AN ARGUS SPECIALIST PUBLICATION

OCTOBER 1986 £1·25

CB Citizens' Band

THE ACTION MAN'S CB

Micman 2-channel reviewed

POWER TO THE PEOPLE

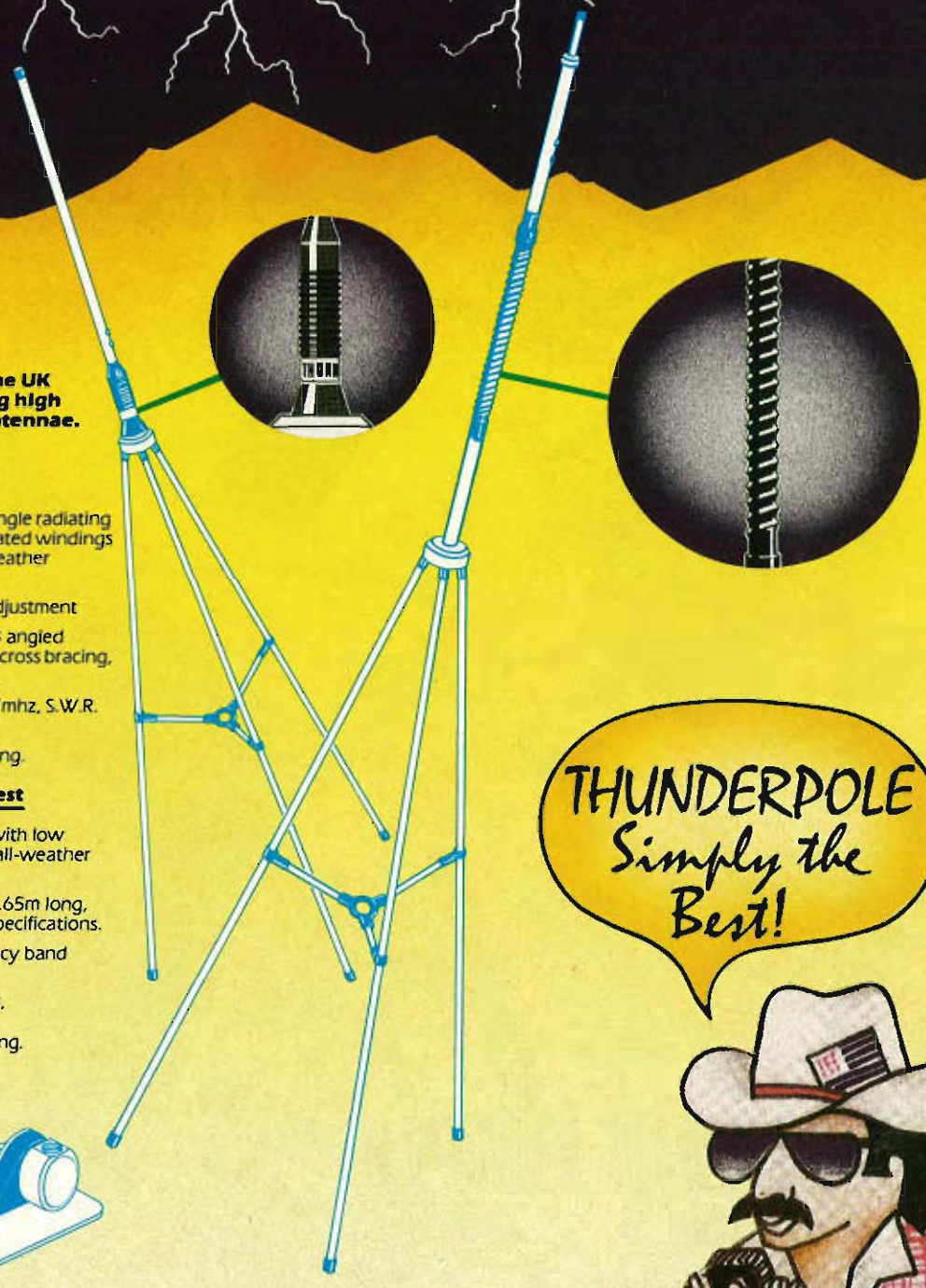
PSUs in depth

A UNITED EUROPE?

Pros and cons of the FCC band

FOR BRITAIN'S 250,000 CB USERS

THUNDERPOLE II & III



Thunderpole Mk II & Mk III from the UK Market leader of the fastest selling high performance legal base station antennae.

The ever popular Mk II

- Base loaded ribbed coil design on a single radiating element 1.5m long. Doubly encapsulated windings for maximum performance and all weather protection.
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- Power handling 500w, frequency 27mhz, S.W.R. 1:1.5 or less.
- Base for 1 ¼" diameter. Pole mounting.

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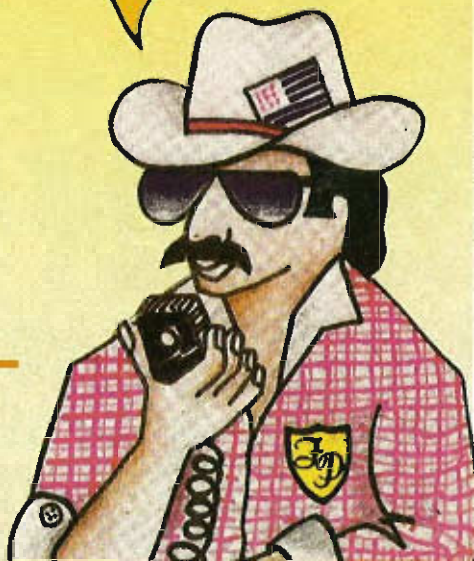

THUNDERPOLE ANTENNA U.K. LTD., a subsidiary of Freeman & Pardoe Ltd., Tything Road, Arden Forest Industrial Estate, ALCESTER, Warks. B49 6ES. Phone: Alcester (0789) 762673.

Ask for Thunderpole at your local stockist

CB Citizens' Band

ISSN 0263-0613

Inside this month

Amongst other goodies, Trevor Butler looks at a few mikes from Pama

Editor ..... Eamonn Percival
Group Editor ... Chris Adam Smith
Ad Manager .... Dave Gaddesden
Copy Control ..... Eileen Wheeler
Designer ..... Footprint

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Prices quoted are those prevailing at press dates and are subject to alteration due to economic conditions. You are advised to telephone prior to ordering or sending money.

TELECOMMS

AMATEUR RADIO PRODUCTS

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2 MTR FM h/held transceivar a superbly sensitive new handheld covering the full 2 MTR ham bank

- Repeater shift
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NEW

£199

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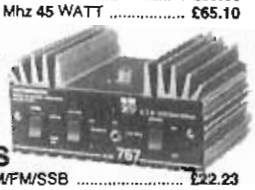
CTE B42 144 Mhz 40 WATT	£59.68
ZETAGI LA0545 144 Mhz 45 WATT	£65.10

£43 Mod. 767



MOBILE HF LINEARS

ZETAGI B35 25W AM/FM/SSB	£22.23
ZETAGI B150 100W AM/FM/SSB	£47.87
ZETAGI B300 200W AM/FM/SSB	£108.42
CTE MOD 737 80W AM/FM/SSB	£37.69
CTE MOD 767 150W AM/FM/SSB	£43
CTE MOD 757 300W AM/FM/SSB	£99.98
CTE Super Jaguar 260W AM/FM/SSB	£75
NEVADA TC35 30W AM/FM/SSB	£23.75

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ZETAGI B132 250W	£99.12
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ACCESSORIES

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ZETAGI 12105 - 12 AMP SUPPLY	£89.70
ZETAGI 1210/1 - 10 AMP SUPPLY	£68.83
ZETAGI 1220/1 - 25 AMP SUPPLY	£107.73
ZETAGI 1220/5 - 25 AMP W/METERS	£123.92
ZETAGI 12405 - 40 AMP W/METERS	£199.95

IMPORTANT All HF and VHF linears are intended for use by licenced radio ameteure on approved bands only, they are not legal for use on CB in the UK.

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From our music division an electronic high quality echo unit with full repeat, delay and balance controls. Supplied ready wired for the rig of your choice.

£79 (incl. p&p)

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SADELTA EC980 Echo Unit

You can now have the famous Sadelta Hi-quality echo sound on any mic of your choice.

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Unique cross pointer high accuracy meter. Reads power from 1 to 1000 watts

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For the enthusiast who wants the 'very best'. A twin meter accurate unit with push button control.

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- Power up to 2kw
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A combined metcher, SWR & power-meter, antenna switch rated up to 1000 watts.

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ANTENNAS

BASE ANTENNAS

Modulator Super Saturn	£29.75
Modulator Saturn	£22.37
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Nevada TC 52 De-luxe ½ Wave	£29.75
Nevada TC 58 De-luxe ⅝ Wave	£27.82
C.T.E. Skylab UK (Legal)	£24.00
C.T.E. Skylab ¼ Wave	£24.00
C.T.E. Future ⅝ Wave 3.5 dB	£29.75
C.T.E. Mercury ½ Wave 3.0 dB	£27.82
C.T.E. Spacelab ⅝ Wave 5.3 dB	£38.87
C.T.E. Sallut 27 ¾ Wave 6.5 dB	£49.72
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Thunderpole III (Legal)	£25.95

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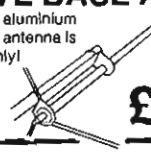
Made from high grade aluminium and C/W radials. This antenna is for the perfectionist only!
Power:- 1000 watts
Gain:- 3.6 dB
Wind R. 100 km/Hr.



£29.75

BALCONY OR LOFT ANTS.

C.T.E Gp 127 Loft Ant.	£15.96
C.T.E. Mini Boomerang	£15.96
C.T.E. Boomerang (¼ Wave Balcony)	£15.96
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Modulator Saturn (36" Long)	£22.37

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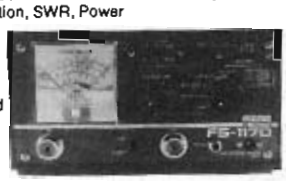
Allow £4 post/packing on all antennas listed

AM/FM CB TEST UNIT MODEL FS 117D

A must for any rig doctor or serious enthusiast. Measures:- Deviation, Modulation, SWR, Power

- Internal dummy load
- Monitor facility
- C/W monitor cable/patch lead



£66 (Incl. p&p)

SSE EXTENSION 'S' meter

A clear accurate signal/power meter which may be used on any make of 27 Mhz transceiver (with wiring diegram).
*Designed to plug directly into the Cybernet Dalta 1 934 Mhz transceiver.

