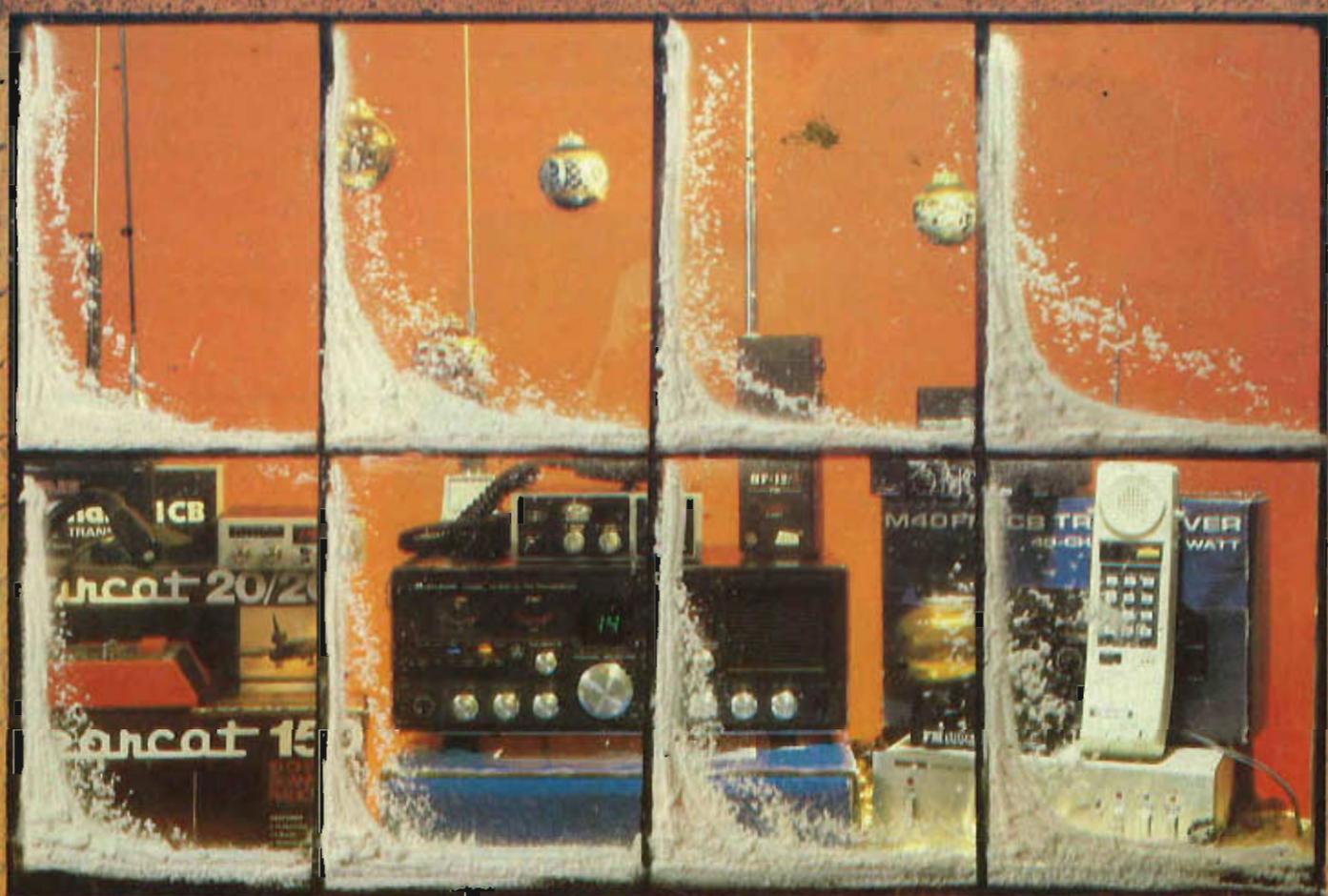


C B R A D I O

VOL. No. 3 ISSUE No. 30
DECEMBER 1982
70p MONTHLY
IRISH REPUBLIC €1.04



Radiotechnic presents its new, supertuned, M40 FM Special

Anticipating the need for more reliable and trouble-free CB transceivers, Radiotechnic confidently presents its new M40 FM Special designed for exceptional performance as a Base Station as well as a Mobile.

Based on the existing DNT rig, already widely recognised both here and on the Continent as one of the best designs available, the M40 FM Special

has been supertuned by Radiotechnic and given two important additional features: a crystal-filtered circuit to cut down cross-modulation, and a special bi-polar J-FET transistor to minimise "blocking".

The result is exceptional sensitivity, clarity and long-distance range.

And before any rig receives Radiotechnic's unique Seal of Guarantee, it must be rigorously inspected and tested by one of the most highly-respected UK electronic engineering companies.



Price £85.45 excluding VAT

All Radiotechnic sets are fully guaranteed. Free parts and labour for 12 months.

and Europe's leading hand-held...

The DNT HF-12/3. Over 500,000 of these award-winning 3-channel transceivers have already been sold in Germany alone. The ideal intercom on land and sea. Range up to 20 miles.



Price £37.85
excluding VAT



NUMBER ONE IN EUROPE

Radiotechnic

Details from: Radiotechnic Ltd., Grove View, Bel Royal, St. Lawrence, Jersey, G.I. Telephone: 0634 78831. Telex: 4192376.

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To all the readers of CB Radio Magazine



**A Prosperous New Year
from
all the Management and Staff**

Competition winners

Over the last couple of months, we have run a series of competitions and we now have the pleasure in announcing the lucky winners.

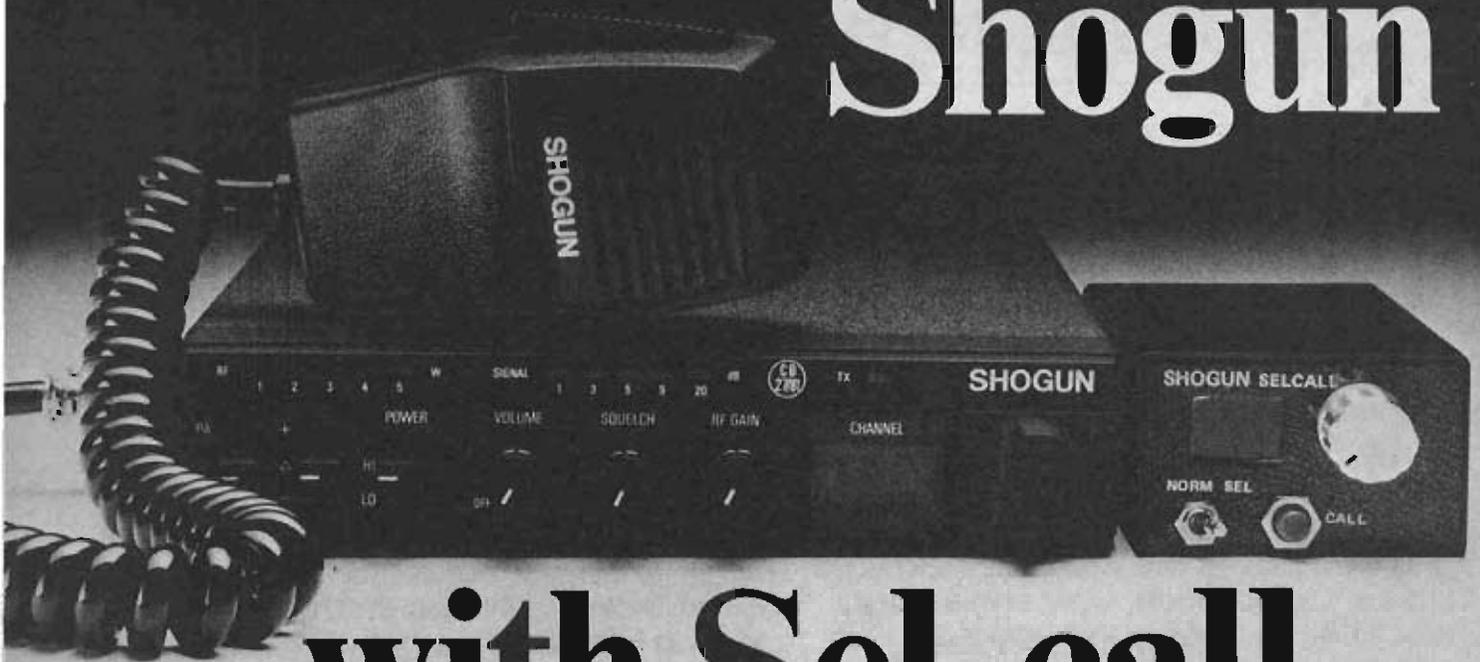
In *September* we were on the hunt for slogans and from the many hundreds of replies that we received the following people submitted the best answers. J. H. Kneale, Isle of Man, R. Fontava, Edgware, Middx., Pedal Pusher, Essex, Red Eagle, Merseyside, Flying Scotsman, Harlington, Middx., T. Fellows, Telford, Shrops., R. W. Niall, Worthing, Sussex, A. George, Northolt, Middx., G. Machin, Cheltenham, Glos. and G. Francis, Stanmore, Middx.

All of these winners have been notified and they will soon be the proud owners of brand new Thorobred aerials (donated by OCT).

Sel. call is obviously a much-sought-after commodity, judging by the 4,500+ people who all entered *October's* competition to win two rigs complete with Cat Call, a selective call system manufactured and donated by Catswhiskers' CB. The winner of the two pre-matched sets, M. Jones, from Crawley, Sussex, was the one of thousands who spotted the differences and had his name pulled out of the hat.

Well, that's 11 individuals who have got unexpected Christmas presents this year.

Shogun



with Sel-call

The new communications system at a price you can afford.

Shogun quality CB with Sel-call is for serious users — users who need one to one communication — as well as the usual network facility. Shogun is ideal for business or private use.

A slim efficient Japanese CB transceiver with Sel-call to match —
Legal 27 Mhz FM.

Shogun comes with full money back guarantee.

Shogun with Sel-call £148.50 each — without Sel-call £99 each.

Prices include postage, packing and VAT. Antenna not supplied.

Write now for the finest CB with Sel-call. Featuring:

Channel selector with LED read-out. R.F. Gain. Squelch control. Volume control. Delta tune. PA or CB switch and noise blanker facility. Microphone and fixing bracket. 10 decibel attenuator switch. Selective calling unit with 2560 calling codes over 40 channels. A seven second audio signal and a constant visual flashing device. Call button. Normal/Sel-call switch.

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

Please send me _____ Shogun CB mobile rig(s) with matching Sel-call unit(s)

Please send me _____ Shogun CB mobile rig(s) without matching Sel-call unit(s)

I enclose my cheque for £ _____ payable to Sunrise Products — Japan

OR debit my credit card no. _____

Name: _____

Address: _____

Postcode: _____

Signature: _____



Or please send me all particulars. Please allow 28 days for delivery

CBR12

Shogun Quality wins!

FREE TO ENTER 2 PART COMPETITION

WIN

A MIDLAND BASE STATION

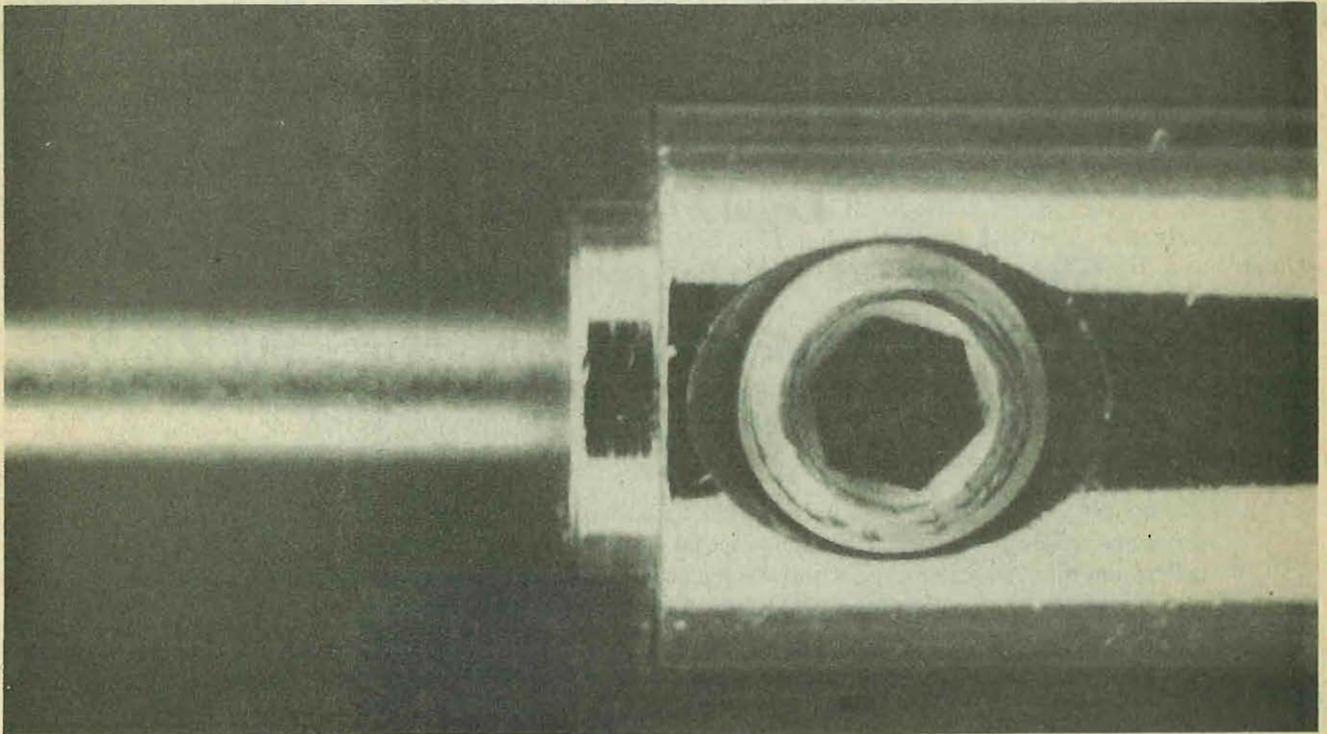
PART TWO

You should have saved up last month's answers in anticipation of this second and final part of this Win A Midland Base Station Competition. Only entries that are 100% complete and obviously correct will be considered!

There are two sections this month. Firstly we want you to test your CB product knowledge by correctly identifying our obscure angle photograph and secondly we want a clever slogan from you. So here goes.

Write A Christmas Slogan

On his way from Greenland to England, Father Christmas put out a 10-33 when Rudolf broke his left leg on a pylon whilst coming in to land. In no more than 25 words, what did the "RE-AMES" monitor say to Santa when he heard the call?

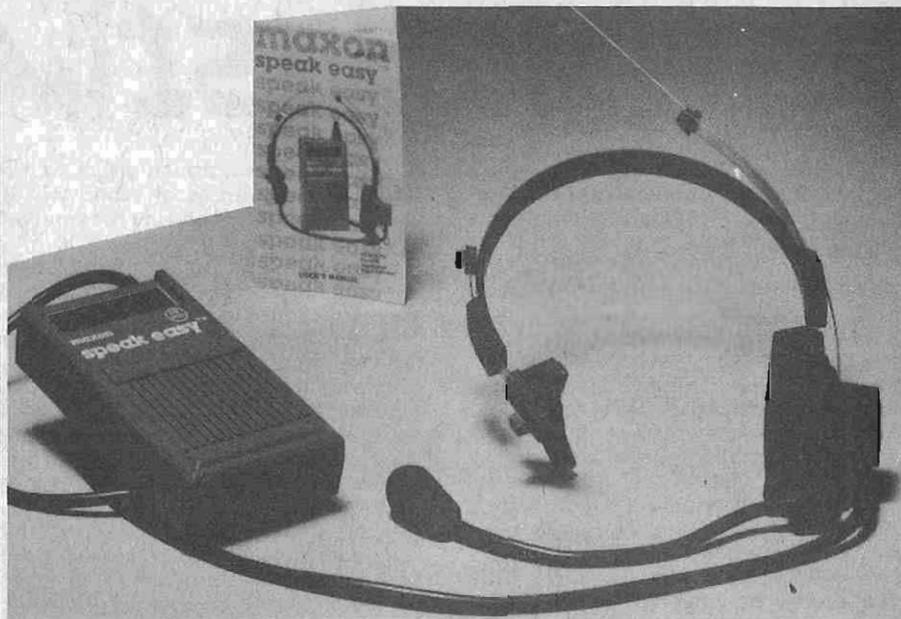


Instructions

Write the answers of both last month's part of the competition and this month's on a postcard and send them to us at the editorial offices. The winner of the Midland Home Base Station will be the

entrant who has correctly answered all the questions and, in the opinion of the judges, provides the best slogan or reply to Santa. Answers to CB Radio Magazine Ltd., Tudor Works, Beaconsfield Road, Hayes, Middx. UB4 0FL. Closing date 1 January, 1983.

Instant Communication



Without A Handful of Hardware

Every day, at work or play, people need to talk to each other. Now whether you are on a mountain side or a building site, up in a balloon or out in a boat, on the back of a horse or a bike, you can communicate without the encumbrance of a hand-held radio. How? Easy. Or rather Speak Easy, a voice actuated transceiver from Maxon, one of the world's leading manufacturers of radio communications equipment.

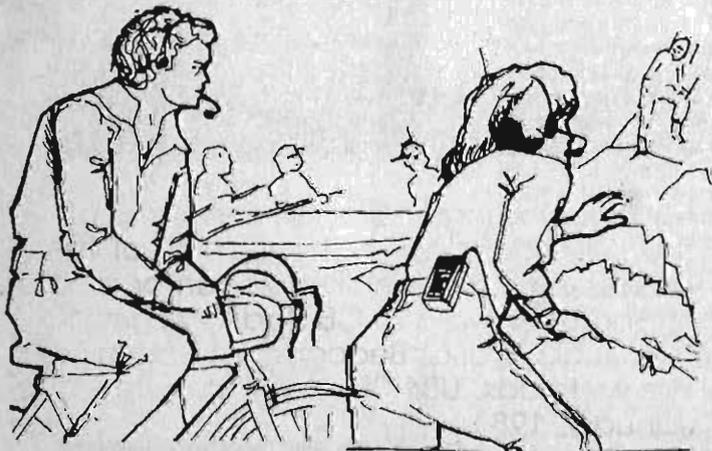
Speak Easy has literally hundreds of applications, allowing easy, hands free communication almost anywhere, in sport, training and business.

Put on the head set, clip the transceiver to your belt and you've got instant two-way communication with one or more Speak Easy wearers—for up to ½ a mile.

A guard channel facility is built-in to Speak Easy to help with privacy, whilst the voice actuation system means that you can talk freely even with your hands full.

Unobtrusive, simple to use and thoroughly proven, the Maxcom Speak Easy is more than just a two-way radio — it's a real breakthrough in advanced communications technology and backed by the Maxcom 12 month warranty. It's available to you at leading electrical and CB retailers.

If you want instant communication without a handful of hardware, Speak Easy hands you just that. For further details and the name and address of your nearest stockist, clip the coupon.



Speak Easy could be the answer to my communications problem, please send me full details.

Name Position

Business Name

Tel. No.

Address

CBR/12

A.M. Telecommunications, 9a, Old's Approach, Tolpits Lane, Watford, Herts. WD1 8QR. Tel: 0923-721144

Confessions of a CB enthusiast

from Videostar



Sorry to have missed you last month! No, I hadn't gone away on holiday - but because of our special feature on one year of legalization, our Editor gave me time off to organize a can collection to buy a new rig! If your memory's good, you'll remember in October, after losing yet another CB to a light-fingered but heavy-handed thief (if that's not a contradiction!), I didn't have much opportunity to be 'on channel' as I was still saving up the cash for a replacement. After seeing the October issue of CB Radio Magazine some breakers suggested I contact my insurance company for compensation. However, I should have mentioned that by claiming the theft of the rig, my No Claims Discount would have gone down and in real terms I would be paying something close to £180 to replace an £80 rig! Thanks, anyway, to those who suggested it. I'd also like to say "Hello" to Greybeard, of Walsall Wood. It just goes to show that the local Planning Offices are not the slightest bit interested in anyone who wishes to get enjoyment from CB radio.

You've no doubt read last month about CB having its FIRST (legal) birthday this month - how could you have forgotten? Anyway, whilst sinking a couple of pints of 'old and filthy' at my local, I bumped into an interesting character by the handle of 'Chuck' and he was telling me of the mental anguish he suffered when he was 'busted' by the police for using an unlicensed radio transmitter. Warning to this tale, I couldn't help but notice that he was being a bit vague on a number of points, so I asked him to clarify some bits of the story and I could hardly believe my ears! You may have thought that the police and Telecom only got together to pursue innocent breakers in the last five years or so. Yes? Then you'd be wrong! Chuck was lifted in 1953 - that's right, TWENTY-NINE years ago! CB started in the States in the early 50's and 27MHz was picked because technology had only been able to develop components for portable transceivers for this part of the radio spectrum. These radios, operating on just 22 channels, were too new to cause any type of a craze in the UK but also at this time, ex-Army equipment was starting to come into the network of 'army surplus' stores. With the war over some six years, the country was convinced that Hitler wasn't going to come back again and, anyway, communications systems were still being

developed and improved upon, so the tank and field radios of World War II were sold off to make way for smaller lighter equipment.

It was this ex-tank equipment that our hero, Chuck, got his hands on - as did many radio enthusiasts around the country. Naturally, HM Government did not condone illicit radio operations, so before the equipment was sold to the surplus shops, the radios were 'modified' in various ways so that they would not transmit - they were really only to be sold off as spare parts. Another daunting factor to these pioneers of CB was that the repair and maintenance manuals for the equipment were still 'classified', so there was no possibility of getting one's hands on a circuit diagram or parts list. However, many enthusiasts worked into the long hours of the night, finding alternative components to get their transceivers 'on air'. So by 1952 or so there was a wide sprinkling of early CB'ers working at the giddy heights of 9MHz and the range was an impressive 10 miles! Naturally, the size of that equipment bore no relation to the smart 6in. x 3in. black box we have these days... if you wanted to be a pioneer, you had to work at it, with a transceiver the size of a 22in. television (and probably just as heavy) not forgetting a couple of 24-volt batteries, Chuck was ready to speak to everyone!

After a good few months of modulating, it didn't take long before Chuck's van came to the attention of the local boys in blue (at that time they were heavily into whistles and bicycles). With notebooks at the ready, they jotted down his every move and the following week... they pounced! Chuck was cautioned and told that he was suspected of transmitting illegally and his equipment would be confiscated. A large police Black Maria was summoned to collect the offending apparatus - and it was quite funny to see four policemen struggling with the very heavy lead-acid batteries into the van! To cut a long story short, Chuck never saw that load of equipment again, as it wasn't returned but it didn't take too long before another 'rig' was acquired and it was business as usual! One thing that is proudly displayed in Chuck's van is a current CB Licence, bought on 2 November last year. It seems all he wanted all these years was to be free to talk to whoever he chose over the air and that bit of paper has given him the freedom he so much desired.

With Christmas approaching, my thoughts spring to what nice, shiny accessory can I buy to make the hobby more enjoyable. Some people have suggested headphones (but I'll ignore that!) and I've got a SWR meter, antenna light, dummy load, power mike, etc. and then it hit me...! Do you realise that before long, you'll be getting a loving reminder from the CB Licence Records Office in Chesterfield, inviting you to part with another £10 as your contribution to Buzby's fighting fund? Oh well, that's my Christmas money spent now - only six months to my birthday!

After much deliberation, I've at long last decided to purchase a home base rig for use in the house. I'm very partial to the sleek looks of the Fidelity 3000 but my main complaint with home bases concerns the innards. This is not a complaint just of the Fidelity (which is better than most) but nearly all of the other manufacturers. Take off the back cover and look inside... there's an awful lot of expensive airspace inside! My hamster would be delighted by the palatial surroundings... large transformer giving him heat all day, loads of wires to nest in, etc. - I kept wondering if the size of the thing is an indication of the price you pay. Do we really need these gigantic near-empty boxes? It would be nice if some manufacturer put us to the test and charged us a realistic price for a well-designed base station. Time will tell!

