency Range:

750E 144.000 to 145.999MHz.

750A 144.000 to 147.999MHz.

### Modes:

FM-SSB (USB and LSB) — CW.

### Output Impedance:

50 Ohm to SO239 socket.

The frequency is changed by the main rotary switch in discrete intervals of 100Hz or 5kHz determined by the Step switch on the front panel.

positive locking positions, and the ability to slide the rig in the mounting to the most convenient position. Miniature plugs for the external speaker and the key come in handy where the shack's speakers and keys are already on  $\frac{3}{4}$ in diameter plugs. For the in-line power supply fuse a spare is supplied.

The hi/lo power switch is sandwiched away at the back of the black box and would be completely inaccessible in a car, and almost as difficult when it is not! However I imagine it will be left in the 10W output position in practice although, as is normal on VHF, the power matters little over an essentially optical path.

When in the car the rig suffered very slightly from the car's electrics, the noise blander making little difference on CW or SSB, the two modes on which it is supposed to work. But then, when did any noise blander work effectively? I always contend that if the noise level is bad enough to justify a noise blander then it is just not worth bothering anyway.

Altogether the 750 is a simple rig to use, with every worthwhile facility, adequate

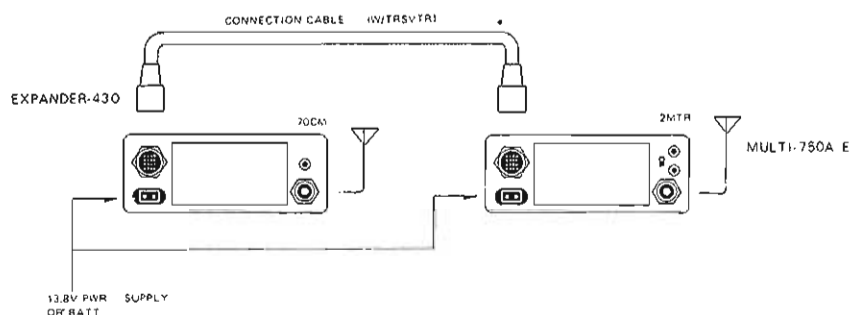
sensitivity plus a good filter on SSB and CW (2.2kHz at -6dB and better than 6kHz at -60dB). As a rig for the car it could hardly be bettered, the 10W output being quite enough for all normal mobile operation.

The FDK 750A used in this review was kindly loaned by Waters and Stanton



Electronics Ltd, Warren House, 18 Main Road, Hockley, Essex. (0702) 206835 and 204965.

## CONNECTION PROCEDURE:



## RF Power Output:—

A switch on the rear of the unit gives the choice of 1W or 10W output.

## Microphone:—

Dynamic type with PTT switch and Up/Down press buttons controlling the frequency in the same manner as the main rotary switch.

## Receiver:—

Superheterodyne on CW and SSB, double-superheterodyne on FM. IF's 455kHz and 10.7MHz. Audio output better than 1.2W into 8 ohms.

Provided the DC supply to the transceiver is maintained the unit may be switched off at the front panel without losing the two frequencies programmed into the dual VFO circuits. ●

# Name this Bandit



## **"BANDIT" ANTENNAS LTD**

Bel-Ray Buildings, Rougham Industrial Estate,  
Bury St. Edmunds. Tel: 0359 70990/70999

This guy and his loot is wanted by many serious c.b.'ers because of his outstanding performance. Unfortunately because of his straight resistive load and ease of tuning he will not remain in stock long enough to be identified.

To help Bandit Antennas Ltd. trace him he needs to be named. **CB World** readers are invited to give him a Christian and

Surname. In return his owners offer a reward for the first ten most original names. The first reward is a pair of Twin Truckers antennae (or equivalent car antennae) and an engraved silver plaque.

The next five rewards are mag. mount antennae whilst the next four original names will receive tee-shirts with the breakers' handles printed

on the front.

Your assistance is required by first post February 28th. The Directors of Bandit Antennas Ltd. and the Editor's decision is final. No correspondence will be entered into. Send your entries to **CB World**, Room 802, IPC Business Press Ltd., Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS.

# CB World Diary 1982

Just out, *not* available through newsagents or bookshops this year — the diary for c.b. users. Whatever you do, this is for you.

Whether you are mobile, home based, a.m. or f.m., a.c. or d.c. Gold blocked on black it's good value at £2.45 including postage and packing.

It has sections on 'How c.b. Works'; 'Installing a

Home Base'; 'Installing your mobile'; 'How to SWR'; 'How to deal with TVI'; 'Fault Finding'; 'Q-Code'; '10-code'; it's all there.

In addition, the diary has the usual information plus a special section to log your own good c.b. friends.

Don't miss out on this year's edition — there are only a few remaining. This

is a joint Letts/**CB World** production available from us to all over the UK.

Send your green shields to **CB World**, General Sales Department, Room 205, Quadrant House, The Quadrant, Sutton, Surrey. Remittance of £2.45 (each) should be made payable to IPC Business Press Ltd. (See page 00 for our advertisement).

# Win a BBC microcomputer with **YOUR COMPUTER**

Now's your chance to win the micro every one's talking about in our February word competition. And see what it can do in Tim Hartnell's detailed follow-up to his earlier review of the BBC micro.



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  - Review of the latest ZX-81 software
  - Writing a naughty program for the Acorn Atom
  - How to write music on the VIC-20

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CBW

## er • The programming space-saver •

This month we feature a video camera interface for a microcomputer, allowing a television set to present a picture to a computer, which can then store and display it.

Text and graphic material are to be broadcast by the Open University as part of their radiotext project. Since the broadcasts will be outside normal hours the material must be recorded. The system we describe will allow an ordinary cassette recorder to accept the material for display on a TV set or for print-out. Also in our February issue, the professional approach to re-transmitting TV pictures to locations where ordinary broadcast transmitters can't reach.

# wireless world

February issue out now. 70p.

# BRING IT BACK

## Learn from my mistake

### F.m. c.b. for me!

First may I tell you a little about my background. I am an Electronics & Radio Engineer and have worked in the field since 1967, mainly on Japanese equipment. I have worked abroad on c.b. equipment (1973 and 1978), and currently work on an amateur radio, commercial radio-telephones and c.b. radio — the first two being my main business (service wise).

I was founder of the UKCBC in 1977 when Bernie Murray took it over — I felt more interest was needed in other directions. I was also made an honorary member of CBA and have been to several c.b. meetings and rallies, but I regret to say that I found too many so-called campaigners were rude and hostile as regards to the cause and to people who were trying on their behalf to obtain a c.b. in the UK. I particularly dislike the way certain individuals swore at the police — who were the hard cord of c.b.'ers who were at many rallies. Instead of welcoming the government's decision to allow a c.b. on 27 MHz f.m., a lot of these people (I am sure through their own misunderstanding) are still campaigning for a f.c.c. type a.m. system, s.s.b. and etc.

I was once an ardent campaigner for a.m. on 27 MHz until I knew different — I speak from experience! I was prosecuted no less than three times under various sections of the Wireless Telegraphy Act between 1971 and 1974 — all on c.b.!! Although not proud of the fact the last prosecution I was given a conditional discharge — all these offences were on 27 MHz a.m.! Some of the local headlines read — "Pirates Jam Secret Emergency Government Wavelengths and Engineers Radio Equipment confiscated etc." There were four of us operational on 27 MHz in the Midlands and three of us were DXing on 1 watt a.m. and using dipoles and home made 2 elements beams. I will save the stories for another day if anyone is interested.

In 1975 I took and passed the RAE — not because I was particularly interested in Amateur Radio. I simply could not go on using 27 MHz! I must admit I hold nothing against the local radio interference men; in the end we got on very well, after all they

were doing their job. Albeit a bit enthusiastic at first, however, initially I was refused a G8 licence because of my 'Recent Prosecution', but eventually I got it and when the same call sign came up in the G4 series I did the CW and got the G4 series. I can honestly say I have never had so much fun as I used to have while I was on c.b., and the international friendship aspect was very good on c.b., maybe better than Amateur Radio, not to mention the comradeship aspect of c.b. I can see the attractions of a.m. and s.s.b. c.b., but believe me — if you don't — I say *don't know* what you are doing, you can certainly cause very serious interference to all sorts of services not to mention TV1-BC1-AF1 which really causes bad feelings between your neighbours, and maybe your family also. There is always a chance you may be radiating harmonics which can cause untold interferences to police and other services. It is not until you begin to study radio that you realize just what damage you can do and how inconsiderate you can be in your ignorance. One good way of learning is to do the RAE — this is not a difficult examination (I have done what I consider to be much harder ones). If you can say to yourself the RAE is just an exercise in "memory and recall" this may help you — that is if you want to become a Radio Amateur, if you do not then please use the 27 f.m. band. Why? — because f.m. is less likely to cause interference and does have certain advantages, and remember if you are not a legal station, either c.b. or Radio Amateur, and you cause interference you are giving the hobby a bad name and legally you do not have a leg to stand on. If, however, you have a licence you can call the 'Buzby', or whatever (The Radio Interference Section (R.I.)) to sort it out for you, that is where some of the licence fee goes! Some domestic sets have 'errs' as wide as a 'barn door' so it is not always your fault and you as a responsible law abiding citizen can demand your right as it were.

As a last comment a lot of licenced radio amateurs listen to c.b.'ers. Some of them find it fun as well, and contrary to popular belief amongst c.b.'ers, a good deal of radio amateurs are not against c.b. and I am sure many c.b.'ers are tomorrow's radio amateurs — the really enthusiastic c.b.'ers

certainly are; nearly all of them I knew 10 years ago both here and abroad are now radio amateurs. I have some good times on the amateur bands as well, notably on 28 and 29 MHz f.m. working on 10 watts or so. I can remember the days I would dread the loud knock on the front door — when I was told once "Why don't you get an amateur licence then?" I told them, "I don't want to talk to amateurs, I want to talk to ordinary people!" Thank Heavens, at last we all can!

I hope we will all enjoy a good c.b. system. After all we should be able to learn from other countries mistakes and set a good example. I think we can be thankful for ever getting a c.b. in the UK. I am not political — if we had another government in power we may have not got it yet, for those of you who remember it took us longer to get commercial radio! And c.b. is still a minority pastime! We should be truly thankful for what we have got.

Come on, let's get it right-on channel.

Ray Withers,  
G4KZH (G8KZH)  
X Romeo Whisky  
X Romeo Delta  
The Rig Doctor  
Earth DX Group 26-E3-LO  
And others!

Technical c.b. articles in various magazines as R.F. BURN.

## Standing firm

With reference to the letter written by Zan Kelley (Reading, November issue). All he seems to concentrate on is the criticism of a.m. and SSB Radios.

Firstly, he complains about the static noise that comes across on the set. If he has ever experienced such problems then he will know that the ANL switch on sets cuts out the static 90-95%, and if the rig itself is not equipped with this facilities then the easily fitted suppression devices on the market will cut out the static engine noise that would normally have come across. Also f.m. does have the same problems with static.

He also goes on to say the Ionosphere is going to 'thin out' between now and 1985 and that all of us keen DX'ers are going to be at a loss. I don't know if he has ever tried DX'ing but he will know that the DX QSO's are not going to die out completely between now and 1985. Maybe 60% or so

but even then there are going to be a lot of stations around the world still on frequency.

I am one of the many a.m. breakers who won't give in to the Home Office and change over to f.m. You could even buy a decent SSB rig for the price of a good (so they say) f.m. rig.  
AM = The Flying Scotsman.  
SSB = ARC402.

## Antenna mount

Having been a regular reader of your sister publication (W.W.) for more years than I care to remember, I know that you are the most competent to answer my query.

I intend, after legalisation, to instal a c.b. set in my car, a Horizon G.L.S. There is a roof antenna fitted, centre, just above the windscreen. Standard screw-in fitting.

Is there a suitable and legal antenna which could just be screwed in, in place of the present one taking the internal feeder to a splitter box, or alternatively, could I use a magnetic mounted aerial with a short co-ax to the roof screwed socket, earthing the outer screen to the roof mounting of the said screwed socket?

Mr D. K. Brunton,  
Edinburgh

ED. Several British antenna manufacturers are working around the clock to develop and manufacture suitable antennae and a range of these should be available in your local specialist c.b. shop by Christmas.

From advance information that I have received on these products, they will be available in a wide range of attachment forms including magnetic mounts, roof mounts, boot lid mounts, wing mounts and gutter mounts.

This means that there will be something available for your particular requirements.

I am not very happy about using splitter boxes because there is always a certain reduction in power and with a 4 watt maximum E.R.F. all available power must be conserved.

## Roger Bleep

A few months ago I bought a Realistic 40 Channel rig, model TRC-422A.

Not long after buying the rig I had a 'Roger Bleep' fitted which cost £6.50 at a c.b. accessories shop.

The 'Roger Bleep' works fine and I have no problems but now I am being told by the



# BRING IT BACK

local rig-doctor that by fitting this device I am knocking off a considerable amount of output power.

Could you please verify this?

A. Stewart,  
Scotland.

ED. Any comments?

## Buzby reproduced

Congratulations in putting together a great magazine, including in which there are very many interesting items that cover all subjects concerned with c.b.

Unfortunately, in your most recent issue, November 81, you did manage to drop a clanger, which my wife picked up, and she should know as she works for British Telecom. You went and spelled the name of their little mascot wrong, and I understand he is very upset. So much so he has sent you a picture of himself with the correct spelling.

In case you should wonder where you went wrong, it is right on the cover of your book. Anyway, if you don't publish this letter I hope it gives you all a good laugh in the office.

Happy Wanderer and Yorkie Lass.

Ash Vale,  
Nr. Aldershot,  
Hampshire.

ED. This was mis-spelt on purpose to overcome a copyright problem. The little fellow objects to being reproduced (in print) in any form other than that of his creator.

## Frequency change

After buying *CB World* November 81, in all fairness it should be classed as (legal *CB World*) mag. Please don't forget your first edition was December '80 and the people who bought your so-called *CB World* were a.m. illegal breakers. The people who are buying the new f.m. rigs which are retailing between £80-£200 plus £10 licence fee and only have 40 channels should have been warned that they would still get a lot of interference on the new f.m. band.

My own television set has been completely chaotic since the beginning of November ('L Day'). The Home Office and Buzby knew all along that inter-

ference would be caused and did they really think that they could stop DX'ers from contacting countries overseas?

So what on earth are you playing at, we a.m. breakers got your mag off the ground. The contents in the November issue are a load of rubbish, and once more I speak for the majority of Breakers in Steel City (Sheffield). Your so called *CB World* has been the talk for the airways, and many breakers are disgusted that you've taken sides and printed nothing but legal rubbish.

Well, I know for a fact that this letter would never get a mention in your 'Bring it Back' columns. Breakers in different areas around Sheffield have got their rigs back parcelled up with stickers saying AM/SSB rigs and read NOT TO BE USED TILL 1st April 1982.

What will happen to your new f.m. readers in April '82? We will just have to wait and see, as they are having a lot of hassle at the moment.

Steel City AM Breaker

## Faulty switch

Being a fairly new Lady Breaker it's a relief to finally find a c.b. mag which I can read without going cross-eyed trying to understand all the complicated details and technical jargon which most

other mags seem to use to fill the pages.

With you mag I can sit down and have a good read, and learn something too. As long as I turn the volume down on my rig of course.

The only problem I have with my rig (Colt 210 40 channel) is that once it's switched on, I have great difficulty switching it off again especially at night, maybe it's a fault! On the serious side, it's great to know that in case of any trouble there's always some good buddies at the other end of the line ready to help.

I haven't needed to put a call out for help yet and I hope I never do, but, to know that help is there when needed is enough.

Keep up the good work with your great mag.

Sewing Machine,  
Rothwell, Leeds.

## CB works

I have been breaking for only four months but already I have realised the value of c.b.

One Sunday, whilst travelling home from High Wycombe to St. Helens, my clutch hydraulic system failed in the middle of a traffic jam. A 10:34 got a breaker in Warwickshire (Tractor Man) on the phone to the AA for me. This saved a lot of time and as I had a two-year-

The philistines had captured Samson and while the hearts of the people were merry they said... "call Samson out to entertain us"

## Power Plus Microphones

JM+2

- Used by more CB'ers than any other mic on the market
- Extra punch for maximum range
- Thumbwheel input adjuster for perfect modulation

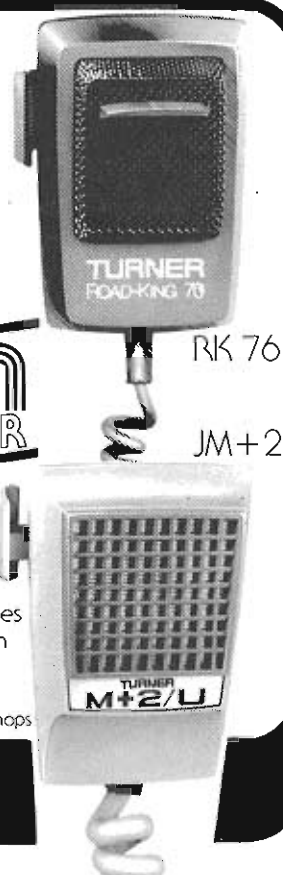
No.1  
in the  
AREA

RK 76

- Great power mic performance and eliminates background engine noise for full modulation and a crystal clear signal

Available from all reputable CB shops

**TURNER®**



# BRING IT BACK

old child in the car with me this was important.

That same evening I was pleased to give some petrol to a fellow breaker on the M6 who had run out (I won't embarrass him by giving his handle), and I have since towed a local breaker home who had the misfortune to burst a radiator hose.

Let's be thankful that H.M.G. has legalised some form of c.b.

**Scooby Diver,**  
**Glass City, St. Helens.**

## Old and new

Now that Citizen's Band is legal on f.m., will the magazine be an all f.m. magazine or not, as I hope to be an f.m. c.b.'er?

I would like to know more about the offer of one transceiver, one patch lead and S.W.R. meter, advertised last month as I would be reassured that this is not a con, because £65 is very economical indeed.

**Stray Cat,**  
**Avon.**

ED. We will be publishing information about the "good old days" and the type of equipment that was (is) used.

The \$66 rig offer is authentic and demand, we understand is high.

## Channel return

I wonder if H.M.G. will give in to pressure from the other European countries, and give us the old 40 channels back 26.965-27.405 (probably FM) and if they do will they manufacture 80 channel rigs, when the new frequencies are still illegal on the continent, as is theirs over here at present.

Maybe we'll be told to throw the 40 channel f.m. rigs away or have them converted, as we did with the a.m. sets.

**B. Warnaby**  
**"The Jackal"**  
**Hartlepool**

ED. Your guess is as good as mine.

## Strong view

Now, I have read and found very interesting, your article in this month's issue entitled "Why no British c.b. sets".

Let us (to answer the question) get things in perspective and put the blame squarely where it belongs, on this and past governments.

Most of the arguments they have put forward for the non use of the a.m. system which all of us serious breakers want, are a result of their own Bumbling and Fumbling about, and could

have been avoided.

There is a place for f.m. as an (L) system for the wallies and ankle-biters (though it is fair to say that there is a high degree of professionalism amongst the latter) from where they can graduate to a.m. working, when it is made safe for them to use, as information available suggests that it is not so at the present time.

Bearing in mind the points so far raised, is it really feasible that the concerns you mention (most of whom have produced reliable and noteworthy products) could be expected to venture into the toy market.

No amount of argument can dispense with the fact that this is what this government (with what they have legalised, and the limitations they have placed on it) are trying to make of c.b. in this country — A TOY — albeit a very expensive one, and one that needs a licence to play with it, this in itself fills one with horror and disgust. £10 a year to play with a toy.

**WE DON'T WANT TOYS** — we gave up playing with them many moons ago.

The Conservative government, when it took us into the EEC did, as I understand it, sign an agreement to protect and uphold Human Rights, indeed we make great noise about protecting and upholding other peoples, and condemning those who do not.