£19.95

CTE FD 1350 1.3 GHz Freq. Counter

For the technically minded this counter is ideal for both 27Mhz and 934 Mhz use.

£129
HIGH RESOLUTION
12 VOLT OPERATION

934 Mhz Enthusiasts Look!

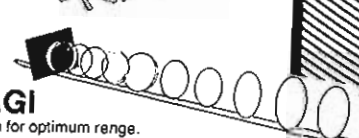
Low cost 12 element beam NEW THE VICEROY YAGI BY MARKSMAN

Wide beamwidth for difficult locations.

£29.95 plus £2 p&p.

NEVADA TC12L LOOP YAGI

With super high gain for optimum renge.



NOW ONLY £39 plus £5 p&p.
See our 934 Mhz Ads elsewhere in the magazine.

NEW 934 MHz PRODUCTS

NPR 900 934 MHz H/held Transceiver

6 Watts o/p. Scan, Memory.

£459 JUST ARRIVED

FZ214 Remote Adaptor	£21.99
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WD3 Mobile 12 Volt Charger and Mobile Adaptor for H/held	£48.24

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A new renge of semi flexible Japanese ultra low loss cable.

5D-FB 6.1mm 2.25 dB/10 Mtrs	£0.71 P/Mtr
8D-FB 11.6mm 1.6 dB/10 Mtrs	£1.68 P/Mtr
10D-FB 13.7mm 1.17 dB/10 Mtrs	£2.29 P/Mtr

ACCESSORIES

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WELZ CH-20N 2 Wey 'N' Switch (1.5GHz)	£46.16
WELZ SP-930 Remote 934 MHz SWR	£57.32
20 Watt 934 MHz 12V Amplifier	£146.42
40 Watt 934 MHz 12V Amplifier	£336.60

PLEASE NOTE. Amplifiers are sold for customers with high feeder losses and must not be used to radiate more than the legal 26W. ERP.

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Sadelta LM20 Throat Microphone	£19.50
Zenith ZX4 Remote Mobile Microphone	£22.75
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Cybernet Service Manual	£6.00
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CB De-Luxe Log Book	£3.95
CB Log Book	99p
CB Jergon Book	99p
Practical CB Troublshooting	£2.50
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CB Radio Service Manuel	£3.95
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H404 BASE STATION

The H4O4 is an economical unit offering many additional features and a good quality receive/transmit section limited number only.

£85
(Incl. delivery)

K40 THE NEW STAINLESS STEEL ANTENNA

Best selling CB Antenna in the world **NOW** back in the U.K. **£34.20** (plus £4 p&p)

K40 Super Meg. Mount .... £14.66 (plus £2 p&p)

PLUS All the spares to keep your K40 going Send for details

K40 Caps (To Wear!)	£3.50
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An exciting new set from Radiotechnic featuring a new squelch design that combines both noise level and carriar level control; extremely low cross modulation; superior sensitivity; improved mixer and filter design a set we can thoroughly recommend.

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2 Channel portable 27 Mhz radio. Incl. Headset/Mic with Selcall fitting optional. Ideal for outdoor sports enthusiast. Send for details

£79 NEW

NEVADA HIGH QUALITY BRITISH MADE 27 Mhz PRODUCTS

NEVADA TC27 RXM
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This is an extremely low noise amp with over 20dB's of gain - designed to boost reception on even the best rigs!

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A base station pre-amp with adjustable gain from - 6dB'a to + 18dB'a. Enabling peak reception from both weak and strong stations.

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At last a matcher that really works and handles up to 100 watts.

£10.95

TC2
2 Way Antenna Switch

A robust unit with unique double screening and low insert loss handling up to 200W.

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NEVADA PLP 1
Low Pass TVI Filter

Ensure your rig has 'clean' output by the use of this TVI filter in the rig ant. Lead.

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KAISER CBX 40
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A 40 chennal high spec. hand held. This is the Rolls Royce of hand helds with crystal filters fitted as standard, rugged conetruction and uses a rubber duck type antenna

● High/low power ● Channel 9 selector

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A 4 watt handheld complete with carrying case, magnetic ant., car power lead. Will run from your car or as a portable on its internal batteries.

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MICROPHONES

SADELTA "BRAVO PLUS"

Definately the last word in base power microphones. This new microphone incorporates a unique processing circuit to give 'crisp' and 'punchy' audio that will cut through the hash and make your signal stand out in the crowd! *Switcheable Roger Beep.

£39.95

SADELTA ECHO MASTER PLUS

An exciting new base microphone from Sadelta offering many new features. Together with that mellow but powerful echo Sadelta are famous for, they now offer a dual tone Roger Beep, adjustable reverb and echo, improved switching and internal 9 volt battery supply. A microphone which is guaranteed to make your rig sound like a million dollars.

£56.50
NEW LOW PRICE

NEW SADELTA MB30 PLUS
Power Base Microphone

A new microphone with all the electronic features of the "Bravo Plus" but without the meter and slide control.

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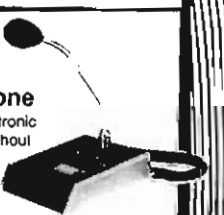

SADELTA SUPER PUNCH BOX

Using a unique parametric tone amplifier it is possible to obtain peak performance and added 'punch' from any microphone. NEW

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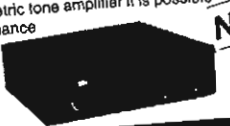
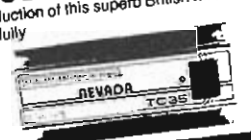


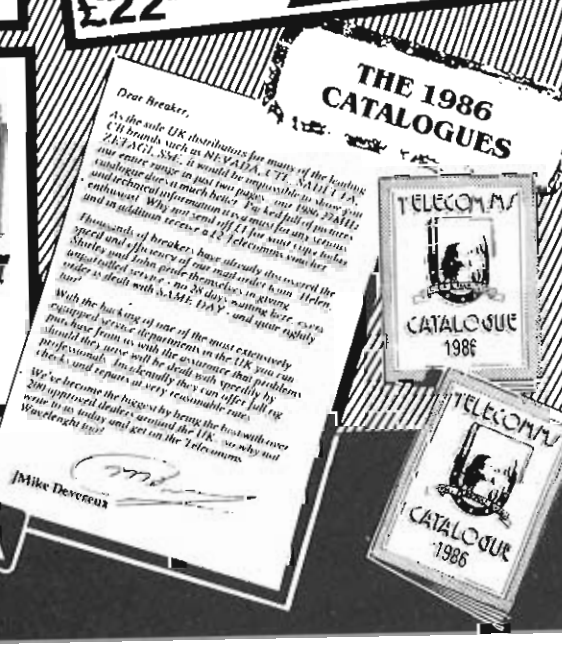
NEVADA TC35 25W AMPLIFIER

We at last have a new production of this superb British made 25 watts mobile amplifier, fully protected against polarity inversion, fused and with on/off switch.

£22.24



THE 1986 CATALOGUES



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USE YOUR CREDIT CARD FOR IMMEDIATE DESPATCH

UPDATE

NEWS FROM THE WORLD OF CB

NEWS FROM THE WORLD OF CB

NEWS FROM THE WORLD

Editorial

Wanna see your name and face in print? Well, check out the pages of this magazine and you'll find a page with the headline "Calling All Clubs". We are trying to give more and more coverage to CB clubs and individuals each month and we are inviting you, the readers, to send in pictures and information about *your* clubs, organisations etc. It doesn't cost anything so it's free publicity for all concerned so let's see what we can do to increase the burden of your average West End postman!

Elsewhere in this issue, you'll also find a review of the Micman handheld. It's a "CB for the action man" as you will no doubt see from the article, but it's also the kind of unit that many readers have been asking about recently. There seems to be a resurgence of interests in the handheld market these days so keep an eye out for the forthcoming feature on this subject.

Most breakers I know begins with an interest in citizens' band radio and then develop an interest in other forms of communication. To this end, we occasionally publish articles which aren't strictly about CB radio but which, we feel, readers are interested in. Hence, Paul Coxwell gives us the lowdown on how signals are transmitted and received and David Lazell looks at one of the origins of CB radio — police radio, or the "Batphone" as it is commonly referred to by our friends in blue.

Finally, for those of you who are in the habit of throwing your magazine away after you've read it each month — don't! In the December issue we will be carrying a Readers' Survey in which you are invited to fill in a form and let us know what you like and what you *don't* like about the magazine. Please take the time to send us your comments — it's all about pleasing you, the reader!

Eamonn Percival

Contact!

You are all familiar with our Free Readers' Ads section, which we carry regularly. Well, we would like to expand this into a section called "Contact", and invite you to send in messages of all kinds to friends or other readers — note: bucketmouths need not apply!

To buy something, sell something, thank someone for their QSL or even propose marriage to your girlfriend, just send the details to: Contact, Citizens' Band, Argus Specialist Publications, 1 Golden Square, London W1R 3AB. It won't cost you a penny and — guess what —you can even include photographs to accompany the ad/message!

Save Our Children

The Walton and Weybridge Elite Breakers Club are currently trying to raise funds for the Children's Unit of Epsom Hospital to purchase portable nebulizers, which are breathing aids for asthmatic children.

Their aim is to buy six nebulizers which will cost £598.50. At the moment, they have managed to raise £445.50 so, if anyone would like to help with this appeal, they should write to: The Nebulizer Appeal, PO 8ox 29, Weybridge, Surrey KT15 1TX. Cheques or postal orders to "The Nebulizer Appeal" can also be paid into any branch of Barclays Bank. Anyone who donates over £1 will receive a special QSL pack if they enclose a SAE.

Samaritan Soup Run

An organisation called DRESS (Derby Relay Emergency Service Squad), made up of CB enthusiasts, are aiding the city's newly-established Soup Run.

A member of DRESS now accompanies the Soup Run's night-time trips through the city, bringing food and warmth to Derby's homeless, which means the volunteers are just seconds away from emergency services as the DRESS member is in constant contact with base control.

Ben Culbertson, publicity officer for DRESS, said: "We provide a mobile radio for the Soup Run so we can inform our base station if there is a need to telephone the emergency services".

New volunteers are to be given instruction on radio practice, first aid and orienteering. Anyone who would like to join DRESS can contact its chairman, Brian Smith, on 0332-756257.