Have a happy Christmas when it comes and be mindful of the need to look after new breakers, after all... we all had to start somewhere!

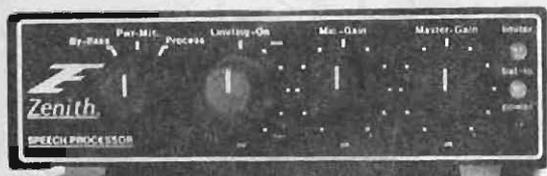
10-10.



Zenith

SPEECH - PROCESSOR

FM SSB AM



- ★ Boost your 'talk power'
- ★ Improve 'speech clarity'
- ★ Increase 'range'

Price £28.65 + VAT

Distributors:

South-East/West

South East CB Supplies

189 South East Road

Sholing

Southampton

Tel: Southampton 447907

East Anglia

B. A. Yeolans

65 North Walsham Road

Norwich

Stockists:

Christchurch

Motor Mouth CB

Tel: Christchurch 486207

Worthing

S.A.S. Accessories

Tel: Worthing 211737

Brighton

Station Radio

Tel: Brighton 563177

Burgess Hill

Guy Austen

Tel: Burgess Hill 3409

Crowborough

Plus 4

Tel: Crowborough 4864

Lewes

Record Bar

Tel: Lewes 441907

Hailsham

CB Services

Tel: Hailsham 846777

Trade enquiries for South East/West

Telephone: South East CB Supplies

Southampton 447907

Nationally telephone:

Zenith Electronics

21 Station Road Industrial Estate

Hailsham, E. Sussex BN27 2EW

Tel: (0323) 847106

If you want the best rig, antenna, swr meter, power supply, mike, linear, mount, homebase, or fitting, our's are almost certainly the cheapest, & better yet, there's an **OCT** dealer within a few miles of where you're standing.

Look for this sign



in the window

of any of our **2436** dealers throughout the U.K., or ring

OCT:- 0476 76928

RIG TEST

Icom ICB 1050

Microphone

The microphone supplied with the Icom 1050 is fist shaped and very comfortable to hold. The transmit switch was found to be rather loose and shakey but caused no problems while being used. For connection to the rig, it uses a four-pin plug with screw-ring retainer.

Construction

The rig is of the widely-used two-piece (top and bottom) cover painted with matt black, flecked stove enamel, which has a high resistance to scratches and scuffing. The front panel is made of moulded black plastic, with brushed chrome escutcheon and black anodised lettering.

The controls, from left to right, are signal strength and transmit power monitoring meter with rear illumination below which is the microphone socket. Next to the microphone socket is the volume control/on-off switch and squelch control, above is the high/low power switch and a green channel-indicating display and finally the channel-change switch, with transmit indicator above. The knobs are moulded plastic with simulated chrome finish. The only other facility is an extension speaker socket on the rear panel. The internal construction of the rig and layout of the PCB is very good and should be easy to service using the instruction manual supplied which is comprehensive.

Transmitter test

Test equipment available:
Two Racal 9081 signal generators.
Racal 9009 modulation meter.
Racal 9301 milli-voltmeter.
Racal 9917 and 9024 frequency counters.

Marconi TF 2501 RF power meter.
Bird 43 RF power meter with load.
Marconi TF 893 AF power meter.
Marconi TF 2337 distortion meter.
Levell TG 66B audio generator.
Solartron CD 1400 scope.
IE DS 50/2 power supply.
Keithley 130 digital voltmeter.
Hewlett Packard spectrum analyser.

Transmitter output test

This test is done to ensure the power output from the rig conforms to the output power level laid down by Home Office specification MPT 1320.

Of the two ICB 1050's which we tested, the results were in excess of permissible allowed power in both high and low power settings, which can be seen from the table.

Power Output and Attenuation			
Atten.	10.8V	13.8V	14.8V
High	1.5W	4.5W	4.6W
Low	0.0W	0.5W	0.8W

Frequency test

This test is done at two different temperatures, 48°F and 68°F, to check the frequency stability with changes of temperature.

Temperature stability			
Temp.	CH1	CH20	CH40
Should be	27.60125	27.79125	27.99125
48°F	27.60172	27.79107	27.99106
68°F	27.60111	27.79111	27.99111

Over the variation in temperatures that the rig was tested at, the maximum drift measured was never more than 140 cycles from the correct frequency, except on channel 1 at low temperature, where it drifted 170 cycles, which seemed rather excessive.

Modulation

The modulation tests are done to check the ability of the rig to give good modulation level and quality over a range of varying input conditions.

Input Level	Modulation Input Frequency		
	500Hz	1125Hz	2500Hz
0.6mV	1.1kHz	0.6kHz	0.2kHz
2.5mV	1.1kHz	1.2kHz	0.3kHz
6.0mV	1.6kHz	1.2kHz	0.3kHz
25mV	1.6kHz	1.2kHz	0.3kHz
60mV	1.6kHz	1.2kHz	0.3kHz
250mV	1.1kHz	1.2kHz	0.3kHz

The results obtained from this rig and the previous one were very bad and by far the worst we have so far tested. As the results were so bad, we felt we should re-test another set, which we did, with the same disappointing results.



Receiver tests

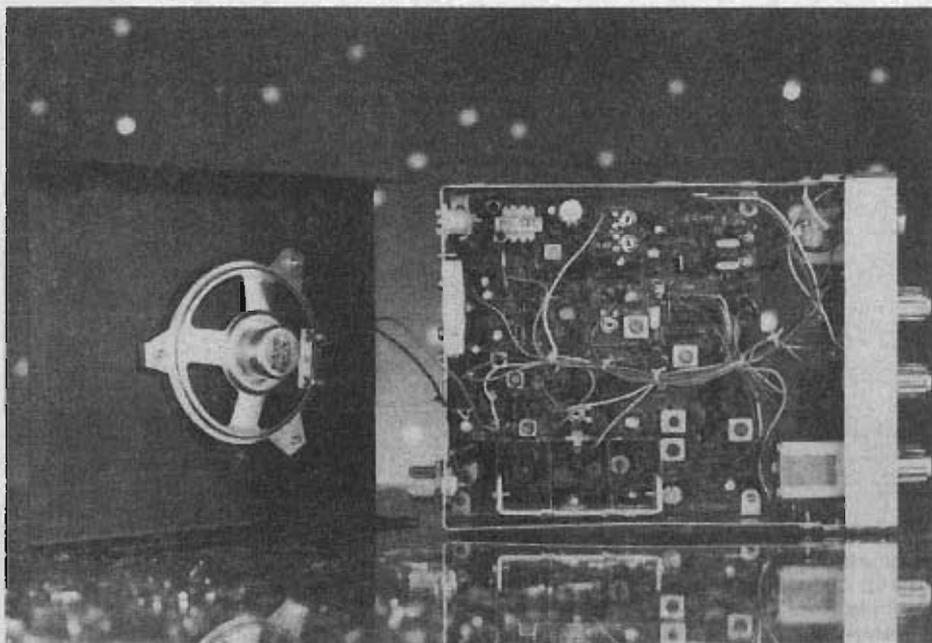
Squelch level

The squelch was found to have a threshold of .14 microvolts and fully muted 64 microvolts, which tended to give problems of squelch not shutting when the rig was operated in a highly-populated area, as unwanted noise and skip was constantly holding the squelch open.

Audio output

This test is done to check the speech quality given out of the rig's receive audio stage. To do this test, we fed into the antenna socket a carrier modulated by a 1,000-cycle tone, using a Racal 9002 RF synthesized signal generator.

Measured Distortion	
1 watt	4% distortion
2 watts	3.5% distortion
3 watts	22% distortion



As we can see from the table, the results are average of the sets tested so far, which is probably due to the fact that most sets use the same kind of audio circuits.

Receiver sensitivity

This test is done to check the sensitivity (the ability of the rig to pull in weak stations) of the receiver.

Sensitivity	
10dB quieting	0.21uV
20dB quieting	0.48uV
30dB quieting	1.80uV

The above results show an above average figure and therefore reception-wise this rig should be quite good.

AM rejection

The AM rejection on this rig gave a result of 26dB, which is slightly below average.

Adjacent channel rejection

This test is done to measure the rig's resistance to bleed-over by other stations in the locality.

We take measurements by receiving a signal on channel 20 and then introduce a second transmitted signal first on channel 19 and 20 to check filter band width and then on channels 1 and 40 to check for receiver desense.

The results of this test were below average for channel 19 and 21, average on channel 1 and below average on channel 40, which gives us the impression that the higher the channel the worse the bleed-over will get.

S meter reading

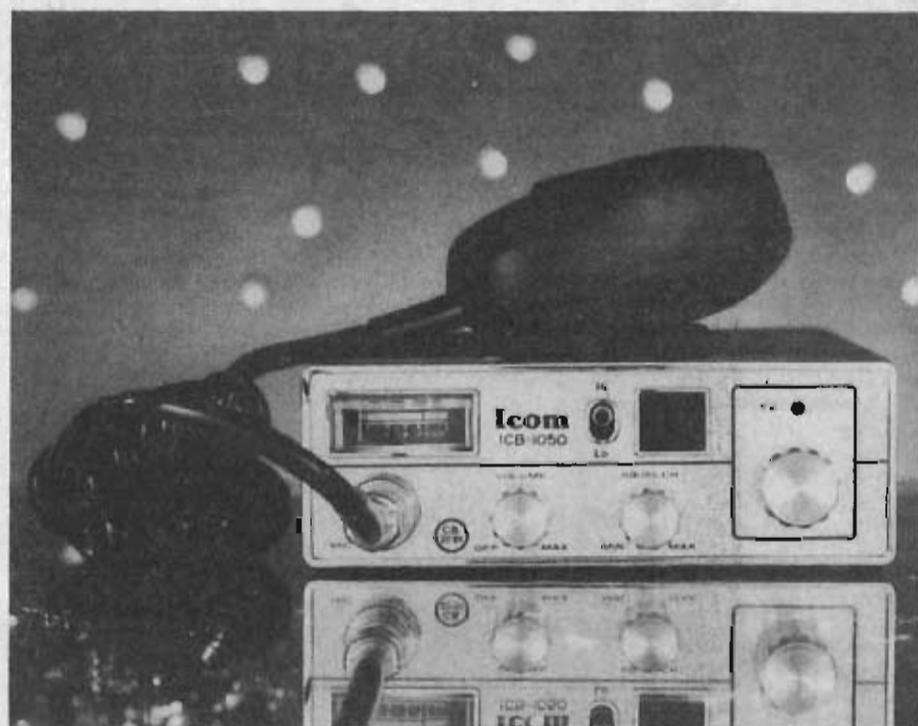
We do this test to check at what level a receive signal needs to be to give a nine-pound reading on the meter.

This test proved rather difficult to do on this rig as the squelch control tended to work as an RF gain control as well as a squelch control which we did not consider very good.

S Meter Reading	
1	1.0uV
3	4.0uV
5	6.5uV
7	11.0uV
9	16.0uV

Summary

The Icom ICB 1050, presentation-wise, is very good but seems to have a lot of problems electrically, which are as follows:



SPECIFICATIONS

GENERAL

Channels	40
Frequency Range	27.00125 to 27.99125 FM
Frequency Control	Crystal Resonator Synthesizer
Frequency Tolerance	± 0.005%
Frequency Stability	± 0.002%
Operating Temperature Range	-5°C to +45°C
Microphone	Plug in 4 pin Dynamic Type
Input Voltage	13.6V DC (Positive or Negative Ground)
Current Drain	Receiver: 1.5A at maximum audio Output: 0.5A standby (no signal)
Size	100mm x 105mm x 57mm
Weight	1.25 Kilograms
Antenna Connector	Standard SO 2:1 Type
Semiconductors	V4 Transistor 4 IC 16 Diode 1 FET
Meter	Illuminated, indicates relative power output and received signal strength
Channel Indicator	Green LED
Power Bandwidth	10.5 W to 10 W
Attenuator	10 dB Attenuator (built as standard)
Circuit Protection	Able to sustain an SWR reading of 20:1 for up to 5 minutes

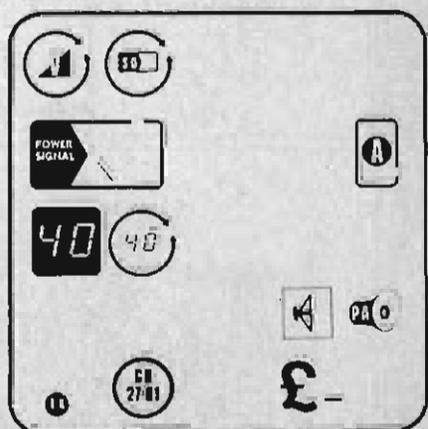
TRANSMITTER

Power	4 watts/0.4 watts as specified in GPT 1320 via HiLo Attenuator @ 10 dB
Modulation	High and Low Frequency Modulation
FM Deviation	up to ± 7.5 kHz
Frequency Response	100 Hz — 2.4 kHz
Output Impedance	50 Ohms Unbalanced
Output Indicators	Meter shows relative RF Power Output, receiving signal strength. Meter Trim Lamp indicates Transmit Mode
Harmonic Suppression and Spurious Emissions	Better than required in MPT 1320

Low modulation
Bleed-over problems on the high channels
Intermittent noises on modulation

RECEIVER

Sensitivity	1.22 uV for 10 dB S/N
Signal to Noise Ratio at 20 dB	2 uV
Selectivity	5 kHz
Image Rejection	More than 45 dB
IF Rejection	-50 dB
Automatic Gain Control (AGC)	100 dB
Squelch	0.1 uV — 1.5 uV
Audio Frequency Response at 100 Hz	250 Hz to 2.5 kHz
Distortion	Less than 5%
Adjacent Channel Rejection	More than 80 dB
Cross Modulation	More than 50 dB
IF Frequency	455 kHz @ 0.630 MHz
Audio Output Power	2 W into 8 Ohm (10" disconnected)
Built in Speaker	8 Ohms



The operation of the squelch, which was peculiar in its working.

It is important to mention that the handbook was well presented.

Christmas Shopping Guide

CB Car Badge

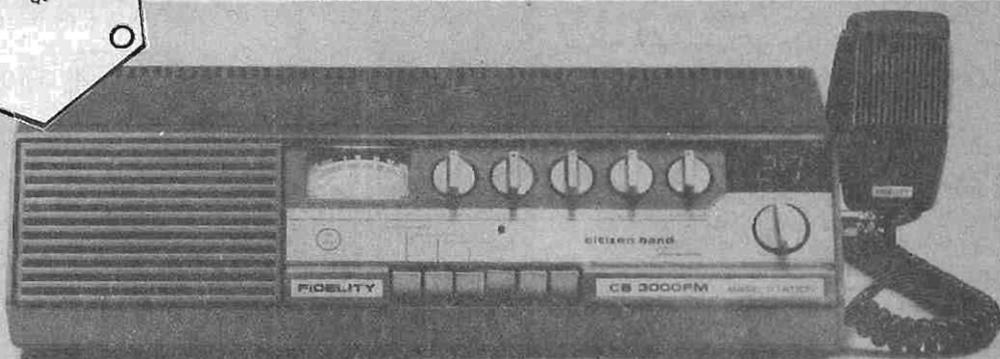
A chrome car badge for mounting on radiator grille or badge bar.
Price approx.

£2.99

Fidelity 3000FM

Stylishly-designed home station with many features.
Retail price

£119.00 approx.



The Wot Pole

Effective wall-fixing home base antenna, available from various sources.
Retail price

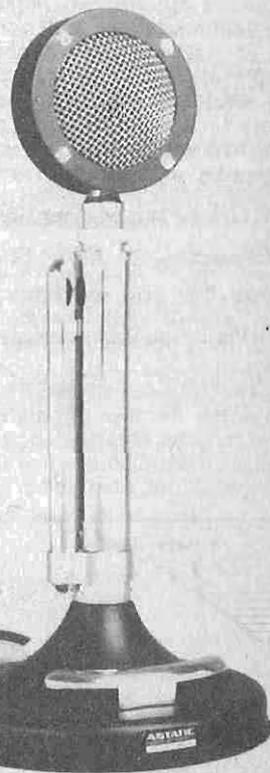
£12.00 approx.



Astatic T-UP9

A home base microphone which resembles the classic candlestick telephone.
Retail price

£60.00



Tripl-Ess MSP-1

Modestly-priced but reliable speech processor to enhance speech clarity.
Retail price

£26.50



THE GOVERNMENT GAVE YOU 40 CHANNELS *CB Radio Distributors Ltd* will give you **A LOT MORE** **AND — WE ARE HERE TO STAY!**

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NEW

£167.⁹⁵ THE ULTIMATE SET...
Rec. Retail **NATO 2000**

40CH UK FM, 160CH AM/FM USB/LSB FCC, 10Kc
 SHIFT: FINE/COARSE, RF GAIN, DX: MID & LOC,
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 GAIN, DIMMER, TONE: HIGH/LOW, ROGER
 BLEEP: ON/OFF, CH9: ON/OFF, MOD: NORMAL/
 CLEAR SWITCH, CB/PA, DELTA TUNE: + 0 -



80AM 80FM FCC
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 40 UK Frequencies FM

STALKER ST 9F DX

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*This set can be supplied oper-
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 how to convert back if
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CB
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Radio Distributors Ltd



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Christmas Shopping Guide

Shogun

The much-envied Shogun rig, stylishly designed with LED bar graph displays.
Retail price
£99.00 without sel. call,
£148.00 with sel. call

Smokey and the Bandit II

Burt Reynolds and Jackie Gleason in follow-up to No. 1. A fun mix of trucks, CB and a pregnant elephant. Rent or buy on CIC Video, prices vary.

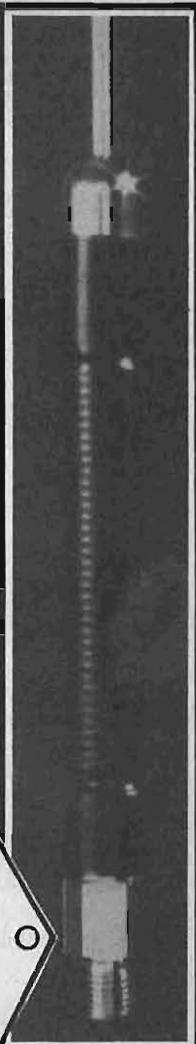


SMC SWR Meter
Measures VSWR between 3.5-170MHz.
Retail price
£13.40



Z27 Antenna

One of the most popular antennas on the market at present. Standard 3/8in. mount.
Retail price
£7.00 approx.



Realistic Home Base Mike

A valuable asset to the home base breaker, features volume control and locking PTT switch.
Retail price
£25.00 approx.



Maxon Speak Easy

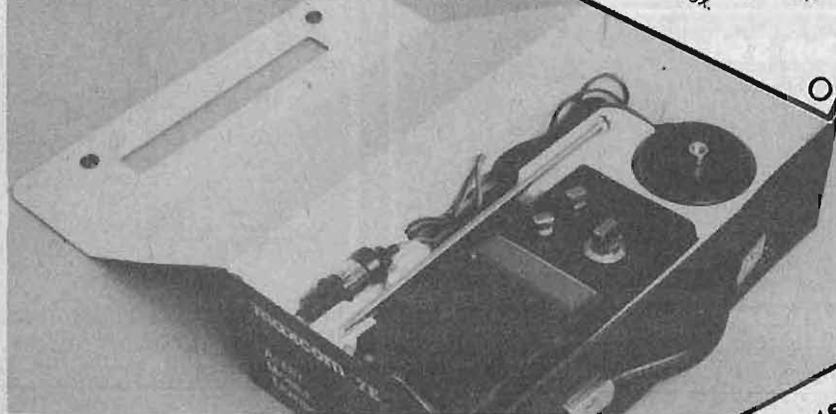
Headset CB for sports, site work or fun. VOX or PTT bar operated. Belt or pocket fitting unit.
£29.95 approx.



Christmas Shopping Guide

Maxcom 7E Alert Mobile Transceiver

A compact, complete CB system for sporting activities or emergencies.
£69.00 approx.

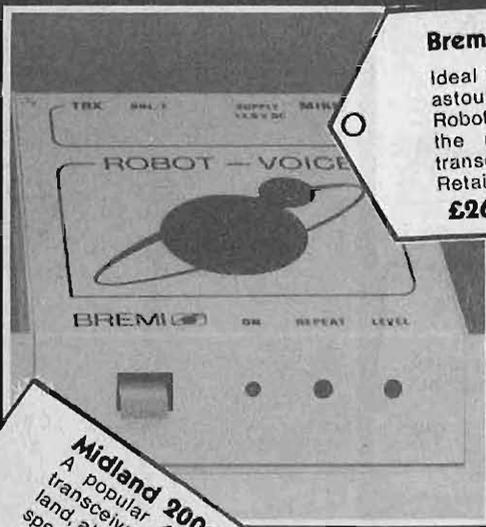


Bremi Robot-Voice

Ideal for wind-ups or just to astound your friends. The Robot-Voice is fitted between the microphone and the transceiver.
 Retail price
£26.00 approx.

Oscar 115E

Recently tested and approved by F. C. Judd, the Oscar 115E retails at
£12.25 inc. VAT



Radiotechnic DNT HF-12/3

Three-channel (7, 14 and 19) walkie-talkie with squelch control. Battery powered. Battery charger available.
£39.60

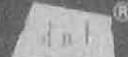
Midland 2001

A popular 40-ch. FM transceiver from Midland, also available with speech synthesis circuit.
 Retail price
£50.00 approx. without speech circuit.



HF-12/3 FM

3-CHANNELS
 2-WATT



Christmas Shopping Guide

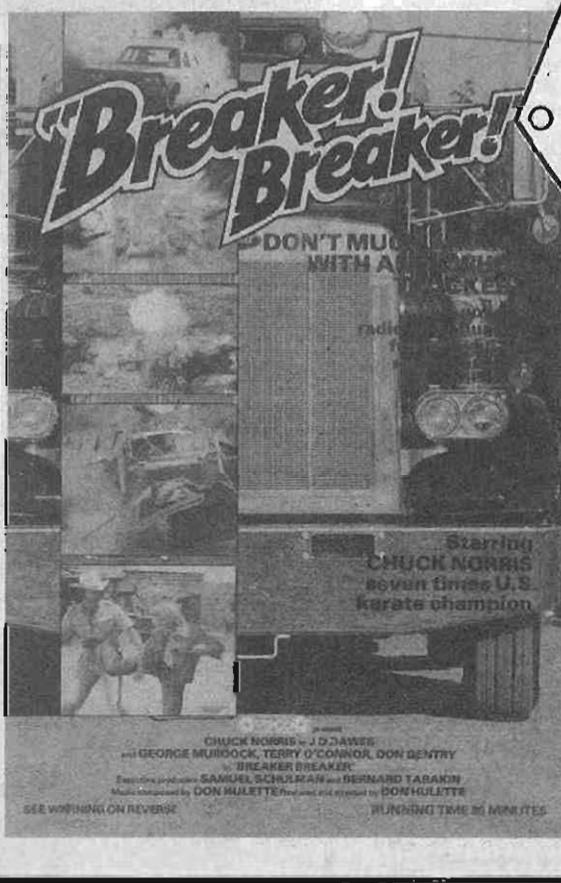
CTVR Micro Mag
 Miniaturized magnetic-mount antenna with stainless steel whip.
 Retail price approx. **£12.00**



Colt 355
 One of the new compact rigs, which features a bar graph LED display.
 Retail price approx. **£45.00**

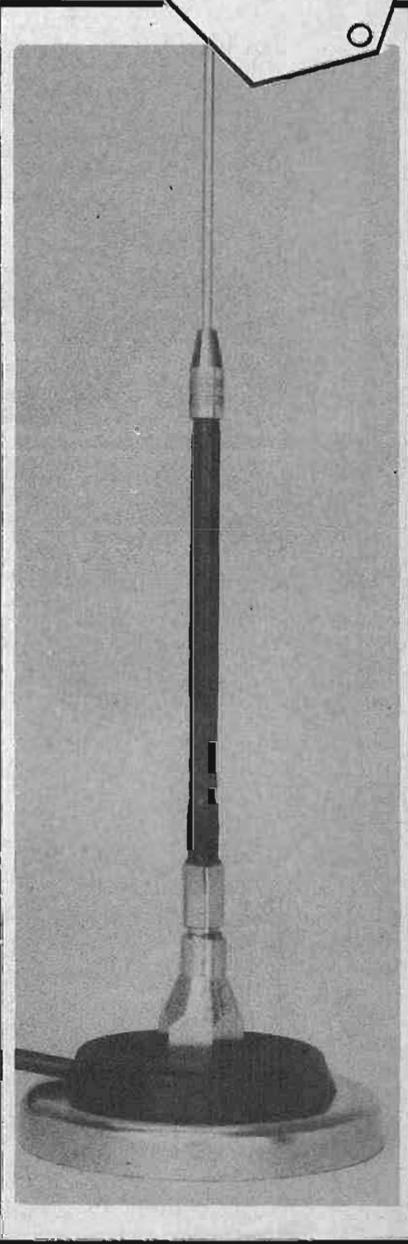


Ham International Relax
 A battery-operated power mike with integral volume control.
 Retail price **£15.00** approx.