How two-faced can you get? **LET'S START BY PUTTING OUR OWN HOUSE IN ORDER, BY GIVING THE PEOPLE WHAT THEY WANT,** compatibility with every other country, so that we can communicate. **WE WANT 27MHz a.m.** To deny us this or even try, is a violation of both our GOD given and **HUMAN RIGHTS.** The airwaves are there for the use of all. Send the politicians and that handful of dirty, grubby little men behind the scenes who believe that we are so unintelligent and unable to decide what is right for us that they must decide for us, back to school.

School for honesty, integrity, fair play and equality and some good Christian understanding, after all, they don't own us, they work for us, and if they damned well want to on earning a living at that, quite a lot of them had better pull their fingers out, and start to treat us as credible Human Beings — and get it right.

**WE WANT 27MHz,** a.m./s.s.b. working, the ability to contact our Brothers and Sisters abroad, a compatible,

legal, reliable and efficient system.

Most breakers are responsible, caring and dedicated people, those who are not would not be tolerated on channel for very long, and I can foresee (with a sensible system) c.b. radio, taking on a similar status as Amateur Radio, bringing benefits to the community, industry, the operators, and to youngsters seeking a worthwhile profession to enter.

We want to be able to communicate with our Brothers and Sisters in other countries, to get to know them and understand them, this can do much to improve the chances of world peace and to strengthen and improve international relations.

Jets, hovercraft, etc. have brought the people of many lands so much closer together, and yet in a personal sense we drift further and further apart.

Many countries (with c.b.) have done something to improve this situation, our track record up to the present is far from brilliant, nevertheless it is not where you start, but rather where you finish that counts.

NOW, if we cannot go forward with the government and guiding civil servants we have, **TIME HAS COME,** to make a complete change, we responsible breakers do not want to break the law, but in all fairness there should be no law that infringes our use of any part of GOD'S creation, after all, we do not ask for the impossible, only a fair share.

Maybe you will think my letter too scathing an attack to publish, I hope not, as a Minister I am all for peace and right, but I am also concerned for the rights of all people and that includes the serious c.b.ers. We are not asking extra privileges but neither are we prepared to see others get them at our expense.

I say this in all honesty and many, many people will agree with me, **TOO MANY** people are sitting on their well fed, satisfied butt ends, well paid, **UNDER THE GUISE** of working for the benefit of the people.

**WHILE ONE DEAR GIRL** has languished in prison, quite a few **DISABLED/HANDICAPPED** persons have found a means of being a part of society, only to have it taken away again, by all those **JACKALS** who make a good living under the guise of working for them, my only feeling is one of **UTTER DISGUST** and **REVULSION** that they have remained hidden for so long.

**THEN AGAIN,** many breakers have lost their personal property, and are landed with stiff fines out of **HARD-**

**EARNED — HIGHLY TAXED** money — **FOR WHAT? FOR NOTHING** MORE than trying to establish their **HUMAN RIGHTS,** something we vowed to uphold and protect. **YES,** perhaps it is **NOW** time for big changes, perhaps **NOW** is **THE TIME** for the **BRITISH PEOPLE** to say, we don't want lies and half truths any more, no more dilly dallying and shilly shallying from whatever government is in power, we put you **THERE,** and we can just as surely and quickly — **TAKE YOU OUT.**

Running the club as we do, it seemed only fair to give the government a fair chance and amount of time to put the wanted system into operation, and there are those like us who have tried to stay within the law, and we **HAVE** (so far) **BEEN SOLD DOWN THE RIVER.** Out of 25 million a.m. users in the U.S.A. last year, there were as I understand it, only ten real causes for complaint, and only one of these serious enough to investigate further. A very enviable reputation for a.m. working, and one which I am sure we could emulate given the chance. At present it seems there are too many chiefs and not enough indians in government and the civil service and we may have to redress the balance, for that chance to come, but in many areas the writing is on the wall and government must take account of what people want.

In conclusion may I say, I was rather surprised at what seemed your defeatist attitude at the end of your article. Far be it from me to knock your magazine for I read it along with most others, though I don't know your circulation figures at 70p a go. In this day and age you have to be pretty dedicated to something to dip into the pocket, and we look to you to an extent, **TO KEEP THE FIGHT GOING,** not for a second hand system devised by clowns whose thinking (always assuming they have that capability) and awareness for life have not changed since the year dot. **BUT THE REAL THING.**

That way perhaps manufacturers will gain confidence and be prepared to invest money to the benefit of the country as a whole. With a good and sensible system there is room for ingenuity and improvement, with the madness being imposed on us there can only be a great deal of trouble and disappointment.

**NOW IS NOT** the time for weakness or acceptance of a toylike system, **NOW IS THE TIME** for a show of strength, **A TIME** to seek the aid of the EEC by inundating them with

Continued on Page 35

# Three into one *will* go! and we have done it!

The Emu Trinity, the ultimate transceiver!

AT LAST, A BRITISH DESIGNED AND MANUFACTURED C.B. TRANSCEIVER THAT IS NOT A TOY — IT IS A TOOL produced with robust durability and outstanding performance in mind. We even use an 8-pole crystal filter for the ultimate in selectivity. The result is a legal alternative to communication transceivers as used by Radio Amateurs and Professional Operators, and with no compromise. Instead of offering many modes, covering several bands and coping, fairly well — the TRINITY is dedicated to C.B. and handles its responsibilities magnificently!

We have called it the TRINITY because it is three rigs in one. AS A HAND-HELD it is compact and easy to use with built-in microphone, loudspeaker and push-to-talk switch. The integral telescopic antenna is fed with a full 2 watts and is automatically coupled to the transceiver circuitry when removed from its slide mount. The internal battery pack may be either disposable Manganese Alkaline (Duracells) or rechargeable Nickel Cadmium in which case the recharging is achieved automatically when replaced in the slide mount.

AS A MOBILE, the use of automatic circuitry has eliminated many controls leaving just Volume and Squelch. We have dispensed with RF Gain, IF Gain, Display Dimmer, Tone, Delta Tune, Mic Gain, Local/Dx Switch etc. Security is ensured because each TRINITY is supplied with an integral slide mount included neatly in the case design. Even the microphone has been designed with the driver in mind, for channel selectors are mounted symmetrically (for use in either hand) to facilitate effortless channel searching and changing. A High SWR warning instantly notifies the operator of a problem with antenna or its associated wiring, whilst the ambient light level is constantly monitored and the display brightness is adjusted automatically, thus ensuring good daytime visibility, and non-glare night time viewing.

AS A HOME-BASE transceiver it provides as many desirable features as any other HUGE home-base, without the more usual LARGE cabinet full of fresh air, but it also constantly monitors Channel 9, whilst using any other — an external transmit switch socket enables VOX operation, footswitch etc.

Also provided are three preselected Channel buttons — one for Channel 9 the other for any others, but every TRINITY leaves the factory set to 14 & 19. A few moments are required to effect a change!



## \*MOBILE\*

OTHER FEATURES seldom found on C.B. transceivers are:

\*GLASS-FIBRE PRINTED CIRCUIT BOARDS for extreme strength/stability\*

\*ORANGE DISPLAY for best possible visibility in bright lighting\*

\*NOISE MUTING to eliminate the 'no signal noise' of an F.M. receiver\*

\*EITHER HAND MICROPHONE perfectly symmetrical for ultimate ease of use in either hand\*

\*ULTRA HIGH DYNAMIC RANGE. Owing to careful design, the receiver will never be 'blotted out' by a transmitter on another channel nearby\*

\*ALL METAL CASE for use in rugged environments. We only use plastic for insulation, not cheapness!\*

\*RIGHT HAND MICROPHONE SOCKET, proves that the TRINITY was designed in Britain for British users\*

\*PHASE LOCKED DETECTOR to obviate interference from sidebanders, foreign or otherwise!\*

\*REAR PANEL (OF SLIDE MOUNT) contains antenna socket, RF power switch, external power socket, speaker socket & transmit socket\*

## \*HAND-HELD\*

## \*HOMEBASE\*

\*CARRYING CASE & 'BASE CASE' WITH MAINS SUPPLY also available as optional extras\*

\*AUDIBLE 'LOW BATTERY' INDICATOR to prevent battery damage\*

\*FULL 4 WATT OUTPUT when used in Mobile or Base mode. Automatically switches to 2 watts for hand-held\*

### SPECIAL OFFER

To the first 500 TRINITY owners who return their serial number Registration Cards: a £10 voucher will be issued for use in whole or part to purchase any EMU product, or alternatively donated to either R.E.A.C.T. (UK) or any Registered R.E.A.C.T. Team. Orders will be dispatched in strict rotation.

**£179 inc VAT**

If you feel that £179 is a high price to pay, why not add up the prices of,

- the best 40 channel mobile,
- the best 40 channel home-base, and most important
- the best 40 channel hand-held.

Remember the TRINITY out-performs them all.



NEW

## MEET THE BLACK BOX RANGE OF C.B. MODULES

**SELECTIVE CALL UNIT**, the ultimate accessory to obviate the need for constantly monitoring regular channels. Directly programmable personality codes enable nearly 1000 persons to be called individually without disturbing any other users on channel. Ideal for the small business or fleet operator.

Two versions are available, either simpler pre-set model SEL 1 which can be fitted with a new personality coding module supplied by EMU, pre-coded to your specific requirements, or the more sophisticated model SEL 2 (shown) which has full coding selection facilities available on the front panel. A message led will warn you if an attempt has been made to contact you in your absence. Simply dial up the code of the person you require and press CALL!

Price: Model SEL 1 £50-95 inc. VAT Model SEL 2 £62-75 inc. VAT

**VOCHRON**, the talking clock/10-36 module — will either tell you the time or at the touch of a button transmit and say "10-36" followed by the correct time! Latest microprocessor techniques enable us to produce a realistic speech synthesizer, coupled to a stable clock with Quartz accuracy.

Price: £79-95 inc VAT

**REFLECTOMETER**, a constant watch-dog to reduce the risk of costly repairs due to mismatch, unnoticed vandalism or even driving at high speed. Can be set to warn operator whenever a high SWR is present. No minute meter needles to watch when trying to negotiate a bend! Also available with an optional audible warning device — ideal for unskilled users.

Price: without AWA, £9-95, with AWA £12-95 inc. VAT

**POWER REDUCER MK II**, a module with ever increasing popularity, especially amongst those C.B.ers who are generating TVI, or are concerned with the risks of detection when using AM. Affords a perfect match to any antenna, and provides a dummy load facility, at no time affecting the strength of the received signal.

£12-50 inc. VAT

**ECHO UNIT**, another innovative module designed with C.B. in mind! This fully electronic device simply plugs into the microphone socket, and adds a third dimension to every transmission, and is continuously variable in depth. Led indicates depth of reverberation to user. This technique will produce a controlled 'sparkle' to the voice and increase readability in noisy environments. The British Army have been doing just this in their Armoured Vehicles for years. Mallory PP3 batteries last almost indefinitely, owing to power being applied automatically during transmit only. Two versions available, with either DIN or 4 pin connections, programmable for any rig commonly available, by the user in moments.

£36-80 inc. VAT



NEW



NEW



CBW 2/82  
Please send details of the TRINITY and BLACK BOX range of C.B. Modules (CAPS PLEASE)

NAME .....

ADDRESS .....

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For full details of these products and our range of TVI & Low Pass Filters please send the completed form to: EMU SYSTEMS Limited, Marketing Division, 9a Crown Street, St. Ives, Huntingdon, Cambs. or Telephone (24 hrs) 0480 61177 for details now. Alternatively contact your Local Dealer.



# "The Professionals"

**To deal with the proliferation of criminal activity  
our police force rely on a sophisticated radio network  
that is tuned to meet our emergency needs**

The fight against crime is also undertaken by another dynamic duo who grace our T.V. screens, in the rugged and more human form of Bodie and Doyle from the popular series *The Professionals*.

Their survival not only depends on the intensive training given by the CI5 heavies but also by keeping personal radio contact.

The question that might have strolled through your mind at one time or other — it did in ours — is about their two-way communicators. Are they actually used during filming? Investigating this question we were told the sets are in actual fact dummy replicas manufactured by PYE.

Understandably, the obvious licensing laws would in effect be regarded as a counter-productive procedure and that has discouraged their use. However, one application that has no doubt confronted the production team is that when faced with the task of filming in a warehouse where the entrance disappears out of sight beyond the field of vision, it would be an advantage if they could use their communicators to their full value, and relay information to each other.

"Control to Tango Four-oh-Five, Tango Four-oh-Five."

"Tango Four-oh-Five to Control."

"Are you still committed at the RTA?"

"Just finished taking statements."

"Would you contact Bravo CID by landline reference Operation Nightlife?"

"Yes."

"Message timed at 10.45."

"Control to Tango Five-Five, Tango Five-Five."

"Tango Five-Five to Control."

"Operation Nightlife is go. Take up a position north of the Apex Corner roundabout. Look out for a Ford Cortina Mark 4, colour blue, registration Romeo Lima Tango 198 Romeo. Do not intercept if seen but inform Nightlife Control. Occupants classified armed and extremely dangerous."

Control to all Tango mobiles Operation Nightlife is go — repeat Operation Nightlife is go."

This is typical of conversations that could be heard by anyone monitoring the police frequencies (not recommended for obvious reasons) at any hour of the day or night. The majority of messages are routine but when an emergency arises a highly sophisticated radio network can bring the police into instant action.

We are all aware of the major effect two-way radio used by the police, ambulance service and fire brigade has in controlling our society.



Maintaining personal radio contact is an essential daily routine that is religiously performed to assist in the prevention of crime, saving lives whilst at the same time deploying manpower in the most productive way.

Obviously in going out to do this work the choice of equipment must be practical and up-to-date. The rapid advancement in the field of mobile radio has meant the latest units can be used to provide a more effective radio coverage.

To bring this developing network closer to the surface — *CB World* takes a close look at how some of the systems are being used around the country.

## **Fife Constabulary**

Following trials and evaluation of equipment from various manufacturers, Fife Constabulary decided to use the MX300 series of hand portables from Motorola. A major factor governing this decision was the capability of the MX300 to operate on a number of two-frequency channels. Therefore, by switching the transmitter to one or more of the receive frequencies, the operator can make available the facility for single frequency hand portable communication.

This two frequency/single frequency switching capability provides many advantages, such as for radar speed checks and surveillance operations; it avoids the additional cost of purchasing separate single frequency sets for these duties. Furthermore, as the radio is always monitoring local base station transmissions, an officer who is involved in special duties need only switch back to a two frequency channel to answer a call from the local control station.

## **Firemen**

The MX300 is also being introduced into the Irish fire brigades to improve communication with each other during an emergency, thus saving valuable time. Contact between appliance and firemen inside a blazing building is an invaluable aid to life saving.

Many Irish fire brigades including Carlow, Mayo, Drogheda and Waterford, have adopted the use of hand portables.

## **Ambulance service**

To overcome the problem of incomplete county coverage, Somerset Ambulance Service are employing Motorola's Maxar mobile radios. This system operates on three channels, including the National Ambulance Emergency Reserve channel. However, Somerset's mobile radios will have six and ten channel capabilities and the facility for secondary calling and selective calling as required.

For maximum coverage they are equipped with 6 watt VHF hand portables, 1 watt UHF hand portables and six Micor base stations. Three of these base stations at Penn Hill, Elworthy and Goosemore will be on one frequency to provide a full county link-up. Two more stations will operate on a second channel, while a third will be for an emergency channel.

To complete the installation the Somerset Control Centre at Taunton will include two eight channel control units with encoder, display and phone patch facility while a third unit installed in a separate room will be used for emergency channel operation.





# ELECTRONIC GAMES

## COLOUR CARTRIDGE T.V. GAME



SEMI-PROGRAMMABLE T.V. GAME  
+ 4 Cartridges + Mains  
Adaptor  
Normal Price £73  
NOW REDUCED TO: **£39.50** inc VAT

## DATABASE T.V. GAME



FULLY PROGRAMMABLE  
CARTRIDGE T.V. GAME  
14 Cartridges available  
Normal Price £87.86  
NOW REDUCED TO: **£59** inc VAT

## ATARI T.V. GAME



The most popular T.V. Game on the market with a range of over 40 cartridges including SPACE INVADERS with over 112 games on one cartridge. **£95.45** inc VAT

## SPACE INVADERS



Hand-held Invaders Games available £19.95  
• Invaders Cartridges available to fit ATARI/RADOFIN/ACETRONIC/PHILIPS G7000  
• Cartridges also available for MATTEL/TELENG/ROWTRON/DATABASE/INTERTRON

## CHESS COMPUTERS



MANY UNITS ARE COVERED BY THE EXCLUSIVE SILICA SHOP 2 YEAR GUARANTEE

We carry a range of over 15 different Chess computers:  
Electronic Chess £29.95  
Chess Traveller £39.95  
Chess Challenger 7 £79.00  
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SPECIAL OFFERS:  
VOICE CHESS CHALLENGER  
Normal Price £245 NOW £135.00  
SARGON 2.5/BORIS 2.5  
Normal Price £273.70 NOW £199.95  
All prices include V.A.T

## TELETEXT

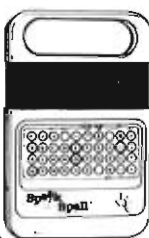


## ADD-ON ADAPTOR £199

THE RADOFIN TELETEXT ADD-ON ADAPTOR

Plug the adaptor into the aerial socket of your colour T.V. and receive the CEEFAX and ORACLE television information services  
THIS NEW MODEL INCORPORATES:  
• Double height character facility  
• True PAL Colour  
• Meets latest BBC & IBA broadcast specifications  
• Push button channel change  
• Unnecessary to remove the unit to watch normal TV programmes  
• Gold plated circuit board for reliability  
• New SUPERIMPOSE News Flash facility

## SPEAK & SPELL



Normal Price £49.95  
NOW REDUCED TO: **£39.50** inc VAT  
Teach your child to spell properly with this unique learning aid. Fully automatic features and scoring. Additional word modules available to extend the range of words.

## ADDING MACHINE OLYMPIA HHP 1010



Normal Price £57.21  
NOW REDUCED TO: **£34** inc VAT  
Uses ordinary paper! No need to buy expensive thermal paper!  
Fast adding PRINTER/CALCULATOR. 2 lines per second. 10 digit capacity. Uses normal adding machine rolls. Battery or mains operated. Size 9 1/4" x 6 1/2" x 2 1/4" (Mains adaptor extra)

## 24 TUNE ELECTRONIC DOOR BELL



Normal Price £19.70  
NOW REDUCED TO: **£12.70** inc VAT  
Plays 24 different tunes with separate speed control and volume control. Select the most appropriate tune for your visitor, with appropriate tunes for different times of the year!

## MATTEL T.V. GAME



The most advanced TV game in the world 20 cartridges available. Add on KEYBOARD coming soon to convert the MATTEL to a home computer with 16K RAM. Fully expandable and programmable in Microsoft Basic. Other accessories will be available later in the year. **£199.95** inc VAT

## HAND HELD GAMES EARTH INVADERS



These invaders are a breed of creature hitherto unknown to man. They cannot be killed by traditional methods — they must be buried. This battle is conducted in a maze where squads of aliens chase home troops. The only way of eliminating them is by digging holes and burying them. **£23.95** inc VAT

## HAND HELD GAMES GALAXY 1000



The 2nd generation Galaxy Invader. The invaders have regrouped and have a seemingly endless supply of spacecraft whilst the player's arsenal is limited to just 240 missiles to be launched from 3 missile stations. You have to prevent the invaders landing or from destroying your home defences. **£19.95** inc VAT

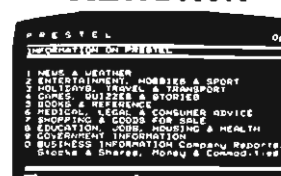
## THE OLYMPIA — POST OFFICE APPROVED TELEPHONE ANSWERING MACHINE WITH REMOTE CALL-IN BLEEPER

This telephone answering machine is manufactured by Olympia Business Machines, one of the largest Office Equipment manufacturers in the U.K. It is fully POST OFFICE APPROVED and will answer and record messages for 24 hours a day. With your remote call-in bleeper you can receive these messages by telephone wherever you are in the world. The remote call-in bleeper activates the Answer/Record Unit, which will at your command repeat messages, keep or erase them, and is activated from anywhere in the world, or on your return to your home or office. The machine can also be used for message referral, if you have an urgent appointment, but are expecting an important call, simply record the 'phone number' and location where you can be reached. With optional extra beepers (£13 each) this facility can be extended to colleagues and members of the family. Using a C90 standard cassette you can record as many as 45 messages. The announcement can be up to 16 seconds long and the incoming message up to 30 seconds long.