Nick Nick

An Oxfordshire breaker was recently fined £200 by magistrates after admitting using an 800 watt amplifier with his rig. Paul Higginson of Abingdon was sitting in Paignton Zoo car park when he was arrested by police after their radio went haywire. The magistrates at Torquay Court ordered the equipment to be confiscated.

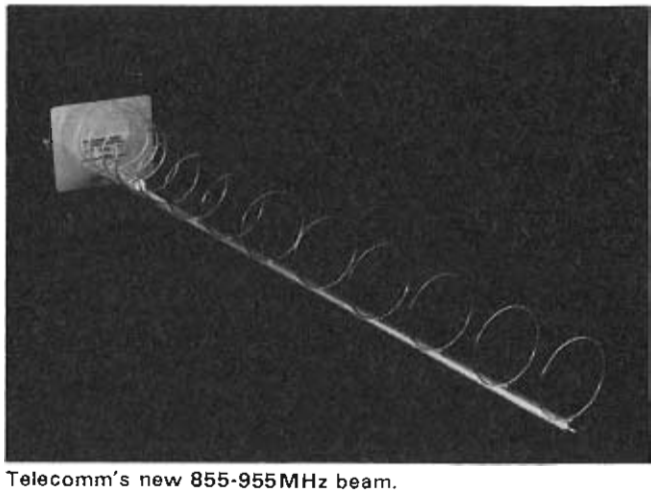
More from Telecomms

Telecoms of Portsmouth recently announced some more new products they are involved with. Firstly, they are now importing a new range of Japanese 50 ohm ultra-low loss cable. The cable is double-screened with a white outer jacket. H100 has become a popular low loss coax here in the UK but it has the disadvantage of being very rigid — the Japanese cables have greater flexibility and lower losses. The 5D-FB 8.1mm cable costs 72p per mtr and has loss figures (per 10 mtrs) of: 0.055 (100 MHz); 1.21 (400MHz); 2.85 (900MHz). The 8D-FB cable costs £1.68 per mtr, has a diameter of 11.6mm, and loss figures of: 0.039 (100MHz); 0.85 (400MHz); 1.3 (900MHz). Finally, the 13.7mm 10D-FB cable costs £2.52 per mtr and has loss figures of: 0.031 (100MHz); 0.68 (400MHz); 1.05 (900MHz).

Telecomms also announced the release (for cellular radio use) of a unique wide band beam having a gain of 18dBi and a frequency coverage of 855-955MHz. The beam has been developed to enable users to gain access to the UK cellular system from outside the cells in places, for example, like Wales or the English Channel. Initial trials have shown the beam can increase the range of the cellular system dramatically and a sample has already been purchased by British Telecom for evaluation. The Nevada TC12LW beam costs £65 plus VAT.

Now, last but not least, comes the news that Telecomms are now the only company left in the UK importing/distributing or manufacturing a 934MHz mobile transceiver. Reftec went bankrupt several years ago, Commtel and Grandstand ceased importing in 1985 and, just recently, Uniace discontinued production in North Wales of their Uniace 400 radio. Consequently, Telecomms can now offer a comprehensive repair and service facilility for any brand of 934MHz transceiver or handheld — they have obtained a sizeable number of spares for all the radios now out of production. Pictured is the Service Manager, Kevin O'Brien, in their workshops with some of the £35,000-plus worth of test equipment.

Telecomm's Service Manager, Kevin O'Brien.



Telecomm's new 855-955MHz beam.

Bogus RIS

Of all the questions we get asked in the course of a month, perhaps the most popular is, "What can we do about the wallies?" I have heard numerous suggestions, ranging from the impractical to the insane but this week I came across the perfect example of how not to deal with them.

It seems that someone has taken it into his head to send out (badly) forged versions of the letters commonly used by the RIS in cases where a warning is regarded as being preferable to prosecution. A few of these letters, badly typed, full of misspellings, and drafted in a threatening way have turned up in the areas around Sussex and Hampshire and have caused some distress, especially in cases where proper RIS action had already solved any problem which might have existed.

As an RIS spokesman pointed out, it is a criminal offence to misrepresent yourself as one of their officials, either in person or in writing and the penalty likely to be incurred by anyone caught doing so are likely to be extremely severe. Genuine RIS officers carry proper identification documents bearing the DTI crest and will be happy to produce it on request. If you are approached by anyone claiming to represent the Investigation Service who cannot or will not produce identification, you are advised to call the police without delay. Similarly, anyone receiving any written communication of which they are even remotely suspicious should contact the Department to check on its validity. If it turns out to be bogus you should take it straight to the police.

There are many genuine groups throughout the country whose aim is to prevent abuse of the airwaves by legal means. The last thing that CB needs is for anyone, group or individual, to take the law into their own hands in this particularly stupid manner.

Safety First

Safety is the name of the game in all things electrical, particularly in the home. All too often we hear of tragedies with electrical appliances like lawnmowers, drills and — dare we say — CB and amateur equipment.

Well, help has come in the form of Geefor Enterprises of West Yorkshire who can now supply in-line Residual Current Circuit Breakers, units which are of the square pin 13A form and include reset buttons. They cost £27.95 plus £2 post and package, and more details are available from Geefor Electronics, 112 Leeds Road, Mirfield, West Yorkshire.

BACK CHAT

All the best from the mailbag

Letters should be addressed to: Back Chat, Citizens' Band, 1 Golden Square, London W1R 3AB

Hello from Spain

All the way from Alicante, Spain, Flying Saucer has been active. . .

I would be grateful if you would publish this letter and extend my thanks to the many FM breakers in the UK who have, in the past three months, made contact with my station here in Spain.

I have lived in this country for about 18 months and had, until recently, confined my radio activities to our local AM and FM bands; but I was somewhat amazed to find so many UK stations riding the skip into my QTH which, incidentally, shares the same 0° longitude as Greenwich, England.

Having been a CB operator for about eight years, both in the UK and in the USA, I am fully aware of the excitement of a long DX copy and, of course, the disappointment of being unable to make contact despite hours of effort.

To the hundreds of operators that have made the trip into my QTH and to those who have monitored my station and sent QSL cards, please say a big hello and extend my greetings to them. I am currently replying to all of the letters received from the UK so please extend my apologies for the delay.

May I also take this opportunity to comment on the apparent success of the 'clean up' organisations and of the channel 9 monitor groups which still exist in the UK. For me, it is a great pleasure just to sit and listen to an endless variety of good, clean 'chit-chat' and technical discussions. CB radio has come a long way during the few years of legalisation, credit due to the journals such as yours, the volunteer groups and the breakers themselves.

Beware of Strangers

One of our more regular letter-writers, Worzel Base from Nottingham, has a few very important points to make. . .

Quite frequently, you can hear a typical conversation from juvenile breakers, boy to girl, such as "How many candles are you burning. . .where's your 20. . . let's have an eyeball. . ." after only meeting up with each other five minutes previously on the air!

Here in Nottingham, the police, schools, local radio and Central TV — along with local breakers like myself — are always stressing 'Stranger Can Mean Danger'. Established breakers do not give personal details over the air. Sensible breakers do not mention names, addresses or telephone numbers and it would be highly unlikely that they would go out for a street-corner eyeball outside their local CB club where they have the security of other breakers around them.

At the time of writing, we have six weeks summer school break when young girls in particular are vulnerable and in danger. CB is used by the majority of Good, but also by a percentage of the Bad and the Ugly — people out to do harm. So, I feel it is important to stress the fact that young and old alike should think: 'Stranger Can Mean Danger'.

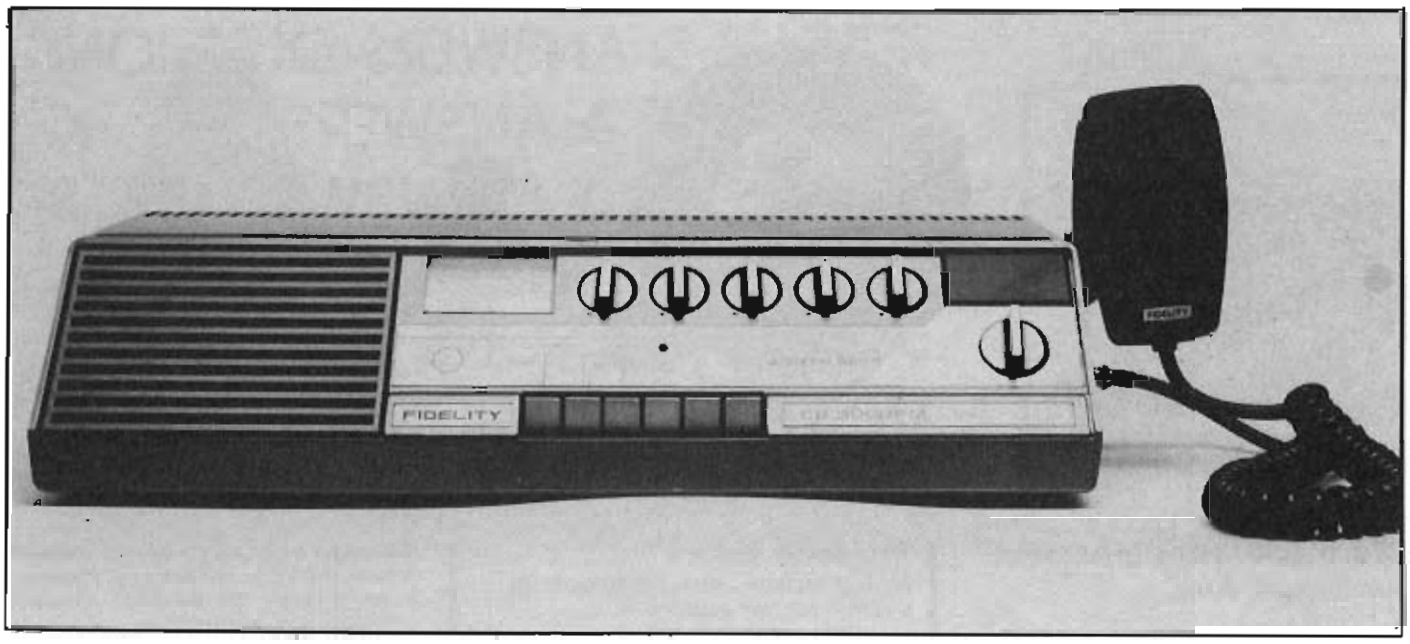
Encore, Big T

Lady G writes from Birmingham in defence of our own Big T. . .