Breaker Breaker from VIPCO
 Martial arts cum CB video film. Plenty of action but older viewers only!
 Available for rent or purchase.
 (€39.95)

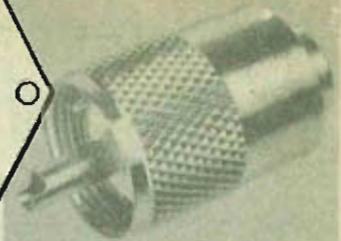
FM Noise Limiter
 Reduces background noise between transmissions with no volume loss.
 Retail price **£25.95**



Christmas Shopping Guide

PL259

The standard coax plug for CB radio antennas and patch leads.
Approx. price
50p



LCL 2740 FM

Medium-priced 40-channel FM transceiver
Retail price
£59.95



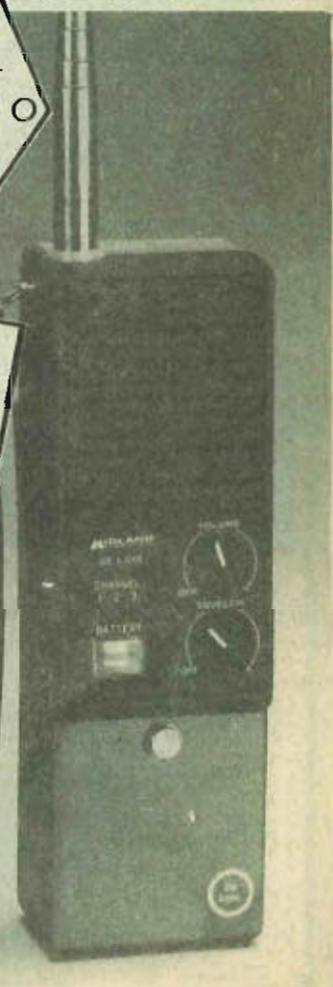
Rama 250FC

A low-priced multi-test meter which can measure SWR, power, signal, deviation and field strength.
Retail price approx.
£70.00



Midland 75 720

Three-channel battery-powered walkie-talkie with battery indicator, squelch and LED TX light, hand-strap and carrying case.
£60.00 RRP



Techtronics Scanner

Scans up to six pre-set channels to find copies.
Retail price
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CB Radio Magazine Diary

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Turner EX 500

Popular DX'ers' base microphone with pre-amp. Lockable PTT switch. Expect to pay
£40.00-£50.00

Warhead

USA/war veteran/ CB novel. Published by Collins. ISBN 0 00 222626 X.
£7.25

WARHEAD

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Emu Sel. Call

Transmits and receives on two different codes. Message Receive light.

Harvard Help Unit

A full-channel, full-power compact CB. Intended for car operation in emergencies.
£49.95

Handy Phone HP-1001

Cordless telephone with call button, power indicator and line-busy indicator. Push-button dialing. Price about
£180.00



Christmas Shopping Guide

Domico Walkie-Talkie

Model One + One, battery powered. Channels 14, 30, telescopic antenna, LED TX indicator.
Price approx
£14.00



Murphy Base Station

Smartly-presented base station which looks at home next to hi-fi equipment.
Retail price
Under £100.00

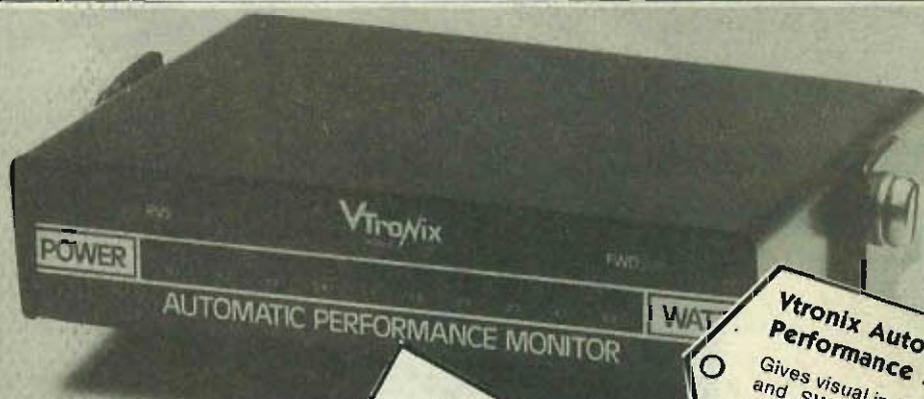
SMC Regulated Power Supply

Four-amps continuous power handling capacity and full primary circuit protection. Suitable for use with all mobile rigs.
Retail price
£15.00 approx.



Regulated Power Unit

RU-12-04-06
INPUT: MANS. (220/240V AC 50/60 Hz)
OUTPUT: 12 VOLTS NOMINAL (13.8V DC)
4 AMPS CONTINUOUS & 6 AMPS SURGE
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South Midlands Communications Limited

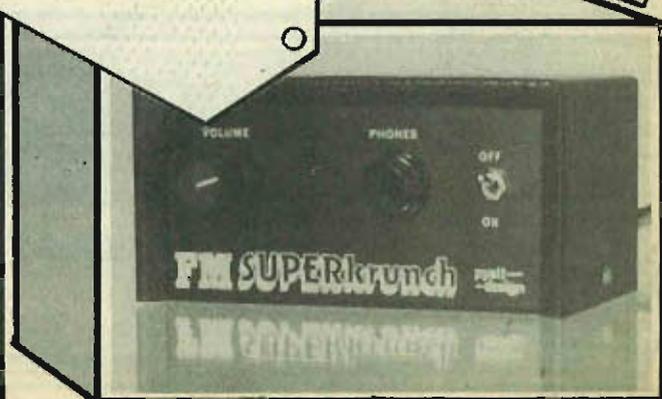


Vtronix Automatic Performance Monitor

Gives visual indication of power and SWR levels via LED bar graph.
Retail price
£33.98 approx.

FM Superkrunch

Eliminates aggravating noise between transmissions on FM.
Retail price
£34.50



FM SUPERkrunch

Christmas Shopping Guide

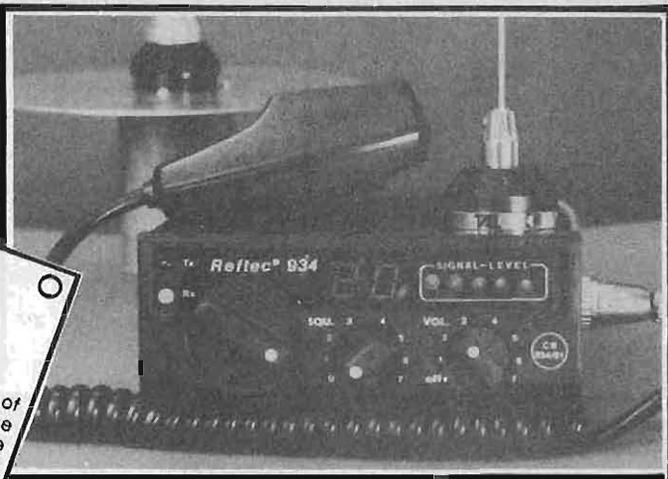
Audioline Remote CB

Controls neatly located on the mike and the rest inconspicuously under the seat or in the boot. Typical price **£159.95**



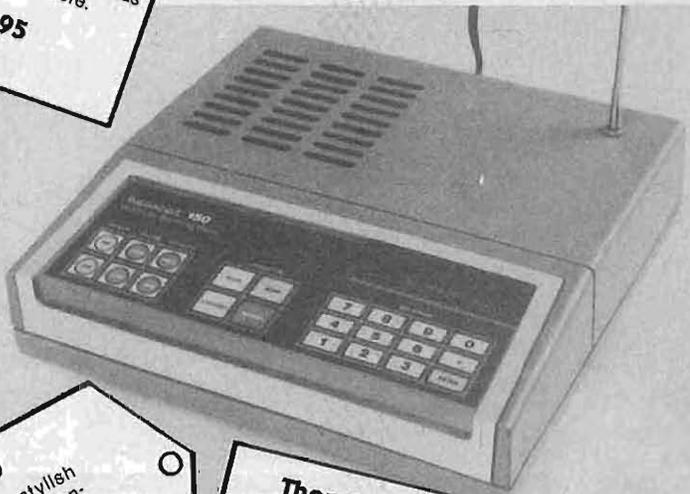
Reftec 934MHz Rig

Special by virtue of being first, the price of this set has gone up recently. A selection of suitable antennas is also available. Price **£249.95**



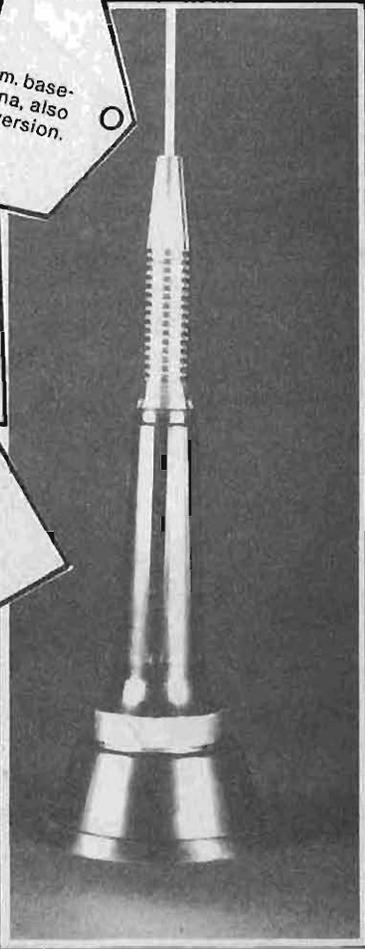
Bearcat 150

Budget but stylish scanner with 10-channel memory. Telescopic antenna. Typical price **£129.00**



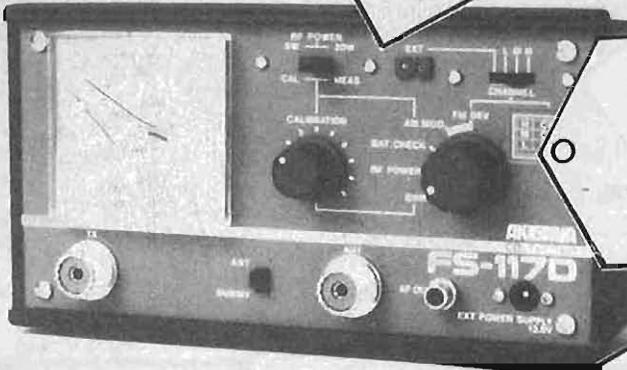
Thorobred 251 Antenna

Mag-mount legal 1.5m. base-loaded mobile antenna, also available in boot-lip version. Costs about **£18.00**



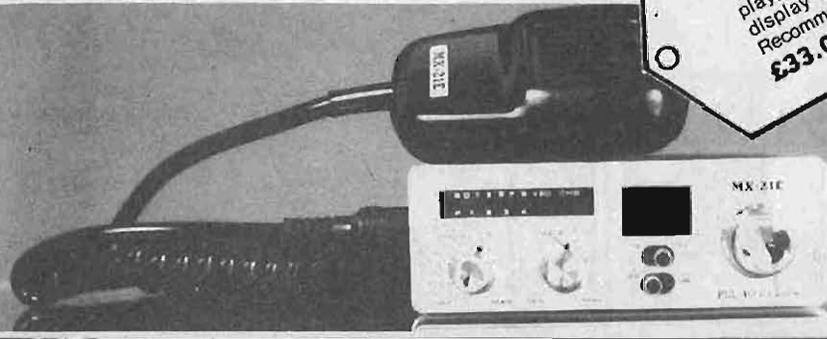
Akigawa FS-117D

A multi-function testing unit for enthusiast and workshop. Approx. **£55.00**



Maxcom MX-21E

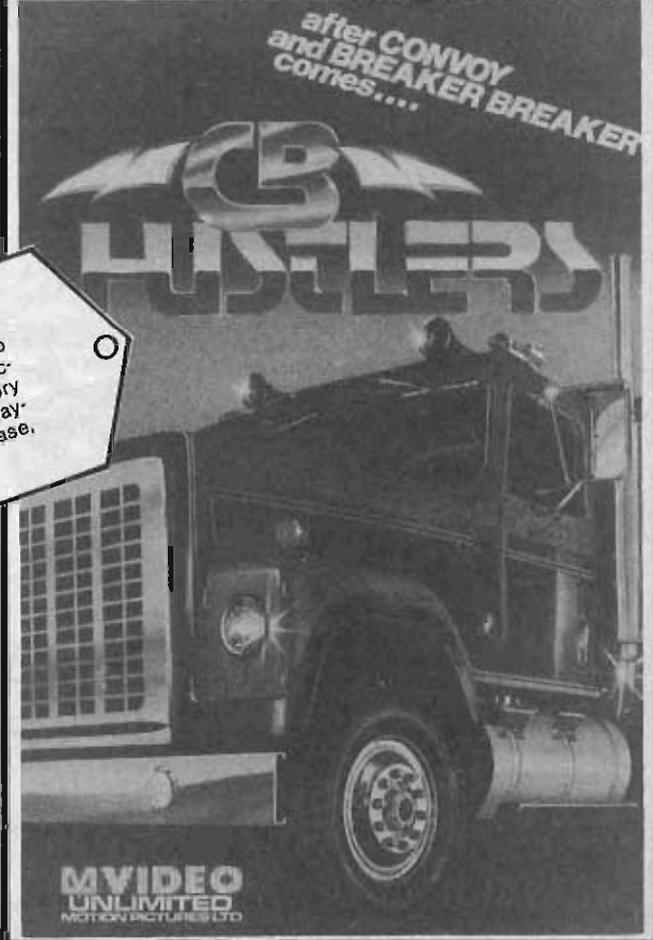
Mobile rig with channel 9 switch and display, LED signal/RF display and squelch. Recommended retail price **£33.00** approx.



Christmas Shopping Guide

CB Hustlers

Cert X video from Video Unlimited Motion Pictures. A trucking story of lawbreaking and mayhem. Hire or purchase, prices vary.



Harvard 410T

Forty-channel walkie-talkie with RF-S meter, LED channel display, channel 9 button. Battery powered. **£69.95**

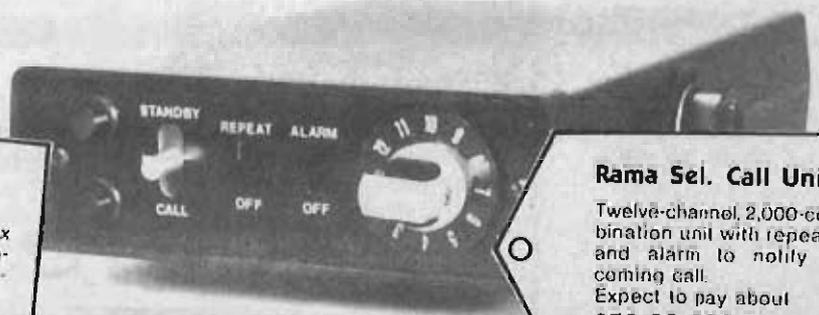
Shuttlecock from Roger D

Headset personal CB on 49MHz. Battery powered. Operates on one channel. **£39.95** approx.



Pan DF Loop Antenna

For direction finding, fox hunting and signal locating. PC board manufacture. Approx. cost **£24.15**



Rama Sel. Call Unit

Twelve-channel, 2,000-combination unit with repeater and alarm to notify incoming call. Expect to pay about **£50.00-£55.00**

**John Davies
(Love Machine)**
The Kiosk
Bus Station
Brynmawr

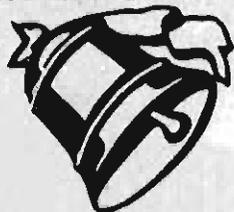
Ystrad Electrical
(Little Den's CB Shop)
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Fforesfach
Swansea
588935

**Breakerway Video
& CB Centre**
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Maindee
Newport
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23 St. Thomas Square
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**Williams Television
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(034882) 350

Round Up

More club discounts

Electronics Ltd., the manufacturers of the Elmic FM noise limiter, have given us details of a special introductory offer on their product. The unit, which reduces the noises between transmission when frequency modulation is being used, usually retails for £25.95 + £1.40 p&p but club members will now be given a 10% discount. In addition to the discount, if five or more sets are ordered one additional set will be sent free of charge, i.e., send £116.78 to Electronics and they will send you six FM noise limiters with free carriage. On top of all this, if you are not happy with the results obtained with the FM noise limiter, a full refund will be given.

Full details from:

Electronics
Crimble
Sialthwaite
Huddersfield
HD7 5BN



ELECTRONOMICS LTD.

Beaulieu uses CB radio

Recently, Lord Montague of Beaulieu was involved in a serious road accident but was found almost immediately by two local CB'ers, who summoned the emergency services before the situation became any worse.

This most useful aspect of CB radio has prompted the Lord to equip his Hampshire estate, Beaulieu, home of



the National Motor Museum, with six mobile and two hand-held transceivers from the Midland Precision Series. The rigs are intended to supplement existing security measures on the estate.

The photograph shows Paul Gidman and Terry Hill, from Plustronics Ltd. (Midland distributors) demonstrating one of the new Midland CB sets to Lord Montague.



More rig security

The number of CB transceivers being stolen from vehicles and property is increasing at a steady rate but more often than not the police are unable to catch the villains responsible. The main reason for this is that very few breakers take a note of the serial number of their equipment or make any attempt to ensure that the equipment is traced back to them. This can easily be achieved by scratching your name or better still your post code somewhere inside the metal casing. The post code will refer the equipment to half a dozen or so houses, enabling it to be traced to its original owner. It will also serve to prove that it belongs to you, as you will be the only one who knows exactly where the post code is written.

We were prompted to remind you of these valuable points by a local police officer who told us of a recent case where a man found in possession of more than 20 rigs was allowed to go free because none of the rigs were identifiable as stolen. So, if your rig is stolen, *do not* pass it off as lost for ever and *do* report the theft to your local police station, who will circulate the serial number that you have hopefully made note of.



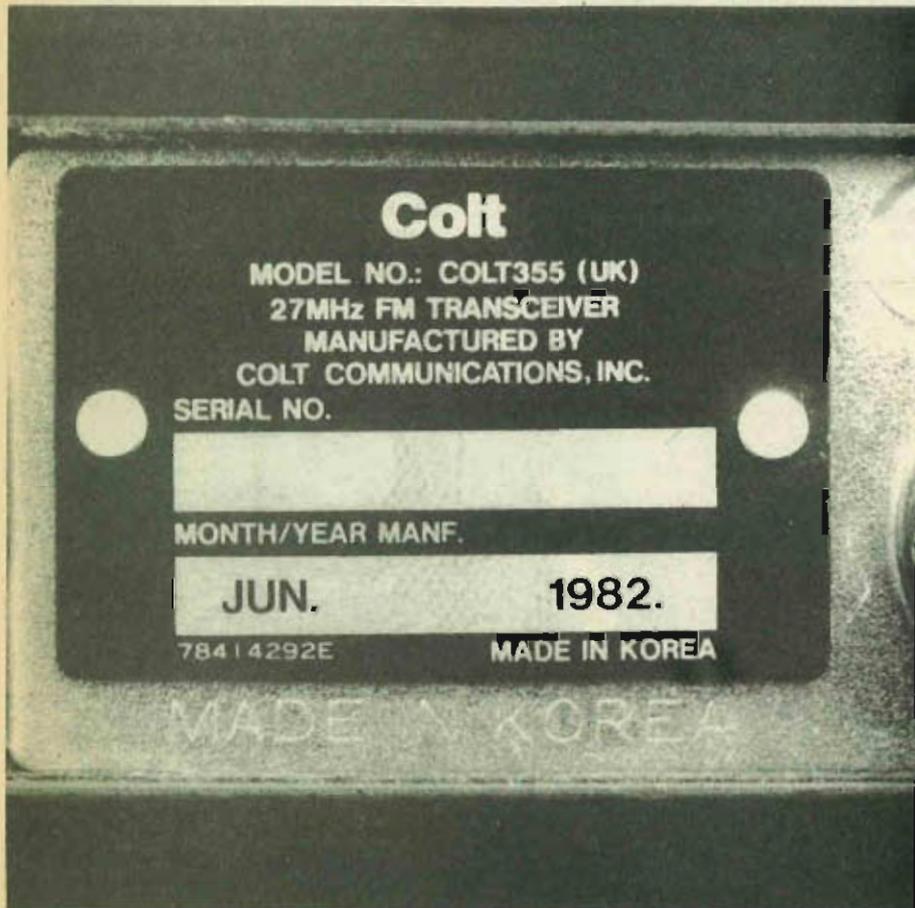
Dragnet donations

After the recent 'Angel' visit, publicized in previous Round Ups, the Dragnet DX Club, who organized the visit, had a considerable amount of money left over. With a little help from

a few more club activities, this amount was made up to £1,000.

In lieu of the fact that Angel suffered from disabilities caused by multiple sclerosis and blindness, the money was divided equally between the Hayes and Harlington Blind Society and the local Multiple Sclerosis group.

The photograph shows the Chairman of the Multiple Sclerosis group receiving their cheque for £500 from members of the Dragnet Club.



Discount Club

One of Britain's first CB dealers, Breaker 1-4, of Edgware, are launching a new scheme that could be of great interest to all CB clubs. After having parted with an enrolment fee of £5.50, members of their discount scheme will be entitled to at least 10% discount from all products except CB transceivers. The first 100 applicants will also receive a CB anti-theft device free of charge (worth £6.50).

For an additional £2, members can have their handle registered on the Breaker 1-4 club register. For this amount, applicants will receive a membership card, a sew-on badge and a monthly newsletter containing special offers.

Darryl Mydat, of Breaker 1-4, said, "There are lots of advantages to membership. Enthusiasts can now do their buying by mail order or by telephoning through their credit card numbers. The initial £5.50 outlay will soon be recovered. If you require further details, contact Breaker 1-4 at 130 High Street, Edgware, Middx.

"CQ DX, CQ DX"

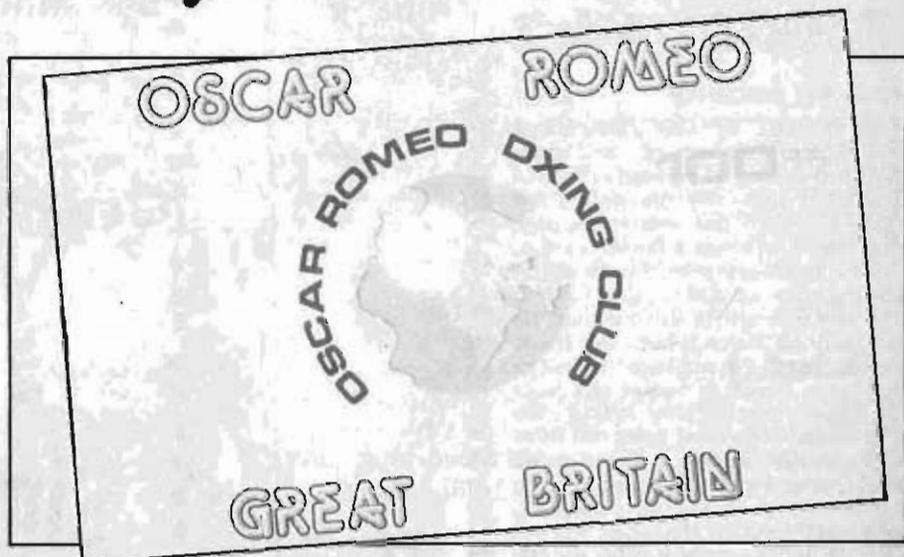
Breaker Profile 2

To many legal FM breakers, the attractions of sideband and DX'ing may be hard to understand, especially to those who want to remain on the right side of the law. The possible legal penalties for connecting and using an illegal CB can be severe, so why do people gladly take the risk?