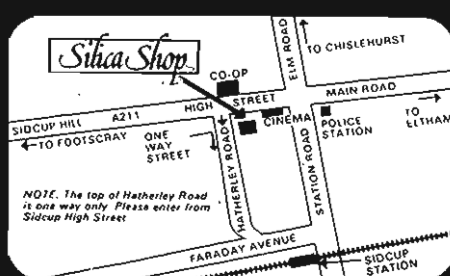
The machine is easy to install and comes with full instructions. It is easily wired to your junction box with the spade connectors provided or alternatively a jack plug can be provided to plug into a jack socket. Most important, of course, is the fact that it is fully POST OFFICE APPROVED. The price of £135 (inc. VAT) includes the machine, an extra-light remote call-in bleeper, the microphone message tape, A/C mains adaptor. The unit is 9 1/4" x 6 1/2" x 2 1/4" and is fully guaranteed for 12 months. The telephone can be placed directly on the unit — no additional desk space is required. **£135** inc VAT

## PRESTEL VIEWDATA

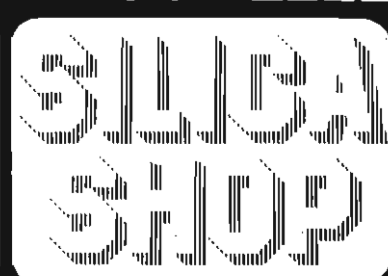


The ACE TELCOM VOX1000 Prestel/Viewdata adaptor simply plugs into the aerial socket of your television and enables you to receive the Prestel/Viewdata service in colour or black & white.  
Features —  
— Simplified controls for quick, easy operation  
— Special graphics feature for high resolution  
— State-of-the-art microprocessor controller  
— Standard remote telephone keypad with Prestel keys  
— Auto dialler incorporated for easy Prestel acquisition  
— True PAL colour encoder using reliable IC — chroma filter and data line incorporated for minimum picture interference/maximum fidelity  
— Includes convenient TV — Prestel switchbox  
— Easily connected to standard home or office telephone lines  
— Fully Post Office approved  
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Telephone: 01-301 1111 or 01-309 1111



## BRING IT BACK

the signatures of people whose HUMAN RIGHTS are being abused. What did you say give us a nine, I said ABUSED. HOW ABOUT IT?

**The Rev A. Scott Foster**  
(sky pilot),  
Dunstable.

### Side-band Please

I like to do a lot of DX'ing and use a Cobra 148 GTL DX, but wife is a pure c.b.'er using a Midland 150M.

The individuals whose handles I have enclosed to be included in the National Register all belong to a local c.b. association called the 'Beachcombers'. We have a 500 membership, and we meet at a local hotel every other Thursday.

We all look forward to your mag each month, and find it very informative, though we don't all agree with your feelings towards the proposed legal f.m. only, some of use would like to have Side-Band as well.

Alright, I know what you are saying, that is not c.b., but I think most people agree what America has today we usually have in a decade's time.

CB has taken a little longer to arrive, so I liken the situation

with this example: "If you put 20 monkeys in a cage and only give bananas to ten then do not be surprised at the other ten wanting the same."

**Video King,**  
New Milton

### Confusion

The following letter appeared in our Sister Journal, Electrical and Radio Trading and we felt we ought to add our comments: **Who's No. 1 in c.b. in U.S.?**

Surprise and confusion was my reaction to an advertisement in *E.R.T.* of September 17 by Plustronics on behalf of Midland, which includes the statement: "America's No. 1 in c.b. Now in the U.K."

It has long been my knowledge that the Tandy Corporation (Radio Shack) with more than 6,000 stores in the U.S.A. has the major share of this specialised market. Its slogan: "The largest electronics retailer in the world" echoes the fact that it has long been the No. 1 c.b. retailer. We are set to create and maintain a similar position in Britain with our c.b. range under the Realistic brand name.

Obviously, Midland's claim is not made lightly. I should like

to know on what evidence its claim is based and the company's set-up and background in comparison with Tandy-Radio Shack.

**R. Sangster,**  
Advertising Controller  
Tandy Corporation (Branch  
U.K.)

ED. On the odd occasion that our Advertisement Sales Executive has managed to contact Mr Sangster, he has been referred to Tandy's agency — media Buying Services of London W1.

Being of a diligent nature he is still telephoning them although on at least a dozen occasions he has been promised a call back from the person handling the Tandy account. However, this call has still not happened.

As Tandy are so big in c.b. in the U.S.A. they obviously don't feel they need to inform the U.K. c.b. of the fact and their initial announcement advertisement appeared in *Practical Electronics* and *Custom Car* and even *E.R.T.*, but not *CB World*. As Mr Sangster says — Tandy's are the largest electronics retailer in the world and that they are set to create and maintain a similar position in Britain with our c.b. range under the Realistic brand name.

This is curious, particularly as *CB World* has repeatedly requested inspection of the

Realistic range of c.b. sets but understand that none are yet available to keep the Fidelity, York, Harvard, Harrier, Realistic and others company in the laboratory.

### Marconi replies to CB World October edition

The Marconi Company is a major grouping of companies within GEC, and is involved in most aspects of the capital electronics industry. Though not involved in Citizens' Band Radio, Marconi Communications Systems has a Mobile Radio Division which is a flourishing concern.

Marconi Mobile Radio is an international supplier of portable, transportable and base-station equipments, as well as whole systems, in addition to its position as a U.K. leader in portable radio-phones. Recent major orders have included the re-equipping of the London Ambulance Service with three controls and over 300 mobiles, as well as several important overseas orders.

Marconi Mobil Radio is at present in the process of opening a further Sales and Service Centre for the radio-phone business in Southampton.

## BRITAIN'S FIRST F.M. BOOK



The book no operator can afford to be without.

A straightforward manual to get you on the air.

Choosing a rig  
Installation & fixing  
Operating procedure  
Aerials  
Interference  
Problem solving

Retail Price £2.95

Available in the next few days.

ISBN 0 906829 097

For trade enquiries contact Bill Gifford on 021 471 1602 or 021 471 1815

021 Publishers Ltd., 590/ 2 Bristol Road, Selly Oak, Birmingham B29 6BQ

The Storno 800U is a versatile hand-set incorporating 12 channels using selective signalling incorporating double, four or five audio sequential tone function for personal identification.

The 800U is modular in construction, therefore allowing the user to alter or expand the facilities originally provided. In other words you can start with 2, 4 or 8 channels and increase the number at a later date.

An interesting accessory that is designed to keep the operator's hands free while taken up with other duties or operation of equipment is the ETM which stands for Ear Throat Microphone harness (it's not as bad as it sounds). It is ideally suited for use under protective clothing in hazardous environmental conditions.

It is an invaluable aid to military and police dog handlers, firemen and damage control parties.

The ETM Harness is normally used with the switch box clipped to the user's belt, but it can be attached to any accessible part of the user's clothing.

The transmitter is operated by a light pressure on the switchbox diaphragm by elbow, wrist or hand.

The ETM Harness connects directly into a CQP800 radio as an alternative to the extended microphone.

Over the last few years, the criminal underworld has been proving to itself that crime really does pay — and very nicely too. Spurred by the latest crime statistics, even the small-time crooks are having a go at the big hauls.

So, for every bulging warehouse, office safe and bullion van, there's a dozen gangs planning a daring raid. The old deterrents won't put them off, and nowadays crime prevention has become a matter of keeping one good step ahead of the villains.

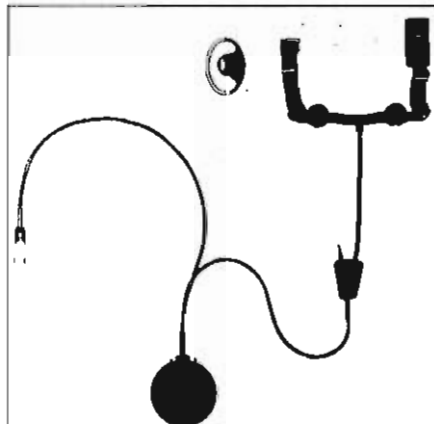
The police were among the first of the security organisations to use two-way radios, and now virtually every police force in the world is equipped with them, both in their cars and patrols.

Obtaining information about police operations is not an easy task for any magazine. However, despite the odds we contacted Scotland Yard Press Bureau, Sussex Police

*Proving its versatility the Storno CQP 800 can also be adapted to be used in vehicles.*



*Fife Constabulary putting the MX 300 through its paces.*



*The ETM harness showing the diaphragm switch, ear and throat attachment.*

and the Home Office in an attempt to get a few questions answered.

Questions from us to them . . .  
**CBW:** Are all emergency (999) calls recorded?  
**Answer:** Yes, all calls are recorded on a reel-to-reel tape machine (no model given) which is in operation 24 hours a day. This enables the caller's name and address to be verified as in most cases the information is transferred quickly by a person involved with the emergency.



*Here the ETM is shown connected to the CQP800U hand-set ready for use.*

**CBW:** What action is taken when emergency channels are interfered with by c.b.ers?  
**Answer:** No comment.

**CBW:** Have interference problems got better or worse since the introduction of F.M.?

**Answer:** There has been a 12% reduction in interference.

The Home Office were kind enough to give us some more figures relating to November 1980. In this month 4,193 complaints were made against illicit rigs. Out of these 15 were handled by the police, the affected area being mainly T.V., radio and hi-fi. From September 1980 to December a total of 44,000 complaints were received and 313 were handled by the police.

**CBW:** Where is training carried out in the use of radio?

**Answer:** Training is held at the Telecommunications School at Hendon.

**CBW:** What is the 10 code?

**Answer:** No comment.

**CBW:** How many channels do you use and what frequencies are they?

**Answer:** No comment.

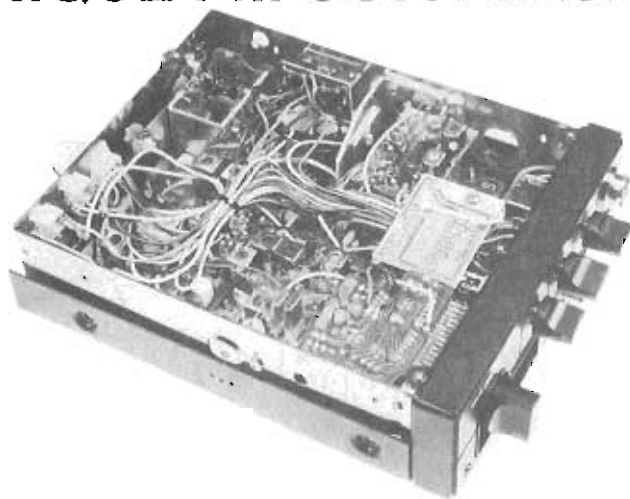
**CBW:** The national emergency landline units that are installed in all police homes — what is their use?

When pressed to answer these questions we were greeted with a polite "No".



# WE'VE CRACKED IT!

After many months of development  
and research, we can now offer you our  
**UNIQUE FM CONVERSION**



HAM "MAJOR" 120 FM CONVERTED

## **SSE** FULL RANGE OF CB ACCESSORIES IN STOCK · AMATEUR RADIO ACCESSORIES EQUIPMENT

TRADE ENQUIRIES  
WELCOME

9.30-6.00  
MON-SAT  
10-2 SUN

Thanks to the unique 'SSE' chip, we can convert ANY rig — AM-FM-SSB to UK FM! This versatile SSE chip is **exclusive** to us and gives terrific performance difficult to find elsewhere.

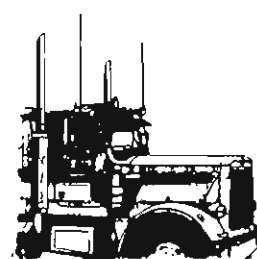
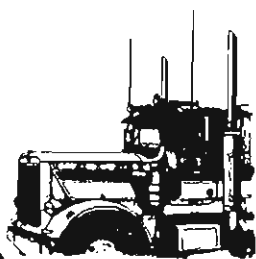
Prices start from £25.30 + VAT. If your rig is AM only, then it will cost a bit more. All converted rigs will carry the mark of compliance to MPT 1320.

For FULL DETAILS, phone us NOW

**SURREY SUSSEX ELECTRONICS**  
**27 MEADOWBROOK ROAD**  
**DORKING, SURREY**

PHONE:

**DORKING (0306) 883314**



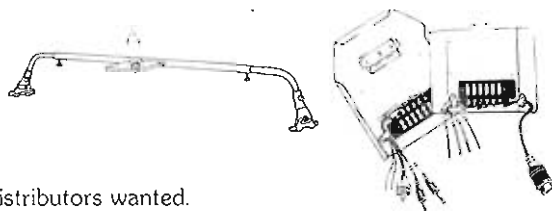
# Rigs - what's available

	Base/Mobile/H-Held B M HH	RF gain control	Mic gain control	DX/local switch	Ch 9 feature	CB/PA switch	Tone control	Hi/Lo power switch	Transmit indicator	Receive indicator	PRICE inc VAT	Other facilities
Tandy Corporation, Tameway Tower, Bridge Street, Walsall, W. Mids. WS1 1LA. (0922) 648181												
<b>Realistic</b>												
TRC2000	M	Yes	Yes			Yes		Yes	Yes			Positive or negative earth.
TRC2001	M					Yes		Yes	Yes			Positive or negative earth.
TRC1001	HH							Yes				40 Ch. RF/battery meter.
North Herts CB, 8 Melbourne Street, Letchworth, Herts												
<b>REFTEC</b>												
934	M								Yes	Yes	£200	934 MHz rig
Transcom International Ltd, 1 Market Street, Bracknell, Berks RG12 1JG. (0344) 55308												
<b>Transcom</b>												
GBX2000	M							Yes			£69.96	
GBX4000	M	Yes			Yes	Yes	Yes	Yes			£89.96	Roger bleep
Voxson Audio Ltd, Nuffield Way, Abingdon, Oxon OX14 1RY. (0235) 26340												
<b>Tenvox</b>												
Tenvox CB	M				Yes			Yes	Yes	Yes	£97	Available early 1982. Plus VAT. Separate speaker supplied.
Designed and built in Britain. Touch buttons for up or down channel selection or continuous scan. Sider volume and squelch. Microphone socket on righthand side. Polarised screen on LED display.												
Wallace Telecommunications Ltd, Greencoat House, Francis Street, London SW1 1DH. 01-828 2673												
<b>Uniden</b>												
Uniac 100	M					Yes		Yes	Yes		£99.95	
Uniac 200	M	Yes	Yes			Yes	Yes	Yes	Yes	Yes	£119.95	LED dimmer

## CB accessories

FOR IMPORTERS & DISTRIBUTORS

- MICROPHONES
- RECEIVING BOOSTERS
- CONNECTORS
- LOCK MOUNTS
- INSTRUMENTS
- ANTENNAS
- FILTERS



Distributors wanted.  
Write for catalogue and export price list.



**Danitas Radio Ltd.**  
Ostbanegade 55 - DK-2100 Copenhagen - Denmark  
Tel: 01045-1428020 - Telex: 15148 danita dk

The

# GBH

column



In the September issue of *CB World*, I pointed out that the printed words in *CB World* are our copyright. In previous issues, we asked you, the reader, to send us your handles, code names for your home twenties and in earlier editions asked you to send some suggestions for U.K. c.b. slang. This data, when published is our copyright.

Back in July, *CB World* held a reception for people in the trade and I spoke to Peter Chippindale about his new book he was preparing called "The British CB Book". In passing I said that I hoped he wasn't considering copying material from *CB World*. His reply was that he wouldn't dream of it and how dare I even suggest it. Guess what? I open up his book and what do I see. Jargon, Town Handles and other items openly lifted from *CB World*. This sort of thing has me reaching for the hot line to IPC's legal department.

At the beginning of the book, Chippindale thanks a number of helpers involved in compiling the book but no mention of *CB World*.

Come on Peter, what do you have to say. As a journalist I would have thought you would know all about copyright. Why no credit in your book and why didn't you ask my permission to reproduce our material. Down and gone, not for long. **Gordon B. Henderson** ●

## AGENTS WANTED

### **HALF WAVE ANTENNA FOR CB**

#### **Model HW-11**

This half wave antenna has no radiators and is therefore simple to mount and use.

By the use of a transformer the antenna is circuited for direct current. Static electricity on the antenna will be discharged immediately, in this way, radio atmospheric interference will be reduced.

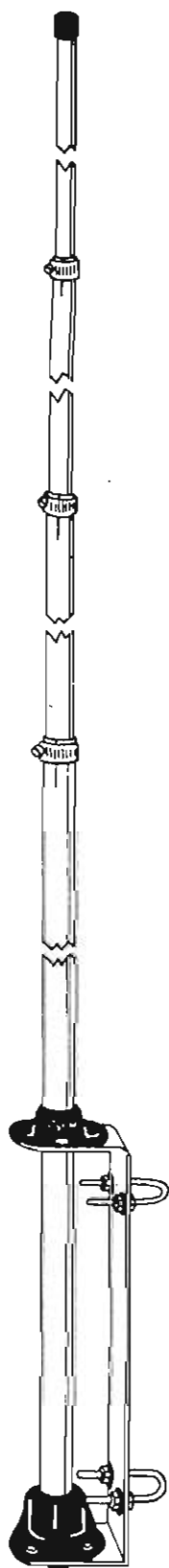
#### **Notes**

It is recommended to tape the connection on the antenna connector with waterproof tape and to mount the coax cable with tape along the antenna mast.

#### **Technical data:**

- Frequency..... 27 MHz
- Impedance..... 50 Ohm
- SWR..... smaller than 1,5
- Gain..... 3.0 dB
- Polarisation..... vertical
- Weight..... 2 kg
- Length..... 5,5 metre

MADE IN HOLLAND



# THIS & THAT

## Conversion of Illegal CB Radios to Conform with Home Office Performance Specification MPT 1320

### Notice to Converters

#### 1. Introduction

HM Customs and Excise have announced, in conjunction with the launch on 2nd November 1981 of the new legal CB radio service, that arrangements are to be made available from that date to enable imported, illegal sets (typically operating on 27 MHz. A.M.) which are converted to conform with the (F.M.) performance specification to be freed from liability to customs seizure on payment of flat-rate sum of £5.00 (five pounds). This sum is taken to cover any customs duty and VAT due on the set and not previously paid.

**2. Scope of Arrangements**  
The arrangements will apply only to individual, privately-owned sets which are voluntarily made available for conversion.

#### 3. Conversion

An essential part of the arrangements is that sets are converted to comply in all respects with Home Office performance specification MPT 1320, and that each set so converted is stamped or engraved on the front panel with the appropriate mark of compliance, as detailed in that specification.

HM Customs & Excise reserve the right to have any set dealt with under the arrangements tested to verify that a fully effective conversion has taken place.

#### 4. Procedure by Conversion

Any converter who wishes to participate in the arrangements must:—

- obtain from the owner of each set to be converted a completed application form (CBR3) in duplicate;
- check that each form has

been properly completed; (iii) subsequently, send both copies of the CBR3, together with a remittance of £5.00 per set, to the following address:—  
The Collector  
HM Customs & Excise  
Customs House  
Runcorn Cheshire WA7 4UL

#### 5. Converters' Records

Each completed CBR3 is to be given a consecutive reference number which is to be inserted on both copies. Converters should also maintain a simple record of:—

- sets converted, each entry identified by the number on the relevant CBR3; and
- the remittances made to HM Customs & Excise.

Records must be made available for inspection by HM Customs & Excise at any reasonable time.

#### 6. Documents to be sent to HM Customs & Excise

Both copies of each CBR3 are to be sent, in weekly batches, to the Collector's Office at the address shown in paragraph 4 above, accompanied by a letter listing the reference numbers of the CBR3's and a remittance to cover £5.00 for each. Receipt of the remittance will be acknowledged.