I wish to write in protest against GR03 Road Liner (Back Chat, August) regarding the comments he made about Big T's singing. The man must be tone deaf to criticise such a talented singer. What a joy it is to switch on my rig and hear the melodious tones of Terry's singing. The warmth and feeling he puts into his songs is a wonder to behold — there hasn't been anyone in such fine voice since Caruso.

I could go on all day praising this lovely man; in fact, I'm going to start a fan club for him and call it the Big T Appreciation Society.

Funny, I didn't think Big T's mum lived in Birmingham — Ed



Can anyone help a senior citizen with a Fidelity home base? (see below)

New Club Listing

Martyn Bolt, from Mirfield in West Yorkshire, is attempting an ambitious project. . .

I am writing to inform you of a new project I am undertaking which I am sure will be of interest to your readers.

I am hoping to compile a full current listing of all the current UK (and maybe European) CB clubs. Included in this will be owners clubs, DX groups and the increasingly popular QSL swap clubs.

Inclusion in the directory is free. Simply send either a current application form or details of the club — for example, name, postal address, type of club, founding date and current joining fee, and we will do the rest. I hope to then assemble the information in booklet form, possibly A4 size, and update bi-annually.

In view of the work involved and the possible amount of printing, the cost to receive the directory (a probable title being 'CB Club Directory') will be £5 including P&P for the first issues, which should be published by February 1987. Should there be sufficient interest, I may attempt a similar project for individual operators/swappers.

Another project I have recently launched is "Barter", a sales/wanted listing which is already proving very popular with CB radio and amateur users. The way this operates is almost a reversal of the club list. To advertise in "Barter", the cost is 30p per word for a month's inclusion on the list, effective immediately on receipt so there are no print delays. The list is free to prospective buyers on receipt of a large SAE and is also included, where possible, in membership packages of the Ham International Radio Club — so there is a potentially large readership.

Finally, thank you for printing my last letter in the July issue; to date, I have had two responses, neither of which were from Natcolibar!

Interested? Then write to Martyn at 112 Leeds Road, Mirfield, West Yorkshire WF14 0JE.

Wanted

Mr Forster, of Norwich, makes an impassioned plea for help. . .

I wonder if any of your readers could help out a disabled senior citizen. It would be a great help if anyone has an old, unwanted Fidelity home base as I cannot get mine repaired, as it seems impossible to get part number AN 7131 — even a well known repairer cannot get it.

If anyone can help out in this direction — even an offer of help from a rig doctor familiar with this part number — they can contact Mr Forster at 29 Downsland park, Woodrow Lane, Great Moulton, Norwich, Norfolk NR15 2DR.

Is Mack a Wally?

Billy Boy from Weston Super Mare is a little suspicious. . .

At last! Mack the Hack has revealed his true colours — the two-faced wally. In March 1986 he says of the 934 handset that a few people might be tempted to buy, but "I confess I would not".

In August 1986, he tells us how he is busy walking up and down his local 'hill (298ft? That's a bump in the grass!), using his 934 handset — so, first he's moaning that he's hard up and then he's 'doing a flash' with his new toy.

Are you going to stick another five pence on the cover price, or did you get one given to you to plug it in your column? Mark my words, every month now we're gonna get nothin' but how well his MT370 works!

Well, firstly, any increase in cover price is, unfortunately, a direct reflection of increased print, paper and distribution costs and is not a way to subsidise Mack the Hack's hobby. Secondly, Mack's financial status is his own affair — however, we can tell you that Selectronics' stock of 934 handhelds appears to be mysteriously deficient to the tune of one!

Three Cheers for PRCGB

Eric writes from South London, pleased with the news of a new 934 club. . .

As an avid reader of *Citizens' Band* magazine since its conception, in addition to all the other magazines until their demise, I feel I must put pen to paper and say three cheers for the news of a new 934 club. I refer to page 8 of the August issue (Update).

As an ex-934 operator — a frequency which I found to be grossly overrated, equipment grossly overpriced and one found oneself talking to oneself most of the time — it's nice to know that, at long last, the monopoly appears to be broken. Competition at last. I sincerely hope that the new club remains independent and does not become fronted by manufacturers or retail outlets, constantly being plugged on Mack the Hack's page (find something new, Malcolm).

Anyway, good luck PRCGB and long may you reign. If I should be tempted again to part with some hard cash and there is at last someone to talk to during the daylight hours, I might even join the club.

Thanks, Breakers

A short note of thanks now from Tartan Lad of Kirkcudbright, Scotland. . .

I would like to thank, through the pages of your magazine, all the breakers for all the cards that were sent to me during my recent stay in hospital. I would also like to thank the people who visited me and telephoned to find out how I was progressing after my accident.

I am back home and hope to copy you all to thank you once again.

Q & A

More and more problems for Smart Alec

Problems should be sent to:
CB Q&A, Citizens' Band,
1 Golden Square,
London W1R 3AB

Problems galore

Mr D Watchorn, from Cotgrove, Notts, is having a few problems . . .

Q My rig is suffering both from poor reception and transmission range and I am wondering whether this is due to a technical fault or whether it is the result of the activities of a nearby radio ham who moved in around last September time.

During the winter months I had no problems but, now that the skip has started to run, both the received and transmitted signals seem to have deteriorated and I am wondering whether I have some problem with my station or whether I am suffering from interference.

If the problem is one of interference I would also appreciate some advice as to what can be done to reduce it. For instance, can I call on the services of the Radio Investigation Service and, if I do, will I be charged for their help?

A *From your description, Mr Watchorn, I feel sure that there is a fault somewhere within your own equipment, possibly the antenna system. The presence of a nearby transmitter operating on a frequency close to yours can have a devastating effect upon reception, as the receiving antenna is unable to withstand the close RF field, so that your reception would be degraded by a nearby amateur transmission on 28MHz, or possibly even stray harmonics from 14MHz but this is a two-way problem and if the stations are close enough to affect one another, even your meagre 4 Watts would be noticed by the amateur operator. Although there may be some degree of problem in the proximity of the two stations the likelihood is still that you have some fault in your own equipment, since there is no way in which the amateur transmissions can affect either the quality or range of your transmissions.*

As far as preventing interference between two close stations is concerned, I am afraid you will just have to grin and bear it. Both operators are deemed to have an equal right to the use of the airwaves and there is little that can be done to prevent swamping where stations are sited close together. It is certainly not an area in which the RIS could be of much help to either of you, as the only really effective answer is to increase the distance between your respective antennae.

Justice! What Justice?

Mr L C Duncan, from Waterlooville, Hants, feels a mite aggrieved about what he sees as a possible future injustice . . .

Q It appears to me somewhat unjust that the DTI is proposing to prohibit the posession of illegal CB rigs when there are literally hundreds of amateur rigs capable of operating outside their permitted frequency bands. To prohibit the ownership of certain classes of CB rig in such an arbitary manner would create one law for the rich and another for the poor.

Another matter which concerns me is the fact that most, if not all, Radio Investigation Officers hold amateur licences. Since they are likely to be biased against CB operators, do you think this is a matter which should be taken up by those who represent us and referred to the DTI?

A *The specifications governing the types of CB rig which it is permitted to use are due to be changed in the near future to accommodate the introduction, next year, of additional channels so that we may operate on the same frequencies as the rest of Europe and, following recent amendments to Wireless Telegraphy legislation, it is widely expected that a Ministerial Order will make it an offence to be in posession of any CB rig for which a licence is unobtainable. It is by no means certain that this will be the only new Order of its kind. For example, a similar Order in respect of illicit taxi radios is also expected and it is unlikely that the DTI will ignore "out-of-band" amateur rigs altogether, so that the likelihood of one law for the rich and another for the poor, as you put it, seems very remote. Not that I understand how riches or poverty can be equated with users of either service. Over the last few years I have come across some very elaborate CB stations as well as some pretty basic amateur ones.*

It is not really surprising to find that the majority of RIS officers are radio amateurs. Without a personal

interest it is unlikely that they would have opted for that line of work.

Although many took an active part in trying to prevent pre-legalisation CB transmissions those breakers who were around at the time tell us that many had expressed the opinion that a licensed service should be introduced and although a small minority might not have actively welcomed the change we have no reason to believe that they show any undue bias against licensed CB operators. On the contrary, it is arguable that their interest in amateur radio leads to a better understanding of the needs of the hobby user.

Living in harmony

From Perth, in Scotland, Firecracker has heard rumours of a strange phenomenon . . .

Q I recently attended a lecture at the local CB club, during which a local rig doctor mentioned "harmonic interference". Unfortunately he did not elaborate and I have been unable to obtain an explanation of just what harmonic interference is. Please can you oblige?

A *One of the more irksome aspects of radio frequency transmissions is that all signals on a given frequency cause "ghost" transmissions on frequencies which are a direct multiple of that frequency, so that a signal at 27MHz will contain elements at 54MHz, 81MHz, 108MHz and so on. Harmonic interference is the effect which, if unsuppressed, these elements can have on services using those frequencies. Equally, harmonics generated by transmissions originating at, for example, 9 or 13.5MHz can interfere with CB reception.*

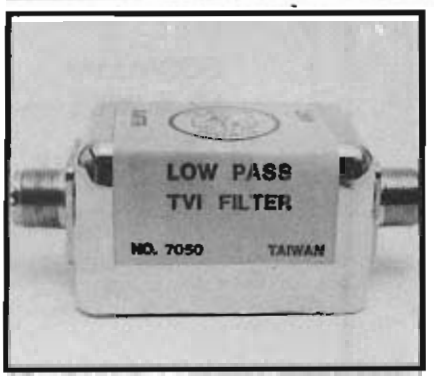
In general the likely degree of interference is reduced with each successive multiplication, so that a 108MHz user is less likely to be affected than is a station at 54 or 81MHz but even fifth and sixth, or even higher multiples can have a dramatic effect where the two users are sited close together.

The most effective means of ensuring that these unwanted radiations are not transmitted is the insertion of an efficient low pass filter into the antenna feeder line. Most such devices suitable for use in a CB station cut off all transmissions above 30MHz without affecting the wanted (27MHz) transmission and, since they can be bought for a few pounds and inserted easily, they are a real must for any station. When installing a low pass filter, care should be taken to site it as close as possible to the transmitter, in order to minimise the risk of harmonic radiation being transmitted from the length of feeder cable which preceeds it.

Go for it!

Blackbird lives in Wiltshire and is considering investing in 934MHz . . .