Steve, or X-ray Yankee 86, can tell you the attraction for him quite easily. "I never dreamed I would be able to speak to people all over the world" and he is sure that the attractions of AM sideband will last a long time with him. He's certainly not against FM CB - he had a legal rig in his lorry until it was stolen and he uses FM on low frequencies at certain times of the day, especially evening to avoid TVI - something that he can suffer with quite badly. Although not particularly technically minded, he has made a lot of effort to prevent this problem and has found that friends made on frequency have been only too pleased to help - including making up special filters for him. It's this aspect of sidebanding that pleases Steve - the feeling of friendship and help amongst operators, perhaps even from people you wouldn't have a lot in common with if you met them away from CB.

Steve's equipment at the moment comprises a Cobra 148 GTL DX with a half-wave antenna (which replaced the upturned dustbin with the DV27 on a long time ago) on the roof, Bremi BRL 20 linear amp and Turner Expander 500 base mike. Steve originally started two years ago with a £70 40-channel AM rig and progressed on to a Tristar 747. Although he would like to follow the example of some of his friends and move up to amateur radio equipment, like a Yaesu, the cost of such a set is too big an obstacle for the moment.

Steve has thought about the Radio Amateurs Examination but has decided against it. He admits to getting a kick out of operating illegally but feels that the majority of sidebanders operate responsibly, try to avoid TVI and have a much higher standard of radio courtesy than ordinary breakers (or even some amateur operators).



Steve also thinks that sidebanding and the higher channels are deteriorating a bit with ex-FM breakers moving on to different frequencies without appreciating the traditions and standards that are usual.

Although Steve has worked international DX and has a collection of QSL cards from all over the world, he enjoys contacting British stations - in fact, as he puts it, "I just like sideband, whoever it is". Obviously he works foreign countries, although he hasn't reached the goal of Australia yet and gets a lot of fun from European stations and pidgin' English.

Steve belongs to two clubs, the Dagnet DX Club and the Oscar Romeo. He helped form Oscar Romeo and it has a very limited membership. The last was 21 and this included members in Canada, Nigeria and South Africa. They all meet where possible on 26.555 LSB and have the

occasional meeting in a pub when the English members can get together. The group works well because it's small and members are able to keep in touch personally without becoming one of a crowd. Steve enjoys the Dagnet Club for the same reason, as it is a small, friendly, weekly meeting where people of similar interests can chat and help with problems. He was wary when he first went as he almost expected a typical AM club of disco and beer but was pleasantly surprised by the mixture of CB and social activities.

It's obvious that Steve enjoys his CB - which is all anyone can ask of their hobby. Steve says he can't imagine losing interest or going off sideband and in using his equipment responsibly, he hopes to avoid any legal troubles. Mind you, at 4.00am on Sunday morning, he's not likely to be giving anyone TVI.



Lee Electronics Ltd

The new TC9000 Mk2



Features:

- ★ Excellent sensitivity
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The new TC9000 Mk 2 has been built to a very high standard by a leading communications company to meet all the current Home Office specs. It utilizes a double conversion receiver with superb filters to give excellent selectivity - this coupled with a very sensitive front end captures even the weakest signal.

£54.95 inc. VAT
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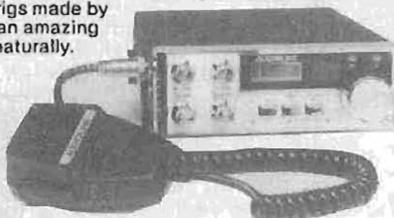
© CB Radio.

Christmas Cheer for Breakers

There's more for Breakers this Christmas with quality rigs made by UNIACE, the world's largest CB manufacturers - plus an amazing Radio Watch. All at special Breaker One-Four prices, naturally.

Audioline 340 Forty Channel CB Transmitter/Receiver with microphone, built-in speaker, LED Digital Channel Read-out, PLL Frequency Synthesiser, High/Low Power Control, Power Meter, Squelch Control, full fitting instructions and free guide to CB language.

£42.50
R.R.P.
£69.95



Audioline 341 Forty Channel Full-feature CB Transmitter/Receiver with the superb facilities of the 340...and more! R.F. Gain for increasing strength of incoming signal, Microphone Gain and P.A. function. Uses the same function board as the UNIACE 200. It's a highly tweakable machine!

£59.95
R.R.P.
£79.95

ZEON CT-600 Radio Alarm Watch. A neat digital watch with time, date and alarm functions and...wait for it, AM Radio (535-1605 KHz frequency) through personal lightweight headphones. Powered by tiny cell battery - it's got to be the most unusual gift this Christmas...at an unbelievable low price.

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Readers Write



Dear Sirs,

Nice mag, keep up the excellent technical articles. Unlike a lot of your rivals, you seem to get the facts right. Only one problem, I hope readers in other areas are capable of understanding and interpreting correctly. A lot of breakers (wallies) in this area read what they think the article says and very often twist the words so that other breakers (more wallies) think that they are God.

I would like to stick my oar in with Andy and Sam and K. Bradford and reply to the latter person's letter in your August edition.

Mr. Bradford, sir, you seem to know quite a lot about TV but very little of practical radio communications. "NO aerial restrictions, NO power restrictions, NO restrictions at all and this is only for starters"? That's a wally statement/point of view if ever I saw one. How do you propose to check that your transmissions are within the authorized band? How do you propose to keep your spurious and harmonic emissions to a minimum and prevent interference to other users of the spectrum? Ever heard of direct injection? Ever noted what high local held strength does to other electronic equipment, including users of the same frequency band, i.e., other breakers?

AM further than FM? You seem to be another breaker with an FM afterthought multimode. Eighty per cent of all CB multimodes have poor FM sensitivity, typically 5uV. An average purpose-made FM'er will have 5-10 times this sensitivity, 0.5uV, i.e., greater listening power.

And to recap on Andy's points (your comments):

1. AM is dead

Yes, generally, AM is dead. In our area, perhaps one or two conversations can be heard at any one time over the entire 120 channels AM. However, there are areas where AM is still much used. Fifteen miles away, in another town, AM is sometimes quite lively. FM noisy? Ever heard of squelch? Don't forget the FM sensitivity and capture effect.

2. AM causes more interference

Quite right this time, Mr. Bradford, you are good with TV.

3. Only six miles on AM

Many moons ago, I also had good distance on AM - 15 miles average. Sir, your log book refers to sky wave propagation - unfair advantage, perhaps? No, not really, because we can also do this with FM. My wife and I have copied Scotland (600 miles), France (200 miles), Netherlands, Germany and Greece, to name but a few

and we know people who have had better and there are QSL's to prove it. But, then, we all know that CB radio, whatever form, is designed to be a short-range communication system.

4. Paying for filters

Quite right, again, Mr. B. You certainly know your TV's.

5. The superior system

What do you want CB for? Every type of use requires a different communication system. If it's DX you want, take your ham ticket and quit hassling.

Andy has a legal system, is your system legal? Or, more to the point, your system may be legal but are you? Gosh, look at all those facilities on your rig but do you have the rest of the gadgets to go with them and do you have the ability to operate it all?

I'll bet we all have one thing in common, though. There is a serious lack of restrictions on FM coupled with the fact that all the mindless morons can afford it.

I would like to point out that I am a professional electronics engineer (and a holder of a current ham certificate) and not a rig 'doctor'.

Yours sincerely,

R. J. Fletcher
Penzance, Cornwall

Dear Sir,

Following the publication of my letter relating to Sporadic E ionization in your September issue of CB Radio Magazine, there followed in the 'Editor's comments' at the end a mention of tropospheric propagation. I felt that perhaps an expansion of signal propagation via the troposphere would be of interest to your readers.

The troposphere is the part of the atmosphere that surrounds the Earth reaching up to around 25-30,000ft. and is the region in which 'the weather happens'. Consequently, signals propagating through the troposphere are directly affected by local and regional weather conditions. In generalised terms, signals at 27MHz and above travel outwards (and upwards with a legal CB twig!) and continue to travel outwards when the signals arrive at the horizon, i.e., travel out into space. At the horizon, however, there is a tendency for signal to be slightly refracted around the Earth's curvature, caused by atmospheric irregularities/particles. That's why in a fringe area that is beyond the visible sight of a TV transmitter, it's possible still to receive a picture, albeit perhaps snowy. If we now travel a further 30 miles away from the above TV receiving site, the picture will be considerably more degraded. That's because the field strength levels from the TV

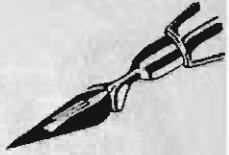
transmitter will have dropped considerably, perhaps to the extent of making the picture unwatchable. If we decide to buy a house at this new position and live there, it will become very obvious over a period of months that this very weak and snowy picture suffers daily variation in quality, much of the time being a proverbial Klondike blizzard but at other times improving to reasonable quality and occasionally perfect with very high field strength levels. Why?

During 'normal' conditions the refractive index of the troposphere at that distant receiving site is such that a very low signal level is received (or scattered). Under certain weather conditions, however, the refractive index of the troposphere improves which allows a higher level of signal to be refracted around the horizon's curvature resulting in higher signals at the receiving site. Such conditions normally apply during very settled weather conditions (anti-cyclonic) when high air pressure is experienced. This can be particularly marked if the day time is clear with no cloud. At nightfall, with a rapid drop in air temperature differing with a fall in ground temperature, there establishes a temperature inversion allowing a considerable expansion of the normal ground wave propagation over the horizon. The situation remains into the night and is often still present at dawn but following a further peak several hours after dawn, signal conditions fall to normal. Fog is also conducive to enhanced tropospheric conditions, particularly when associated with a stationary high pressure system - often in the September-November period.

Tropospheric ducting can occur from time to time. An upper air trough is formed and an incident signal can become 'trapped' within this duct and be carried at relatively high signal strength for some hundreds of miles before emerging. Interesting to note that signals *en route* at intermediate locations are not received. A classic example of this phenomena is from Brocken, East Germany. The TV transmitter is situated atop a high mountain. If a ducting condition resolves itself, signals from the transmitter enter the duct (since the transmitter is, in effect, spraying its signals into the duct at that height) and travel over West Germany, emerging into the UK to be welcomed by TVDX enthusiasts! Stations closer in West Germany are not received at this time, showing that the signals are ducting over West Germany.

Signals that are propagated to some distance over the horizon display a slow fading characteristic, rising out of the noise (snow) and fal-

Readers Write



rising out of the noise (snow) and falling again, perhaps suffering on short distance tropospheric signals a rapid flutter from time to time. Aircraft often produce this flutter effect, the flutter increasing in speed, slowing and then speeding and eventually fading. (The rapid flutter then slowing then speeding and fading suggest an aircraft is passing across the direct signal path resulting in a second reflected signal and producing alternating in and out of phase signal conditions - i.e., adding and subtracting).

In general terms, the frequencies most affected by tropospheric propagation are above 40MHz and into the TV spectrum. Band 1 (405-line TV-BBC) and Band 3 (405-line TV-ITV) are considerably enhanced, the latter more so than Band 1 but UHF-TV in Band 4 (Group A Crystal Palace/Rowbridge/Divis, etc.) are those channels that seem to enjoy optimum results, falling in Band 5 (Group B, C/D). Typical distances noted at TV for tropospheric enhancement are in Band 1 up to 600 miles and Band 3 up to 1,200 miles. UHF generally follows Band 3 but with a fall off in Band 5. The USSR has been received with identified pictures at both Band 3 and UHF. Poland, East Germany, Norway and Sweden are commonly received on the east coast of the UK, Spain and South France into the south coast.

The 27 MHz CB band will enjoy a limited tropospheric enhancement (or ground wave extension) but will not experience the same sort of 'benefits' of VHF and UHF propagation. Any tropospheric enhancement will, of course, jam up the 40-channel allocation since signals just at noise level and unworkable under 'normal' conditions would be lifted. Little imagination is needed as to the chaos if tropospheric lifts brought in breakers over a 100-mile plus radius!

To summarize, therefore, the 27MHz band will not experience enhanced tropospheric enhancement to any great degree and certainly not the long hauls that have been suggested elsewhere by this mode. Sporadic E, however, will provide regular (though unpredictable) UK wide copies during the summer with a minimum skip distance of around the 500-mile mark and upwards. Despite the decline in the current sunspot cycle, conditions within the ionosphere will permit really long-distance working during the midday period and into the afternoon of several thousands of miles via F2 layer reflection . . . but that's another story.

Yours faithfully,
Jolly Roger (Roger Bunney)
Romsey, Hants.

Dear Sir,

I am a licensed CB operator and have recently had Telecom to my house to sort out a problem - TVI on next door's TV.

They found that two ferrite rings cured the problem but the neighbour in question would not pay for it. So the Telecom men went away, leaving us with the same problem. I went out and bought two rings and made one up myself (12 coils).

We tried it on the TV but it didn't work on high power so I am having to transmit on low power.

Why should I have my pleasure messed up because of a loophole? I don't see why I should have to pay £10 for a licence while I am not protected by the law. If I broke the law, I would expect to be punished but it seems to me nobody wants to know.

The Telecom men didn't help much by going off, as if to say "Get on with your aggro, we don't care a damn".

I thought by law the neighbour whose TV was faulty had to foot the bill for any costs.

I don't want to argue with them, so I keep my rig on low power. If I put it on high power, it cuts the sound off their TV set altogether.

We CB operators should be compensated for any costs incurred as a result of our search for the perfect world.

Short of getting into a legal wrangle, I am at a loss as to what steps to take next. I hope you can advise me.

Yours truly,
Cameraman (J. M. Smith)
Redditch, Worcs.

One solution that you have possibly missed is that the Telecom filter may actually have worked on high power.

You could contend that your next-door neighbour's television is faulty, however, a fairer assessment is that the TV itself was not properly manufactured (to include an RF filtering system). You can hardly blame your neighbour for a cost-cutting TV manufacturer and your hobby. A trip to your local CB shop and an investment of a couple of quid could well solve your problem.—Ed



Dear CB Radio,

Your article 'Long Distance Information' in your August issue rather over-simplifies the propagation characteristics of 27MHz. There are a lot of other possibilities and probabilities (Sporadic E, for example, which I believe to be common at this stage in the sunspot cycle), other than tropospheric ducting. Twenty-seven megahertz has some peculiar properties of its own, as well as sharing some of those belonging both to the MF bands and VHF bands.

May I ask for your readers' assistance in collecting data on unusually long distance legal FM copies? I would be grateful for copies of, or extracts from, log books for days when DX was good. I would also be interested in weather conditions and any other related data. (All correspondence to me via PO Box 30, Southport, please).

I am engaged in a study project, comparing the 11-metre band to those higher up the VHF scale, including the 10m, 6m, 4m, 2m, 70cm. ham bands, the FM broadcast band, etc. In this respect, I would also be grateful for reports from ham operators and from receiving stations. If you could, therefore, print this letter, I would be most grateful.

May I just comment on the letter from K. Bradford, a fellow Merseysider, in the August issue? Whilst most of his letter is little short of a flag-waving exercise for 27MHz pirate multimode operation, he does make some useful points. "Operators cause interference"; correct. Why on Earth the Government couldn't have legalized AM but insisted on low pass filters is beyond me! "Filtering should be done by TV and audio equipment manufacturers"; damn right it should and it is a common and stupid design fault not to do so! Furthermore, could the manufactures please do something to stop TV time-base interference from ruining my short-wave listening? Technically, TV time-base-generated interference is against the Wireless Telegraphy Act!

Yours sincerely,
P. Thompson
Southport, Merseyside

Amateur radio – an introduction

A shopper's guide

Buying amateur radio equipment is a bewildering experience for someone new to the hobby. There is a vast selection of equipment available with increasingly-sophisticated specifications and increasingly-higher prices! This last item may well cause the biggest shock to a CB'er expanding his interests, since equipment is very expensive in comparison with CB. Many people start with either a general broadband receiver to listen in or a secondhand transceiver. It's not a bad idea to start with a secondhand set, since not everybody knows where their main interest will lie and you may well find that your original interest may be different to your eventual, lasting one. This is especially true if you start off with a Class B licence and a 144MHz transceiver, pass the Class A

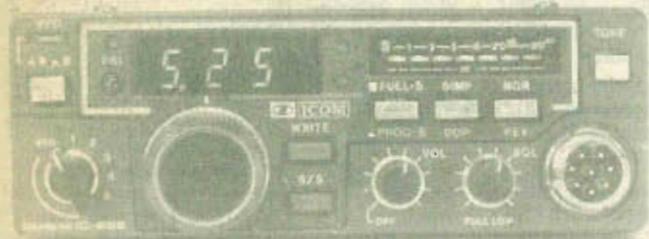
and find a new interest in HF.

In common with CB, much of the equipment is Japanese or Far Eastern. There is a range of well-known amateur radio names, including Yaesu, Trio, Kenwood, Icom and Drake, who manufacture or market the majority of equipment available and cover the range from simple to £1,295 wonders.

There isn't the scope in this article to recommend one transceiver above another or to suggest that the Nippon Super Deluxe Gallium Arsenide Field-Effect Transistor Transceiver is a good buy – neither I nor you will understand it properly, anyway. The selection of equipment featured here is to give you an idea what sort of equipment is available and what you might expect to pay for it. I have limited the guide to transmitters and rec-

eivers since antennas would deserve a book to themselves. One word of advice, though. Moving onto amateur radio can be confusing for CB'ers, who are used to one band and particularly one antenna. The world of amateur radio antennas is, therefore, very confusing. A good start would be something like a trap dipole since they can cover up to five bands and cost in the £40 region, which is an inexpensive start and avoids expensive mistakes.

Other accessories can be followed up when you know what you are interested in. If you are seriously considering spending your hard-earned cash on amateur radio equipment, it's a good idea to listen to the advice of an amateur radio operator friend or reputable dealer.



The Icom IC-25E is a compact mobile 2-metre/144MHz FM set with memory and band scan, controlled from the microphone or rig itself. It also has five frequency memories, priority channel, 25kHz or 5kHz tuning and LED S-meter. It costs £235.



The Icom 730 is sold as a mobile or economy base station and costs £586. It's a HF transceiver and covers eight bands with 100W output on SSB, AM and CW (Morse). It features 10Hz, 100Hz and 1kHz tuning steps, noise blanker, Vox, SWR detector, speech processor and an RF pre-amp.



The TR-9500 is a UHF 70cm. all-mode transceiver which uses a microcomputer for frequency selection, memory, scanning and searching. It is suitable for link-up to Oscar, the amateur radio satellite. Frequency can be changed by controls on the microphone. There are a selection of accessories that are suitable for the TR-9500, including power supply and external speakers. Mobile or base operation, cost is £449.88.



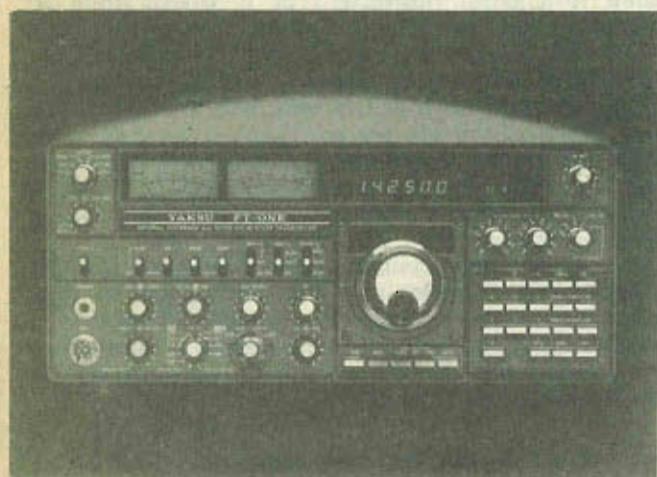
The Yaesu FT-480R is a 2-metre transceiver and features four memory channels, 10 watts output and FM, SSB and CW modes. It has LED display for signal strength TX, busy and clarification. Scanning can be operated from the microphone. The FT-480R costs £379.



The SM-220 is a station monitor/oscilloscope with a built-in two-tone generator. It monitors transmitted waveforms and can be used as a wide-frequency range oscilloscope for adjustments and experiments. It also helps establish correct microphone amplifier gain setting and proper compression level setting of a speech processor. (It is a provision of the amateur radio licence that the operator must be capable and have means to prove that his transmitting equipment is on frequency and stable). Approx. cost £198 from Trio.



YAESU



The Yaesu FT-One is a classic in the amateur radio field. A general coverage transceiver, it covers 1.8MHz to 30MHz with AM, SSB and CW (with FM as an optional extra). The functions are too numerous to mention but since this is the flagship of the Yaesu range, be prepared for a bill of £1,295.



The FRG-7700 is another Yaesu communications receiver and covers from 0.15MHz to 30MHz and is capable of receiving SSB, AM, FM and CW. It has 12-channel memory, noise blanker and digital display of time and frequency. It also has provision for recording and time-delayed recording in the listener's absence. It costs £329. For readers interested in purchasing a FRG-7700, AmComm Services, of South Harrow, Middx., are offering a free FRT-7700 antenna tuner unit with the purchase of a FRG-7700. Phone 01-864 1166 for further details.



This HF transceiver has a memory which can be recalled, even when on a different band to the one in use and covers from 100kHz to 30MHz. Its cost is justified by such features as an automatic antenna tuner unit, provision for AM, SSB, CW (Morse) and RTTY and needs no tuning or loading. The Icom 720 costs £883.

The Trio TL-922 linear amplifier covers the 1.8-30MHz range with up to 2kW PEP input and is suitable for SSB, Morse and teletype. It can operate 120/220/240 volts or 50/60Hz and needs 80W drive power. Recommended retail price is £694.99.





Junior Breakers

Well, although you may be reading this in November, the shops have been telling us for some time that it's nearly Christmas and this is definitely a seasonal edition of the magazine. I expect many of you have decided weeks ago what you would like for Christmas and have been dropping heavy hints at home.

It's possible that if you already have a low-powered walkie-talkie you have asked for a full-power rig or that you are hoping for a rig and are reading this magazine in anticipation of Christmas morning. If that's the case and you aren't disappointed with S. Claus, it might be worth bearing a few things in mind before you plug in and get going.

CB is for everyone to use; not just you and your friends and not just the bloke up the road who has a £300 base rig and the best set up since Radio One. It's for both of you and the other odd 300,000. So, if you wally and bucketmouth, not only are you making yourself look pretty stupid but you are stopping someone else using the channel. Although CB is fun for a lot of people (and anybody who thinks it shouldn't be has got the wrong idea about CB) it's also very useful for others, in their work, social life or more seriously monitoring services or traffic information. So a bit of give and take on channel use wouldn't hurt any one.

The other thing to bear in mind is that there will be lots of people coming on channel over Christmas who are not familiar with CB and its traditions. Again, many of these will be younger breakers. It is up to you to give a good example and help them use it properly. It's easy to make a bit of a fool of yourself on something like CB, where you might not know the codes or slang. So take pity on anyone who is unfamiliar with it all and give them a bit of advice - not make fun.