#### 7. Certification by Customs

If the documentation is in order and the remittance is correct, a certified copy of each CBR3 will be returned to the converter, who should pass it to the owner with the converted set. This copy of the CBR3 will constitute both a receipt for the £5.00 paid on the owner's behalf by the converter and a certificate that, provided the set has been effectively converted, it shall no longer be regarded as liable to forfeiture under the Customs & Excise Management Act 1979.

#### 8. Form CBR3

Two copies of the form are attached to this Notice, as specimens. Further limited supplies are obtainable by a converter from the address given in paragraph 11 below. Larger quantities may be produced by the converter provided that they are exact replicas of the official version.

#### 9. Value Added Tax

If the converter is registered for VAT (or is liable to become so) he must account for output tax on his charge for each conversion. In this respect the £5.00 Customs charge per converted set is to be regarded as a transaction between the owner and HM Customs & Excise and not as part of the Conversion charge. If a retail scheme is used, these amounts of £5.00 are to be excluded from the gross taking.

#### 10. Liability to seizure of sets held at the converters' premises

Although illegal CB radios held by converters prior to conversion are liable to seizure, HM Customs & Excise confirm that they may be kept without risk of seizure provided the converter has received a completed application form CBR3 for each set and provided the set is not used.

#### 11. Enquiries

General enquiries about these arrangements may be made of:  
GCB 2  
HM Customs & Excise  
Kent House  
Upper Ground  
London SE1 9PS  
(Tel: 01-928 0533, Extn 413 or 310)

#### Additional observations

1. CB radios seized by Customs and Excise either in the past or, save in very exceptional circumstances, in the future, as being in contravention of the import prohibition will not be returned for conversion.

2. The Home Office announced that CB radios operating on 27 MHz/FM or 934 MHz/FM and conforming with their published specifications (Home Office Specification MPT 1320) may be used from 2 November 1981 provided the appropriate licence has been obtained. The importation, manufacture or use of CB radios operating on 27 MHz/AM will continue to be prohibited.

Providing the procedures set out in (a) to (e) below are followed, Customs and Excise will take no action regarding AM radios which have been illegally imported and will free the sets from liability to Seizure. The procedures relate to conversion of the sets to operate on legal frequencies only and the arrangement have been devised to enable privately owned sets to be converted; they do not apply to commercial quantities which have evaded import controls. Although the primary intention

#### CONVERSION OF A 27 MHz CB RADIO TO COMPLY WITH PERFORMANCE SPECIFICATION MPT 1320 APPLICATION FOR A CERTIFICATE OF PAYMENT OF CUSTOMS CHARGES

NOTE: This form must be completed in duplicate for presentation to the Collector with the CB Radio. The owner of the CB Radio set should complete Parts 1, 2 and 3 below and hand both copies to the converter.

#### PART 1. STATEMENT

I,  Name of Owner  
of  Address  
(in BLOCK LETTERS)

am the owner of the Citizens' Band Radio Set detailed in PART 2 of this form.

#### PART 2. DETAILS OF SET

Make  Type/Model number  Serial number

#### PART 3. FORM OF AUTHORITY

I hereby authorize  Name of Converter in BLOCK LETTERS  
of  Address of Converter in BLOCK LETTERS

For completion by the Converter  
Converter's own Reference

- to convert the set to conform with Home Office Performance Specification MPT 1320;
- to act as my agent in dealing with HM Customs and Excise; and
- on satisfactory completion of conversion, to pay on my behalf the sum of £5.00 (five pounds) to HM Customs and Excise, I agree that this sum shall be taken to include any customs duty and VAT due on the set and not previously paid.

Signed   
Date

#### PART 4. CERTIFICATE BY HM CUSTOMS AND EXCISE

It is certified that the sum of £5.00 (five pounds) representing any customs duty and VAT legally due at the time of importation, has been paid in respect of the Citizens' Band Radio detailed in PART 2 of this form, and that provided it has been delivered to comply with Home Office Performance Specification MPT 1320, and remains converted, it shall no longer be regarded as liable to forfeiture under the provisions of the Customs and Excise Management Act 1979.

WARNING: Notwithstanding payment of the sum specified, if the set is subsequently found not to conform with performance specification MPT 1320, liability to Customs forfeiture may be revived.

REMARKS: This certificate does not authorize use of the set and a licence for that purpose must be obtained. Licence application forms are available at Post Offices.  
NOTE: This certificate is not valid unless signed and officially stamped by HM Customs and Excise in the space opposite. After certification it will be returned to the owner of the set at the address shown in PART 1, to remain only to the set as specified and may be transferred, along with the set, to the new owner.

Certificate stamp

— CBR 3

For Collector

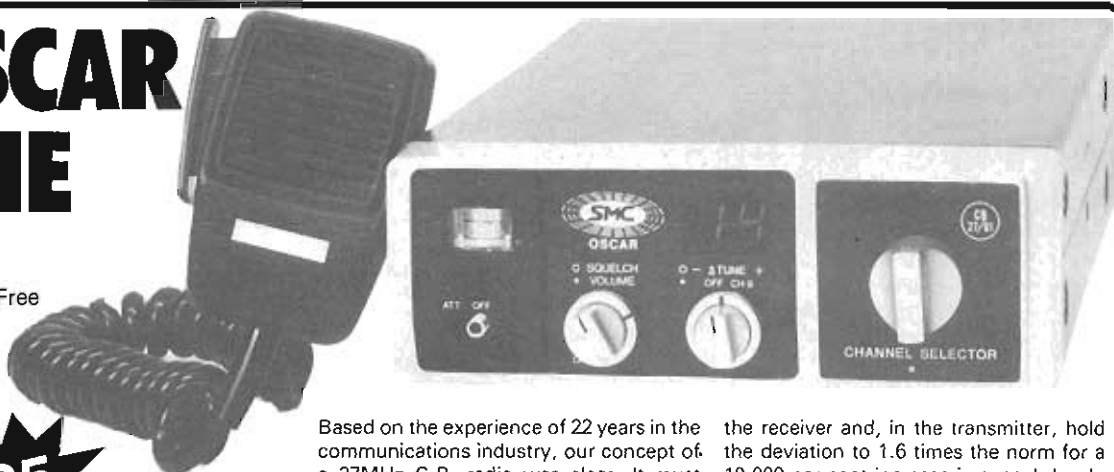


# OSCAR ONE

Delivery Free

**£85**

- \* Full 40 channel coverage
- \* Channel 9 priority switch
- \* Delta tune ( $\pm 1$ KHz) control
- \* Attenuator switch on front panel
- \* Concentric volume and squelch
- \* External speaker jack provided
- \* Illuminated S and PO meter
- \* Supplied with dynamic mic, mobile unit, instruction manual, etc.



Based on the experience of 22 years in the communications industry, our concept of a 27MHz C.B. radio was clear. It must satisfy British needs; meet M.P.T. specifications with ease, provide the best possible performance for the price AND be simple, and thereby safe, to operate whilst driving.

The front panel of the Oscar One is not cluttered up with a multitude of controls, the positions of which cannot be memorized or distinguished at a touch (for "eyes on the road" driving), and the inclusion of which can be ascribed as gimmicky or worse still as a cover up for defects inherent in the design of the radio itself.

New techniques have rendered the RF gain, local/dx, ANL and microphone gain controls obsolete.

A balanced mixer reduces "wipe out" allow continued operation even when one's neighbour is on the air. Feed back circuits keep the transmitted signal crisp and constant, while special limiting circuits reduce electrical interference on

the receiver and, in the transmitter, hold the deviation to 1.6 times the norm for a 10,000 per cent increase in speech level.

On the Oscar One, all controls are on the front panel. The main ones, the channel change, concentric volume and squelch, concentric channel nine (for instant monitoring of the emergency channel) and Delta tune (to help pull in off channel stations) all fall easily to hand. The attenuator switch reduces transmit power by ten times to comply with the licence conditions and as a courtesy to other users.

With the purchase of an Oscar One you will be entering the "Wonderful World of Wireless". If you get bitten by the technical bug, and this fosters an interest in "Ham Radio", it is reassuring to know that you are already dealing with the biggest Amateur Radio dealer in the U.K. (Yaesu Musen Importer), or, if you need communications for business use, remember we have our own extensive range of land and marine type approved equipment and accessories.



A full range of quality items, all realistically priced. The famous OSCAR "foldover" whips now available in 1.2 and 1.5 metre lengths (with body, magnetic, boot or gutter mounts). The remarkable new OSCAR base antenna, antenna tuning units, low pass filters, SWR's (single or twin), power meters, coax

switches, power supplies, power cords, dummy loads, jump leads, coax connectors and cables, rotators, masts, towers, hardware, extension speakers, telephone handsets, anti-theft: lock mounts and horn relays, duplexes, etc., etc., etc.



\* TRADE ENQUIRIES ARE WELCOMED \*



## SOUTH MIDLANDS COMMUNICATIONS LTD.

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Tel: Totton (0703) 867333. Telex: 477351 SMCOMM G, Telegram: "Aerial" Southampton



### GRIMSBY

S.M.C. (Grimsby)  
247A Freeman Street,  
Grimsby,  
Lincolnshire  
Grimsby (0472) 69388

### STOKE-ON-TRENT

S.M.C. (Stoke)  
76 High Street,  
Talke Pits,  
Stoke  
Kidsgrove (07816) 72644

### LEEDS

S.M.C. (Leeds)  
257 Otley Road,  
Leeds 16, Yorkshire  
Leeds (0632) 782326  
9-5.30 Monday-Saturday

### CHESTERFIELD

S.M.C. (Jack Twendy) LTD  
102 High Street,  
New Whittington, Chesterfield  
Chesterfield (0246) 453340  
9-5 Tuesday-Saturday

### WOODHALL SPA

S.M.C. (Jack Twendy) LTD  
150 Horncastle Road,  
Woodhall Spa, Lincolnshire  
Woodhall Spa (0526) 52753  
9-5 Tuesday-Saturday

# THIS & THAT

is to enable specialist converters to convert sets on behalf of their owners the arrangement is also available to individuals who have the technical ability to convert their own sets.

The procedures referred to above are as follows:—

- (a) The owner of the set will complete an application in duplicate giving details of his name, address and particulars of the set (including serial number, if any) with a request for the converter to pay £5.00 to customs to cover the import charges.
- (b) The converter will send both copies of the application form to HM Customs and Excise with a cheque to cover the sets converted.
- (c) Customs and Excise will return the original of the forms, officially stamped, to the owner of the set. Receipt of the converter's remittance will be acknowledged to him.
- (d) The converter will be able to keep illegal sets in the course of conversion on his premises, provided he has an application form for each one if he doing it for business, without interference from Customs and Excise.
- (e) Converters must keep adequate records and these must be made available for inspection, if required. If they are registered for VAT (or liable to become so) they must account for output VAT on their charge for each conversation.

Compliance with the legal Home Office specification referred to above requires that a mark should be stamped or engraved on the front panel of the equipment.

3. With regard to the position of a CB radio meeting Government specifications, used in conjunction with a CB set operating on different frequencies using AM/SSB but both contained within the same case and isolated from each other by a separate switch. This is illegal even though the case is stamped CB 27/81 and was bought with VAT and Import Duty paid. The case should not have been stamped if it included a CB set operating on the incorrect assumption that the entire contents are legal. Obviously they are not if an AM

set is included. The rig is therefore liable to seizure. To legalise it, the AM set should be removed from the case — of course the AM set would remain illegal unless it is converted to FM.

## Rechargeable battery system

Now available in the U.K. is the Gould 'Again & Again' rechargeable battery system, offering a low-cost, reusable alternative to expensive alkaline batteries for applications such as hand-held c.b. transceivers, electronic toys and games, radios and cassette recorders, photographic flash units, radio-controlled models, and video cameras.

The Gould nickel-cadmium battery system includes all the popular battery charger, and one 'Again & Again' rechargeable battery can typically do the job of between 100 and 200 'throw-away' batteries.

An important feature of the Gould system is low cost of the battery charger — less than £10 (excluding VAT) — and the fact that the charger will take all the batteries in the range including the nine-volt PP-3 type unit. This means that for an outlay of around £15 a user can buy a set of batteries and a charger which will typically provide power for up to five years.

Current consumption of the charger is very low, so that the cost of each recharge cycle is only a few pence.

'Again & Again' batteries are available in AA (HP7), C (HP11), D (HP2) and 9V (PP3) sizes, and the charger can charge up to four round batteries or two 9V batteries at a time.

The batteries will recharge overnight, and can remain on charge indefinitely without harm, so a user can always have fresh batteries by keeping one set on charge while another is in use. Gould Battery Division, Raynham Road, Bishop's Stortford, Herts.

## LCL Expands

LCL Imports Ltd the major distributor of c.b. radios and accessories have outgrown their existing premises. They have now moved to Units 1-4 Enterprise Trading Estate,

Penmore Road, Dudley, West Midlands. Telephone (0384) 262141. Unit One deals with goods inwards. Unit Two is the trade counter incorporating showroom, lounge area, and trade reception (buyers are treated to free tea and coffee). Unit Three is the packaging and dispatch area. Unit Four is the office and admin. area. The total area of this new complex is 14,000 square feet.

Joe Rogers, Chairman of LCL said: "We have now established ourselves as one of the largest c.b. distributors in the UK and our customers expect to see a forward thinking company like ours in modern premises. We need all of this new space to accommodate £3,000,000 worth of stock at any given time.

The whole area incorporates some of the most sophisticated alarm systems in the world, including photo electric cells, body sensors and microwave systems.

LCL's new complex opened in December and trade visitors are made welcome. Indeed, Joe Rogers invites visitors on a conducted tour — free of charge.

## "Don't burn your fingers" warns c.b. radio expert

Citizen's band radio may now be legal in the U.K., but it still represents a potential trap for unwary consumers, according to a leading importer of c.b. equipment.

"If they buy the first set they see, it could turn out to be an expensive mistake", warns Alan Sporn, managing director of Major (UK) Ltd.

"There's now a wide range of legal or supposedly legal, c.b. sets on the market, and many of them are of inferior quality, to say the least, coming as they do from backyard factories in places like Korea and Taiwan."

His advice: "Firstly, prospective consumers can afford to take their time and make a considered judgement, based on the authoritative assessments now appearing by the month in the many responsible c.b. journals."

"Secondly, just because a brand name is familiar, don't assume the product is good. Everyone is new to legal c.b. in Britain." Mr Sporn, an American with wide experience of citizen's band radio in his own country and Europe, is aiming to capture the better part of the huge British market with a range of Home Office approved sets made by Cybernet of Japan and marketed under the Major brand name — claimed to be Europe's leader.

"The irony of the situation in Britain is that the inferior sets aren't significantly cheaper," says Mr Sporn.

"Eventually the quality of

equipment from Major and one or two other manufacturers will tell — but let's hope not too many people get their fingers burnt in the meantime."

For further information contact Mr A. Sporn of Major (UK) Ltd., Unit 2, Station Yard, Wilbraham Road, Fulbourn, Cambridge CB1 5ET.

## CB testing

New to the c.b. scene is SGS Inspection Services, specialising in testing c.b. rigs for conformity with legal requirements.

Now that legal c.b. is here there also comes the responsibility for trade suppliers of rigs to ensure that they meet the legal specification.

To aid trade suppliers to meet this requirement SGS Inspection Services have set up a special c.b. rig testing service at their radio test laboratory which is licenced by the Home Office. Checks can also be carried out to establish the rig's performance compared with its specifications thus ensuring they are not contravening the Trade Descriptions Act in company advertising.

Electrical safety can also be proved. A check on the rigs range capabilities in town and country can be carried out if required.

The cost of this check is claimed to be very competitive, the basic legal check costing about the same as the cost of one rig.

Staffed with experienced fully qualified technicians and equipped with the latest test gear the laboratory will check out either a sample batch or a full consignment of c.b. rigs in a matter of hours and take away the legal problems through supplying illegal rigs.

SGS Inspection Services, 329-331 London Road, Camberley, Surrey GU15 3HQ. Telephone: Camberley 61137. Telex: 85811.

ED. the CB World laboratory is used for testing equipment for editorial research and review purposes only. Its services are not being made available to the trade or industry.

## Bandit Antennas Limited

Bandit Antennas Limited — Due to continued expansion of their high-quality C.B. radio antenna Bandit Antenna wish to announce that they are moving to larger premises at BEL-RAY BUILDINGS, ROUGHAM INDUSTRIAL ESTATE, BURY ST. EDMUNDS, SUFFOLK, IP30 9ND. Tel: Beyton (0359) 70990 and 70999.

# Shogun



**Simply the finest . . .**

**Here it is — the sleek, superlative**

**Shogun CB Radio mobile rig — made and  
designed in Japan — weighing just  
over 3½ lbs.**

**A slim highly advanced triumph of technology  
measuring an amazing 6⅞" × 9½"  
and less than 1½" high.**

## **Featuring**

Channel selector with LED read out. RF gain. Squelch control. Volume control. Delta tune. Tone control. PA or CB switch and noise blanker facility. Microphone and fixing bracket. 10 deciBel attenuator switch. Provision for selective calling. Antenna not supplied.

To: Sunrise Products-Japan, Colliers Farm, Frieth,  
Henley-on-Thames, Oxon RG9 6NR

Please send me \_\_\_\_\_ Shogun CB mobile rig(s)  
I enclose a cheque/postal order for £99 each  
(including postage, packaging and VAT) made  
payable to Sunrise Products-Japan  
OR debit my Access/Barclaycard  
no: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Postcode: \_\_\_\_\_

Or please send me all particulars.

Please allow 28 days for delivery.

CBW

# President Grant

This transceiver is much sought after by c.b. enthusiasts in countries where its specifications allow it to be used under legal conditions. Unfortunately it does not conform to MPT 1321 and neither are the f.m. frequencies compatible with the UK system. Therefore the Grant is currently classified as an illegal set in the UK, although popular with breakers who are involved with DXing.

## Controls

**ON/OFF VOLUME.** To switch on the transceiver rotate the control clockwise past the "click" position. To switch the transceiver off rotate the control anti-clockwise past the "click" position. Rotate the control clockwise for a compatible audio level.

**SQUELCH.** The squelch control should normally be set to a position which eliminates undesirable background noise with no original present. With the audio adjusted to a satisfactory level, rotate the squelch control clockwise to the point where the sound from the loudspeaker is cut off. In this position there will be no sound from the speaker until a signal is received. To hear the weaker signals it may be necessary to rotate the squelch control anti-clockwise allowing a little background noise to be heard.

**PA SWITCH (ON SQUELCH CONTROL).** Full anti-clockwise rotation of the squelch control engages the PA function. The PA function must not be used unless an external loudspeaker is connected to the transceiver. In the squelch (or c.b.) position the PA function is disabled and the unit will receive and transmit on the selected channel.

**MODE SELECTOR.** This switch selects AM, FM, USB, or LSB mode of operation. This selector changes the mode of operation of both transmitter and receiver simultaneously.

**MIKE GAIN.** This control is used to adjust, as necessary, microphone input sensitivity for the optimum amount of modulation in the transmit situation. The Grant has been designed to permit the user to attain levels of modulation up to 100 per cent depending on the setting of the microphone gain control using the microphone provided with the unit. Circuitry within the Grant provides automatic compression and peak limiting control resulting in maximum modulation with minimum distortion. (See From Breaker to Ham this and next month for an explanation of these terms.)

**RF GAIN.** This control is used primarily to optimize reception in

strong signal areas. Gain is reduced by anti-clockwise rotation of the control.

**CLARIFIER.** The Clarifier control is usually set to the central position. It has several uses and will greatly enhance receiver operation. First if a received signal is slightly off frequency, this control can be operated as required to optimize the receiver frequency. The effectiveness of this control can be judged either by listening for a more readable signal at the speaker or by noting the 'S' meter reading when the control is operated. One other effective application of this control is in eliminating adjacent channel interference from strong signals.

## Meter Mode Switch

**S/R/F POSITION:** The meter indicates relative transmitter output power when transmitting and input signal strength when receiving.

**MOD POSITION:** Meter indicates average percentage of modulation.

**NB/ANL SWITCH.** When this switch is placed in the NB/ANL position, the automatic noise limiter and RF noise blanker are activated simultaneously.