Q I have been on 27MHz for about three years now and have made lots of



friends. I have recently been tempted to increase my capability by buying a 934MHz rig but am hesitant because of the relatively high cost of equipment. Do you think there is any likelihood of UHF rigs becoming significantly cheaper in the near future and what sort of results can I reasonably expect, assuming that I do take the plunge?

A *To take the question of price first, UHF technology is considerably more complex than that of HF and I am afraid that this factor, together with the relatively lower number of users will ensure that 934MHz rigs remain relatively expensive, though many UHF experts have predicted some slight drop in prices as interest in the band grows.*

As to performance, the same smaller user population may mean that you have to work harder for your copies but the standard of operation is generally very high and effective range, especially under lift conditions, has far exceeded the expectations of those who first popularised the band.

Because of potentially high levels of attenuation it is essential that you use the highest possible quality antenna and fittings, and installation requires far more care than is needed with 27MHz stations, though SWR is far less critical.

In mobile use, effective range is likely to be slightly more limited by terrain than you will have noticed with 27MHz but there are very definite rewards to be gained from taking a mobile 934MHz rig to the local high spot on a sunny day.

(Above) Blackbird is thinking of saying bye-bye to 27MHz

(Left) Low pass filters — a cure for many problems

Your best bet is to try to make contact with someone in your area who is already experienced in UHF use before choosing your equipment, so that you will get the right kind of guidance from the outset.

Do not be put off by the price. UHF CB is rapidly proving to be a most rewarding form of communication.

Point of Order!

From Woodstock, Oxfordshire, Jeff, who for obvious reasons wishes to remain anonymous, raises a legal question . . .

Q I am an SSB operator, whose only wish is to be left in peace to enjoy my regular skeds with fellow SSB users at home and abroad. As the law apparently stands, I am not permitted to do so, despite the fact that the use of SSB is common in European countries and that Britain has been a member of the EEC for some years now. Is it not likely that Britain is breaking Common Market law by prohibiting the use of SSB?

A *There have already been quite a few attempts to invoke the Treaty of Rome in an attempt to obtain licences for the use of 27MHz SSB but all have foundered on the fact that despite the obvious need for some degree of standardisation, particularly in the type of use to which certain frequencies are put, EEC legislation leaves each member state free to draft and apply its own internal regulations as to spectrum usage. The case for such a change as you describe might be stronger were the use of SSB permitted in all other EEC countries but this is by no means the case and recent CEPT proposals make it appear likely that some countries may discontinue to licence SSB transmissions over the next few years, though it will be most interesting to see what degree of opposition to such a move might arise in countries like France and Italy.*

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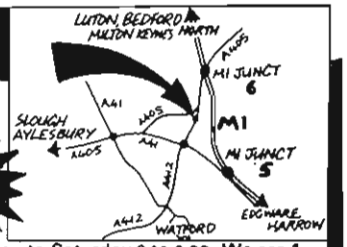

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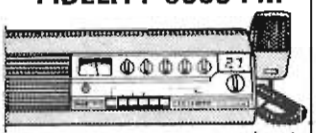

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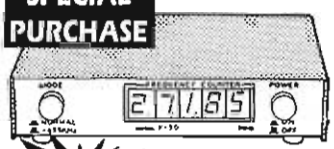

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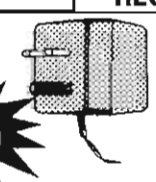

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MODERN MIKES

Three new microphones from Pama and Co span the spectrum, from a cheap and basic simple replacement through a better quality example to a sophisticated power microphone with amplifier control. The three are the DMC 507 Replacement Microphone, the DMC 520 Quality Microphone and the DMC 510 Power Microphone.

The cheapest, the DMC 507 straightforward replacement mic, was the first under scrutiny. Lightweight and easy to use, it had a rather sloppy push-to-talk switch, spongy in operation, but nevertheless it worked satisfactorily. Differing audio reports were obtained from "rather muffled and bassy", to "far too toppy" and "no overall nice round sound, not armchair copy, rather harsh and at time not too pleasant to copy". Indeed, upon listening back to transmissions, it was clear that the audio was rather harsh, even piercing, and that this microphone was susceptible to background noises. In fact, at times this competed with the intended audio, and even won. Speaking nearer to the insert didn't help matters either, and tended to cause distortion.

Not too encouraged by the first, I moved on to experiment with the DMC 520 which, it is claimed, is a better quality microphone than the DMC 507. This was evident from first impressions; not only in the audio produced, but also the general construction. Appearing a more robust instrument, with a more positive PTT switch, more success was found. The audio reports were not startling, but no adverse reports were received from several hours on-air. In operation the microphone gave a more positive response, the improved PTT arrangement seeming to result from a different internal construction and different angle from which the switch was activated. The actual microphone inserts seemed remarkably similar.

Both the 507 and 520 are omni-direction dynamic microphones with a nominal impedance of some 500 ohms, and suitable for connection to most rigs. Frequency response is quoted as 200 to 5000 Hz, although it is doubtful that the response is flat over this range.

A common factor to these microphones is the cable supplied: a big feature, Pama tell me, and an improvement over other previously available mics from similar sources in Taiwan. Some 1.6 metres of flex is provided, with curly centre part, and a straight

The Pama DMC 507 replacement mike

sleeve at either end for connections. One end is wired into the microphones's body, while the other is left free for connection of an appropriate plug to carry audio and PTT lines.

Each unit comes in a cardboard box complete with basic wiring diagram, indicating where the black, red, yellow and screen should be connected. The first two samples were of almost equal weight and comfortable to use, with easy operation PTT switches which could be held for even the longest of copies.

The power microphone in the series, the DMC 510, is a little heavier, including the required battery. A standard AA size, 1.5 volt cell is necessary to provide the amplification. A comfortable microphone to handle, with the PTT switch on the left side. A rotary control on the top, calibrated from 0 to 10, gives allowance for the amount of amplification required. It is often thought that to achieve 100% modulation and therefore get-out further, the audio level should be increased. However, there is a stage where the audio circuit inside the rig will not accommodate an increase in level, and either distortion or clipping will ensue.

With those rigs tried it was found that with the microphone level set above 6, either of these conditions took place, and that if a standard microphone was used, that the internal gain control could be adjusted to maximise the siutation.

A small circuit-board is incorporated within the body of the 510, two transistors, three electrolytics, and a handful of resistors, just to make the small amplifier. At any setting below 2, the audio produced was really too low to drive anything, but at mid-point some excellent reports were received, and although trying to obtain objective audio reports is not always easy, it is perhaps more meaningful than just a trace on laboratory equipment.

Some of the comments received, when the setting was not 'over the top' were: "fine, excellent, clear, armchair copy" and "easy to read, pleasant and with a nice sort of roundness to it that I can't really describe", and even the simple: "I can't complain".

After a little use it was noticed that the cable became unwound, and therefore longer, but did this lack of flexibility detract from the otherwise well-performing mic? Well, the importers didn't think so. Their Mr. Farshi explained that the flex was the focal point about their range of replacement microphones, and had been especially chosen. Apparently these units have, in various forms, been available on the UK market in the past, but previously with questionable leads; so Pama chose this especially flexible and hard-wearing flex as an alternative. So, while it seems that it will uncoil with use, when stretched, it is less prone to breaking, especially at those weak points like the entry to the plug.

I was told that "people prefer this sort of flex rather than a thinner type which may break more easily". Certainly, the audio line is screened, with the PTT wires separate, so all would seem to be in order there.

These coffin-shape microphones are indeed popular, and I think I prefer the power-mic out of the three, not because of its power capability, but because it feels well-constructed, has a nice handling feel about it, and looks professional; whereas the other two have a rather tatty appearance and didn't perform so well in the field trials. It was difficult to work out which way to insert the battery in the 510; the engraving on the body didn't indicate the correct polarity very clearly.

The life of the battery, though, should be extensive. The amount of current drawn is miniscule, and only in fact used when the PTT is engaged, so there's no need for a separate on-off switch. The impedance of the 510 is quoted at 1.2K ohms, and sensitivity at -44dB at 1kHz, to 1Vμbar. High background noises were less noticeable than with the cheaper alternatives, and if conditions became intolerable, it was just a matter of turning down the gain, and speaking closer to the microphone, without fear of overloading the rig's input.

The power microphone retails at £7.95, the 520 at £5.95 and the bottom of the range 507 at just £4.95. I feel sure that this is a case of you get what you pay for; and as FM is being used, audio quality is important but not crucial. The cheaper microphones tend to bring with them distortion, which is improved on up-market versions, with better inserts and better housing. The 520 coffin-shape hasn't been widely available for some six months, and Pama have introduced it with the improved flex; it was previously a big seller, and no doubt will do well again. The idea of a Power Mic remains, in my mind, a gimmick, yet I found the gain control a useful asset. If you think that 1.6 metres of flex isn't sufficient, I'm sure Pama could arrange an extension flex, although it must be said that in most situations, this is more than adequate.

The wires come ready bared, tinned with solder and just need to be connected to a plug before use. . .what could be easier? So, next time you have microphone trouble, think about a replacement.

Pama's DMC 510 power mike

The DMC 520 quality mike

BEAR ON THE AIR

David Lazell recalls the day when the copper on the beat had a Morse key up his jumper

If you have the opportunity to talk to a veteran electronic scanner user — of the kind scattered through the USA and not always talking much to the wife — you will hear tall tales of the Police Patrol. Not that the Police Departments seem to much mind being overheard by the scannerists. True, some of the bad guys may listen in, but it is generally assumed (rightly) that the radio-oriented public are more likely to help the cops than to hinder them.

Of course, recent attempts to exchange information on more restrictive intelligence frequencies — via pages of a US journal — were not much smiled upon, but one aspect of the US 'more open society' is that the scanner is taken as a useful hobby. Some US approaches might cause consternation in the back yard of power, here in Britain, where everyone in authority likes to have a secret or two, just to be on the safe side.

Yet, there is no doubt that Britain can be justly proud of its record in allying radio to the cause of an honest society. In fact, the story is much overlooked, and even as late as 1937, hardly anyone in the old country seemed to be aware of the prospect. Use of the Metropolitan Police Mike was highlighted in a magazine feature: 'the great tentacles of police radio stretch out over a vast area', it was reported. In retrospect, it looks as though the British police authorities were not much looking for publicity, which would forewarn the crooks. In fact, many policemen were taught the Morse Code, the basic base-to-mobile mode of information in the early days. The swag-grabbers rarely knew Morse, and even if they did, were likely to be too busy trying the safe combination to interpret the Police Call. A Police Wireless School was opened in 1936, close to the Metropolitan Police College at Hendon, but even by that time, the radio link had proved its worth. Some five hundred policemen had been trained in radio techniques by 1937, but, as already hinted, the Great British Public remained uninformed about this use of the Mighty Valve.