One last word of Christmas warning. If you have a rig for Christmas and want to use it as a base station, remember:

a) You need a 12V power supply. *You cannot* plug a rig into mains house voltage. Check that you have a safe power supply.

b) You need special coaxial cable for antenna connections, patch leads, etc. Ordinary TV cable, etc., will not do. (The correct name for CB cable is RG58U or RG8U).

c) A base antenna needs to be correctly installed. Some mobile antennas can be successfully used for bases but need careful positioning.

d) Although FM CB causes less interference than AM, it can still cause interference, so check you are not ruining anyone's TV watching.

Junior breaking channels

I don't know how you feel about specially reserved

channels for younger breakers - it's a suggestion I've heard lots of times. It's usually made by older breakers when they're fed up of congested channels. Thinking about it, I'm not sure how practical it would be. Bearing in mind that no one has any authority to allocate channels for particular use, it would mean that either the Government would have to make it a legal restriction or it would have to become accepted over the years. Neither of those seem very likely - so how could it be enforced?

With the amount of younger breakers about, it might well end up that the one, two, three or however many channels were regarded as being for children only would get bunged up quickly and breakers would go elsewhere anyway. This would particularly be the case if older junior breakers got fed up with younger ones or vice versa.

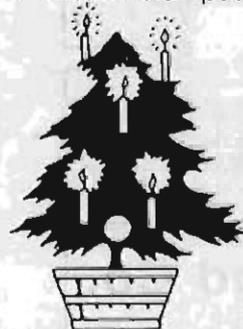
In a way it goes against what CB is about, too. CB is supposed to be for any one, regardless of race, sex or age. There is value in something that brings people together nowadays, it seems a shame to immediately put up barriers again, especially as the Government hasn't seen fit to do so.

Let your fingers do the talking

Let's have some letters, please! Are young breakers unfairly blamed for wallying and bucket-mouthing? What about kids' channels - good idea or bad? Want to recommend a good club meet for junior breakers? Do you know a younger breaker who is different and proves the bad stories wrong? Tell us about it.

P.S. If Mum and Dad buy you a rig for Christmas, ask them for a licence too!

To join Junior Breakers Club, send a cheque or postal order for £1.49 (made payable to CB Radio Magazine Ltd.) to CB Radio Magazine, Tudor Works, Beaconsfield Road, Hayes, Middlesex UB4 0FL. You must be between 7-14 years old and please include an A4 or 9in. x 12½in. stamped self-addressed envelope.



Code breaker message

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Shadow Communications

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Waltham Cross, Herts
Tel. 26896

ACORN

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Coleshill, Birmingham

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Reading
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CTVR

35 Oxford Street
Grantham, Lincs.

Ratchet Shack

Unit 6, 8 Bells Arcade
Newbury, Berks
(0635) 31451

CB TRADER

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N1

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Northampton
Northampton 67666

Globe Wholesale

168 Brooker Road
Waltham Abbey

Hobby Communications

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Milton Common, Oxon

Skyriders

557 Hertford Road
Enfield, Middx
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Hoddesdon
Hoddesdon 45161

OCT

407 Lordship Lane
N17

James Group Ltd.

Tudor Works
Hayes, Middx
01-561 5778

Gamma Aerial Products

Crabbe Street
Lye
Lye 891132

Radio Telephone Centre

148/149 Manchester Road
Swindon, Wilts
(0793) 34136

CAPITAL CITY CB

34 Buckstone Terrace
Edinburgh, Scotland
(031 445) 4711

Scunthorpe CB Centre

Ferry Road, High Street
Scunthorpe
Scunthorpe 842744

Pama and Co.

Pama House
433 Wilmslow Road, Withington
Manchester M20 9AF
(061 445) 8918

North Herts Wholesale

8 Melbourn Street, Royston
Herts SG8 7DZ
(0763) 42295

MicroComms

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Goodwood Works
North Circular Road
London, NW2
01-452 3333

Wallace Telecommunications

Greencoat House
Francis Street, London, SW1
01-828 2673

Llanelli CB Centre

21 Station Road, Llanelli
Dyfed, Wales



Claytown Breakers' Club

Just a few lines to inform you that the Club has survived the great depression which overtook CB in this part of Devon at the end of last year. We are now going more strongly than before legalization, thanks mainly to the efforts of The Godfather and other Committee members.

We meet every Thursday at 8.00pm at the Keyberry Hotel, Newton Abbot. All breakers are welcome, we make no distinction between AM, FM and side-banders.

We function as a social club in that we hold disco every week during the summer. We also take part in various sporting contests with local clubs. On the more serious side, we intend to assist and support our local Station Delta, the emergency monitoring service, as soon as it is ready to begin operations in a week or two.

Many thanks and all the golden numbers.

Mig Lady (Helen Opitz) (Secretary)
Newton Abbot, Devon

Red Spot Genuine Breakers' Club

After reading Club Spot in your magazine and many other magazines, I feel utterly disconcerted by the fact that all these club reports give me the impression of a great social life for CB'ers and fantastic support for local charities. They also tell us of their aims.



What are they doing to attain their aims and to better and legalize a decent CB system, i.e., AM, SSB and FM?

Anybody can have a good night out. Anybody can give money to charity and nobody can legalize a decent CB system. At least nobody has managed it yet.

As there are several important developments recently, our Club is contacting the Home Office, local MP's, Euro MP's, Tim Raison, local councillors, Euro CB Federation, World CB Federation, Margaret Thatcher, other Party leaders and other clubs (within Europe).

We are affiliated to the North West Coastal Federation and Natcolcibar, both very active organizations.

We have also a very good technical department which is constantly supplying us with rig improvements and additions, i.e., semi duplex system.

video on .27MHz, alpha channels, audio mods, etc.

Oh, by the way, we do give practical and monetary help to charities and enjoy ourselves.

So come on CB'ers, we have a chance to gain legalization of a decent system through CEPT if we get off our butts and try.

Wicked Chicken (Chairman)
Red Spot Genuine Breakers' Club
Ellesmere Port, Cheshire

27 FM Club

The Club meets every Thursday and Sunday. Club meetings are held on a Sunday night. Our Club welcomes families with children and Thursday evening is the eyeball. We are planning to have entertainment at the Thursday eyeball. A Children's CB Section is being planned for the future which we hope will help the kids use the channels properly. The Club plans to help raise funds for the new Milton Keynes Hospital, which needs an ultra scanner.

Red Eye (Secretary)
Milton Keynes, Bucks.

Shaw and District Breakers' Club

We are a small club with around 200 members. We have been in existence for just over two years now and in that time we have made two 8mm. films on CB. We have also video filmed transvestite football matches, treasure hunts and car rallies. The most popular outside event that we do is the sponsored pub crawl (all the breakers love that one). We print our own news letter free of charge to our members and our meeting place is St. Josephs Club in Shaw. We meet every other Tuesday and our breaking channel is 14. If any of you good buddies are ever in our 20, give us a call . . .

So from all of us to all you good buddies, 10-10.

Batman (Committee)
Shaw, nr. Oldham

26 Lema Delta DX Group

Just thought I could drop you a line to let you know of our DX group. We have been formed for a little over one year now and have over 50 members in this country and an international list. We formed as a serious DX group and membership is by Committee approval only, proof having to be supplied by the applicant of a minimum of 10 QSO's with Group members and the application sponsored by an existing Group member. In this way we hope we can maintain a list of responsible and courteous members who will

only be a credit to British DX'ing.

We have regular Tuesday evening meetings in the Holmbush pub, Fyngate, nr. Crawley, Sussex and time-to-time social events such as our coming Thames Cruise Disco. Our meetings are open to visitors.

Membership costs £3.00 for 11fe (rising to £5.00 January 83), which gives initial QSL cards, membership roster and use of the PO Box. Also available are wall certificates and rubber stamps. XYL can be included for a further £1.00.

Our calling frequency is 27.455 LSB, so we hope to hear more operators and to welcome more members into the Group in the future.

So, 73's and 51's to all.
Happy DX'ing.

Norman (26 LD 100)
(QSL and Pub. Sec.)
Crawley, Sussex

The COBRA QSL DX Club

We are the COBRA QSL DX Club, which stands for the City Of Birmingham Radio Association. The Club started last April and is going well. Our aim as a CB club is to please the AM/FM breakers as well as a section for DX'ers. The membership consists of all different items, including a PO Box purely for the DX'ing section. To join it is a total sum of £2.00.

The Club is on a Thursday night, 7.30-11.00pm. We have a separate lounge from the disco for people to have a chat and a discussion. Our Committee consists of: Electric Warrior, Chairman; Fireater, Vice-Chairman; Black Lady, Secretary; Grinder, Treasurer; Artic, Vice-Treasurer; Kilowatt, Public Relations Officer.

Black Lady (Secretary)
Handsworth, Birmingham

Coln Valley Breakers' Club

We are Coln Valley Breakers' Club and we meet alternate Mondays at the Southrop Sports and Social Club at 7.30pm. Although this is a newly-formed club, it is intended to limit the membership to 200. The Club is open to all modes, FM, AM and SSB.

We intend this to be an active club with as many activities as possible. Further details from:

Sugar Puff (Mrs. M. Allen) (Secretary)
5 Aldsworth Close
Fairford, Glos.



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The Nappy Factory CB

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Barnet, Herts
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Gravesend, Kent
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CB AND MODEL HOBBIES

Parndon Mill
Harlow
(0279) 418817

CB COM TEL

44-46 Grimshaw Park
Blackburn
(0254) 56098

P. SQUIRE

19 Bridge Street
Andover, Hants

CB Radio Distributors Ltd.

Unit 2
Government Industrial Estate
Union Mills, Isle of Man
851140

QFS and CB Centre

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Tyne & Wear
(0783) 58392

Electromec Engineering Co. Ltd.

Claremont House
Northampton
(0804) 810000

Johnston Communications

63 Barclay Street
Stonehaven, Scotland
(0569) 64618

Silver Streak CB Sales

83a Roman Bank
Skegness, Lincs.
(0754) 810914

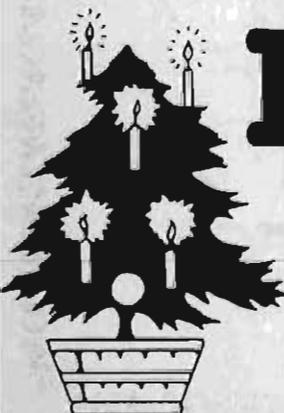
The Motorists Shop

207 Lenthall Avenue
Grays, Essex
33428

Elektronika Ltd.

239a Wellingborough Road
Northampton
(0604) 31785

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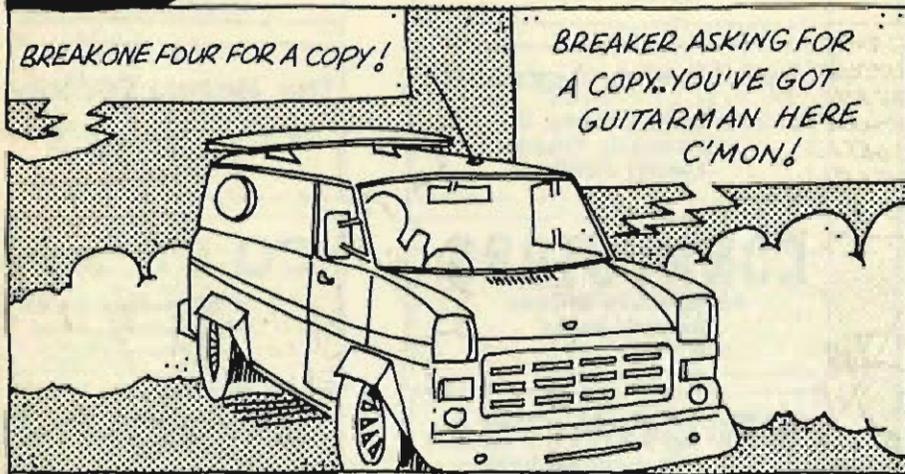


MERRY XMAS



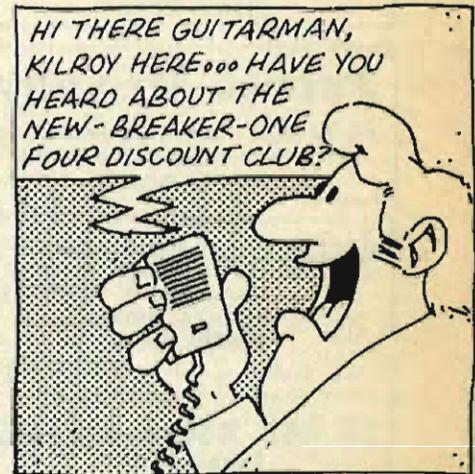
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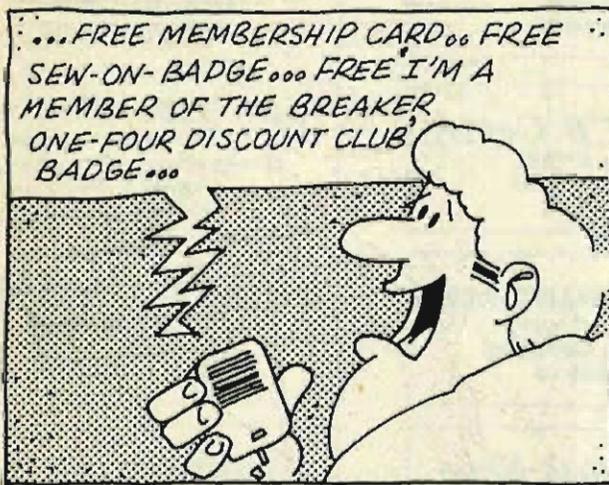


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HI THERE GUITARMAN,
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NEW-BREAKER-ONE
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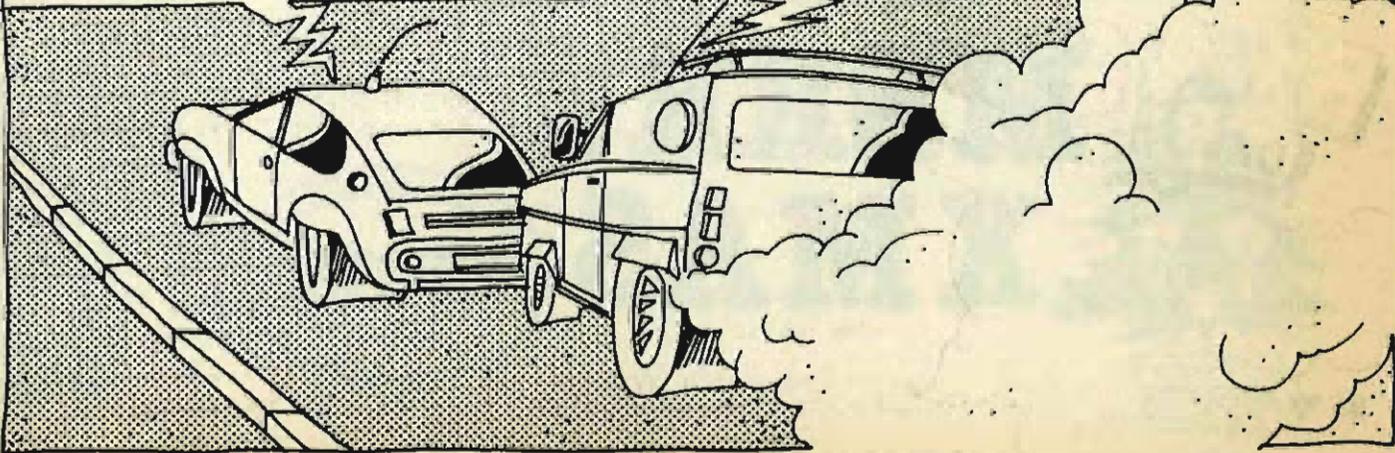
...FREE MEMBERSHIP CARD... FREE
SEW-ON-BADGE... FREE I'M A
MEMBER OF THE BREAKER
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BADGE...



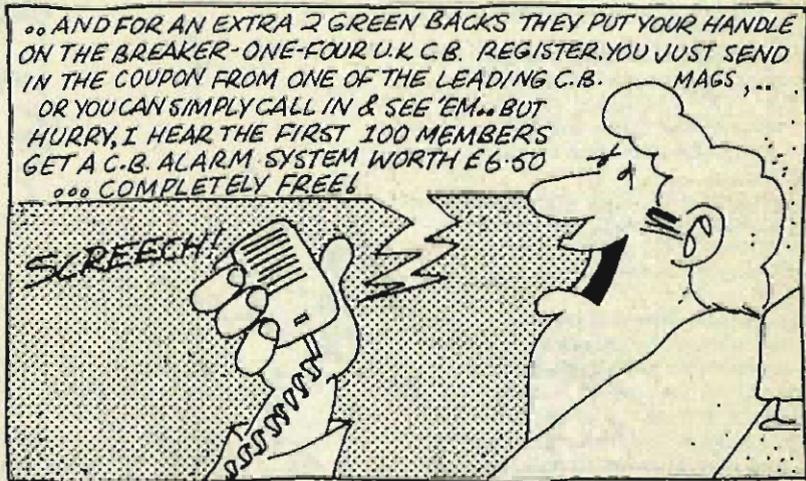
BACK OFF THE HAMMER THERE GOOD
BUDDY, ARE YOU SOME KIND OF
DIPSTICK? NO G.B. STORE GIVES
AWAY THAT MUCH
DOWN AND ON THE
SIDE!

THATS WHERE I'M GOING NOW
GUITARMAN...
WHAT'S YOUR 20?

I'M OVER YOUR SHOULDER GOOD BUDDY, I'M OVER
YOUR SHOULDER...
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CB12

Five Years Too Late ?

After much deliberation, not to say argument, it is expected that CEPT, the European advisory body of telecommunications, will shortly be making its recommendations on a European CB specification. There are, as yet, no indications of what this specification might be.

In an unusual move, two officials from CEPT, Messieurs Broere and Van Crombrugge, met representatives from the European CB Federation on 8 October at the EEC Parliamentary building in Brussels. Amongst delegates from France, Italy, Luxembourg, Belgium, Eire, Germany, Holland and Denmark were eight representatives from NATCOLCIBAR (National Committee for the Legalization of Citizens' Band Radio). It is unusual for consultation of this type, which perhaps indicates the concern over the European CB situation.

The ECBF made a number of proposals to CEPT regarding the eventual Euro specification. The three basic suggestions centred on:

- a) 22 AM and SSB channels and 23 FM channels, following as closely as possible the FCC frequency allocation. It is realized that there will have to be some sort of Interference barrier between the two.
- b) 40 channels AM, SSB and FM (FCC allocation) with 2 watts power.
- c) 40 channels FM with 4 watts power to European specification T/R 19.

The feeling at the meeting was that a conclusion should be reached as quickly as possible so implementation of the final recommendation can go ahead. Apart from making proposals on agreeable modes and frequencies, the ECBF was also anxious to ask for controls on emergency channel use, frequency abuse and a common standard of construction of equipment. It will also be lobbying for a European CB licence and a two-year trial period for the new system.

Whilst it is impossible to tell which, if any, of these proposals are likely to be accepted, the possibility of a fourth CB system in this country is enough to make even the most optimistic and enthusiastic breaker shudder. Quite what it would mean in Europe would remain to be seen. It's likely that the CEPT system would run in conjunction with systems already operating in the various countries throughout Europe. There are various permutations of systems within Europe varying from 10 channels to 40, 0.5W to 4W, AM, SSB and FM with different operating restrictions and conditions. Although attempts to unite this hotchpotch are well meaning, they could end up

adding even more confusion.

The Home Office has stated all along that its long-term aim is to participate in a common European system. CEPT, however, is only in a position to make recommendations and has no authority to enforce any decision. So, if the British Government decided that the specification was not suitable or to its liking, there is no reason for it to accept the recommendation. For it to be enforceable, the EEC would have to pass legislation or to rule that non-acceptance constituted an unfair trade barrier and this is unlikely whilst there are more pressing matters outstanding.

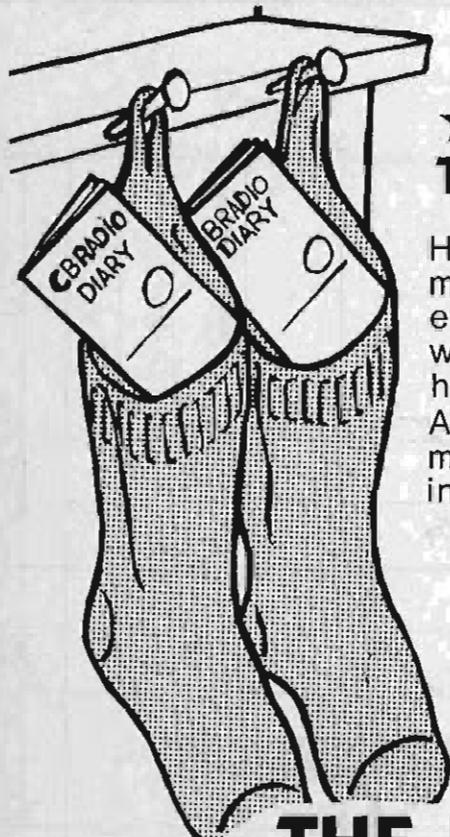
It is impossible to prejudge the Government's reaction but it does make you wonder what sort of proposal will be acceptable to the authorities. All but forced into legalizing something, they were reluctant to,

trying to control and contain the illegal AM system, administering the two legal systems and being faced with the prospect of a fourth, I can't see them being too happy at all.

The sad thing about it all is that it's at least five years too late. The time for agreeing and implementing a European CB system has been and gone. If this had been done before the pressure for legalization in so many countries and before the FCC system had been so widely accepted outside America, there would have been every chance of it succeeding throughout Europe but once again it looks as if bureaucracy has acted too late.



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Scanner receivers and antennas

by F. C. Judd

The modern scanning receiver is really an extended development of the VHF aircraft band receiver that has become popular over the past few years for listening to the messages exchanged between aircraft and ground control. Today's scanner receivers, however, cover a much wider range of frequencies, still including the aircraft band from about 118-136MHz, the total range generally extending from around 26 to over 500MHz. One of the scanner receivers with this range is the SX-200 which takes in the CB radio band, the 10-metre amateur radio band, VHF broadcasting and police frequencies, public services, aircraft and marine bands, ambulance and fire and other emergency services, the 2-metre and 70-centimetre amateur bands, taxi radio, waterboard, gas and electricity service communications, private mobile VHF radio and so on. Receivers such as the Bearcat 220 FB cover from 66-512MHz split into various bands and some of the smaller handheld portables such as the Bearcat 110 FB and others have the same frequency range. The Touch model M 100 E (66-516MHz), the SX 200, the Bearcat 220 FB and others of similar design can be operated from an external power supply from 230V mains or in a car from the normal 12V dc supply (car battery). Some of the scanner receivers at present on the market have already been dealt with in CB Radio Magazine.