**DIMMER SWITCH.** This switch is used to adjust the brightness of the LED channel display and meter. DIM position reduces the brightness.

**BAND SWITCH.** This switch is used to select the frequency band.

**CHANNEL SELECTOR.** This switch is used to select any one of the 40 c.b. channels.

**ROGER BLEEP SWITCH.** When this switch is placed in the roger bleep position the transceiver will automatically transmit the audio signal at the end of each transmission.

## INDICATOR FUNCTION

1. **MOD—S/R/F METER.** This meter displays relative transmitter RF output power and percentage of modulation when transmitting, as well as input signal strength when receiving. The meter is illuminated when the power is on.

2. **TX/RX indicator.** TX indicator lights when the transmitter is in operation and RX indicator lights when the receiver is in operation.

## Installation

Installation is straightforward using procedures similar to other c.b. transceivers. The set is supplied with a universal mounting bracket





and is held in the bracket by four thumb screws. These allow adjustment to the most convenient angle.

The radio may be installed and used in any 12V DC negative or positive earth system vehicle regulated home base power supply.

**Negative earth system.** Connect the red power lead from the radio to the position or (+) battery terminal or other convenient point, and connect the black power lead to the chassis or vehicle frame or (-) battery terminal.

**Positive earth system.** Connect the black power lead from the radio to the negative or (-) battery terminal or other convenient point, and connect the red power lead to the chassis or vehicle frame or (+) battery terminal.

## Specifications:

### General

Channels 120FM, 120AM, 120LSB, 120USB  
Frequency Range 26.515 to 27.855 MHz  
Frequency Control Phase Locked Loop (PLL) synthesized circuitry.

Frequency Tolerance 0.005%  
Frequency Stability 0.001%  
Operating Temperature Range -20°C to +50°C  
Microphone Plug-in type; dynamic with push-to-talk switch and coiled cord.

Input Voltage 13.8V DC nominal, 15.9V max; 11.7V MIN. (Positive or negative ground).

Current Drain Transmit: AM/FM full mod, 4A maximum.  
Receiver: Squelched; 0.5A, maximum audio output 1A.

Cabinet Dimensions 7-7/8"(W) x 2-3/8"(H) x 9-1"(D)  
Weight 5 pounds  
Antenna Connector UHF, SO-239  
Semiconductors 52 transistors, 9 integrated circuits, 65 diodes and 3 light emitting diodes.

Meter Illuminated; indicates relative RF power output and modulation on transmit, received signal strength.  
Indicators LED display; channel and TX/RX.

### Transmitter

Power Output AM 10 watts, FM 10 watts.  
Modulation High and low level Class B, Amplitude Modulation.  
Intermodulation Distortion SSB: 3rd and 5th order, more than -25 dB. 7th and 9th order, more than -35 dB.

SSB Carrier Suppression More than -45 dB.  
Unwanted Sideband More than -45 dB.  
Frequency Response AM and FM: 350 to 3000 Hz  
SSB: 400 to 4000 Hz  
Output Impedance 50 ohms, unbalanced  
SSB filter 10.695 MHz, crystal lattice type  
6 dB @ 4.2 KHz  
60 dB @ 7 KHz

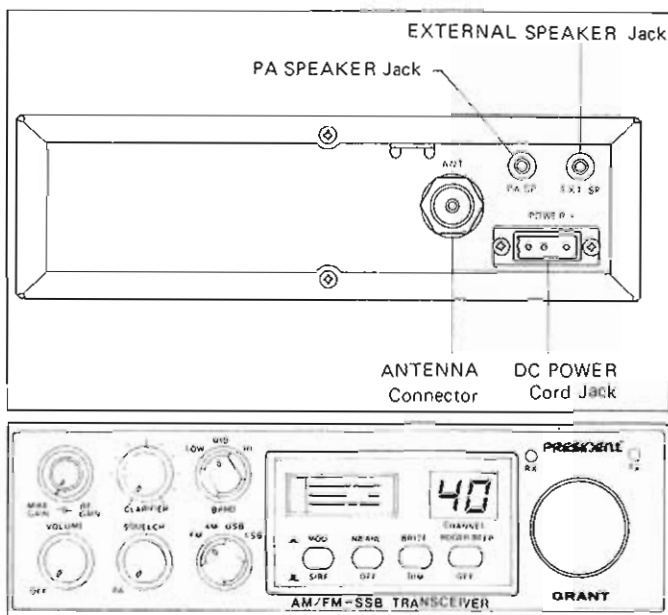
### Receiver

Sensitivity SSB: Less than 0.25µV for 10dB (S+N) at greater than 1/2 watt of audio output.  
AM: Less than 0.5µV for 10dB (S+N) at greater than 1/2 watt of audio output.  
FM: Better than 0.5µV for 20dB (S+N)/N at greater than 1/2 watt of audio output.  
Selectivity SSB: 6dB @ 4.2 KHz  
60dB @ 7.5 KHz  
AM/FM: 6dB @ 7.0 KHz  
60dB @ 15 KHz

Cross Modulation More than 60dB  
Image Rejection More than 60dB  
I.F. Frequency FM and AM: 455 KHz SSB 10.695 MHz

AM and SSB RF Gain Adjustable for optimum signal reception  
Control (AGC): Less than 10dB change in audio output for inputs from 10 to 500,000µV.

Squelch Adjustable; threshold less than 0.5µV  
Noise Blanker RF type, effective on AM and SSB  
Clarifier Range ± 1.25 KHz  
Audio Output Power 3.5 watts minimum into 8 ohms



### Frequency Response

SSB: 400 to 4000 Hz

AM, FM: 300 to 3000 Hz

### Distortion

Less than 10% at 3 watts output

### Built-in Speaker

8 ohms, round

### External Speaker

8 ohms; disables internal speaker when connected

### PA System

#### Power Output

3.0 watts into external speaker

#### External Speaker for PA

8 ohms (not supplied)

## CHANNEL INFORMATION

### ANT FREQUENCY (MHZ)

	LOW	MID	HIGH		LOW	MID	HIGH
1	26.515	26.965	27.415	21	26.765	27.215	27.665
2	26.525	26.975	27.425	22	26.775	27.225	27.675
3	26.535	26.985	27.435	23	26.805	27.255	27.705
4	26.555	27.005	27.455	24	26.785	27.235	27.685
5	26.565	27.015	27.465	25	26.795	27.245	27.695
6	26.575	27.025	27.475	26	26.815	27.265	27.715
7	26.585	27.035	27.485	27	26.825	27.275	27.725
8	26.605	27.055	27.505	28	26.835	27.285	27.735
9	26.615	27.065	27.515	29	26.845	27.295	27.745
10	26.625	27.075	27.525	30	26.855	27.305	27.755
11	26.635	27.085	27.535	31	26.865	27.315	27.765
12	26.655	27.105	27.555	32	26.875	27.325	27.775
13	26.665	27.115	27.565	33	26.885	27.335	27.785
14	26.675	27.125	27.575	34	26.895	27.345	27.795
15	26.685	27.135	27.585	35	26.905	27.355	27.805
16	26.705	27.155	27.605	36	26.915	27.365	27.815
17	26.715	27.165	27.615	37	26.925	27.375	27.825
18	26.725	27.175	27.625	38	26.935	27.385	27.835
19	26.735	27.185	27.635	39	26.945	27.395	27.845
20	26.755	27.205	27.655	40	26.955	27.405	27.855

### CB World Impressions

Although the Grant is essentially a mobile unit it really comes into its own as a home base. In this application it is necessary to connect it up to a 13.8V DC power supply. Performance as a home base was perfect when it had been connected to a 50 ohm antenna and time spent in obtaining a SWR of 1:1. DXing was relatively simple because of the vast array of controls allowing very fine tuning.

Use as a mobile was not so enjoyable particularly at night because any breaker unfamiliar with the controls would probably have to take his eyes off the road to look for the right knob, or alternatively have the impression of playing an organ. Agreed however after several hours of use familiarity removed this problem.

### CB World Conclusion

A highly desirable transceiver and the Grant would be the envy of many c.b.ers particularly those interested in DXing or wishing for above average quality on the shorter distance work. If only it was legal in the UK but . . . ●

## Down with Wallies

A Big 10-4 on all your issues of such a great magazine which I thoroughly enjoy reading, in particular the 'Pictures of Rigs'. I hope in the near future to see some of the large base-station type.

I have now got to change the subject to Wallies. A creature that is unkind with the 27 MHz airwaves. There must be such breakers that fit this category in your area. My home 20 area (Sleepy Henry) is full of them and efforts have been made to get rid of the 'channel 40 breakers' but have been unsuccessful. Can anyone suggest anything as its getting a bit out of hand and with the f.m. stuff coming we need something done quick. I say GET WALLIES OUT!!! Suggestions please.

**Sweeney Todd,  
Sleepy Henry.**

## Good Questions. No Answers

My handle is "TEDDY BEAR" and my sister is "FIZZY POP". We have been on the air first with my dads rig (GOLDFINCH) who went on the air in 1978 and last year my mum (RED PEPPER) bought me my first rig of

my own.

I have enclosed a clipping from my local paper written by one of our local breakers, and would ask you to read it, and through your columns in plain every day English, that even young breakers can understand, answer the things RED ECHO has asked as he has a good point that has yet to be answered.

**Teddy Bear  
Peterborough**

ED We would like to know the answers as well. The letter written is reproduced below.

## What Do I Get for a C.B. Licence?

SIR - May I, through your columns, appeal to any member of the public who will enlighten me on the subject of the Citizens' Band radio licence.

First of all what service will be provided for the fee? Secondly, by whom? Thirdly, why hasn't anyone been told what kind of service they will receive; After all the introduction of Hereward Radio received months of information before broadcasting began.

As a CB enthusiast myself, I can assure you that one can pay from £40 to £300 for a rig (CB radio set), which is installed in:

ones home (already paid for) or on to one's own expense and even when a breaker keys the microphone and calls for a copy they have no guarantee that there will be a good buddy come back to them at all or in fact anything but skip coming over.

Is the Government going to do away with skip for the fee? Someone out there please tell me what I'm getting for my £10 before November 2 or I may as well throw my money on the bonfire on November 5.

Now do not get me wrong, readers. I am not looking for an argument, that has all been gone through. I just want some educated advice on what the Government is taking my money for, at the same time bear in mind the massive support that CB breakers have given to charities and other individuals.

In conclusion and with respect I would ask your readers to please reply to me through your columns as to reply to each letter myself would rather defeat the object of my objection to a licence fee in the first place.

Once again I appeal to the fair minded public for

the benefit of better knowledge.

Please sire, I say again, please print my letters as the subject is very prominent with many of your readers.

**TEN-TEN  
Evening Telegraph**

## I will not be moved

I shall now give you my views on a.m. and f.m. A.m. = Amp Mod, f.m. = Flab Mod.

First I am only burning 14 candles but I think I know enough to give a point of view.

Let's get one thing straight. I am an original a.m. breaker and I firmly intend to stay that way.

USA and Europe have a.m. either because it's legal or there is no law on it. Now why should petty old G.B. be the only country with f.m. 27 MHz rigs will never have the quality of a.m. rigs because they will not have had the experience.

My uncle in America makes them (radio shack). My other two uncles both have them and so do I. And when I am old enough to get my own wheels I will never be without one in the car and home!

**Little Devil,  
Newbury.**

## Super puzzle

May I say how much I enjoy reading your mag. I have every copy so far from my dad JR who works for Channel.

I have enclosed with this note a Puzzle (which hopefully you could publish 'a little smaller' perhaps in your next issue).

I have drawn many more like this one also about c.b. if you wish to contact me.

At school I did a project on c.b. and your mag helped me very much!

**Bookworm,  
Age 13 years,  
Dudley.**

## Thanks

I am only burning 13 candles and have searched through many magazines before deciding upon **CB World**. I would also like to say thank you to a breaker known as The Flying Scotsman. I hope he is reading this as he was a great help to me when I had just started breaking.

**Moonshine (FM),  
Leeds,  
Yorkshire.**

## SUGARMANOSP

OK now from the above line you should be able to pick out SUGARMAN. From the letters below you can find the handles listed. They go across, up, down, backwards, diagonally or a mixture of two or three.

THE HANDLES...

Alien, Apeman, Blue Knight, Bookworm, Cherry B, Deep Frieze, Flin, Frenchman, Greenfly, Ironside, JR, Misty, Oil Slick, Petrocelli, Pintsize, Popeye, Popman, Sugarman, Supergear, Tarmac, Rainbow, Robin Hood.

S	U	G	A	R	M	A	N	O	S	C
O	K	B	L	E	J	R	T	U	P	O
F	I	H	I	E	T	I	O	I	E	I
L	R	A	E	N	B	N	O	W	W	L
E	L	E	S	H	I	P	D	E	L	S
I	R	O	C	H	B	T	T	N	C	L
P	T	A	H	T	W	S	K	F	A	I
E	O	P	Y	M	S	A	H	T	R	B
R	J	E	R	D	S	C	N	A	O	R
O	I	M	F	F	S	R	D	I	T	E
C	G	A	O	O	A	R	E	A	Z	P
E	R	N	R	R	H	M	F	C	T	O
L	D	E	P	P	G	I	R	E	H	P
L	T	H	F	K	W	U	L	C	C	E
I	B	O	C	E	K	I	O	M	O	Y
O	R	L	O	L	S	O	I	G	T	T
R	W	E	U	F	S	N	Z	L	C	O
M	P	I	N	T	F	I	Y	B	Z	R
G	R	E	E	N	F	L		W		

When you find the words ring them and tick them off the list.  
I am only 13 years old.

# B. BAMBER ELECTRONICS

Wholesale & Mail Order Specialists  
Phone Barclaycard/Access Number for Immediate Despatch

## RIGS

Cobra Model 21X FM	£69.95
Uniden Model Uniace 100	£79.95
Uniden Model Uniace 200	£99.95
Midland Model 2001 FM	£69.95
Fidelity Model CB1000 FM	£69.95
Fidelity Model CB2000 FM	£89.95
Harvard Model H2 Walkie Talkie	£24.95
Harvard Model 410T Walkie Talkie	£69.95
Harvard Model 400M	£69.95
Harvard Model 405T	£95.95
LCL Model 2740	£79.95
DNT Model M40 FM	£79.95
Mustang Model CB1000	£69.95
Mustang Model CB2000	£79.95
Mustang Model CB3000	£97.95
Reftec Model 934, 934 mHz	£230

Full 12 months Guarantee on all Rigs.

## POWER SUPPLIES

P.S. 3/5 Amp. Power Supply	£9.95
P.S. 3/5 Amp. British Power Supply	£13.95
P.S. 5/7 Amp. Power Supply	£16.95
P.S. 6/8 Amp. British Power Supply	£18.95
P.S. 19 Amp. 13.8 Volt Power Supply	£79.95
Base Station Consul with PSU, SWR and Extension Speaker	£39.95

If you buy a rig and base station consul from us we will fit the rig in the consul and test it for you free of charge.

## TRANSISTORS & ICs

AN 103	£2.78	MRF 475	£3.05
AN 612	£3.45	2SC495	£1.10
BA 521	£4.16	2SC496	£1.31
LA 4031P	£3.21	2SC710	£1.80
LC 7120	£5.87	2SC1096	£1.72
LC 7130	£5.93	2SC1173Y	£1.69
MB 3712	£4.71	2SC1306	£2.73
MC 1496P	£2.63	2SC1307	£3.00
TA 7130	£1.93	2SC1449	£1.67
TA 7205	£3.72	2SC1675	£0.75
TA 7222	£4.07	2SC1678	£2.67
TA 7310	£2.78	2SC1923	£0.43
TC 9100	£7.91	2SC1945	£2.97
UPC 575C2	£3.86	2SC1969	£2.93
UPC 1156H	£4.26	2SC2029	£2.60
CA 1458E	£0.75	2SC2078	£2.90
MSM 5807	£5.87	2SC2166	£2.73
LM 383T	£3.82	2SC2314	£1.41
UPD 2816C	£15.81	2SK34	£1.90
AN 7150	£3.97	2SK45	£1.85
PLL 02A	£4.97	2SK19	£1.85

## ACCESSORIES

PL259/6 Ant. Plug for RG58 Cable	£46p
PL259/9 Ant. Plug for RG8 Cable	£46p
PL258 Double Female PL259 Back to Back	£46p
M563 Double Male PL259 Back to Back	£76p
SO239 Chassis Mount Socket 4 Hole	£46p
M358 PL259 'T' Three Way Adaptor	£1.48
Lightning Arrestor PL259 Back to Back	£1.80
CB4 4Pin Mike Plug	£72p
4 Pin Right Angle Mike Plug	£1.30
CB 55Pin Mike Plug	£72p
5 Pin Din Mike Plug	£35p
3.5mm Ext. Speaker Jack Plug	£20p
Cig. Lighter Plug with Lead	£1.10
DV Surface Mount with Wing Nut & Bolt	£2.50
DV Base Plus P27	£70p
DV to Valor/Cherokee Adaptor (Banjo)	£90p
K40 Magnetic Mount	£12.50
Cherokee 301 Magnetic Mount with Lead	£12.65
Cherokee 401 Magnetic Mount with Lead	£15.45
Cherokee 103 Quick Disconnect	£4.50
Cherokee 142 RM Surface Mount for Roof	£3.85
Cherokee 142 WAD Surface Mount for PL259	£3.95
Avants AV 241 4' Moonraker Hole Mount	£18.25
Avants AV 241 M 4' Moonraker Mag Mount	£23.45
Avants AV 241 T 4' Moonraker Trunk Mount	£19.95
K40 Antenna (Hole or Trunk Mount)	£31.45
Cherokee 520 Half Breed 1.5 kW Base Loaded	£13.25
Cherokee 530 24" Dual A-Match 25W Base Loaded	£13.95
Cherokee 540 48" Dual A-Match 100W Base Loaded	£14.65
Cherokee 555 24" Dual A-Match With Mag Mount	£21.85
Cherokee 556 48" Dual A-Match With Mag Mount	£22.55
Cherokee 560 Warrior 1.5kW Centre Loaded	£15.25
Cherokee 531 HBF 530 + Trunk Mount & Lead	£26.40
Cherokee 531 SMF 530 + 142 WAD & Lead	£25.40
Cherokee 541 HBF 540 + Trunk Mount & Lead	£27.20
Cherokee 541 SMF 540 + 142 WAD & Lead	£25.75
HMP GPA 27 1/2 18' Base Antenna	£19.95
Hy-Gain 533 3 Element Beam	£52.50
KLB 110 50 watt Linear + Meter & Pre Amp	£72.95
RP 20 Variable 20 db Gain Pre Amp	£15.95
Deluxe CB Slide Mount	£4.95
CB 3A 3 Way Antenna Switch Box	£5.50
Patch Leads	£1.50
Fuses, 2,3,4,5 amp. 20mm or 1 1/4" (pack of 10)	£1.40
Nickel Cadmium Batteries 'AA' size	£1.15
TR 175 7 volt Battery for Power Mikes	£2.53
Rodger Bleep to fit any Rigs	£5.95
60 amp. Alternator & Generator Noise Filter	£2.30
3 amp. Hot Line Filter (Fits on back of rig)	£2.95
High Pass TVI Filter (Fits on back of T.V. set)	£3.50
FS 2 Simple Single Meter	£7.95
Rama 006 SWR/PWR/Matcher & F.S.	£15.05
SWR 25 SWR/PWR Twin Meter	£12.05
Hansen FS5E	£29.95
Hansen SWR 508	£22.95
Rama PC3 Power Reducer	£16.95
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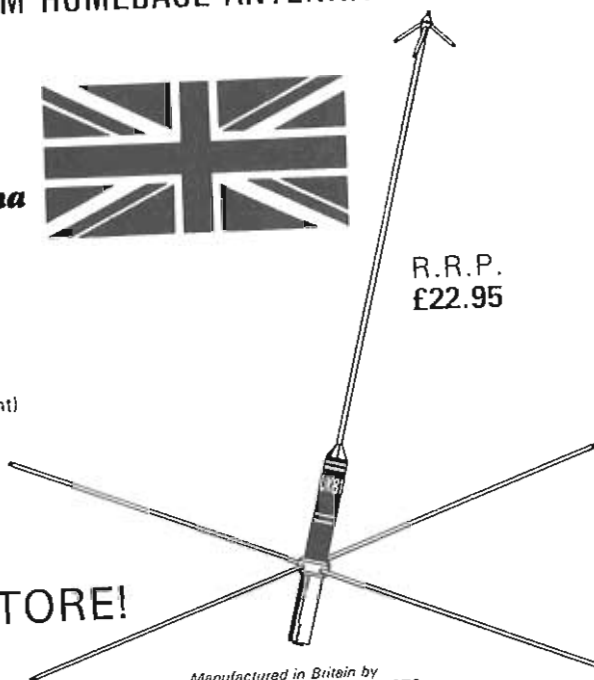
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# A.A. and Radio

*A behind the scene look at AA operations.*

Ever since that technological 'switch' was turned to produce an arch of electrical energy and so breathe life into the four wheeled enclosure, it has become an essential piece of merchandise that we faithfully depend on to transport our social and economic requirements. However, this degree of reliability has been known to exponentially decrease with the arrival of winter.