Meanwhile, the gangster and cops movies from Hollywood used police radio in ways that would have made the Hendon police instructors choke over their three Shredded Wheats. Herbet Harris, a writer for The Radio Pictorial magazine, visited a cinema (identified as the Astoraza) and found himself gazing at such an epic. Cops of the best Warner Brothers police academy, hurled themselves into battle, headphones in one hand, machine gun in the other. Suddenly, a woman's voice hissed close to Mr Harris's ear: "What a pity our police don't have equipment like that."

She was referring to the radio, so Mr Harris was spurred to mention that the Great British Bobby was indeed so equipped. He added, in his report to the Radio Pictorial, that British movies too often persisted in showing 'the good old foot constable with large tummy and even larger moustache', whilst the Yankee film producers dramatized the wonders of the radio

waves, time and time again. Good man that he was, Herbert Harris maybe missed the point of undercover work. The big moustache could have concealed a sensitive lip mike, the large tummy was in fact padding around the transmitter. After all, the police used Q Cars, that is 'plain wrappers' (in CB parlance) which were equipped with radio, and thereby able to proceed rapidly to the scene of the crime. In addition, plain looking loudspeaker vans, i.e. mobile public address systems, were used for crowd and traffic control but were in close contact with base station, and thereby able to help in crime prevention.

In some respects, the USA of the 1930s seems a little like the Britain of the 1980s. For example, big crime stories dominated the press then, as they often do in Britain today. A visitor to the USA in the 1930s, remarked that 'one of the most curious things about America is the amount of newspaper space given to crime'. Rosita Forbes, the well-known travel writer of the time, told readers of 'The Wireless Constructor' monthly in May 1934, that the radio talks on crime prevention were 'sob stuff at its worst'. In any case, as American gangsters were often more famous (and possibly more popular) than politicians, the public

could be somewhat unmoved by the suggestion that they help combat crime. In her lively report on radio, US cop style, Rosita Forbes noted that murderers were 'cloaked in sentiment and crowned with the limelight before being electrocuted. Yet beside the life story of the latest killer — in which he is portrayed as all but a public benefactor — there may be a vigorously worded appeal to the citizens: 'Co-operate With The Police! Call this Telephone Number while The Thief is still in Your Home! Catch your Criminals by Radio!' That is, if the thief hasn't run off with the radio, and anything else he can lay his hands on.

It must have been hard to tell where real life ended and the radio soap opera began. Radio offered various cops and robbers epics, 'Dick Tracy' (based on a famous comic strip hero) probably being the most popular. However, a 15 minute NBC radio programme, 'Police Headquarters' launched in 1931, offered an idea of real life — a sort of embryonic 'Police Five'. Chicago, America's second city, offered Rosita Forbes an experience of life with Police Radio. She was able to visit the Radio Centre at Police Headquarters in Lower State Street, on the top floor, as you would expect, given the somewhat primitive state of antenna design. In the centre of the room, some eighteen detectives sat at a table waiting for instructions, in shirt-sleeves, cellulose green shade over the eyes, and with cigars chomped between their teeth, looking like men waiting for a TV part. At the end of the room, the radio cabin was staffed by the Police Radio Operator, aided where necessary by two Emergency Officers who took over calls on serious crimes, enabling the Operator to handle other calls.

"Along the walls," added Rosita Forbes, "are arranged the telephone girls who receive the SOS calls. Most of them have acquired the sort of nerves that permit them to reduce the most incoherent cry for help, to a common denominator of address, cause and effect (e.g. of accident) before passing it to one of the detectives at the middle table. Thus, 'He's murdering my husband! Crash! Help! Help!' has become 'Armed man, attacked householder, third floor back, such and such a block of flats' by the time that the Emergency Officer (who deals with murders and hold-ups) has scribbled the message from the block in front of him, and passed it through an opening in a wall of the radio cabin. Inside this cabin, at the Operator's elbow, there is a map of Chicago, divided into numbered squares. In front of him, is an instrument rather like a telephone switchboard. It is also divided into squares, numbered to correspond to those on the map, and each containing rows of electric bulbs the size of shillings (i.e. 5p pieces) representing the police cars patrolling that particular area. When the SOS comes in, the Radio Operator looks at the map to see which district is concerned. He then presses a button on the corresponding portion of the switchboard and by the number of bulbs flash on (light up) he knows which cars are still at his disposal." One wonders what happened when he hit the jackpot.

Chicago has claimed to be one of the pioneers of police radio, though some believe that Canada was in first. Anyway, on night patrol, Chicago would have at least eighty radio equipped cars, in those early 1930s, and sometimes as many as one hundred and fifty. Chicago, at that time, covered an area of four hundred square miles and was, as Miss Forbes put it, a continent in itself.

For those who have studied the use of radio and/or CB in the recent miners' strike in Britain, by either side of the disagreement, there is an interesting example of radio, from Chicago fifty years ago. Rosita Forbes reported: "On the occasion of a Communist riot, when the whole of the South Side of Chicago started marching with the general determination to break as many windows, heads and records for violence as possible, fifty police cars were mobilized in five minutes and five hundred policemen within a quarter of an hour. Armed with knives, axes and an assortment of household implements, with broken plates and

and scraps of old metal or machinery, the believers in 'the brotherhood of man' — incited to frenzy by professional agitators to whom oratory is a physical pleasure — swept out of the main streets to illustrate their fraternal principles with corpses where there should have been cabs. But before they had gone half a mile, they found themselves surrounded with a strategic barrier of police cars." By the way, in addition to a handy line in police radio, the upholders of public order were also issued with Maxims, tear gas bombs and sawn-off shotguns.

In the mid 1930s, US systems seem to use spoken voice contact, rather than Morse, though originally communication was one way, from base to mobile. Further, the equipment installed was sometimes as heavy as the machine gun carried by the detectives. One model had a loudspeaker fixed in the roof of the police limousine, which looked as though the cops were travelling with an umbrella open. "Each car," said Rosita to her 1934 radio chums, "carries a radio on the dash board. Its four or five occupants are armed with heavy revolvers as well as sawn-off shot-guns with repeating magazines which fire a big duck shot. If they are going to storm a position in which gangsters have entrenched themselves, they carry tear gas bombs as well, and bullet-proof metal shields some four feet high. A list of stolen cars — as many as fifty representing the day's harvest — hangs on the windscreen, and the man beside the driver is supposed to keep his eyes peeled for 'hot shots' i.e. suspicious cars. Each car picks up every message transmitted from headquarters — as soon as a police car picks up a call to its own number, it goes like a bat out of hell. Red traffic lights mean nothing at all . . . at seventy, eighty and ninety miles an hour, the Flying Squad charges through traffic, crashing down to second gear in order to shoot round a corner at sixty. Occasionally, they upset a street vendor or hot dog stand, but don't stop to pick them up. Skidding over greasy or sandy streets, cornering like maniacs, driving like devils, they go all out through alleyways, along tram lines and wharves thick with lorries. As soon as he is within range of the suspect car, the detective on the front starts firing. Behind him, at each window, is the barrel of a shot gun. With a final screech of metal, glass and gears, the police car hurls itself across its quarry, and at the expense of its mudguards and bonnet, rams it straight across the pavement into the nearest brick wall. Then it is a matter of which party can shoot quickest, straightest and longest. Only the driver must remain at the wheel, a target for the enemy. But in the last resort, his revolver may cover, not a retreat, but a final offensive when only one detective is left on his feet."

The Chicago headquarters handled an average of eight hundred calls a day, with a response of anything within thirty seconds to two minutes. Given the handling of the police automobiles, it seems that a great many mobile replacements were necessary. However, the period of prohibition, which encouraged so much crime, came to an end with the election of Franklin Delano Roosevelt as President, and by 1934, Chicago was no longer seeing so much excitement. Indeed, the worst horror that could be reported by 'Popular Wireless' in February 1934, was a mobile loudspeaker truck, which patrolled the city looking for lawbreakers of many kinds. The truck was equipped with a powerful loudspeaker and amplifier, a microphone close to the driver. Whatever the driver was moved to remark was thus amplified for the good of the public — an idea much advanced for CB a few years ago, it will be recalled. So, whenever the truck driver saw a pedestrian about to cross the street without looking right or left, he offered florid advice which echoed around the skyscrapers, similarly with drivers parking on the 1930s equivalent of yellow lines. There have been many ego trips in the fantastic world of personal radio, but the ability to run a commentary on humanity, and get paid for it was something else.

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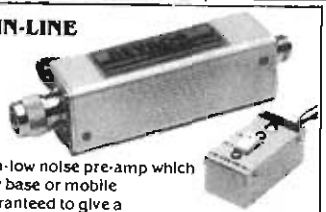

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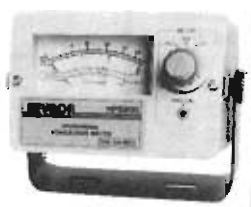

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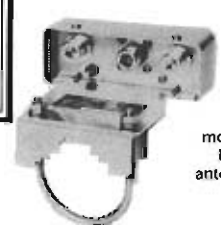

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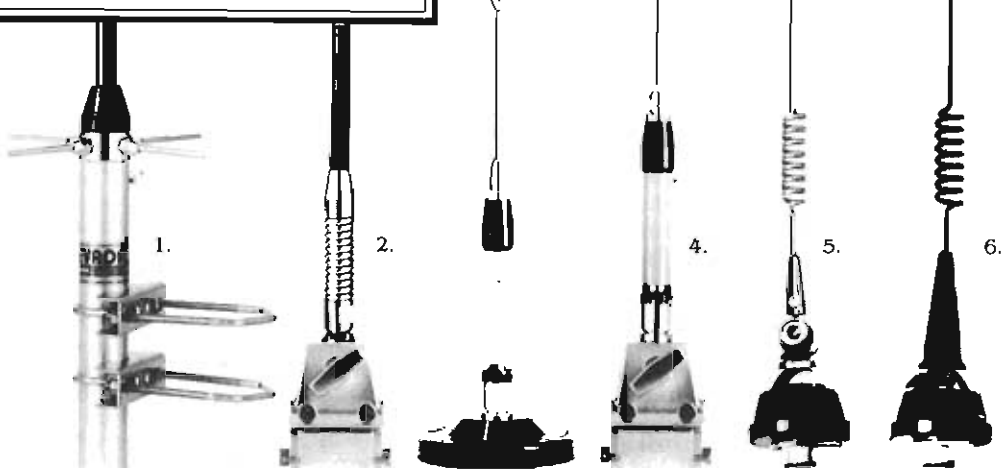