Scanner receivers are highly sophisticated and, unlike a normal radio receiver, have no manual tuning control. Channel frequency selection and frequency memory entries, etc., are keyed in via a small keyboard rather like that on a pocket calculator. The only manual controls are for audio volume and squelch, although there may be a fine tuning control. The circuitry used in these sets is, therefore, quite complex and utilizes a miniature micro-processor system with a capability of providing around 30,000 different frequencies and with a memory capacity of 16-20 separately programmed channels, any of which can be recalled for listening either indivi-

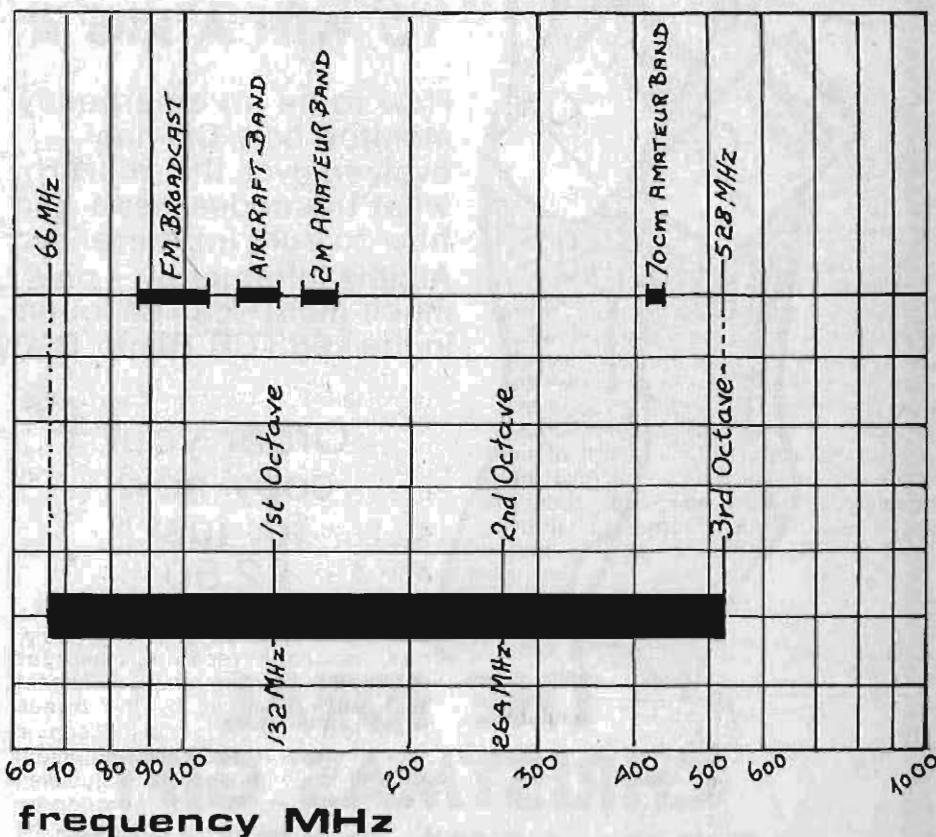


Fig. 1. The frequency range of most scanner receivers is from about 66-512MHz. The graph gives some

idea of the frequency/octave range and the narrowness of a few specific frequency bands.

dually or scanned continuously until a busy channel is found. The larger sets have a small built-in antenna which is adequate for receiving local transmissions but they also have provision for the connection of an external antenna which greatly extends the receiving range. The small handheld receivers are usually limited to a small pull-out antenna or helical 'rubber duck'-type antenna. All scanner receivers will resolve FM (frequency modulated) or AM (amplitude modulated) signals but not SSB (side band transmissions). Some sets have a built-in digital clock. The frequency search or scan rate is usually variable between about four and 11 channels per second.

The following performance specification and description of the SX 200 is typical of the larger scanner sets.

General description

This scanning monitor receiver utilizes a miniature computer-micro-processor with 16 channels in over 32,000 different frequencies such as police, ambulance, rescue, fire, paramedic, Government services, taxis, etc., which can be monitored, searched, scanned to memorize without adding external crystals. Unknown frequencies can be searched and locked-in. Frequencies can be easily selected by the keyboard operation. An accurate digital clock which displays time is

built-in. Amateur bands in VHF and UHF range T-band can also be received.

Specifications

- | | |
|-------------------------------|--|
| 1. Type | FM and AM |
| 2. Frequency Range | a) 26-57.995MHz freq. space 5kHz
b) 58-88MHz freq. space 12.5kHz
c) 108-180MHz freq. space 5kHz
d) 380-514MHz freq. space 12.5kHz |
| 3. Sensitivity | FM a) 26-180MHz 0.4uV S/N 12dB
b) 380-514MHz 1.0uV S/N 12dB
AM a) 26-180MHz 1.0uV S/N 10dB
b) 380-514MHz 2.0uV S/N 10dB |
| 4. Selectivity | FM More than 60dB at ± 25 kHz
AM More than 60dB at ± 10 kHz |
| 5. Audio Output | 2 watts |
| 6. External speaker Impedance | 4-8 ohms |
| 7. Power Supply | AC adaptor (output dc 12V) or dc 12V power supply |
| 8. Antenna Impedance | 50-75 ohms
Whip or external antenna with LO/DX control (20dB ATT) |
| 9. Frequency Stability | 26-180MHz within 300Hz
380-514MHz within 1kHz (at normal temperature) |
| 10. Clock Error | Within 10 sec./month |
| 11. Memory Channel | 16 channels |
| 12. Scan Rate | Fast 8 channels/sec.
Slow 4 channels/sec. |
| 13. Seek Rate | Fast 10 channels/sec.
Slow 5 channels/sec. |
| 14. Scan Delay Time | 0-4 sec. |

Perhaps the most special feature of a scanner receiver is that any given band frequencies can be selected for scanning. For instance, the aircraft band (approx. 118-136MHz) can be programmed in and only that band will be continuously scanned. Any single frequency within the total range of the receiver can be put into one of the memory channels and can be recalled at a touch of the appropriate button and to the exclusion of any pro-

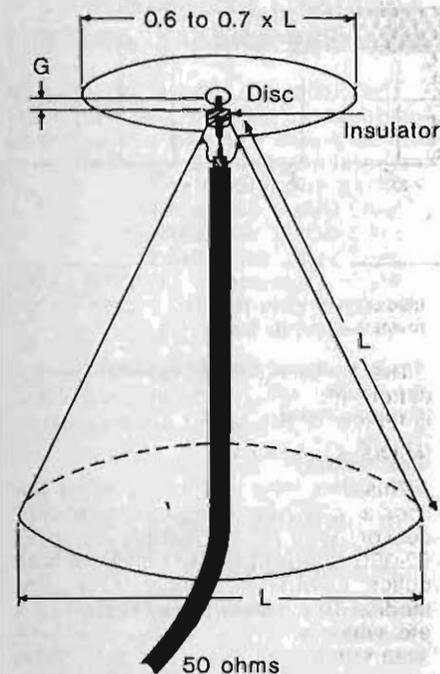


Fig. 2. Configuration of a disccone antenna. See text for explanation of construction as shown in Fig. 5, etc.

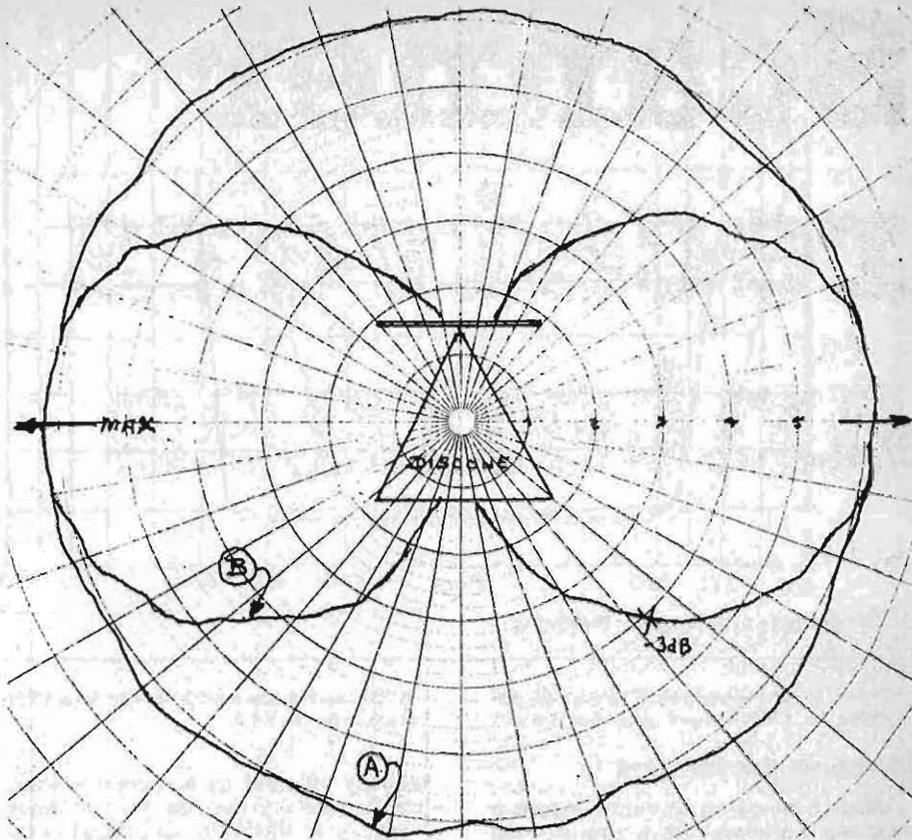


Fig. 3. (A) The normal omni-directional response of a

disccone. (B) The vertical angle response.

grammed scan that may be in operation. As a point of interest, a full scan at average rate of the entire frequency range of one of these sets can take around two hours!

Scanner receivers and the law

Wide frequency range scanner receivers or, indeed, any receiving equipment capable of receiving messages *not* intended for the recipient, cannot be licensed for use by the owner. There is no licence for such except in special cases where such equipment is used in conjunction with licensed transmitting equipment operating on authorized frequencies for which the receiver may be used.

The Wireless Telegraphy Act 1949 permits reception by the public of *only* bona fide broadcasting stations, amateur radio stations and CB radio stations by any receiver regardless of its total frequency range. Fines of up to £200 are possible for infringement of this Act.

The worst offence is imparting received private information to a third party and/or making use of such information for personal gain or prestige, etc. This kind of action is equivalent to tapping someone's telephone line and making use of overheard conversation or even merely by listening to it.

Antennas for scanner receivers

The usual frequency range for scan-

ner receivers is 66-512MHz, although one or two, like the SX-200, will function down to 26MHz thus including the 27MHz CB radio band. However, even 66-512MHz represents almost three octaves of frequency, i.e., 1st octave is 66-132MHz, 2nd octave is 132-264MHz and 3rd octave is 264-528MHz as shown in Fig. 1. Some idea can also be gained from this diagram just how narrow specific frequency bands can be.

Whilst the small pull-out antenna which most scanner sets are fitted with will provide reception from stations that are fairly local, much greater distances can be covered by the use of an external antenna. To be effective, however, such an antenna must have a bandwidth more or less equal to that of the receiver. There are few antennas that will meet this requirement but one that is popular and also very effective, is the disccone, so called because of its configuration. A true disccone antenna consists of a conical lower section surmounted by a disc, both insulated from each other as shown in Fig. 2. Disccone antennas have a feed impedance of 50 ohms and the frequency/bandwidth is determined by the dimensions used for both the cone and disc. Design is usually based on the lowest frequency to be used and for which the dimension 'L' lambda equals a $\frac{1}{4}$ -wavelength at the chosen frequency. The gap 'G' between the cone and disc is usually only an inch or so for disccones designed for operation in the VHF/UHF region.

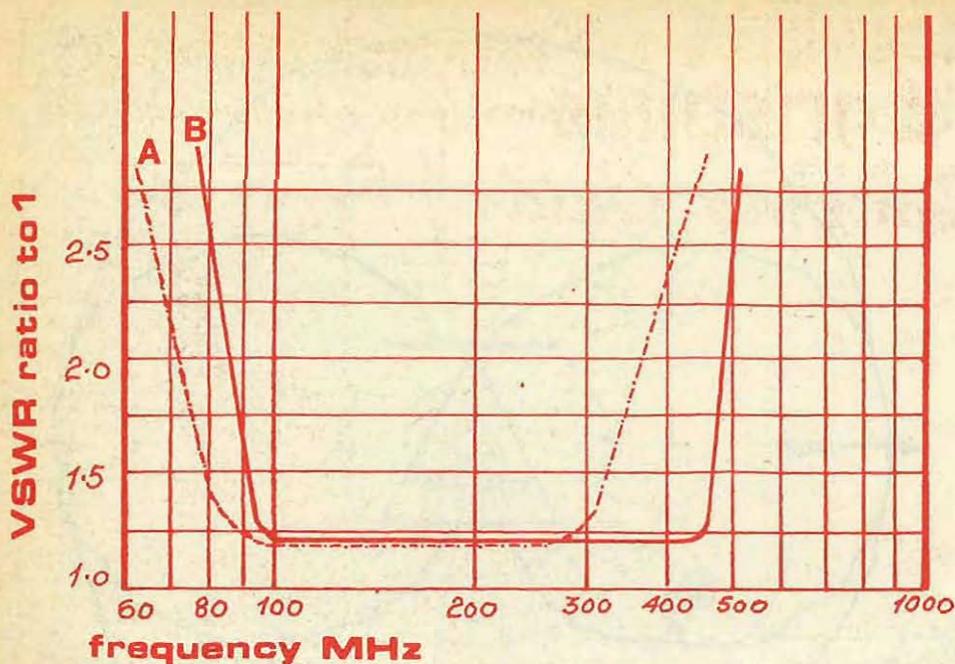


Fig. 4.
(A) Typical discone bandwidth. In this case 80-320MHz for a VSWR of not more than 1.5.

(B) Bandwidth shown is 80-480MHz for a VSWR of not more than 1.5.

Discone parameters

Aside from being omni-directional, a discone antenna has a low vertical angle pattern of response as shown in Fig. 3. It must be remembered, however, that discone antennas are vertically polarized and, therefore, do not respond well to radio waves that are horizontally polarized. The bandwidth/VSWR response of two typical discone antennas is shown in Fig. 4. Although a discone has no gain it is

equally efficient as a normal $\frac{1}{2}$ -wave dipole and so can be said to have 'unity gain'. VSWR is not critical as far as reception is concerned, so the efficiency to bandwidth ratio remains more or less uniform to the extremes of the bandwidth where the VSWR rises to around 2.5 to 1. The reason why VSWR/bandwidth information is given and, indeed, needs to be known, is because discone antennas can be and are used for transmitting.

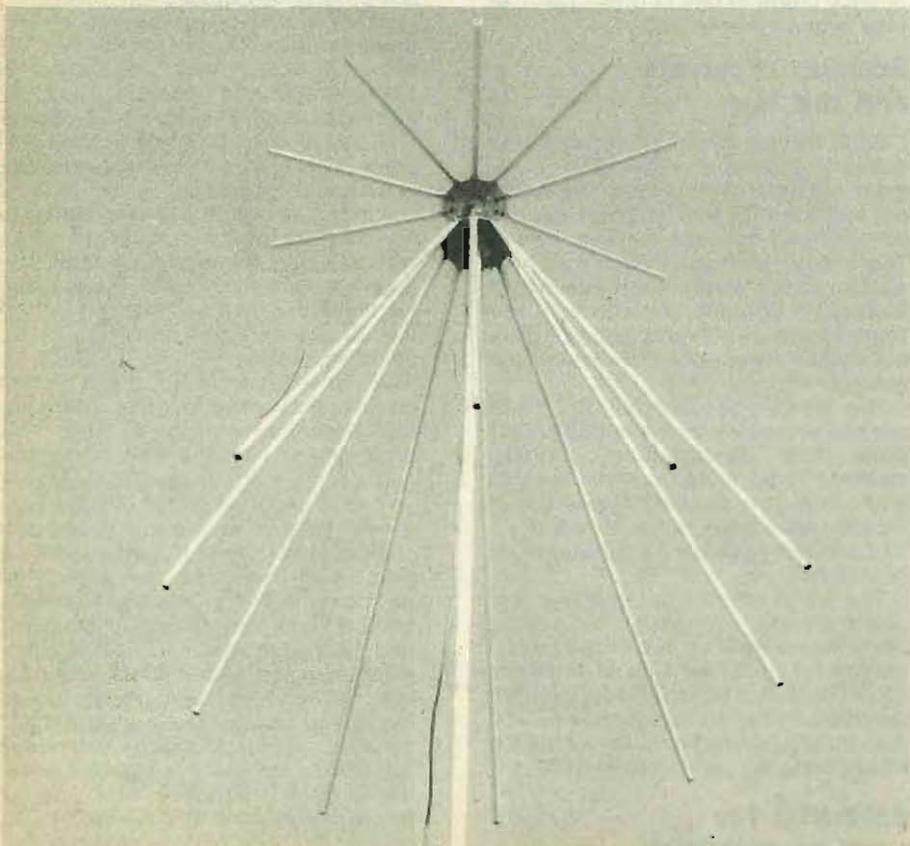


Fig. 5.
Discone antenna construction as described in

text. A series of metal spines is used instead of a continuous metal surface for both cone and disc.

Discone antennas for the frequency ranges covered by scanner receivers do not need to have full cone and disc areas as Fig. 2 implies. Both the cone and the disc can be formed by a number of conducting spines as shown in Fig. 5 and which is a discone antenna designed by the writer for amateur radio VHF/UHF transmitting and receiving. All commercially available discones are constructed in the same way.

Discone antennas such as the GDX-1, GDX-2 and others for frequencies in the band 60-500MHz are sold by most large stockists of amateur radio equipment and probably by some of the larger CB radio dealers. It is important to use low-loss 50-ohm coaxial cable with these antennas because of the relatively high frequency range. Cable such as RG8U or UR63 (M63) or similar is recommended. To be effective a discone antenna should be used outdoors and mounted as high as possible and well clear of other antennas. When used for receiving only, no adjustment is required. In fact, none is provided as both efficiency and VSWR remain almost constant over the specified bandwidth.

Finally it should be mentioned that there is one special discone antenna for UHF only and this is the SMC-TW453d which is designed for operation between 400-1200MHz. It could prove to be suitable for the same purpose for the 934MHz CB band and would be more efficient than a $\frac{1}{4}$ -wave using the car rooftop as a ground plane. The discone is a 'free-space' antenna with low angle radiation. With the one mentioned, S7 to S8 signals were obtained, mobile to mobile direct, over a distance of about 25 miles with 10 watts on the amateur band as above and under the writer's amateur radio call sign G2BCX.

Additional information regarding discone antennas

The following types of discone antennas suitable for use with scanner receivers with connection for an external antenna are available:

- GDXA 100-440MHz
- SMC GDX-1 80-480MHz
- SMC GDX-2 50-480MHz
- SMC VHFL 65-520MHz
- SMC (Telewand) TW435D 400-1200MHz only (UHF).

All available from:

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SM House
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SO4 4DN

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Available from Jaybeam Ltd. or appointed stockists.

Jaybeam Ltd. (Jones Stroud Group)
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Note. The above listed discone antennas may also be sold by some of the larger dealers in CB and amateur radio equipment.

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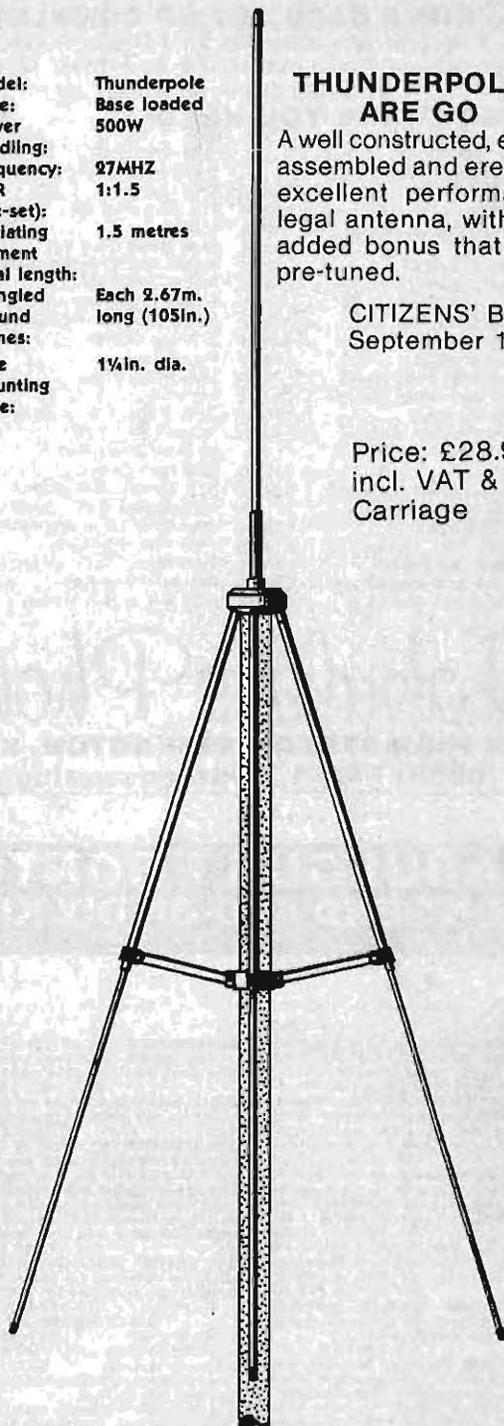
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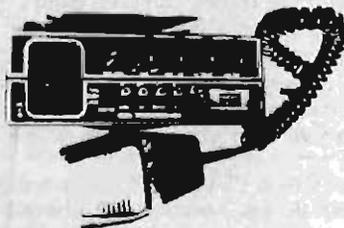


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LCL 40Ch Communicator	DV27S.	£5.95 & £3.95
Harvard Good Buddy	BASE TWIGS (P&P £2)	
Maxcom 21E-40Ch	ALCOM GPA 27 INTRO OFFER.	£15.50
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Maxcom 16E Apollo	Skylab (Legal Version).	£27.95
Maxcom 6E-40Ch	Modulator Home Base	£29.95
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Cherokee Half Breed	Twin Meter	£9.95
Thorobred 251 Mag Mount	Ground Plane Kits	£4.25
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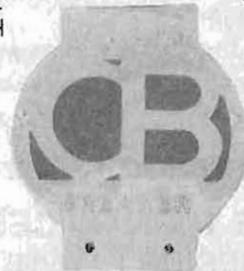
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RUFNEK

by ZAKZ

HIC! WHAT HAVE YOU BOUGHT SUPER SAL FOR CHRISTMAS?

SUPER SAL? WHO'S SHE? ONLY THE YL YOU'VE BEEN TAKING OUT ALL YEAR!

OH, HER!

MERRY XMAS!

DO NOT DISTURB UNTIL THE END OF THE XMAS HOLIDAYS

I BOUGHT HER A GOLD NECKLACE AND LEFT IT ON THE BAR THERE!

HEY! SOMEONE MUST HAVE LIFTED IT WHILE WE'VE BEEN HAVING FOUR OVER THE EIGHT!

Wobble!

I SAW WHO IT WAS HIC! BUT I'VE BEEN SWIMMING AROUND IN THIS SPLT BEER TOO LONG HIC!

WHAT AM I GOING TO DO NOW? FOLLOW ME!

ANY MORE BRILLIANT IDEAS?

WOULD YOU LIKE TO SIT ON MY KNEEDUCKY?

SANTAS GROTTO AND GROTTY

REAL PLASTIC CHRISTMAS PRESENTS

I'M FED UP NOW! WHAT SHALL I DO? I LOVE HER NEARLY AS MUCH AS MY CB RIG!

OH NO! IT'S THOUGHT OF SOMETHING ELSE!

XMAS EYE-BALL TONITE

THERE'S ONLY ONE THING TO DO. THAT IS TELL HER THE TRUTH! I'LL BACK YOU UP!

SOME BACK UP!

YOU'RE RIGHT! BREAKER BREAK, SUPER SAL HAVE YOU GOT YOUR EARS ON? SUPER SAL COMING BACK AT YOU, RUFNEK! WHAT HAVE YOU GOT ME FOR CHRISTMAS?

SHEESH! SHE DOESN'T WASTE ANY TIME!

LOOK, SAL! I'VE GOT SOME BAD NEWS FOR YOU... ER... I DON'T REALLY KNOW HOW TO PUT THIS...

SPIT IT OUT RUFNEK!

CRACKLE! CRACKLE! WHISPER! YOU AREN'T GETTING A PRESENT! CRACKLE CRACKLE!

HELLO MUM! MERRY XMAS!

RUB DON'T BRISTLES!

13.47 RUFNEK!

PUT IT THIS WAY, WHAT HAVE YOU GOT LEFT IF THE SMOKIES CONFISCATE YOUR ILLEGAL RIG?

NOTHING!

PRECISELY! SOMEONE NICKED YOUR PRESENT BEFORE I COULD GIVE IT TO YOU!

OH NO!

ISN'T HE SUBTLE?

WHAT WAS IT, RUFNEK?

IT WAS A 24 INCH GOLD BOX CHAIN NECKLACE!

OH NO!

I DON'T KNOW WHO'S GOING TO START CRYING FIRST. HIM, HER OR ME!

I SUPPOSE YOU WON'T COME TO THE XMAS EYEBALL WITH ME NOW? I BELIEVE YOU, RUFNEK I'LL BE THERE SHORTLY!