Driving during the winter months can be a motorist's nightmare, especially with such adverse weather conditions that have swept Britain with a vengeance. Any of us brave enough to venture into battle with the elements is surely embarking on a game of Russian Roulette. Action of this kind can only prove Murphy's Law (if anything can go wrong, it will) really does exist!

These catastrophic events will always plague the motorist and cause a large number of road users to break down or find themselves stranded in a three foot snow drift, sub-zero temperatures and a cruel wind enhancing the arctic conditions that crystallise any act of movement. Trapped in this situation, facing exposure, the most welcoming sight to appear over the horizon

is the familiar landrover from the A.A. coming to your aid.

The Automobile Association have been in existence for 75 years. They have acquired through those years the reputation to answer similar calls of distressed members, quickly and efficiently. From a moment a call is received via any one of the 933 roadside telephones, or alternatively by the police, immediate instructions are administered from the base station to the nearest patrol that can offer assistance.

The use of two-way radio enables valuable information to be conveyed so as to help the patrol in their diagnosis and the collection of any parts required to solve the problem.

## Radio History

The Association began using two-way radio with patrols in London in 1949. It provided a radio controlled service covering a 20 mile radius of London's West End and within the year this was extended to 235 square miles of the Home Counties.

Birmingham became the first city outside London to operate two-way radios in 1950, followed the next year by Leeds. Gradually 24-hour radio coverage was made available to even the remotest areas of the country, assisted by the introduction of new equipment and the installation of more powerful

transmitters. In the first year some 10,000 members were given breakdown assistance.

## Up-to-date

Bringing the organisation up-to-date, the A.A. handle more than 2,520,000 breakdowns each year. To maintain this escalating trend, they employ 3,300 mobile sets, 139 base stations, 60 radio link stations and 68 field sets, covering more than 80,000 square miles of the British Isles. (Most of the equipment used by the A.A. is manufactured by Pye Telecom Ltd). With the flexibility radio communication offers, mobile patrols can link up with other members of staff along with the 31 breakdown information service centres, 136 road service centres and eight motorway information centres.

## Operations Centre

To meet the tremendous demand, the A.A. opened — at Stanmore, Middlesex — the largest and most up-to-date motoring emergency breakdown centre in the world. This Operations Centre is capable of dealing with more than a million calls a year. It handles all the Association's breakdown operations over an area of some 700 square miles of Greater London. Since its opening in 1970, the centre has dealt with more than ten million calls for assistance.

1. A patrol personnel using his mobile radio to relay information back to base station.





2. One of many breakdown emergencies that are handled every day.

### Channel Allocations

The A.A. is allocated 11 channels in the low band region using 85MHz for transmitting and 72MHz for receiving. The police and ambulance service have access to three of these channels. The R.A.C. is allocated different frequencies so there is no congestion, interference or argument over 'air space'.

### Patrol Training

Training is carried out at the A.A.'s National Training Centre at Widmerpool. The recruits attend an initial three week course where they learn the basic skills of patrol training and familiarisation with auto-electrics and electronics. During the training period the recruits are lectured on radio procedures. There is very little technical involvement as their job calls for an understanding of how to use the equipment and deliver clear and precise information when transmitting.

### Local Radio

Traffic bulletins, road conditions; over 40,000 of these are broadcast by 25 local and regional BBC radio stations and 23 independent broadcasting stations each year. The major source for this information originates from the police who are usually the first to arrive on the scene of an emergency or traffic congestion. There are 27 broadcasting studio facilities in the A.A. offices throughout the country that deal with these reports. From these studios any local radio station can receive up to the minute reports for broadcast.

As requirements will vary, the A.A. keep a list of the times a local station broadcast traffic bulletins.

### The A.A. and C.B.

The A.A. are cautious in their outlook towards c.b. and its clearly defined benefits for the motorist. Filled with the conception that this form of communication is still in its infancy, they feel it is too early to make any commitment to employ c.b. sets in patrol vehicles and base stations. However, the day is not lost. The Head Office in Basingstoke have connected a c.b. for monitoring purposes — their aim is to gain a better insight into its long term applications.

### Looking Ahead

In the early part of 1982 the A.A. are scheduled to launch their Vehicle Location System (VLS). Little has been said about this scheme but we will attempt to give a brief description from what is known.

3. Radio contact help to cut fuel costs and keep management well informed.



All patrol vehicles will be fitted with an encoder to transmit coded data. Before any data can be sent, a member of the patrol personnel must key in his call sign to open the transmission channels. He is now able to input a set of assigned codes from a selection of push buttons, data that will be transmitted and decoded at the Operations Centre in Stanmore. After it has been decoded, the message will be displayed between five visual display units. It shows the operators a breakdown of all patrol locations, time needed to resolve a breakdown, parts used and any further assistance they may require.

Operators would be in a position to collate this data, delegate a faster work flow and provide accurate management information. ●

# HANDLES

CB World wants to apologise to those c.b'ers who have sent in their handles and have not seen them published. We have been inundated with handles from John O'Groats to Lands End and we have enough handles to fill a telephone directory. Please be patient and bear with us, your handle will appear eventually. This service is free by the way and we would ask you to continue sending them in to us. Would you please indicate whether you are on a.m. or legal f.m.

On these pages you will find a selection of illustrations depicting handles as seen by CB World. If you would like us to interpret your handle, please write to us enclosing £2 and we will send you a black and white print. Send your remittance to: The Editor (payable to IPC Business Press Ltd.), CB World, Room 802,

Please understand that we cannot deal with individual needs and requirements, you would have to accept our interpretation of your handle. We cannot refund your £2 should you dislike the print. Your guide would be the examples shown on these pages.

Ace Basser	Reading
Actwater	Barnsley
African Queen	Pedmore
Al Capone	Barry
Alamein	Wakefield
Alien	Redcar
Alpha Centori	Redcar
Amber	Thanet
Android	Whitstable
Angel Eyes	Seaford
Angel	Barry
Ankle Biter	Aldershot
Apache	Harlow
Apollo	Helensburgh
Apollo	Atherstone
Aquarian	Irthlingborough
Aquarius	Barry
Archbishop	Milton
	Keynes
Artic Lite	Barnsley
Astro	Barry
Auntie	Barnsley
Avalanche	Yiewsley
Aztec	Strood
Baby Face	Kidderminster
Baby Pink	Aldershot
Babycham	Harlow
Badminton Man	Wolverhampton
	Barry
Baker Man	Menston
Bald Eagle	Thanet
Bambam	Dartford
Banana	Helensburgh
Bandit	Walkden
Banjo	Kidderminster
Barbie	Nottingham
Rashful	
Battery	Richmond
Charger	Burscough
Beacon	
Beaver	Barry
Squeezer	Cannock
Bedsread	

Beeper	Seaford
Ben Burger	Strood
Betty Boop	Seaford
Big Anvil	Haltwhistle
Big Biker	Southampton
Big Bopper	Newmarket
Big Brother	Thanet
Big Ears	Telford
Big K	Brighouse
Big Nick	Walsall
Big Ted	Harlow
Biggles	Grimsby
Billy The Kid	Paisley
Bin Man	Bloxwich
Bionic Lady	Barry
Bionic Man	Barnsley
Birdman	Kidsgrove
Birdman	Barry
Bison	Barry
Black Diamond	Birtley
Black Five	Sheffield
Black Label	Wickersley
Black Magic	Kidderminster
Black Panther	
Two	Yiewsley
Black Panther	York
Black Sheep	Barry
Blackbird	Bishop
	Auckland
Blackraven	Brighouse
Blonde Yetti	Lutterworth
Blondie	Barry
Bloodsucker	Thanet
Blue Band	Gravesend
Blue Barron	Barry
Blue Boy	Barry
Blue Diamond	Great Wyrley
Blue Dodge	Kidderminster
Blue Fox	Kington
Blue Jeans	Market
	Marlborough
Blue Mariner	Barry
Blue Mink	Cowley
Blue Phoenix	Norton-on-Tees

Blue Rock	Harlow
Blue Streak	Barry
Bluebird	Stourport
Bob The Plug	Hagley
Bonzo	Yiewsley
Bootlegger	Thanet
Boozer Cruiser	Cowley
Boston	
Strangler	Keighley
Bottletop	Milton
	Keynes
Brain Damage	Royston
Brandy Snap	Wickersley
Bread Bun	Redcar
Brickmaker	Bishop
	Auckland
Bright Eyes	Mortlake
Brighton Rock	Barry
Broadsword	Wakefield
Brown Owl	Barry
Brunette Baby	Harlow
Buffalo Bill	Thanet
Bugsy	Dartford
Bullseye	Newry
Bunny Girl	Blakedown
Bush Baby	Eastfield
Buster	York
Buttercup	Raynes Park
C.B.D.J.	Aldershot
Calamity Jane	Haltwhistle
Can Cutter	Ellesmere
Candy Kid	Aldershot
Candy Girl	Barnsley
Candyman	Thanet
Captain	
Caveman	Thanet
Captain Nemo	Barnsley
Captain Snoopy	Wrexham
Carbon Copy	Harlow
Carpet Bagger	Kidderminster
Casa	Harlow
Catewoman	Swinton
Cave Dweller	Kington
Champagne	
Lady	Winscombe
Chapter One	Leyland
Charkie	Wickersley
Charles Angel	Aldershot
Cheesegrater	Lutterworth
Cherokee	
Warrior	Swansea
Cherry B	Thanet
Chew Bacca	Wednesbury
Chick-a-Boo	Barry
Child Minder	Aldershot
China Doll	Folkestone
Chippy	Warton
Choc Ice	Chichester
Chopper One	Brighouse
Cinzano	Harlow
Circuitbreaker	Thanet
City Red	Nottingham
Classy Broad	Helensburgh
Clodhopper	Ellesmere
Coal Hole	Southend
Cochise	Redcar
Cockney Rebel	Bishop
	Auckland
Coffee Cream	Mancetter
Coin-Operator	Thorney
Colonial	Milton
	Keynes

Coo Jee Bear	Bathgate
Copper Jug	Bloxwich
Copper Kid	Harlow
Cornich Man	Harlow
Cosmic Kitten	Scunthorpe
Coyote	Pensby
Crazy Cooter	Barnsley
Crazy Horse	Barry
Cream In Your	
Coffee	Pedmore
Cretin	Bury
Cryptic Lady	Shepton Mallet



Cue Ball	Battersea
Cue Ball	Barry
Curb Crawler	Wendover
Cylon	Dartford
Daddy Adolph	Yiewsley
Daddy Psycho	Thanet
Daizey Maize	Paisley
Dambuster	Eastfield
Dan Dare	Grimsby
Dancing	
Demon	Barry
Darkie	Chester-le-Street
	Thanet
Darth Vader	Barry
Day Tripper	Hagley
Daytona	Seaford
Dead Seagull	Gornal
Delta Lady	
Demolition	
David	Harlow
Deputy Dawg	Grimsby
Desert Flower	Walsall
Detroit	Barry
Diamond Dog	Brighouse
Diamond Lady	Aldershot
Diamond Lil	Rugby
Diggerdoo	Bognor
Diesel Weasel	Milton
	Keynes



**Dilly Dumbell** Denton  
**Dimples** York  
**Dipswitch** Barnsley  
**Dirty Harry** West  
 Bromwich  
**Disco Trucker** Aldershot  
**Dixie Rebel** Reading  
**Doctor**  
**Snuggles** Blakedown  
**Doctor Strange** Barry  
**Doctor Who** Telford  
**Dog Bone** Mancetter  
**Dole Queue** Thanet  
**Double Brandy** Yiewsley  
**Double G** Llandudno  
**Dough Basher** Rowley Regis  
**Dragon**  
**Princess** Pudsey  
**Dragonfly One** Luton  
**Dragonfly** Luton  
**Dray Man** Barry  
**Drifter** Hull  
**Drummer** Helensburgh  
**Duchess** Barry  
**Duchess** Sheffield  
**Duke** Barry  
**Dumbo** Barry  
**Dungeon**  
**Master** Seaford  
**Dusty Rose** Aldershot  
**Eagle One U.K.** Shrivenham  
**Eagle** Whittlesey  
**Eau De**  
**Cologne** York  
**Eight Track** Harlow  
**Elephant Boy** Kidderminster  
**Elephant Man** Barry  
**Escort** Aylesbury  
**Evil Woman** Harlow  
**Fag Man** Hook Norton  
**Fang Face** Walkden  
**Fantail** Ellesmere

**Feather** Newton  
 Aycliffe  
**Ferrett Legs** Wakefield  
**Fibre Glass** Sheffield  
**Fiery Jack** Scarborough  
**Fireball** Buith Wells  
**Fire Fly** Milton  
 Keynes  
 Littlehampton  
 Thanet  
**Fireboy**  
**Fishface**  
**Fixtures and**  
**Fittings** Clent  
**Flash Gordon** Aldershot  
**Flipper** Thanet  
**Florance**  
**Nightingale** Barry  
**Flyer** Hagley  
**Flying Docker** Kidsgrove  
**Flying Dragon** Barry  
**Flying Khazi** Darlington  
**Flying Tyke** Barnsley  
**Fonz** Bradford  
**Footrest** Barry  
**Formula One** York  
**Foxy Feeling** Bleakdown  
**Fozzy Bear** Kidderminster  
**Fred** Kidderminster  
**Frenchman** Norton-on-Tees  
 West Drayton  
**Friendly**  
**Fruit Juice** Yiewsley  
**Fuse Wire** Stilton  
**Gaitor** Dumfries  
**Garden Pea** Thanet  
**Guardian** York  
**Gas Man** Wickersley  
**Gear Jammer** thamet  
**General Lee** Marlpool  
**General Lee** Barry  
**Georgon** Barry  
**Ghost Maker** Redcar  
**Ghost Rider** Daventry



**Giggles** Thanet  
**Ginger Biscuit** Seaford  
**Gingernut** Egham  
**Gingernut** Thanet  
**Give Up** Nottingham  
**Glass Onion** Hayes  
**Goggles** Harlow  
**Gold Devil** Twickenham  
**Gold Leaf** Stevenage  
**Golden Earing** Seaford  
**Golden Wonder** Hagley  
**Goldfinger** Thanet  
**Goldie Locks** Barry  
**Goliath** Rowley Regis

**Goose** Portsmouth  
**Grandad** Southsea  
**Granny** Uxbridge  
**Green Cloud** Boston  
**Green Giant** Helensburgh  
**Green Jade** Wath on Dearne  
**Green Lady** Oakham  
**Green Meanie** Grimsby  
**Grey Fox** Croydon  
**Grey Squirrel** Norton-on-Tees  
**Grizzly**  
**Adams** Barnsley  
**Guitar Man** Melton  
 Mowbray  
**Gun Runner** Whitten  
**Guy Fawkes** Barnsley  
**Gypsy Rose Lee** Helensburgh  
**Haggis** Bloxwich  
**Half Pint** Blakedown  
**Hammer Head** Barry  
**Handel** Brighthouse  
**Happy Jack** Seford  
**Harrier** Shepton Mallet  
**Hawkeye** Barry  
**Hazel Eyes** Norton-on-Tees  
**Heart Breaker** Market  
 Marlborough  
**Hedge Hog** Aldershot  
**Hedgehopper** Darlington  
**High Flyer** Norton-on-Tees  
**Highwayman** Thanet  
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**Homepride** Barry  
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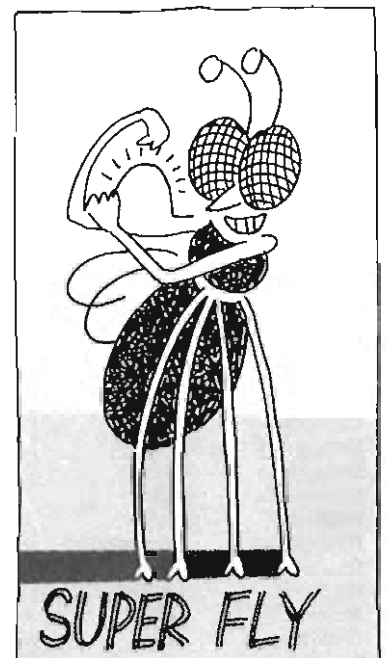
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**Hot Legs** Newton  
 Aycliffe  
**Hot Wire** Bloxwich  
**Hovis** Barnsley  
**Huckleberry** Barry  
**Hurricane** Haltwhistle  
**Ice Cube** Milton  
 Keynes  
**Iceman** Folkestone  
**Illegal** Barry  
**Operator** Warrington  
**Imperial Lady** Littlehampton  
**Ink-spot** Telford  
**Inspector**  
**Clouseau** Barry  
**Invade** Birtley  
**Iron Duke** Harlow  
**Iron Lion** Thanet  
**Iron Man** Clent  
**Iron filing** Bridgetown  
**Jack Flash** Barry  
**Jackets** Yiewsley  
**James Bond** Thanet  
**Jammy Dodger** Barnsley  
**Jasmine** Pedmore  
**Jaws** Plymouth  
**Jecpster** Grimsby  
**Jenny Wren** Birtley  
**Jenny Wren** Hasocks  
**Jim Bob** Richmond  
**Jive Man** Seaford  
**John West** Hagley  
**Johnny Ringo** Newton  
 Aycliffe  
**Johnny Reb** Barry  
**Joker** Barnsley  
**Judge** Coventry  
**K.X.** Barry  
**Kangar** Barry  
**Kemosabby** Barry  
**Kestral** Barry  
**Ketch** Radnage  
**King Cole** MarketMarlb-  
 ough  
**Kingfisher** Ellesmere  
**Kipper** Derby  
**Kitten** Thanet  
**Knuckles** Thanet  
**Lady Bird** Barnsley  
**Lady Carla** Stoneleigh  
**Lady G.** Milton  
 Keynes  
**Lady K.** Barry  
**Lady Love** Thanet  
**Lady Penelope** Barnsley  
**Lady Rebel** Paisley  
**Lady Viking** Thanet  
**Lambton Worm** Washington  
**Lamplight** Shildon  
**Land Lord** Barry  
**Layabout** Redcar  
**Lazer Beam** Newton  
 Aycliffe  
**Lazy Lion** Telford  
**Leprichane** Wakefield  
**Light Bulb** Faringdon  
**Lightfoot** Pitsea  
**Lilac Lady** Wakefield  
**Lime Man** Wickersley  
**Little Blue** Stevenage  
**Little Bopper** Newton  
 Aycliffe  
**Little Demon** Thanet  
**Little Dragon** Pudsey  
**Little Gremlyn** Barnsley  
**Little John** Teignmouth  
**Little Magget** Aldershot  
**Little Plum** Redcar  
**Little Shaver** Thanet  
**Little Sis** Chester-le-  
 Street  
**Little Snail** Aldershot  
**Little Tinker** Redcar  
**Little Weasel** Kidderminster