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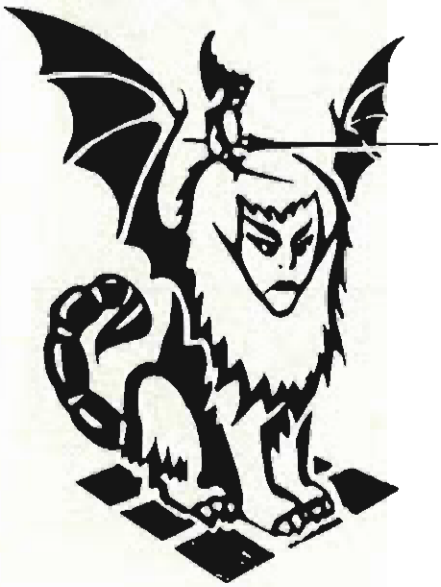


COMMUNICATION THE QSL WAY

Cards, cards and more cards, courtesy of David Shepherdson

Well, this month I feel that perhaps I ought to start off with a round up of one or two errors that have crept in over the last few months. Okay, first up, for some South East) a.k.a. the UK's POMA Rep and director of the "5 C's" Club, has PO Box 102, and not PO Box 106 as it actually is! I even managed to put both addresses in the other month I see! Apologies to Ray and anyone who has sent mail to 102, can only attribute it to a brainstorm. Last month I said that the Post Office had increased the cost of postage by a penny within the UK and no doubt larger increases were intended for Overseas Mail, well it's sackcloth and ashes time for me this month! From what I've heard recently, as far as European Mail is concerned, that's coming down! However, by the time you read this, they may have changed their collective minds again! In the QSL Special article in the July issue I gave the address of Charlie Cards, a hot foil specialist, and have just been told I got that wrong too! However, in my own defence here, the address I gave was the most obvious one on the letter I received at the time. Okay, all being well, this time I'll get them right, I'm trying out a new method of keeping printers addresses handy and correct, just hope I don't lose the index card . . .

News in now from Trev (*Grizzly Adams*) of the Organised Radio Society of Ripley who asks me to pass on the news that he has changed the name of their Club after a "split" from the previous ORC as mentioned in the November 1985 issue. The ORS is a registered charitable society and Trev sends best regards to all readers out there who have copied ORS Club members. The ORS holds a weekly meetings at the Red Lion, Ripley, every Wednesday and any breaker/QSLer visiting the area is more than welcome to come along. Now, some little while ago, nearly a hundred years ago in fact, Marconi sent the world's first wireless message across a stretch of water, and this was from Ballycastle in Co Antrim. How do I know this? Because I've got a letter. No, not from Signore Marconi but from Matt (*Bluebird*) of the Moyle Breakers Club which was formed in 1979 with the object of making friendships all over the world. If anyone wants to QSL to Matt and his friends in the MB Club, they will be delighted to reply to all. And if you ask real nicely, you may even get the "Irishman's Letter"!

A request now from wee Lynn (*Kilty*) of Braintree in Essex. Is her package a good 'un she asks? Well, there's a selection of her personal cards, a club card and an eyeball card, in addition to which there's a selection of local view cards and even a car sticker. Yes Lyn it's a great package; just one little tip for you and several others, 'i' comes before 'e' in 'friend'! A couple of cards here from Ken (*Brer Rabbit*) of Gainsborough, one being a highly personal one in the Currie "Independent Artist" series, whilst from Harry (*Rusty Bell*) comes a selection of his personal cards both old and new. A long letter in and from an old mate John (T5) who asks for a mention and sends his latest personal card which is in the Currie "Spectrum" range.

From Tony (*Gunfighter*) of Camborne, comes a bundle of club and personal cards ranging from a personal Currie to a quite superb POMA "Trail Blazers" club card. Talking about bumper packages, I've just come across a mini-parcel from Len (*Freeway*) of Dorset who has sent such a massive bundle of cards it's almost like going through a club package! There's black & white personal cards, there's hi-gloss personal cards, club cards of all sorts, tourist info leaflets on Wimborne minster, and for a package going to Europe, Len even has translations in French and Dutch! And to round off his package, there's even a bundle of local view cards. If you want to send him a good QSL package yourself to get one of his, I'm sure you'd be more than welcome, but don't just send one or two club cards and expect too much in return, as in so many things, you really only get out of a hobby like QSLing what you put into it.

If you have just started QSLing then I do recommend you to the July issue's Special on QSLing. This did give all sorts of info and tips, but as a general guideline for anyone new to QSLing, here's a few hints. Always send one (or more) of your own (different?) personal cards made out to the person to whom you are QSLing to, a few (4+) as floaters, don't forget to sign and date all your cards, a few other QSLers' floaters, perhaps a little tourist info and such like. But whatever you do, do ensure that there is sufficient postage on the envelope!

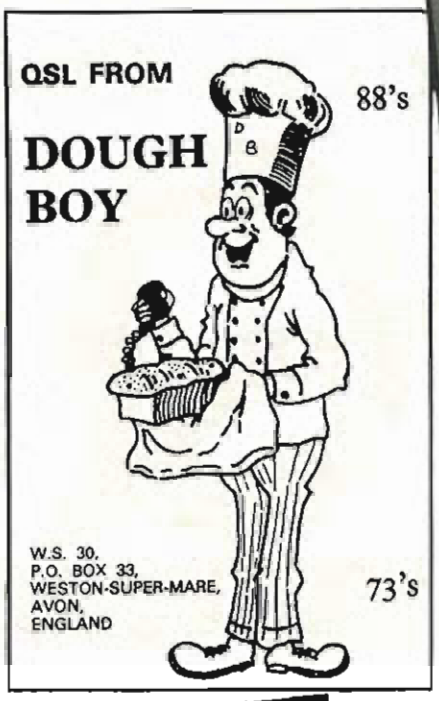
Sending a package with postage due is *not* a good way to make friends! If you haven't any personal QSL cards yet, then do look round and do consider getting some as soon as possible. Club cards are quite acceptable in your QSL package, *but* alongside your own cards, *never* instead of them! Yet another good QSL package this month comes from John (*Star of David*) with a great mixture of club, personal and view cards, always worth a QSL is John. I've had a card and letter from Chris (*White Rock*) of Herts who asks if the Tower Bridge Club of London is still going as he is finding it very difficult to get any Club extras. Sorry Chris, can't help there, I've not heard anything from the TB for quite some time. However, if the Club is still going and they read this, will they please get in touch with Chris, TNX.

Details of a club or two coming up now, starting with the Four Kings QSL of Coventry. For £2.50 (cash or UK PO made out to D. Hackett) plus a 9" x 6" SASE with 38p worth of stamps and five or more personal QSL cards, signed and dated, and of course showing your return address, you can expect a package consisting of your unit number, ID card, certificate, FCC and matt club cards, pen, key fob, 10 and 'Q' codes, stickers, log sheets, exchange cards and invites, tourist info etc. Extras include FCC club cards at £6 per 100, matt club cards at £2.50 per 100 and stamps at £2 and £3 each. The FCC cards? You guessed it, they are Mr Currie's "FCC Series", for details on these, prices etc, you'll have to drop Des Currie a line, with SASE for a reply. Just a personal note here, I still feel that if a club charges for membership, then return postage should be included in the fee, and one thing I really *do* dislike reading on application forms is:- "No money or SASE, no reply". But before the clubs which do this start bending my ear about these comments of mine, to me this phrase means that if someone sends the money, but forgets to put in a SASE, then there will be no reply, ie: no refund! So come on guys, please rephrase these invites to avoid this mixup. While you're at it, how about knocking off this "money *and* SASE", include it in the fee. As I say, this is my own personal feeling after running the Dragonrider Club for over four years.

Moving on now to a couple of appeals I've received news of recently. From Cheshire comes John (*JR*) of the Atlantic Breakers Club with a request for a mention for the appeal his club runs in the hopes of buying a kidney machine for Pendlebury Childrens' Hospital in Manchester. At the time of writing, the total stands at over £200 of which the majority was given to John at the Trail Blazers Swap Meet held back in June this year. More news about JR in a moment, always providing I have room!

The other appeal is being organised by Margaret (*Windmill*) called the "Richard Ratcliffe Fund" which is named after a 19-month old baby who suffered from a rare kind of cancer. Tragically Richard died shortly after the fund was set up and so all monies (or gifts for auction) will be put towards research and to help other sufferers of this rare form of cancer.

Anyway, mentioning ol' JR reminds me to say thanks to him for letting me have some info on various eyeballs and events going on around the country as the organisers aren't letting me know and I have to rely on him. As members of the ABC will know, the club does issue a newsletter every two months or so, and in the past there has been a page by the infamous "Buck Fuzby". However, due to ill health



QSLER ADDRESSES:–

Ray (*RSE*) Matt (*Bluebird*)	PO Box 106, Canterbury, Kent. MB22, PO Box 25, Ballycastle, Co Antrim, N. Ireland.
Lynn (*Kilty*)	YT 46, PO Box 455, Braintree, Essex.
Ken (*Brer Rabbit*)	FC 34, PO Box 90, Gainsborough, Lincs, DN21 1TP.
Harry (*Rusty Bell*)	134 Lakenham Road, Norwich, Norfolk, NR4 6BB.
John (*T5*)	112 Shawbridge, Harlow, Essex, CM19 4NW
Tony (*Gunfighter*)	35A Roskear Road, Camborne, Cornwall, TR14 8BT.
Len (*Freeway*)	DD 249, PO Box 5, Wareham, Dorset, BH20 4JG.
John (*Star of David*)	37 Courtney Road, Maidstone, Kent.
Chris (*White Rock*)	38 Highcroft, Stevenage, Herts, SG2 8QU.
Margaret (*Windmill*)	4 Handford Street, Derby, DE3 3GS.
Rob, Steve & Dave (*Merseydee Breakers*)	PO Box 24, Birkenhead, Wirral, L42 9EE.
Gwilym (*DC 29*)	PO Box 183, Deeside, Clwyd, North Wales, CH5 1EG.
John (*Bingo Basher*)	ZL3, PO Box, 5, Farnham, Surrey, GU9 8TT.
Steve (*Dough Boy*)	WS 30, PO Box 33, Weston-Super-Mare, Avon.
Eddie (*Scottish Soldier*)	PO Box 464, Telford, Shropshire, TF7 PH4.
Kevin (*Knight Rider*)	20 Northern Way, Southwick, Sunderland, T&W.