MERRY XMAS TO ALL CB'ERS!

NO RUFNEKING IN THIS ESTABLISHMENT!

THAT MEANS ANYTHING HE DOES IS NOT ALLOWED IN HERE!

SHORTLY.....

MERRY CHRISTMAS, RUFNEK! MERRY CHRISTMAS, SUPER SAL!

WHAT'S SO MERRY ABOUT IT?

WELL, AS PRESIDENT OF THE CB CLUB I'D LIKE SUPERSAL TO HAVE THIS!

IT'S A GOLD CHAIN IDENTICAL TO THE ONE I HAD STOLEN!

I DON'T GET IT! HOW DID YOU KNOW?

EASY! EVERYBODY IN OUR CLUB WAS COPYING THE MAIL EARLIER! SO WE ALL HAD A WHIP ROUND FOR YOU!

COPIING THE MAIL? I NEVER THOUGHT OF THAT!

GOOD JOB YOU WEREN'T ULTRA SLOPPY!

THAT CALLS FOR AN EXTRA BIG CELEBRATION! GET EVERYONE A DRINK... OUT OF THE CLUBS FUNDS, PRESIDENT!!!

AHHA! A HAPPY ENDING! THAT'S THE GREAT THING ABOUT ALL YOU CB'ERS, WHEN EVER THERE'S A 10-33 YOU ALL RALLY ROUND!!! MERRY XMAS AND GOOD NUMBERS TO YOU ALL!!!

Give it a chance!



During the past three months, we have looked at three areas of monitoring: a national FM only group, a national AM and FM group and two smaller groups who operate in limited areas. It's very difficult to gauge the effectiveness of any monitoring service. Mere numbers don't necessarily tell the whole story. Although, hopefully, more monitors means more hours and areas covered, if they aren't doing their job the numbers become meaningless. Paperwork and organization give the impression of success but, once again, if the monitors aren't there behind it, it becomes a paper-shuffling exercise and an ego builder. From research on the groups mentioned (and others that haven't actually been included in articles) it would seem that things haven't been running as smoothly as they could.

It was intended in this final article to try and assess the effectiveness of the various monitoring systems but I think it's unfair to compare on the basis of the articles published. As I said in the introduction to the article on THAMES, it was intended to visit a THAMES team in the same way as the earlier REACT article but, unfortunately, events got in the way and have made a comparison unjustified and unfair, since the articles were eventually very different. So this article will have general comments on monitoring rather than direct judgements or comparisons.

The concept of monitoring is an admirable one and we should be encouraging anything that shows people care enough about helping other people to give up their time in a positive way but it also needs careful consideration. What do we want from a monitoring system? What sort of people do we want running it? Are we asking too much of people who are, after all, only ordinary breakers like the rest of us?

For all the good intentions of the monitoring groups, there are problems and difficulties that are common and crop up in apparently dissimilar teams. One recurrent problem is organization. It's basic to man's nature to impose order and, indeed, it's difficult to see how a monitoring group could operate effectively without some sort of structure. Unfortunately, in more than one case, the committee (either nationally or locally) has expanded faster than the group to become top heavy and the source of power struggles. This often leads to splinter groups and breaks up the unity of those left. With committees becoming larger and unwieldy, mem-



bers often feel left out and communication (which is really the name of the game) breaks down.

Another major problem is with resources. An effective, efficient monitoring system needs money to operate. Unless a group runs the same way as REACT and charges a membership fee or regular 'subscriptions' then it has to rely on the goodwill of its members in offering services like photocopying or digging into their own pockets to pay for essentials. Apart from financial considerations, the main deficiency is in manpower. To cover an area successfully takes a huge amount of monitors, especially if the aim is round-the-clock coverage.

Gaining the co-operation of local or national emergency services is also a stumbling block. Although many areas have been fortunate and have forged good relationships with the local police, etc., some forces and services have not been so sympathetic, making it difficult for teams in the area to offer a real service. This has been made worse by the bad public image CB has in some areas, which has made the authorities reluctant to co-operate.

Although all groups make creditable efforts at offering a service within their limitations, it is these limitations that are the cause for concern. The views of the West Hampstead Mafia were touched on in October's magazine and whilst many have complained about their methods, their opinions are certainly worth considering. It is a mistake to assume that the monitoring services offer an all-hour, all-area coverage, have the full co-operation of the emergency services and authorities and the 100% support of breakers. The West Hampstead Mafia maintain that it is irresponsible to encourage this view and that we are doing breakers a disservice rather than a service to do so. Whilst there is some sympathy with this view, it seems a shame to throw out the baby with the bath water and condemn the system out of hand. Far better to realistically assess the successes and failures and to work from that.

For monitoring to work effectively, there are a number of things that need to happen. Most important of these from a monitor's point of view is the legalization of channel 9 as an official emergency channel. Although it is unlikely this will stop those determined to interfere with channel 9, it might discourage some and will give monitors a base for official complaints.

Monitors hold the answer to many of the other problems themselves. They should ask themselves what sort of leadership they need. Usually people who lead have a certain personality - that's why they become leaders and organize the rest of us who are too lazy or disinclined. But monitoring group members need to think carefully about the motives of those in authority and if they are acting in the best interests of all breakers.

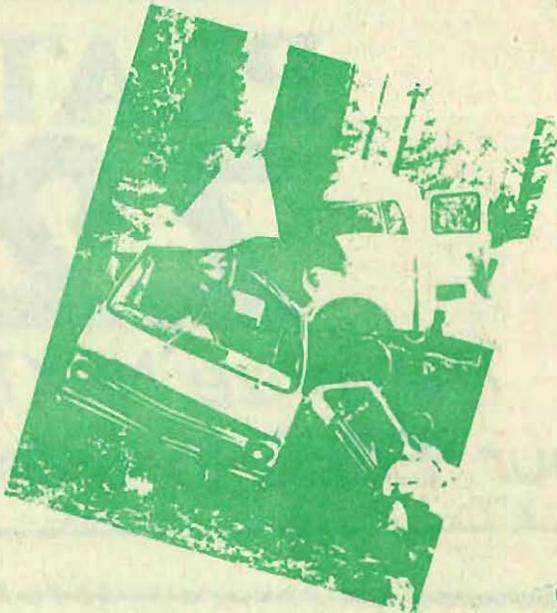
Being a monitor demands a firm commitment. It's not something to be taken on lightly, otherwise you let down the rest of the monitors and the

public image of the group. This group image is very important to gain public confidence. Breakers cannot trust a system that appears untrained, badly mannered or aggressive or not capable of offering the help needed.

To be honest, whether a channel 9 monitoring system can ultimately work effectively remains to be seen. Conditions in America, where most evidence on monitoring comes from, are very different to those in this country and legal CB is too new for it to have stabilized. Some breakers, particularly monitors, may think that some of the opinions and criticisms

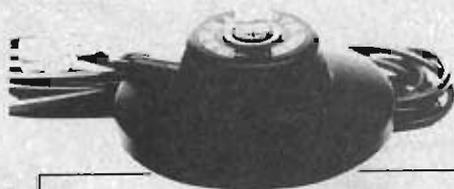
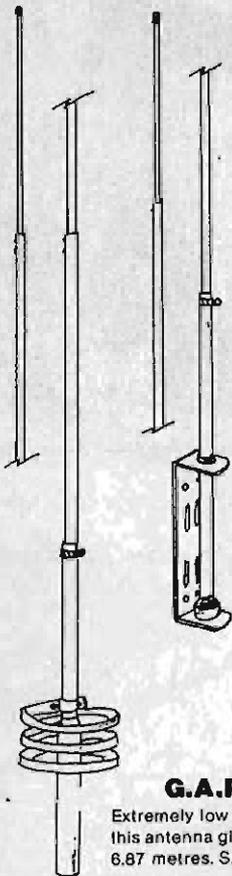
expressed are harsh but we must realize the limitations of the legal CB system that the Government has given us and human nature rather than to passively assume all is well. It may be that in the end monitoring works best for more minor incidents, like empty fuel tanks and motorist directions and that life-or-death situations are best left to the emergency services but it is only fair that the monitoring schemes are given a chance to find out where and how they are most needed. To deny them that opportunity does them and the ordinary breaker a great disservice.

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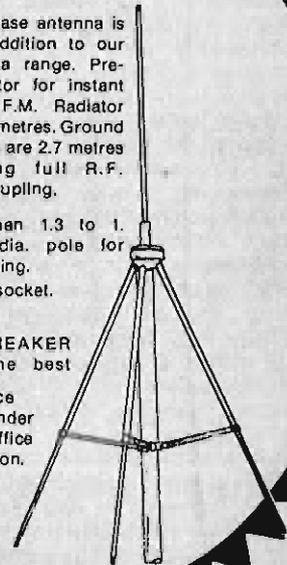
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DAY 1

Friday, 28 January. Depart Central London at 11.00hrs. by coach to Felixstowe, where you will join either "Tor Britannia" or "Tor Scandinavia" at 15.30hrs. Either boat can be aptly described as a floating hotel. Depart Felixstowe.

DAY 2

Arrive Gothenburg. When you dock in Gothenburg, a coach will take you on a sightseeing tour of this splendid city. Among the highlights

are Gotaplatsen Square, the Fish Market and Kungssportsavenyn, Gothenburg's main avenue. This tour is included in the price. After some time for sightseeing on your own, you'll be whisked back to the ship for another day on board your floating hotel while on your way back to Felixstowe.

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DX QSL

INTERNATIONAL

CLUB SPOT



KEEP HIM IN THE AIR

Due to the magic and mystery of the publishing world, I have to write this article approximately six weeks before it is published. This sometimes results in odd little bits of info being a wee bit out of date. For example, if I was to say "The DX is running very well at the moment, North America and the Caribbean being very predominant on the band," it would sound OK when I wrote it - but the middle of November? Well, it's anybody's guess. Anyway, I'm sure you'll all agree, September and October were two very good months for long distance skip propagation. Seeing as my trusty Colonel FR360 is back in service with me, I enjoyed myself immensely. It was either that or Coronation Crossroads from Downtown Dallas. No competition as far as I was concerned. A combination of this fresh-air activity plus a remarkably poor lack of DX/QSL news has left me with precious little to rabbit on about this month. I thought, therefore, that I would attempt to update my club reporting. Over the last few months, stacks of clubs have contacted me and every one will eventually get a mention, so here's my starter into the backlog.

Before I actually get into the meat of it all, here's something for you to think about. Do these phrases sound a wee bit familiar to you? "Peace and friendship", "Peace and understanding," "Friendship around the world," "Friendship via radio" and so on. Of course they do. These and many more similarly-worded phrases are constantly being used by DX/QSL groups as part of their group policy. In fact, it seems to me that this turn of phrase is more popular with UK groups than anywhere else in the world. The thought is nice but after hearing all the backstabbing that's going on these days, that's all they seem to be - thoughts! It saddens me to think that if even just a small percentage of UK DX/QSL clubs decided to put these words into actions, what a nicer place this world could be. To their everlasting credit, some DX'ers/QSL'ers actually practise what they preach but, I'm sorry to say, that in my opinion the greater majority of DX'ers/QSL'ers seem content just to bandy these phrases about and never give them a moment's thought. Well now, seeing as Christmas is just around the corner, it

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SCOTTISH DX CLUB

does seem a very appropriate time to rectify the situation and to put your money where your mouth is! Just take a look around the world and I think you'll agree that it is in a right old state. Oppression here, invasion there, martial law and goodness knows what else all over the place. Over the last few years, have you ever contacted a station, either by DX or

QSL'ing in one of the world's troubled zones? Let us, for arguments sake, say Poland. You have? Good! Then dig up the name and AD of your contact and get a Christmas card sent off and if you've a pound or so to spare, a small food package (instant coffee is a big favourite). If you, personally, have never ever had a contact into one of these sad places, why not check up on the rosters of clubs that you belong to and take your info from there?

DX'ing and QSL'ing are fine hobbies and, I think, unique due to the fact that

they allow you to spread genuine peace and friendship across barriers that politicians would not have you break. Do something positive, take action now. Believe me when I say that the little effort needed is more than rewarded by the sure knowledge that you're helping out innocent people and that you're giving their savage oppressors a kick up the backside on their behalf. Yes, radio can and should spread peace and friendship.

One last word of advice on this subject. When writing to a politically-oppressed contact, never actually put into writing words or phrases which could be construed as rebellious. Your contact will read between the lines and know what your thoughts are on the subject. The act of getting in touch itself is a powerful enough tool to give your contact hope for the future.

Wow, have I said that! OK, enough of the heroics, down to business.

As promised an issue or so ago, I am setting aside space especially in order to present my QSO of the Month Spot. In order to accommodate this, I have had to pinch space from my QSL swap spot but once the QSO spot gets really going, I don't think you'll mind too much. The honour of being my first QSO of the Month guest belongs to Echo India 797 - Alan. Alan handed me a very impressive list of log extracts. I've reprinted a few. Pretty good going. If you can beat them, let me know (plus a black and white photo, if you dare!).

Papa Bravo (yes, it's that club again) are really buzzing these days. Apart from producing the excellent collectors' series via Cooky's QSL's, the club news sheet also seems to be coming along by leaps and bounds. It seems to be a wee bit more ambitious than the normal club news sheet affair and at a subscription rate of £1 per 12 months, not too bad.

Something very interesting concerning Cooky QSL No. 15 is that this is a Sooper Snooper printing. As far as I am aware, this is the very first card printed up by Snooper from a UK-drawn master. A highly collectable card. Guess who it belongs to? You've got it - Ian (Sandman) Shrader. The cost of a Cooky QSL is a wee bit cheaper than last time I mentioned costs. The current price for printing only, of 1,000 cards on a high-quality board with reverse details as well, is only £22.00 plus postage of £2.00. Total cost, including artwork, is £32.00. These costs, of course, refer to Papa Bravo members only. For further details, just get in touch with Andy PB001 at PO Box 48, Preston.

As more and more CB'ers are turning to sideband operating, it is inevitable that the age of sidebanders gets younger and younger. The youngest operator I've come across so far is John Moriarty - IY 01, who runs a very neat station over there in the Republic of Ireland. Although John is only 14 years old, he's been active on the DX bands for around two years now. A couple of months ago, when the DX was running very short, the availability of UK/Ireland contacts was very good.

So much so, in fact, that many a legal FM breaker got the shock of his life when Irish stations experimenting on the FM band regularly popped up on the frequency. Back in August, John was scanning the bands and decided to give a shout on 27.655 USB. First station he contacted was 116 ww 32 - Miles, in Inverness. Realizing that conditions might allow a breakthrough into legal UK FM, John finished his QSO and flicked modes onto FM. A slight adjustment to the kc shift is all that is needed to bring multi-mode FM virtually in line with UK FM. Ready to give his experiment a whirl, John called out for a copy and was pleasantly surprised to get a breaker by the handle of Skate coming back to him. Like myself, John has no handle for AM or FM, so when he was asked for his handle, he came back with the first name he could think of - which in this case happened to be Windjammer. Unfortunately, the QSO began to break up rather soon, the propagation being badly affected by QRM and QSB, so John had no other option but to call it a day.

As far as I can tell (being radioless at the time) these conditions lasted for about 4/5 weeks. Very interesting, indeed. John is a very keen and enthusiastic DX'er but because of his youth is keenly aware of the age differences and resulting prejudices which exist on the frequencies. This is something which should not exist but, regrettably, it does. To try and remedy the situation, John has set up the International Youth Radio Club - IYRC. The club was founded with the hoped-for intention of being a common meeting place for DX'ers under 25 years old. It's quite a good idea and I wish it every success. Anyone interested in being part of IYRC should give John a shout on the IY call frequencies of 27.485 USB or 27.585 USB (Try for the ILC 42 or IY 01). Failing a contact, use good old fashioned pen and paper and drop a line to John Moriarty, Boher, Limerick, Republic of Ireland.

OK, seeing as we've got a bit of a Celtic feeling going at the moment, now's as good an opportunity as ever to pay a visit to Glasgow and see how the Scottish DX Club organizes itself. The SDX, of PO Box 19, Rutherglen, Glasgow G73 5PB, was founded a couple of years ago by an old and very good pal of mine - Danny Docherty. Not only was Danny the first CB'er I ever knew existing North of the Border, he was also the first Scottish DX'er I knew, too. I think it's true to say that Danny was running a DX station while 90% of the UK CB population's vocabulary was still restricted to "Iz tharra four, good buddy?" or "Gizanine, good buddy" and so on. As you can see, Danny is an operator from way back and can call upon a wealth of experience when it comes to organizing the SDX. By the way, Danny's station these days is a Midland 78.999 running 18 watts over 26.515-27.855 AM, USB and LSB. Antenna is a homebrew affair, all wire, aluminium tubes and nuts and bolts. However, don't get the impression that Danny is a one-man band. He is ably assisted by his chief



haggis basher and international administrator, Ian Hassan. A man of many talents!

Up till recently, the SDX was 100% a UK outfit, the international side of the club being a fairly new development due mainly to requests from foreign stations, especially stateside, asking for details as to how to join SDX.

The club package contains the usual things, certificate, club stamp, QSL cards and so on plus a very useful memo log pad. Although the invitation form shows a joining fee of £5.00, Danny informs me that, regrettably, the cost has had to rise to £6.00. Another point to note is that mail for the long-distance hauls of America, Australia, etc., now goes via surface mail. Mailing costs have increased so much lately that it is just an impossibility to absorb the air mail charge.

I'm happy enough with my SDX membership and can honestly say that every SDX member I've been in touch with is very content with his membership. Danny and Ian try very hard for the club, so I'll let them have the last say. They both pass on the Season's Greetings to all their members and thank them for their support over the last two years and send out a special Thank You to the 'Int. Members' for making the SDX club known and respected throughout the world. Nice one, fellas.

I'm really a little bit crammed by all this UK activity. Time now, I reckon, for some international news.

I've always looked upon DX'ing and QSL'ing as more than just a hobby. To me, it's a fine way to explore foreign parts and understand the cultures of

places I would never really have the opportunity to go to. This is possibly why I am drawn to QSL clubs and DX groups from (to my eyes) exotic parts. Examples of these sort of clubs are the Aloha Paradise of Hawaii and the Barong Bali of Indonesia. Another good club along these lines is the FANS worldwide DX/QSL group of PO Box 255, Taipo, New Territories, Hong Kong. Taipo, by the way, is in the suburban area north of the Kowloon peninsula, approximately seven miles south of the Chinese border.

The club first saw light of day as a collective unit back in October 1980, being founded by a group of Taipo DX'ers. At the time, FANS was and to the best of my knowledge still is the first internationally-known DX/QSL group to operate from a Hong Kong base. Founded to promote friendship all around the world, the group policy is responsible for the group's name, Friendship All National Sidebanders or, as Hay IF001, the group's first President, used to say, "Radio fans of 11 metres".

I say first President because, as is often the case, pressure of work eventually forced Hay into resigning his Presidency. Rather than see the group slowly collapse, IF 02 Joe (formerly Advisor) and IF 05 Andy were appointed by Hay to the positions of President and Vice-President respectively. One of the reasons why Joe and Andy were keen to keep the group going was their desire to promote Hong Kong; they being fully aware that, to a large percentage of the world's DX'ers, Hong Kong appears a strange and interesting place.

Joe runs a very nice station comprising of a Yaesu FT301D covering the full 26, 27 and 28MHz band. Antenna is a straightforward 1/4-wave GP. His back-up station is a Johnson Viking 4740 AM SSB modified to accommodate 26.525 through to

27.725. Power for the set-up is provided by a 100W linear.

As is usual with most DX groups, a standby frequency was allocated with the hoped-for intention of group contact. In FANS's case, two frequencies are used, 27.445 and 27.645 LSB.

At first glance, FANS may seem quite an expensive club, costing \$US16 for a full package. However, for this amount, quite a large and impressive package will be received. Included in the package, amongst other things, is an ID card, plastic-covered certificate, Hong Kong patch, rubber stamp, cards and a Chinese folding fan.

One of the reasons for a seemingly-high package charge is the exorbitant Hong Kong postal rates. All packages, by the way, are mailed first class air mail.

Such is the high cost of living in Hong Kong that Joe has reluctantly decided that he can no longer afford to swap full packages with other groups. The reasoning behind this is very sound and logical. Joe will no longer accept members who are not willing to support the club as it is most unfair to those members who have paid their fees and, therefore, contributed to FANS's upkeep. However, after saying all that, Joe is still more than willing to swap full membership with other groups. Joe will QSL 100% but does request, please, a couple of IRC's. In my opinion, not too high a price to pay in exchange for an unusual QSL swap location. Joe's AD for personal QSL's is PO Box 346, Taipo, NT, Hong Kong.

As I've already mentioned, Joe and Andy are very keen to promote their country and native culture. To illustrate the point, one of the items which is being added to the new FANS application form is chopsticks. Accompanying the chopsticks will be literature instructing members on the cor-

rect way in which to use them. Just the job for when you visit your local "Nice 'n' Easy Greasy Carry Out"! I ask myself, will an order of "Two No. 10's and an extra portion of fried lice" ever seem the same?

OK, swingers, once again that just about finished it off for another month. Cold winter nights are upon us once again, which more or less puts an end to my mobile station activities. QSL swapping will be my main interest for a few months now. I like QSL'ing very much but I've got to admit it's no real compensation for the DX bands. Oh, for those long, hot summer skip days again!

Till next month, take care, look after yourselves.

Best regards,
Charlie Hotel Unit 25.

Genuine 1.4.1 QSL swaps

Stuart John Lane 26 Bravo India 67 PO Box 55 Leeds W Yorks LS5 3ED (Please note that this is new AD for Britannia Int. Sidebanders)	Chris Stimpson (The Great Gonzo) 3 Beech Drive Hothfield Ashford Kent TN26 1DS (A lovely drawing of Gonzo on Chris's card)
Ken W2043 PO Box 47d New Malden Surrey KT5 3EU	David Wallbanks (Buzzard) 28 First Street Bradley Bungalows Leadgate Co. Durham (Dave is only 13 and just getting involved with QSL'ing. As with most people of his age, money is a problem. The lack of it, that is! Dave would really appreciate your help via a sae.)
Don Scott CB138 PO Box 417 Rockingham 6168 Western Australia (Don is the Australian rep. for United States of Texas QSL Club. He is very keen for UK QSL swaps and would really appreciate some UK mail)	



QSO OF THE MONTH

Extract from log book of Echo India 797

Radio: Colonel FR360 AM USB LSB
Mike: Original
Antenna: Hy-Gain Silver Rod
Power: CP 100 (100 watts PEP SSB)
25 September, 1982
St. Vincent, West Indies
Station Unit 77 Op. Hollis
1315 BST 27.385 USB
R3 S5 QRM and QSB

Tate, Georgia, USA
Station Unit 309 Op. Ken
1740 BST 27.375 USB
R3 S5 QRM and QSB

Plymouth, N. Carolina, USA
Station 12 Jolly Roger 01 Op. Charlie
1745 BST 27.480 LSB
R4 S5 QRM

Ponta del Garda, The Azores
Station CQY 3176 Op. Benjamin
1840 BST 27.335 USB
R3 S5

This particular QSO, with the CQY 3176, is notable in that it was achieved barefoot. No boots at all.



parliamentary review



A few months back in Parliamentary Review, we informed you of the setting up of a review body to investigate the needs of all parties using the radio spectrum. The Home Secretary, Mr. Whitelaw, required that the report be finished by June 1983 with an Interim report on VHF TV bands I and III by September 1982. For this purpose an independent review body was set up, chaired by Dr. J. H. H. Merriman, CB, OBE, FEng and assisted by Air Vice-Marshall A. Foden, CB, CBE and P. M. Vine, Esq., CBE, DL. The report was, therefore named the Independent Review of the Radio Spectrum.

The Interim Report

After a short delay caused by industrial action at HMSO, a copy of the Interim Report* arrived on my desk during the third week in September. After very careful consideration of over 40 detailed written statements of evidence and several in-depth sessions of oral evidence, the committee made the following recommendations:

- i) The maximum exploitation of alternative technologies wherever practical and major changes to current usage.
- ii) Bands I and III should be used to provide for both mobile services and support services for broadcasting.
- iii) Television broadcasting should be best served by the use of VHF, satellite and cable services.
- iv) The 405-line TV service should be closed by the end of 1984.
- v) A revised mobile radio frequency allocation plan should be considered by the end of 1983.
- vi) A revised broadcast ancillary services radio frequency allocation plan should be considered by the end of 1983.