**Little White**  
**Dove** Gravesend  
**Lizard** Helensburgh  
**Lobo** Bary  
**Locknut** Blackburn  
**Logic Lady** Thanet  
**Lois Lane** Barry  
**Lollypop** Dartford  
**Lone Ranger** Thanet  
**Lone Wolf** Pelton  
**Loby Lou** Thanet  
**Love Bug** Roehampton  
**Lovebird** Keighley  
**Lucifer** Barry  
**Ma Baker** Barnsley  
**Mad Axeman** Brighouse  
**Mad Hatter** Lutterworth  
**Mad Mechanic** Richmond  
**Mad Hatter** Barry  
**Maggie May** Bury  
**Magic Fly** Stevenage  
**Magician** Thanet  
**Maid Marion** Grimsby  
**Major Tom** Harlow  
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**Metal Mickey** Bishop  
 Auckland  
**Mexican Pig** Strood  
**Micro Fish** Harlow



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**Raider** Wolverhampt-  
 on  
**Mighty Mouse** Helensburgh  
**Milk Bottle** Thanet  
**Mince Maker** Littlehampton  
**Minnie The**  
**Minx** Aldershot  
**Miss Fidget** Barry  
**Miss Lollypop** York  
**Miss Muffet** Grimsby  
**Miss Quick** Barry  
**Mister Cookie** Harlow

**Mister**  
**McHenry** Thanet  
**Mister Nasty** Plymouth  
**Mister Resistor** Plymouth  
**Misty** Droitwich  
**Mod** Walsall  
**Molegrip** Helensburgh  
**Mondo** Denton  
**Money Man** Seaford  
**Monkey Man** Yiewsley  
**Moon Child** Wendover  
**Moonbeam** Bishop  
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**Moto-X-Fox** Eastington  
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**Music Maker** Barry  
**Music Man** Wickersley  
**Musketeer** Grimsby  
**Mustang** Redcar  
**Mystic Lady** Stevenage  
**Neighbour** Harlow  
**Netball Lady** Newton  
 Aycliffe  
**Niblet** Seaford  
**Night Fisher** Peterborough  
**Night Hawk** Stevenage  
**Night Nurse** Barry  
**Night Reaper** Warrington  
**Nightflyer** East Action  
**Nightingale** Barnsley  
**Nightrider** Dartford  
**Noddy One** Barry  
**Nurse** Barry  
**Nutty Boy** Aldershot  
**Oil Slick W.** Haltwhistle  
**Ol' Boot** Loughton  
**Old Shep** Grimsby  
**Olive Oil** Boston  
**Onlooker** Seaford  
**Orange Flyer** Rowley Regis  
**Orinoco** Seaford  
**Otter** Seaford  
**Oxo Cube** York  
**P.A. Cresta** Harlow  
**Paper Lace** Kidderminster  
**Maranoid** Chadsmoor  
**Pasty Maker** Barry  
**Peach Melba** Aldershot  
**Pebbles** Egham  
**Pebbles** Seaford  
**Peggy Sue** Luton  
**Penelope**  
**Pitstop** Aldershot  
**Penguin** Bishop  
 Auckland  
**Pensi-Cola** Harlow  
**Phantom** Goole  
**Pharoh** Barry  
**Phoenix** Barry  
**Pickle** Aldershot  
**Pig Pen** Barry  
**Pilot Lady** Paisley  
**Pink Lady** Boston  
**Pink Turkey** Hagley  
**Pinty** Stilton  
**Pipe Bender** Milton  
 Keynes  
**Pippin** Seaford  
**Pit Stop** Cayton  
**Pizza** Thanet  
**Platignum**  
**Prince** Barry  
**Ploughman** Corby  
**Pluto** Seaford  
 Portsmouth



**Polony** Brighouse  
**Pool Cue** Penicuik  
**Pozidrive** Wednesbury  
**Preacher Man** Wakefield  
**Princess** Barry  
**Problem Child** Dumfries  
**Professor** Stevenage  
**Punch** Yiewsley  
**Purple Hen** Thanet  
**Pussy Galore** Wisbech  
**Puzzler** Yiewsley  
**Quacker** Polesworth  
**Quasimodo** Thanet  
**Queen Bee** Thanet  
**Queenbitch** Atherton  
**Raccoon** Wrekenton  
**Radyr** Barry  
**Rag Trade** Wickersley  
**Rainbow**  
**Charlie** Barry  
**Raindrop** Droitwich  
**Rasputin** Norton-on-  
 Tees  
**Rat** Lutterworth  
**Rave On** Ilkeston  
**Raven Two** Paisley  
**Raven** Chippenham  
**Razamataz** Aldershot  
**Realistic Two** Barry  
**Rebel** Harlow  
**Red Admiral** Haltwhistle  
**Red Army** Barnsley  
**Red Bear** Wednesbury  
**Red Devil** Nottingham  
**Red Eye** Dartford  
**Red Knickers** Kidderminster  
**Red Legs** Hook Norton  
**Red Rider** Barry  
**Red Robin** Hassocks  
**Red Rover** Aldershot  
**Red Shoes** Warrington  
**Rembrandt** Manchester  
**Rev Counter** West Drayton  
**Ribena** Bridlington  
**Rich Bitch** Thanet  
**Riddler** Telford  
**Rigonda** Barnsley  
**Ringpull** Canterbury  
**Road Rat** Buith Wells  
**Rock Bottom** Brighouse  
**Rocket Man** Milton  
 Keynes  
**Rocky** Tolworth  
**Rollar Coaster** Bary  
**Rooster**  
**Booster** Seaford

# FEMME SCENE



by  
**Smiler**

I had a lucky escape one Sunday just before Christmas — thanks to my c.b. radio.

It had started to snow and my boyfriend and I decided to take a drive up to the Downs. It is very pretty on the Downs and I was eager to try out the toboggan I bought several years ago but have been unable to use due to the recent mild winters.

By the time we arrived the weather was dreadful; the wind was whipping up the snow which had already fallen and we could hardly see. Undeterred, we joined several other tobogganers and had a great time hurtling down the slopes and getting wet.

The wind and snow became steadily worse, and before long we decided that tobogganing in a blizzard was no fun, and it was time we made our way home.

Upon returning to the car we were dismayed to see that the snow was piled up against it in a huge drift. We managed to climb in through the passenger door, and although the engine started, the car would not budge. We sat there for a moment, wondering whether to abandon the car and try and make it home on foot, when I remembered my c.b. I scooped the snow from the roof, slapped my mag. mount on, and put out a 10-33.

"Don't worry Lady Breaker," came the reply. "Somebody put out a call on channel nine about ten minutes ago. A T.H.A.M.E.S. monitor picked it up, he's rounding up several of his colleagues and they will be here shortly to dig us out. Just sit tight."

Before long we were able to make out a convoy snaking up the hill towards us. Our visions of being discovered, frozen to death, the following morning (what would Brian do without me?) disappeared as the car doors opened and out climbed several T.H.A.M.E.S. monitors brandishing shovels. They quickly set about clearing the snow away — no work shy people here — and finally managed to get the car out of the drift. We then located the other stranded cars and after some time everyone was free.

We are all extremely grateful to the people of T.H.A.M.E.S., who left the comfort of their warm homes and braved the elements just to help us out. They rescued breakers and non-breakers alike, and I believe they convinced several people who had rejected c.b. as something "To keep the children amused" that it really is a good idea for everyone to install c.b. sets in their cars. One breaker who was alone in his car and had been stuck for over an hour confessed that even though he knew T.H.A.M.E.S. were coming to the rescue, he would have gone out of his mind if he had been unable to communicate with other c.b.ers, as he suffers from claustrophobia.

If only those unfortunate people who were killed in the blizzards had been able to shout for help using a c.b. Perhaps T.H.A.M.E.S. or one of the other emergency monitoring groups would have gone to their rescue and they could have been saved.

## What price a life?

Farmers should certainly consider supplying hand-held transceivers to their staff. This equipment can be purchased for as little as £23.00 and distributors would probably give discounts on bulk purchases if asked. Surely this is not too high a price to pay for a life?

Farm workers would be able to carry out their tasks in the knowledge that should they get into difficulty they could call for help and give details of their whereabouts to the rescue party. They would also be able to advise if medical or veterinary help was needed and what sort of help was required.

Use of hand-held radio equipment would not only be instrumental in saving human life, but would be extremely handy when staff try to round up cattle and move animals to safety during difficult conditions. I was saddened to read of the huge losses of farm animals during the recent blizzards and feel that many more of these poor creatures would have been saved if those looking for them could have used radio communication to co-ordinate the search. ●

## EYEBALL ON THE FRENCH RIVIERA

Hey good buddies...ya think ya've seen and heard it all? You're wrong! There's nothin'-no nothin' to compare with an eyeball on the French Riviera.

Your CB Group could be there this spring and it won't cost you too many Green Shields.

You can have 2 great weeks on the Riviera for as little as £69.50. The price covers both travel and accommodation.

You'll travel by luxurious continental coach (each coach has video film entertainment, built-in toilets and a courier service).

You'll stay in fully equipped ready erected 6 berth chalet tents or 4 berth caravans (Continental breakfast is also included).



You'll have first class beach sites and enough eyeballs to send you wild with delight...mmm those bodies on the beach!

Send for a brochure and ask for the special CB Group rates. Departures from Newcastle, Sunderland, Carlisle, Leeds, Liverpool, Manchester, Birmingham and London.

See you at our 20 in the South of France. 10.10 Breaker Break 123 down on the side We're satisfied, I've gone.

The Holiday Man.

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# FROM BREAKER TO HAM 6

## Enquiry Coupon

From Breaker to Ham.  
Please attach this to your enquiry.  
The Editor, C.B. World,  
Room 802, Quadrant House,  
The Quadrant,  
Sutton, Surrey SM2 5AS.

Last month we started to look at noise limiters, and we will be continuing the theme this month.

Some of the early produced c.b. transceivers employed an adjustable noise limiter whereby the limiting ceiling could be established by the user.

Naturally, the lower the ceiling the greater the noise reduction, and the greater the audio distortion. C.b.ers using maximum limiting for maximum noise suppression also suffered maximum audio distortion and made complaints of "Excessive distortion" to the c.b. set producers. This resulted in the elimination of the adjustable limiting feature.

Today most c.b. transceivers use a "Floating" limiter, which automatically establishes an acceptable limiting level depending on the strength of the received signal. It is not the best limiting, but it is not the worst either.

Ultimate noise suppression is obtained from a "Noise Suppressor". This is a special type of circuit which actually punches a "hole" in the received signal where a noise pulse normally would be. These holes have little effect on modulation distortion, but are almost 100% effective at reducing sharp impulse noise.

Some c.b. set producers have described their ordinary noise limiters as "Suppressors" but this can be a misnomer.

Currently, there are several types of noise suppression circuits and the easiest one to understand is the "RF Suppressor" which is

This voltage (or current depending on the design of the transceiver) is used by the receiver IF amplifier to cut off, so no signal can pass through the IF amplifier when a noise impulse is received.

C.b.ers who have experience in studying c.b. transceiver circuit diagrams might appreciate that often a separate noise gate is inserted in the IF amplifier which is 'closed' by the DC voltage pulses.

Each time the IF amplifier is cut off a 'hole' is punched in the received signals. Since the noise impulses are of very short duration in relation to the modulation, there is little distortion added to the received signal.

The noise suppression rectifier is usually designed only for sharp impulse noise. Long term noise would produce a cut off which would interfere with the received signal.

To accommodate both short and long duration noise a noise suppressor is teamed up with a limiter, so the limiter can handle long duration noise.

Together they provide the best possible noise suppression though the extra circuits needed for the suppressor to increase the cost of producing the transceiver.

C.b.ers often raise the question as to why do some transceivers have noise limiter switches on the fascia?

The answer is that the switch really serves no useful purpose unless the set is being operated on a mountain, miles away from any man made noise sources, and even then the normal atmospheric background noise might still require noise limiting.

The only purpose of the noise limiter

characteristic of any system which relies on the human voice for transmitting intelligence, be it c.b., amateur radio, military, defence or even space exploration. The most sensitive receiver is completely worthless if an incoming S9 signal is garbled or is masked by noise and distortion.

The most powerful transmitter is similarly worthless if there is not enough modulation to get the intelligence carrying voice over the atmospheric or man made noise levels.

Let us now assume that a transmitter's basic modulation system is distortion free and that there exists a fixed limit to the amount of modulation that can be impressed on the carrier signal. If any attempt is made to exceed the limit of modulation by simply turning up the modulation level, say by increasing the gain of the microphone pre-amplifier, then excess distortion will be generated and this will tend to be garbled when the received signal is weakened.

When the received signal is strong, distortion will often appear to be increased because there will appear to be more modulation. It is this characteristic of apparent increase in the talk power of strong signals that often gives the c.b.er the false sense of achievement. He will however fail to realise that when the signal strength falls into the noise level the audio will become almost unintelligible and it might sound to the human ear as though a lot of talk power existed, but the truth is, little in the way of intelligence is extracted by the listener.

The fixed limit of modulation for an AM or SSB transmitter is termed 100% modulation. In actual fact there is a condition known as 100% negative modulation, as well as a condition of 100% positive modulation.

Refer to figure 19 and it shows how modulation is handled for AM transmitters. Let us assume the carrier wave produced by the transmitter is 10 volts. Now, if we insert a 10 volt peak to peak audio sine wave on the RF carrier at the positive peak of a sine wave, the output voltage would be 20 volts peak which will be twice the RF level.

When the positive peak is twice the quiescent RF value, it is said that modulation is 100% positive.

It should be noted, however, that the negative peak (or trough) of the sine wave, the RF output voltage, has been driven precisely to zero output when the RF output is zero it can be said that we have 100% negative modulation.

The receiver is able to strip away the RF in the detector and what remains to be fed to the speaker is a sine wave which is a replica of the original sine wave modulation.

Now refer to figure 20 and see what happens if the modulation voltage is increased. The positive peak simply increases the r.f. output more than twice the quiescent value. It is no great problem here, even though the FCC does not allow greater than 100% positive modulation for c.b. equipment. Now, however, look at the negative modulation, and it will be seen that the carrier has been driven to zero output (cut off) for an extended period. The recovered wave form at the receiver is no longer able to represent the original signal wave modulation as it is now distorted.

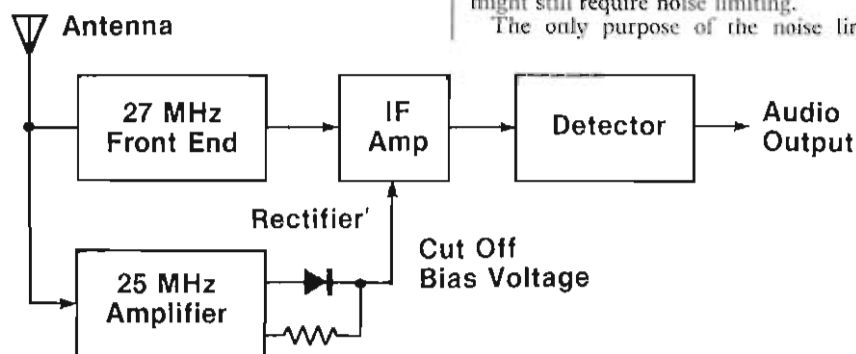


Fig 18. The best form of noise eliminator in c.b. is the RF type employing a separate front end at 25 MHz that listens for noise.

shown in figure 18. It should be noted here that all suppressors work on basically the same principle.

In addition to the receiver's normal front end "RF amplifier oscillator and mixer", a 25 MHz RF amplifier is also connected to the antenna. The noise impulses received at 25 MHz are essentially identical to the noise impulses at 27 MHz since there is little broadcasting activity around 25 MHz the output of the 25 MHz amplifier will be noise. (The actual 'noise frequency' is selected for an unused part of the radio spectrum.)

The output of the 25 MHz amplifier is rectified into DC voltage pulses corresponding to the received noise impulses.

switch is to convince the user the noise suppression units are really working. No matter how bad the noise interference might be on a particular transceiver it would be a lot worse without some form of noise reduction.

There is the story of a few years ago when only one manufacturer ever produced a c.b. rig without a noise limiter, and that was a mistake in design. The designer simply forgot about the noise limiter until after the unit went into production. Attempts to add a limiter to the finalised printed circuit board produced barely perceptible noise reduction and the transceiver was a disaster. The few purchasers quickly spread the word around and an experienced c.b.er would not purchase one of these sets at all. Effective noise limiting is the first consideration in any transceiver design.

When considering the whole concept of c.b. the most important characteristic of a c.b. communications system is the modulation. Modulation is the most important char-



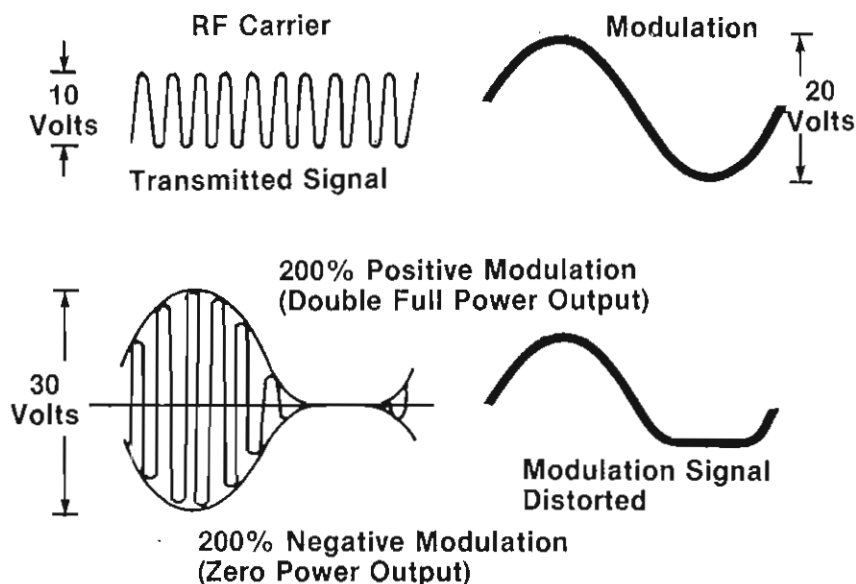


Fig 19. When modulation is any value up to 100% positive and negative, the recovered audio in the receiver is an exact reproduction of the modulator's input — the voice. Distortion is minimal and maximum intelligence is received.

The greater the degree of excess negative modulation the greater will be the distortion.

In addition to modulation distortion the transmitter will now produce sideband interference which does not exist if the modulation is limited to 100%.

For conditions up to 100% modulation the sidebands are exactly as wide as the highest modulating frequency. If the modulating

channels so the over-modulation (in addition to the signal's distortion) now interferes with the users of other c.b. channels.

Since exceeding the 100% modulation limit results in severe modulation distortion and sideband interference how then is it possible to increase the talk power of a c.b. transmitter and still maintain no higher than 100% modulation. The answer is in the different types of talk power boosters that are available and to understand how these operate, one must ask a question, "What should be boosted?"

Talk power booster depends on two characteristics of the human ear. First it is

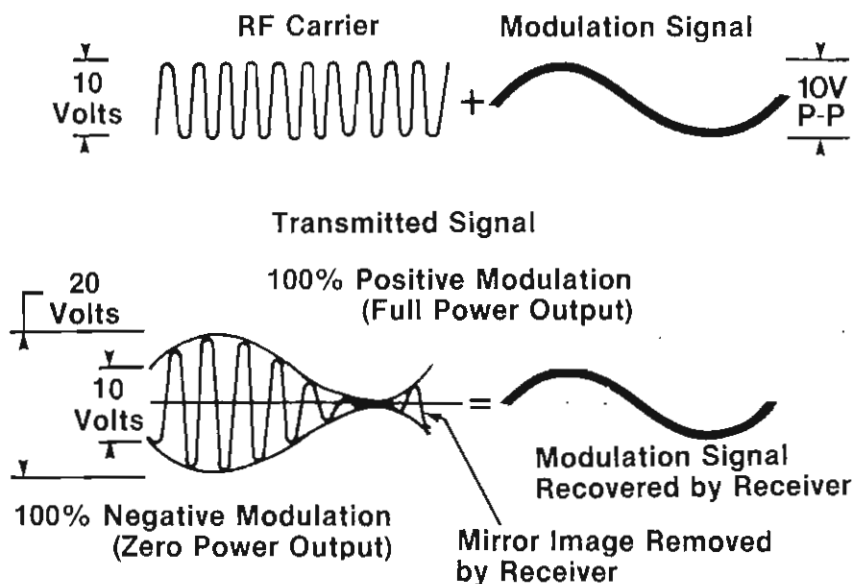


Fig 20. Excessive distortion in a transmitted signal is caused by over driving the modulator which in turn can over-modulate the carrier.

frequency is 3000 Hz, there will be a sideband 3000 Hz above and below the carrier frequency.

That is as it is supposed to be, but when the RF signal is driven into negative over-modulation, the clipping produces harmonics of the 3000 Hz modulation. The highest modulation frequency becomes that of the harmonics 6000 Hz, 9000 Hz, 12 000 Hz and higher. The greater the degree of over-modulation, the greater the harmonic sidebands. These sideband frequencies now extend the carrier signal into adjacent

intelligence carried predominantly by the higher voice frequencies, the lower frequencies providing the essential tone characteristics by which it is possible to recognise the speaker. On their own they convey little intelligence yet they use the most modulation power.

Secondly, the ear is primarily sensitive to average, not peak, power yet the peak power of the human voice is ten-one hundred times of the average power (10 dB — 20 dB higher). For most applications it is accepted that peak power of the voice is considered to be 10 dB higher than average power.

Though the ear responds to average power, it is peak modulation power which determines the per cent modulation of the

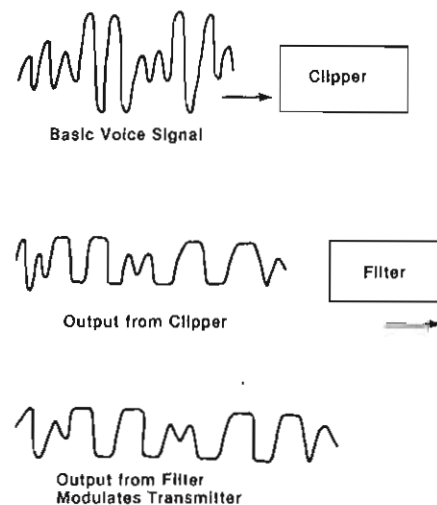


Fig 21. Diagrammatic representation of the action of a clipper circuit on a speech wave form.

transmitter.

One first step to increasing talk power is the suppression of those frequencies which require modulation power but do not contribute much to intelligence. By eliminating the frequencies below approximately 300 Hz and above 3000 Hz — either at the microphone or through pre-amplifier design — better than 80% of the intelligence is preserved, whilst the power hungry lower frequencies are eliminated.

The conventional land line telephone is a good example of this technique. Its tinny sound might not be natural but most of the message gets through without much power behind it.

It is now possible to raise the level of the 300 to 3000 Hz frequencies and still stay within 100% modulation thereby increasing talk power at the receiver end of the system. Now let us look to see what can be removed. It is possible to cut off the peaks of the signals for they contribute very little if anything to what the ear senses. The earliest form of clipping was a device called a clipper and figure 21 shows how it operates.

The audio signal is passed through the clipper and the peaks are eliminated. If this signal were fed to a transmitter it might be possible to get anywhere from ten to fifty per cent modulation, depending upon the amount of clipping, called clipping depth.

Should the signal level be increased by exactly the degree of clipping thereby raising the average voice level some six to ten decibels. There is one problem however, and that is the harmonics caused by the clipper because as the modulation wave form is being distorted through clipping it might be considered logical to think that harmonics will be generated which will cause sideband splatter.

The answer is simply no, because the output of the clipper is passed through a filter which attenuates all signals above 3000 Hz thereby reducing or eliminating the harmonics and their interference. Clippers are difficult to adjust to precise operating levels, difficult to maintain once in adjustment and good filters are expensive.

However, because of modern solid state devices it is possible to achieve the same results through compression which is a form of automatic electronic microphone gain control.

● More next month.

# CLUB CORNER

## Herts Citizens Band Radio Association

The Herts CB Radio Association was formed to attract all U.K. Clubs together as one "Big" body of breakers and it is already running very well. All CB clubs in the U.K. can become affiliated and it doesn't cost a penny. However, if any person wants to join the H.C.B.R.A. as a member it costs £5 per year. Each month the organisers print a magazine which goes out (25p) to members. They plan many social activities including a proposed forming of a junior U.K. club.

Each and every Wednesday the H.C.B.R.A. opens up its doors at the Wagon & Horses pub, Ridge Hill, South Mimms which is just outside Potters Bar on the A6. Admission to members is 25p and guests 35p. There is plenty to see and do; if you like to listen and dance to records or just have a nice chat over a drink then this is the association that you should go along to. They start 8.00 p.m. and end between 10.30 and midnight.

C.B. and trucking albums, rigs and twigs are on sale at discount prices.

Why not give them a try? If you bring three people with you then you get in for free.

## Garden of England CB and D.X. Club

(Kent)

The Garden of England is a c.b. and D.X. club which is aimed at the more serious breaker. It hopes to offer a test centre which may be used by members to check their equipment and also an advice service.

There will be talks on the correct use of c.b. how to S.W.R. etc. These are given by experienced breakers.

A c.b. retail stand is always present and is able to supply equipment at a good price and the retailers are happy to give advice on the best equipment.

The Garden of England Club meets at The Becketts, Southborough Lane, Bromley, Kent

on Monday nights from 8.00 p.m. to 10.30 p.m.

The visitors fee is 75p and the membership is £5.00 with an attendance subscription of 50p there after.

Any new breakers are welcome.

## All Breakers Club (Deptford)

A new club which has just opened in the Deptford "20", South East London is called the "All Breakers Club". This club sponsor a charity called I.H.C. (Infantile Hypercalcaemia) and members hope to raise a lot of money for this cause.

Membership for the club is £3.50 per year, £2.50 of which entitles members to all the benefits of the social club, and the extra £1.00 is for membership card, eyeball badge and entitlement to discount on c.b. equipment.

## North West Leicestershire Breakers Club

(Coalville)

The North West Leicestershire Breakers Club covers the area surrounding Coalville, Ashby de la Zouch, and Ibstock. The club started in September 1980 with a membership of only 60.

The club tries to organise social events and weekly meetings for local users of c.b. The club is often campaigning for 27 Mhz A.M., and sends delegates to meetings of N.A.T.C.O.L.C.I.B.A.R. and A.M.B.C.

Members also spend time raising money for charity and have many fund raising events planned for the future.

## Smokey Runners Club

(Bucks)

The Smokey Runners Club is at Aston Clinton Sports and Social Club near Aylesbury, Bucks. Once a month they have a regular eyeball where they have an ordinary eyeball and information night, the other three Sundays they have some other form of entertainment.

Membership is £4.50 for the first year and is reduced thereafter. Nightly fees are 50p for members and £1.00 for guests on entertainment nights, ordinary eyeballs are 20p for everyone.

## BBC Scotland

Every Sunday evening on BBC Scotland, the Tennessee Superspinner, otherwise known as Noel Cannon, presents a programme of music, chat and information for all Citizens' Band enthusiasts.

"Breaker 810" is the first regional network radio show to take to the airwaves featuring all the latest technical information, rig, aerial and accessory tests, legal and insurance advice, "eyeballing" with club members throughout Scotland ... in short, every aspect of c.b.

And very soon Radio Scotland will have the world's largest unofficial c.b. club on their hands, with applications to join the Breaker 810 Club (and the Breaker 810 Carpet Monkeys Club for younger listeners) flooding into Noel's office every day.

Noel Cannon himself, coming from North Carolina, has watched Citizens' Band radio develop over the years both in the USA and in Britain, and his intimate knowledge of c.b. coupled with what must be the country's largest collection of genuine country discs has already persuaded thousands of Scotland's c.b.'ers to stay at their home 20 on Sundays, for breaker 810.

## Call to 'Breakers' in West Kent

Church 'breakers' in the areas of West Kent, Bromley and Bexley are being asked to register with the diocese of Rochester and make an organised job of their hobby.

The call has come from the forty-two-year-old diocesan secretary, Mr. Peter Law, who operates as a 'breaker' himself using the handle 'Southern Cross'.

Mr. Law believes there is a future for church people on the air, and he plans to circulate his diocesan register of 'handles'.

Mr. Law talks with many

breakers as he motors round the 537 square miles of the Rochester diocese. He calls out the name of each parish as he passes through it, for the benefit of any church people who may be switched on — and he receives quite a number of answering calls, he says.

The object of the diocesan register will be to encourage people to talk to each other — "a most un-English thing to do". But even within a parish people with no other point of contact might get together on Citizens' Band, Mr. Law feels.

Sometimes he chats with motorway truckers. Occasionally he has found himself talking to out of work youngsters; and he has been able to discuss with them the best way of writing job applications, which is one example of the ways in which Church 'breakers' could be useful over the air.

Church Times, Friday, November 13th 1981

## Bravo Breakers Club

(Norwich)

The Bravo Breakers Club holds meetings every other Monday night at a local public house. The club is aiming to be a small personal club, with 60 members and 13 committee members. Call on 14 and Bigfoot or Instant Whip will tell any interested breakers more about the club.

## Red Spot Genuine Breakers

(Great Sutton)

The Red Spot Genuine Breakers Club consists of a number of the original c.b.'ers in Ellesmere Port who are totally convicted to the fight for legalisation on A.M., sideband etc. with as many channels as possible. Membership is growing steadily all the time.

One member of the club is Mr. K. Bradford (Black Dog) who will be known to many of our readers as the person who originally set up the The North West Coastal Federation, which is a group of some 17 clubs in the area, representing more than 9,000 breakers.

Other members are Mrs. M. Russell (Tweaky) Secretary, and Mr. D. Rhind (Black Russian) Chairman, who are continuing with the widely known S.W.A.T. team, which is a group of 3 people who tour other clubs, anywhere, anytime, giving out legal technical and other advice, not because they are know it alls, but because they have been using c.b. for so long. They have visited 12 clubs in the area and have always been thanked for the help they have given. This is available to any clubs anywhere, free of charge. Any breakers wishing help, advice or



further information of any description, should not hesitate to contact them, either by calling on 14, or contacting Tweaky at 11 Farmstead Way, Great Sutton, South Wirral.

## Sheaf Valley BC, (Sheffield)

The Sheaf Valley BC, which was opened in March 1980, meets every Thursday at the Hullsborough Social Club, Bradfield Road, Sheffield 6.

Until recently the club had a maximum membership of 100, due to popular demand the books were opened to new members so now anybody is welcome.

On Club nights, there are discos, buffets, quizzes, film show, silly games, bingo, groups, folk nights, and the committee are open to suggestions from members for other activities.

Two of their most recent functions included a fancy dress disco and a disco and buffet on a floating canal barge. Treasure hunts, fox hunts, mystery tours and picnics are regular events which are usually held at weekends.

Memberships is 2.00 per quarter, and this includes a club card and a badge. Sapphire, c/o 27 Ashberry Gardens Sheffield 6, Yorkshire.

## Milton Keynes City Breakers (West Bletchley)

The Milton Keynes City Breakers have found it necessary to change their club address due to a few minor changes in the committee. All correspondence should in future be addressed to the secretary M.K.C.B., 2 Buckfast Avenue, West Bletchley, Milton Keynes.

## TX 21 Leyland (Preston)

The TX 21 c.b. Club is in the Leyland area near Preston.

Members meet every other Monday at the Ley Inn, Clayton-le-Woods and membership is by election only.

The club have been in existence for almost 12 months now and they not only cater for the serious breaker, but also has social side. Although members accept the new FM frequency they are actively fighting for legalisation of all modes, especially SSB. The breaking channel for their area is 27 A.M. and 14 F.M., and also 59 A.M. for the higher channels.

TX 21 members are also rather fond of a quotation used in an early campaign for Steam Radio and find it apt to the cause

of c.b. radio.

"Nation shall speak unto Nation", but hopefully on U.S.B. or L.S.B.

Information was supplied by Chapter One, the Club Secretary.

## Barley Breakers Club

(Plymouth)

The Barley Breakers Club meets at the Clittaford Club, Southway, Plymouth.

Eyeballs are every second Wednesday evening between 7 and 10.30 p.m., which the club informs us is family time when children of all ages are welcome.

Alternate Wednesdays are left free for a social evening for adults only.

Membership is now static at 300 with a gradually growing waiting list. The club has been established since June.

Any correspondence should be sent to: Barley Breakers Club, P.O. Box 9, Plymouth, Devon.

## Uttoxeter Breakers Club

(Staffs)

Whisky Lady is the new secretary of the Uttoxeter Breakers Club and she wrote to *CB World* with the club's new postal address, which is as follows: 26 Westlands Road, Uttoxeter, Staffs.

Last year the club organised a sponsored bed push from Uttoxeter to London, and members carried with them a petition for the legalisation of A.M. The club was hoping to collect £1,000 so they could buy a Spine bed for the Burton Hospital.

## Conference City Modulators Social Club

(Harrogate)

Handyman and Rescuer would like to inform any new F.M. c.b.'ers in Harrogate and neighbouring districts that the C.C.M. club has been one of the two main clubs in the area for the past year and has a membership of 400 breakers.

Generally there is a meeting each Monday, with a super c.b. prize raffle and free sandwiches. The club also has regular events such as socials, and fund raising activities in which everybody can take part.

Meetings are held at the Cairn Hotel from 8.00 p.m. onwards, and any breakers in the area are welcome to take a look at what goes on. A small charge is made.

Members hope that now c.b. is legal, places such as pubs, clubs and hotels which would make great venues for meetings will open their doors to c.b.'ers.

Previously, proprietors of a lot of these places were quick to reply with a big NO when asked about having any sort of meeting on their premises.

Now perhaps more c.b.'ers will be able to form that club they have wanted, but have been unable to form due to the lack of an eyeball 20.

## The Avanti Breakers Club

(Ladybank, Fife)

The area covered by this club is the Howe of Fife. It is a new club which was formed in June and has a growing membership.

Eyeballs are held every second Monday at 8.00 p.m. in the Pitlessie Arms Hotel. All visiting breakers are welcome. Various sporting and social activities are organised for members in conjunction with other clubs in the Fife area.

Club address: c/o Post Office, Newton of Falkland, Cupar, Fife.

## A78 CB Breakers Club

(Wemyss Bay)

The club is named after the coast road which runs down the west coast of Scotland.

Founded eight months ago the club has 80 members and is growing fast. Members are originally from the Texas 20, Largs, but breakers from across the glass, Dunoon, Innellan, the Isles of Bute and Millport and Greenock have joined.

Membership is £5.00 for life and open is to all ages. Meetings are once a week alternating between a seafront hotel and a local hall for the more official meeting.

The club has a D.R. aerial plus S.W.R. meter and two floating rigs for the use of members whose own break down.

A 20-page newsletter which includes handle sheets and technical info. sheets is published. Social activities and money raising campaigns for charity are organised.

Secretary: Melody Maker, Seaview, Station Square, Wemyss Bay.

## Big 'A' CB Club (Aberystwyth)

Mystery Woman, Secretary of the Big 'A' told C.B. World that this Club was formed in May 1981 and already has a membership of about 60.

Eyeballs are held fortnightly at the Marine Hotel, Promenade, Aberystwyth.

Anyone interested in c.b. is welcome to join, it's not necessary to own a rig.

Further information can be ob-

tained from Shoestring (Chairman) or Mystery Woman (Secretary), 1 Penglais Farm Cottage, Clarach Road, Aberystwyth, Dyfed.

## Hunters Heath and Orchard Town B.C.

(Worce)

The Hunters Heath and Orchard Town Breakers Club of Broadheath and Tenbury Wells has been running about six months and has a membership of over 100.

The club tries to promote c.b. and members enjoy themselves organising disco's, fox hunts, carnival floats and treasure hunts. This club has donated £200 to the local hospital.

## Braithwell Rig and Twig

(Rotherham, South Yorkshire)

Wild Honey, the secretary of the Braithwell Rig and Twig c.b. Club, wrote to us and asked us to inform all *CB World* readers about the club's change of address. The new address is as follows: Braithwell Rig and Twig Club P.O. Box 46 Rotherham South Yorkshire S60 1EL.

## South Wales Federation of Breakers Clubs

(Gulfach Bargoed, Mid. Glam.)

This federation is to be known as the S.W.F.B.C. Chairman: Rain Manythe. Secretary: Starlight.

Information from: 74 Beech Court, Gulfach Bargoed, Mid. Glam. CF8 8NS.

## Sunny 'B' Breakers Club

(Burntisland)

Sunny 'B' was formed in May and has some 73 paid-up members. This number increasing every week.

Already the club activities have included a welly throwing competition, raft race, treasure hunt and a fox hunt.

Meetings are held in the Greenmount Hotel, Burntisland, every alternate Wednesday. For a small entry fee visitors are welcome after the close of the meetings — usually about "9 bells".

Local breaking channel is 12 mid and 60 high.

Secretary: Guitarist, 44 Dick Crescent, Burntisland, Fife KY3 0BS. ●



# Traffic Signals

№11

TWO BREAKERS ARE EYEBALLING OVER A CUP OF CHOCCY

HEARD ABOUT THE NEW CB REPAIR & SPARES SHOP JUST OPEN?

YES, I DON'T FANCY BEING BEHIND THE COUNTER WHEN **BIG GRAHAM** TURNS UP!

CARPET MAN, YOU'RE WALL TO WALL, RODGE

I MUST FIND THIS NEW CB REPAIR & SPARES SHOP TO BUY A BIT FOR ME RIG!

CB REPAIR & SPARES SHOP, RODGE

GREAT

DING

OPEN

HULLO, BREAK, YOU GOT **BIG GRAHAM** THIS END, WHO'S GONNA LAY OUT SOME GREEN ONES ON A BIT FOR HIS RIG, RODGE!

HUH!

UH, YES SIR, WHAT'S THE MAKE, MODEL & YEAR OF YOUR RADIO, AND THE COMPONENT YOU REQUIRE?

HUH

YOU'VE GOT ME THERE, BREAK, I THINK IT'S A JAPANESE ONE WITH BLACK KNOBS..... OR SILVER MAYBE!

I BOUGHT IT QUITE A LONG TIME AGO, AND THE BIT I NEED IS BLACK, WITH A SORT OF WIGGLY END..... RODGE

GOT ONE?

WELL, I'M THINKING REAL HARD, UM.....RODGE

Andrew Owen

SO OUR TWO HEROES COMMENCE A BRAIN-TORTURING SESSION, BOTH

PITTING THEIR DEADLY WITS AGAINST THE PROBLEM, BUT ALWAYS COMING UP

WITH THE SAME ANSWER....

NO!

NO!

NO!

I DON'T THINK SO!

YES?

NO! RODGE

MEANWHILE.....

HUM DE HUM

OPEN

HULLO, **BIG GRAHAM**, HAVE YOU BOUGHT THAT NEW MIKE YOU NEEDED, FOR YOUR OLD RIG?

**STONY SILENCE**

WILL **BIG GRAHAM** BE GETTING BULLIED GREATLY, BRUISING GALL BLADDER, CASHING BACK GENEROUSLY, BASHING GLOTTIS BADLY, & GENERALLY BEING GORED OR IS THIS MERELY A LITERARY DEVICE, THAT HASN'T QUITE COME OFF?.. BUY NEXT ISH TO FIND OUT, RODGE !!!!

TO BE CONTINUED.....





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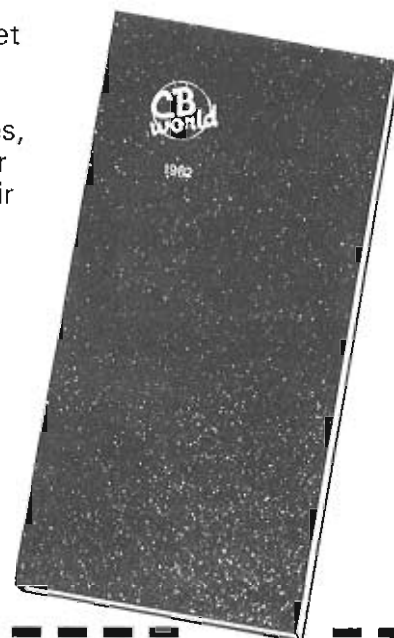
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