Implications

Basically it can be concluded that the interim report has come down in favour of mobile radio services and broadcasting ancillary services, with priority given to the former. The main implication of this is that the broadcasting companies, who at present have a virtual free rein over bands I and III will have to consider more efficient use of the frequency band to accommodate their ancillary services (radio mikes, electronic news gathering and production communications), as well as an increased number of mobile service allocations. The close down of the 405-line TV system still in service in areas where UHF signals cannot be received will have to

be brought forward by two years. Improvements and extensions to the UHF network should, therefore, be speeded up to accommodate for the withdrawal of this service.

European considerations

The allocation of radio frequencies in Britain is determined by many factors. One such factor is that of European compliance. TV bands I and III are used to transmit television services in all European countries, therefore, successful international co-operation is necessary if interference is to be minimized. Due to Britain's geographical location, our prime considerations must be with France and Ireland. In France, the authorities are closing down their obsolete 819-line TV system to make way for a mixture of mobile services and a new television system. In Ireland, on the other hand, a substantial expansion of VHF TV is being implemented. Use of bands I and III should be, therefore,

regulated to prevent interference to either of these services.

Other factors for consideration included the future use of satellite and cable TV systems.

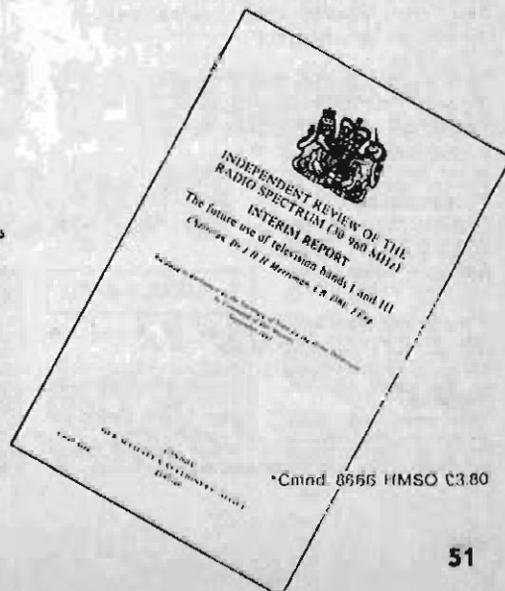
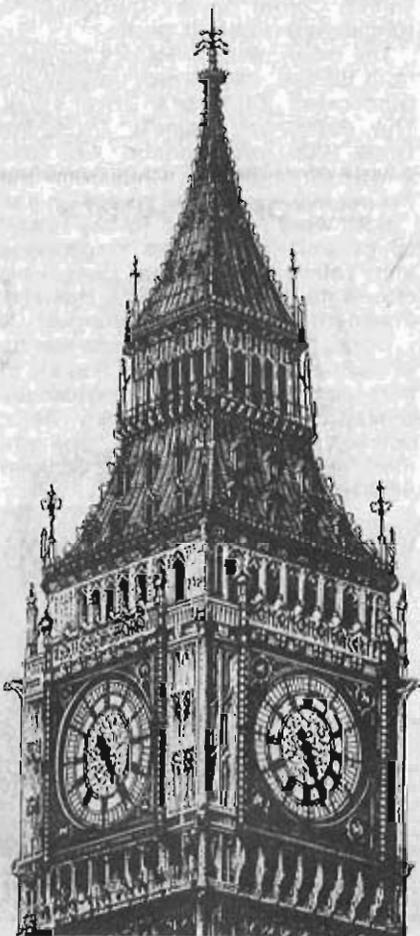
The benefits of land mobile radio

A large percentage of the evidence submitted to the review body emphasized the benefits of land mobile radio services. The electronics engineering industry, for example, is one of Britain's growth industries with an annual turnover in excess of £100 million and which employs 4,000 people. A recent report commissioned by the Electronics Engineering Association, entitled "Mobile Radio - The Case For Urgent Action", concluded that the industry would be able and willing to meet the increase in demand for equipment which could result from the release of bands I and III, a view that is endorsed by the Department of Industry and the Home Office.

Apart from this growth of the electronics industry, an increase in the spectrum available for mobile radio would serve to facilitate the economic use of resources by saving fuel, man hours and vehicle mileage and by improving the efficiency of the services given.

The lack of spectrum allocated to mobile radio has resulted in several technical developments which have greatly improved the efficiency of the service. It is the recommendation of the Mobile Radio Users Association, therefore, that other users of the spectrum be forced to employ such measures.

A decision based on the recommendations of this committee will be made by the Home Secretary later this year.



NEWS REVIEW

This month, CB-related press coverage has been predominated by two main aspects, both of which are complimentary to the CB cause. These two categories are rescue attempts and charity events, both of which have been attracting good publicity from the far-too-often shortsighted journalists determined to portray breakers as brainless morons with the sole intention of disturbing the peaceful television viewing of as many members of the public as possible.

There is still some bad publicity about, mainly concerning TV interference and prosecution for unlicensed use of radio equipment but it is greatly overshadowed by good publicity gained by many of the CB clubs.

Daily Mirror

CB hunters trace tragic boy

A mother was guided to the scene of her four-year-old son's death by CB radio friends.

Marilyn Hunt, whose handle is Supermum, sent out an appeal for help on a CB emergency channel after her son, Stephen, disappeared. The message came back that he was last seen at a 150ft-deep lake, 300yds. away from his home at Watermead, Bedford, Middlesex.

Mrs. Hunt was waiting weeping beside the gravel pit when police frogmen arrived to recover the body. Stephen vanished the day before whilst out playing with his brother, Jason, and his friend, David. Police searched two other gravel pits and beside a main railway line before the breakers discovered that David had seen his friend fall in.

Norman Ravan, who led the search operation by 150 CB'ers, said, "Apparently Stephen fell in trying to catch a duck and his playmate didn't speak up for hours afterwards".

CB hunters trace tragic boy

A MOTHER was guided to the scene of her four-year-old son's death by CB radio friends.

Marilyn Hunt—call sign Supermum—sent out an appeal for help on a CB emergency channel after her son Stephen disappeared.

The message came back that Stephen was last seen at a 150 ft deep lake 300 yards from his home at Watermead, Bedford, Middlesex.

Yesterday Mrs. Hunt, 36, was waiting weeping beside the disused gravel pit when police frogmen

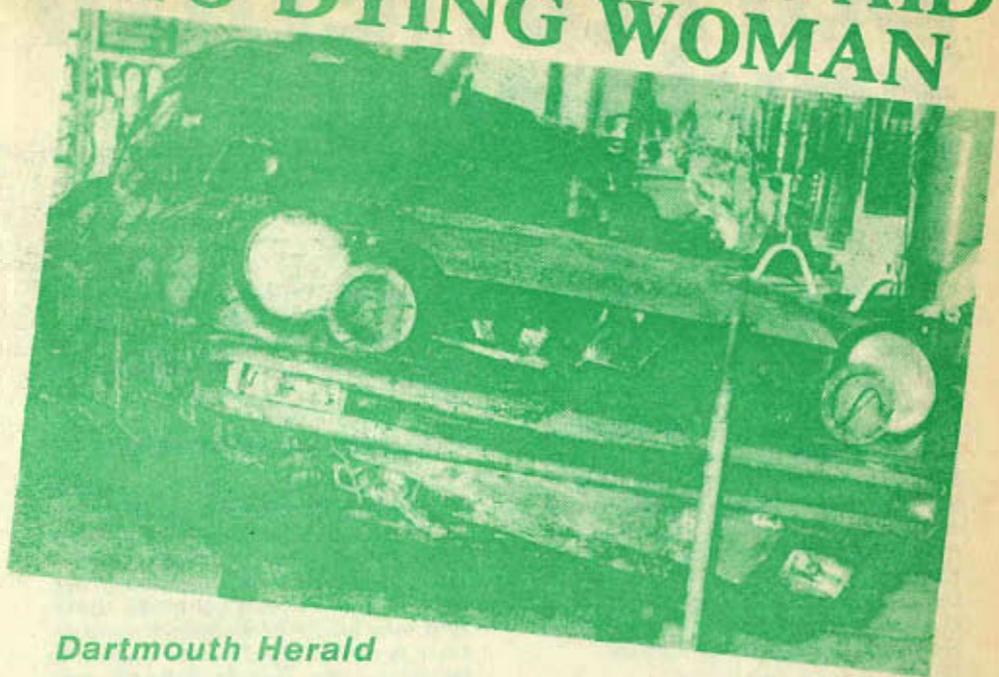
By ALASTAIR CAMPBELL

arrived to recover the body.

Stephen vanished on Thursday afternoon while playing with his brother Jason, 6, and three-year-old David Trott.

Police searched nearby common land and two

BREAKER GIVES AID TO DYING WOMAN



Dartmouth Herald

Breaker gives aid to dying woman

A CB radio enthusiast was first to radio an emergency message for help after a horror crash near Strete, which killed a young woman and seriously injured a man.

David Burley, 27, from South Hams Breakers Club, put out the emergency call on his CB after he found a Porsche Turbo overturned at Landscombe Corner on the Dartmouth to Kingsbridge Road at Strete.

The driver, William Patrick Baldwin, from Elstree, was thrown through the windscreen of the car and over a wall. The passenger, Pamela Josephine Orme (20), from London, was also thrown through the windscreen but the car overturned and landed on her.

Both were rushed to Torbay Hospital by ambulances from Kingsbridge and Totnes. The woman was later moved to Freedom Fields Hospital, Plymouth but was dead on arrival.

David, from Torcross, whose handle is Daytripper, administered first aid to both victims before the ambulances arrived. "I have done two basic courses in first aid," he said, "one with the Scouts and one with the St. John Ambulance."

other gravel pits beside a main railway line before CB enthusiasts discovered that David had seen his friend fall in.

Norman Ravan, who led the search operation by 150 CB users, said: "Apparently Stephen fell in trying to catch a duck.

"His playmate didn't speak up until hours afterwards."



DROWNED: Stephen

Liverpool Daily Post

CB link to save hill walker

An emergency call by CB radio launched a major rescue operation for a hill walker in distress in Snowdonia last month.

Breakers provided a remarkable link up as rescuers tried to save a man on the 2,800ft. Nnicht Mountain near Beddgelert but when Mr. Geoffrey David Sowden (50) was eventually brought down the mountain, he was found to be dead.

An RAF helicopter joined the rescue but was prevented from reaching the scene by bad weather. Mr. Sowden's distress call was picked up by a breaker from nearby Croesor, who realised that he was losing consciousness. Another breaker had also heard this call and summoned the police.

The two breakers managed to obtain the walker's exact position and one of them set-off towards him whilst the other was able to issue medical instructions from a local doctor at Porthmadog. Members of the Moelwyn Rescue Team eventually reached Mr. Sowden and brought him down the mountain.

A police spokesman said that they were extremely grateful for the assistance given by the two CB'ers, who between them were able to provide a radio link enabling both the police and the doctor to keep in touch with the spot where Mr. Sowden had been found.

Northern Echo

Karen nearly lands back in hospital

Bed-push 'patient' Karen Hutchinson nearly landed in hospital for the second time in as many weeks when a

sponsored event narrowly missed tragedy.

The 20-year-old publican's daughter was laid up with a fractured pelvis after a car crash six weeks ago and volunteered to be the patient in a sponsored bed push by the local CB club.

The charity push, which was to raise money for a family who lost £3,000 worth of furniture and clothing in a fire, nearly ended in disaster when a Saturday-afternoon driver screamed through Spennymoor town centre and virtually knocked the pushers down.

"If we had been on the road instead of on the pavement, we would have really got it," said Karen. "I certainly didn't want to be back in an ambulance again." John McGuinness, one of the organizers, said, "It was nearly a disaster. Some of us had to go to the police station to make statements. The car came through the main street on two wheels."

A spokesman for the police said that the matter is being investigated.

Karen nearly lands back in hospital

BED-PUSH "patient" Karen Hutchinson nearly landed in hospital for a second time within weeks, when a sponsored event narrowly missed tragedy.

The 20-year-old Spennymoor publican's daughter was laid up with a fractured pelvis after a car crash six weeks ago and volunteered to be the patient in the sponsored bed push by the local CB club at the weekend.

But the charity push, to raise money for George Foster and his family - who lost £3,000 worth of furniture and clothing when fire damaged their Bessemer Park flat, nearly put Karen in hospital for a second time.

A Saturday afternoon driver who screamed through Spennymoor town centre virtually knocked the pushers down.

"It was nearly another smash. If we'd been on the road and not the pavement



Patient, Karen holds Amanda and Nicola Foster, surrounded by bed-pushers

"I would really have got it. I certainly didn't want to be back in an ambulance again," said Karen, whose father runs the Voltigeur pub in Spennymoor.

One of the organisers, John McGuinness, from Bessemer Park, said: "It

was nearly a disaster. Some of us had to go to the police station to make statements. The car came through the main street on two wheels."

A spokesman for Spennymoor police said allegations had been made about a

driver before the bed pushers became involved. "The matter is being investigated," he said.

Eastern Daily Press CB users walk for St. John

Breakers in the Fakenham area swapped their car tyres for shoe leather when members of the Omaha and District Breakers Club took part in a sponsored walk from Wells to Fakenham in aid of the local St. John Ambulance.

One 10-year-old, Nicky Gordon, completed the full course and will collect £30 from sponsors. Fakenham St. John members with their new ambulance were on hand to offer first aid and to display the ambulance which was to be equipped by the money raised.

The Journal Rescuers rap CB fell walkers

Mountain rescuers criticized the 'stupidity' of a group of local CB radio enthusiasts whose inexperience led to a time-and-money-wasting land and air search. Twenty-five of them set off to walk 40 miles of arduous fell country in the Lake District. Only hours later, more than 30 search and rescue team members were searching the area for many who were reported missing.

They kept turning up in dribs and drabs all over the place," said rescue team leader Stewart Hulise.

A Sea King helicopter from RAF Boulmer was called in to airlift a doctor up to four teenage girls and a 22-year-old man who were found huddled together suffering from exposure.

The breakers were members of the Liverpool-based Orient District Breakers Club and, luckily, all of them were able to return home to Liverpool alive.

This is by far the worst case of stupidity, lack of planning and downright carelessness that I have come across in 16 years as a mountain rescuer," said Mr. Hulise. "Members of the group were inadequately dressed in such things as wellington boots and

Birmingham Evening Mail Hunt is on to end CB pirate menace

More and more people in the Birmingham area are suffering interference on their television sets from CB pirates but they face a long wait to get anything done about it, we are told by the Birmingham Evening Mail. British Telecom has confirmed that there is now a 10-month waiting list to investigate a total number of 1,500 complaints in the Birmingham area.

The problem has been spotlighted by a report called for by city councillors who are concerned at the prob-

lem of aerials mushrooming on council estates and at delays in dealing with CB complaints.

The city's housing committee is being told that people suffering interference on TV can fill in a form available at the Post Office but the report says there is likely to be a 12-month delay before all the complaints are dealt with.

One housing officer is recommending an approach through the Association of Metropolitan Authorities to find out how other towns and cities have been affected.

A BT official said that tracking down CB operators is time consuming and could take many hours. Priority was often given to complaints of interference to emergency services.

'Stupidity' of 40-mile trek group

Rescuers rap CB fell walkers

MOUNTAIN rescuers yesterday criticised the "stupidity" of a group of fell-walking CB radio enthusiasts whose inexperience led to a time and money-wasting land and air search.

Twenty-five of them set off on Saturday morning to walk 40 miles of arduous fell country in the Lake District.

Only hours later more than 30 search and rescue team members were searching the area for many who were reported missing.

"They kept turning up in dribs and drabs all over the place. Four were found sitting in the Wasdale Hotel, while another four walked into Keswick," Langdale and Ambleside Mountain Rescue Team leader Stewart Hulise said.

pointed shoes.

"They had no warm clothing, no experience of fell walking, very little food and water, their only radio didn't work and they couldn't read a map or

A Sea King helicopter from Northumberland. RAF Boulmer was called in to airlift a doctor up to four teenage girls and a 22-year-old man who were found huddled together suffering from exposure yesterday morning.

They were the last of the 25 Liverpool-based Orient District Breakers Club members to be found.

The five were winched up and flown to Ambleside for treatment at the rescue headquarters.

"This was by far the worst case of stupidity, lack of planning, and downright carelessness that I have come across in 18 years as a mountain rescuer," Mr. Hulise said.

"Members of the group were inadequately dressed in such things as Wellington boots and modern pointed-toed shoes. They had little or no warm clothing, no experience of fell

walking, very little food and drink, their only radio didn't work, and they couldn't read a map or compass.

"Yet they had set out to walk some of the roughest territory in the Lakes between Wasdale and Langdale.

"It was just about a suicide mission rather than the endurance test it was meant to be."

"If the weather had been worse than it was, and if we hadn't been able to track down the last five of the team, we could have had deaths on our hands."

"The group's negligence cost many rescuers a lot of time and it costs a lot of money to fly a helicopter from Northumberland to the Lakes and back."

The five walkers airlifted to safety by the Boulmer crew were: Denise McCarthy, aged 15, her 17-year-old sister, Susan, Tracy Baxter, aged 17, Michelle Courtney, aged 18, and 22-year-

old Christopher Burns, all of Liverpool.

They had spent the night without shelter or warm clothing and were eventually found by David Riley and his dog from the Search and Rescue Dog Association at Cockley Pike in Upper Eskdale.

"They were all bitterly cold and feeling very sorry for themselves."

"We called out the helicopter because they were in no fit state to be moved from the remote place they were found," Mr. Hulise said.

The Boulmer crew picked up Dr. David Ernschaw from Ambleside and dropped him beside the walkers.

After treating them with anti-hypothermia equipment, they were all winched aboard the helicopter and taken to Ambleside for the final warming-up treatment.

compass. Yet they set out to walk some of the roughest territory in the country," he added. "It was more of a suicide mission than an endurance test."

Communications— an alternative view

The history of communications

Ever since man's early days, he has felt a strong desire to communicate with other men. Although they were not able to benefit from today's high technology, the inventive human brain was able to find a solution to this problem. In fact, by lighting fires and blowing into shells, these primitive beings were sowing the seeds of our modern communication systems.

Unfortunately, though, progress was slow. Hundreds of years of Egyptian messengers, Viking hornblowers, Roman trumpeters, African drummers and bugling armies were yet to pass before the wireless, telephone or television were invented. Even the inventors, Marconi, Alexander Graham Bell and Logie Baird, though, would be amazed at the refinements we have made since their early prototypes.

The wireless set no longer needs to be a large piece of electronic machinery made from crystals and valves. Instead the modern radio transceiver is a compact device made with transistors and silicon chips. The modern radio spectrum covers frequencies from 100kHz to 20GHz and allows speech patterns to be transmitted in AM, FM, single sideband and double sideband over distances far beyond Marconi's expectations. The world telephone network can put a subscriber in touch with the rest of the world within minutes, whether he is on land, sea or in the air. Computers can communicate with each other via the same telephone network or via the fast-expanding fibre optic network.

Television and radio stations can broadcast their programmes to the whole world via satellite, bleeper systems are available to remind users of urgent appointments or to relay urgent messages and members of the public can speak to each other over short distances by using their CB radios.

Hindered by the Home Office

Despite the high level of communications technology available, further progress of Britain's communications network is hindered by an inadequate administrative body. The Home Office Radio Regulatory Department has been far too slow at recognizing the needs of the consumer. In Britain, only 8% of the primary band (30MHz-1GHz) is occupied by private mobile radio, 6% by civilian users and 2% by emergency services. The remainder of the primary band is occupied by

broadcasting (46%) and military services (26%). It was only after a report by the Mobile Radio Users Association that the Home Office was forced to take action. Thirty megahertz in the 854-960MHz band has been already allocated to two competing mobile radio networks and further allocations are expected to be made once the Independent Review of the Radio Spectrum is completed in June next year. Meanwhile, though, remote telephones have been allocated a temporary frequency band of 47.450MHz-47.550MHz paired with frequencies 1632kHz and 1792kHz.

Deliberately out of line

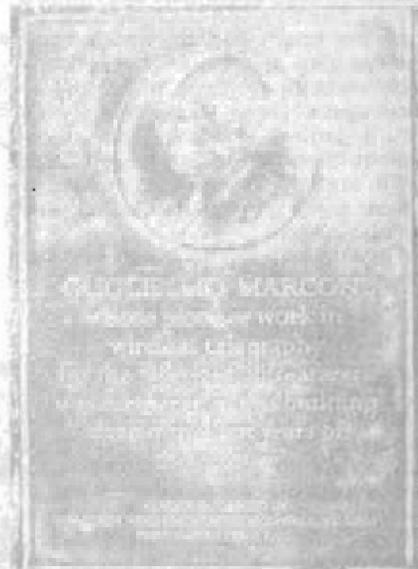
In order to prevent the market being flooded with Far Eastern remote phones manufactured to the American 49MHz standard, the British allocation has been deliberately put out of line. The intention being to prevent the phones from being able to use the wrong telephone, at the expense of someone else.

This new measure was announced by the Department of Industry on 7 August, requiring new models to be submitted by 31 October. This tight schedule is bad enough without a further problem caused by the lack of communication between the Home Office, the Department of Industry and British Telecom. The three bodies seem to be having difficulties in arranging the approval procedure which at present (6 October) has not been announced.

The range of new approved remote telephones will be limited to about 200 metres and connection to the network must be via the equally-as-new BT phone sockets. The very fact that this type of equipment has become available is due to the liberalization of the BT monopoly, a move which will result in an open telephone market allowing both business and domestic users of the system to buy accessories from private companies without having to rent or pay uncompetitive prices. Such accessories are likely to include answering machines, decorative phones, memory dialers and a host of other electronic goodies.

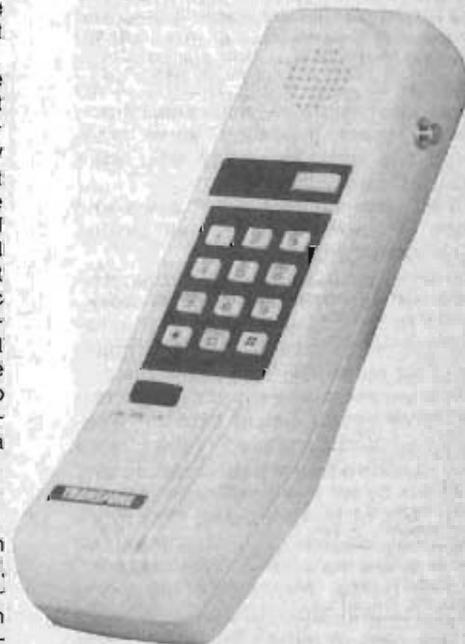
Not soon enough

Illegal remote phones have been on sale in Britain for over two years and, like many other unlicensable transceivers, there has, up until now, been no law prohibiting their sale, importa-



tion or advertising.

With the new Telecom Bill, which the Conservatives have planned if they get re-elected, this will all change. It will be illegal to import, sell or advertise any radio equipment not licensable under the 1949 Wireless Telegraphy Act or excluded from that Act (i.e., remote phones which will not require a licence). What happens to all the remote phones sold, perfectly legally, over the past two years? Is this not a classic case of locking the stable door after the horse has bolted?



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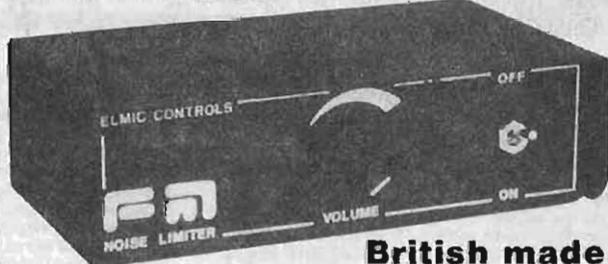
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