QSL CLUB ADDRESSES:—

Atlantic Breakers Club	PO Box 73, Altringham, Cheshire, WA14 3BP
Four Kings DX-QSL Club	PO Box 19, Coventry, CV6 6ND.
Ham International	PO Box 8, Mirfield, West Riding of Yorkshire, WF14 0XA.
Organised Radio Society	PO Box 33, Ripley, Derbyshire.
Dragonrider One	C/o the Mag, or 3 Tarn Villas, Cowpasture Road, Ilkley, West Riding of Yorkshire, LS29 8RH.

(somebody strangled him with his own phone line!), Buck has retired and I see that he has been replaced by a "Son of Buck Fuzby". Perhaps this guy will improve with time, but he ain't a patch on Buck Fuzby himself (and I know who BF was, but I'm not telling!

By the way, I've been threatened! Yep, this guy, somebody with flying tanks ("in" joke) has sent me a letter threatening to call when he's in the area and to bring his "Firm's Wrapper" to show me. As he's in the Army, I dread to think what he might turn up in! (Only kidding Ross!)

Just room for a last few names so first up is a letter and cards from the Merseyside Breakers of Wirral who include Rob (*Gentle Giant*), Dave (*CB Man*) and Steve (*The Crusader*) who say that they are all serious FM DXers and transmit weekly from North Wales and have made many friends all over the country and want to wish them all the very best. From Eddie (*Scottish Soldier*) comes a card and the news that he liked the "Special" in the July issue (if you missed it, shame on you, kindly order a back issue!) and would appreciate a mention, as would Kevin (*Knight Rider*) of Sunderland. From Weston-Super-Mare comes an excellent Midas card from Steve (*Dough Boy*) and a selection of club and personal cards from John (*Bingo Basher*) arrived on my desk. Very descriptive cards too.

And that's it, out of room yet again, just enough left for one name, that of Gwilym (*Delta Charlie 29*) with a couple of club cards, and the news that the Ham International Club of Mirfield has had to increase membership costs to £5.

Right, if you've news of a forthcoming event, please do let me know, in plenty of time mind, not a couple of weeks before the actual event. If you'd like a mention then just drop me a line, *but* don't expect it to appear within weeks, it can take quite some time for me to work my way through the massive backlog of mail and I do try to do this in date order where possible. If you've a problem, and you think I might be able to help, again, drop me a line and I'll do what I can, but if you want a reply other than through the mag, please do enclose return postage. That's it, catch you all next month.

FORTHCOMING EVENTS:—

3rd-6th October — Country Breakers Club, PO Box 36, Scarborough, YO11 1AA. "Holiday Weekend" with Saturday Evening Eyeball, Raffle, CB Beauty Queen, Talent Contests, Cabaret etc. Also various events during the rest of the weekend. This year's meet is being held at the South Shore Holiday Village on the A165 just outside Bridlington. Costs: From £30 per Chalet.

3rd-5th October — Solway Pirates Eyeball, PO Box 15, Castle Douglas, Dumfries, Scotland, DG7 1DL. Weekend Eyeball held at the Southerness Holiday Village, Southerness, Dumfries, Scotland. Costs: £33 to hire an on site caravan, or £10,50 if bringing your own caravan or tent.

4th-5th October — Atlantic Breakers (et al), 14 Pirory Road, Bowden, Cheshire, WA14 3BP. Swap Meeting held at the Atlantic Social Club, Broadheath, Altringham, Cheshire.

4th October — Sunrisers DX Group, PO Box 7, Bridgwater, Somerset. All day eyeball, "Home Farm", Bridgwater, Somerset, admission £2.50, £1.00 for children.

22nd-23rd November — Waterlooville Breakers Club, PO Box 2, Portsmouth, Hants, PO7 5SL. An International Swap Meet held at the Mary Rose Hotel, 21 South Parade, Southsea, Portsmouth between the hours of 9am to 4.30pm on Saturday, and 9am to 2pm Sunday. Admission 50p per day and includes evening entertainment and a raffle with a difference!

ADVANCE NOTICE!

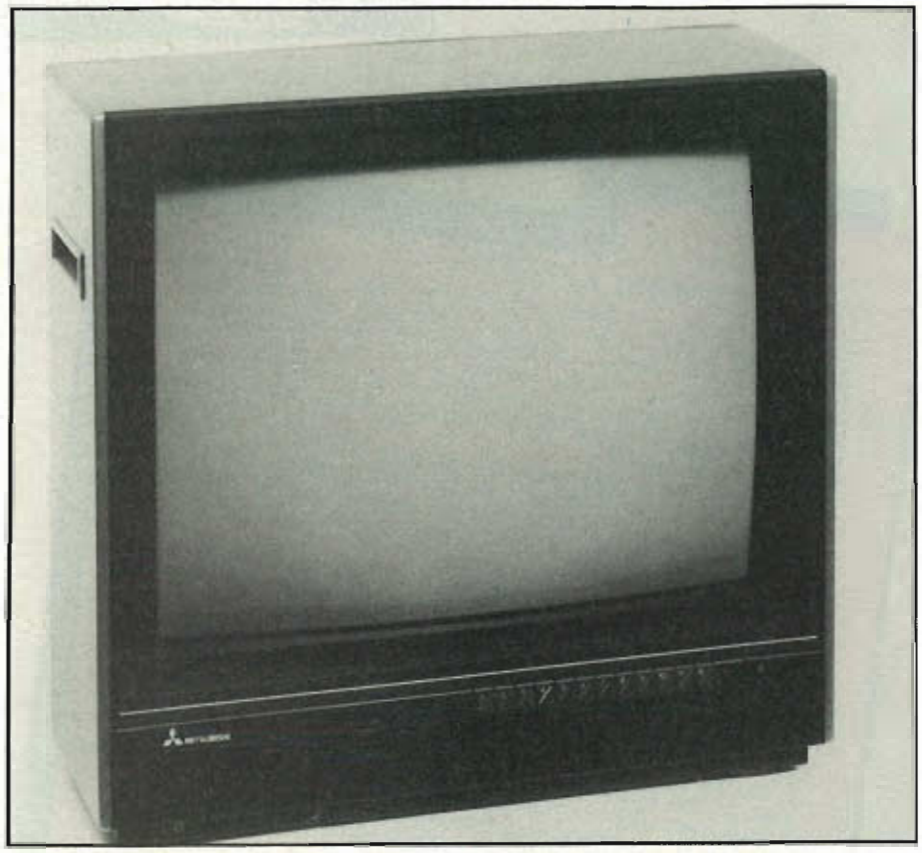
4th-5th April 1987 — Cutty Sark Club, 16 Bradenham Avenue, Welling, Kent, DA16 2JG. The Cutty sark 3rd Annual QSL Swap Meet at the Falcon Hotel, Cliftonville, Margate. Costs at £16 per person, and includes dinner, overnight accom., breakfast & disco admission etc. £5 non-refundable deposit to be sent to Dave Breadshaw at the above address.

QSL SERVICE ADDRESSES:—

Charlie Cards	26 Edward Street, Hartshorne, Burton-on-Trent, Staffs. DE11 7HG.
Currie Cards	89 Derwent Street, Blackhill, Consett, Co Durham.
Midas Cards	40 Markley Close, Brownhills, WS8 2AP.

COMMUNICATION - LINE BY LINE

Interested in visual as well as audio communications? Here Paul Coxwell sheds some light on how sound *and* pictures are transmitted



How many times have you switched on the box in the corner and sunk into an armchair for the evening? Try to imagine what would happen to modern society if every TV station closed down and you can get some idea of how much we depend on it. No latest EastEnd antics to talk over at work, no J.R. scheming on school buses and, horrors of horrors, people would actually have to talk to each other in the evening like us poor breakers! If you've ever wondered just how pictures get broken up into pieces, transmitted and reassembled again then read on.

Let's start by looking at what happens in an electronic camera. The principles are the same whether it's a studio unit costing thousands or a cheap (by comparison) handheld for your home video. The image is focussed by an adjustable lens onto a special screen, just like a normal firm camera. This screen is photo-sensitive, and can provide a varying electrical signal related to the intensity of light falling on it. I'm sure most of you realize that a television picture is made up hundreds of horizontal lines — if not take a close look at your set next time you're watching. In Britain the picture is split into 625 lines, each of which is transmitted one after another. A tube in the camera traces out each individual line, then quickly flies back to the start of the next line and so on. At the bottom of the picture the spot jumps back to the top and starts over (see Fig. 1). This whole process is repeated fast enough to give the illusion of continuous motion, 25 complete pictures being sent every second. The scanning is actually a little more complicated than this, but there is no need to cover this point in a simple outline.

In your receiver a similar process takes place in the tube. Take a look at Fig. 2 which shows the construction of a black-and-white TV tube. The electron gun at the back of the tube is heated by a filament and emits electrons from the surface. The anodes further along the neck of the tube are connected to high positive voltages which cause the negative-charged electrons to be accelerated forward. The final anode which is formed right around the inside of the flare, is connected to a source of several thousand volts (anything from 10000 to 30000!) which provides the final acceleration needed to cause the electron beam to strike the fluorescent screen located just behind the front glass of the tube. The more electrons striking the screen, the brighter it glows. You can see the electron gun(s) and other tube components through the glass in most cases. If you look inside a TV for any reason just remember that in addition to the 240V supply there are sections of circuitry generating hundreds of thousands of volts.

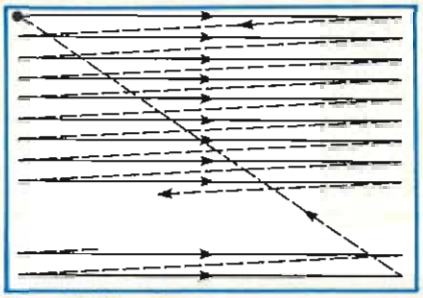


Figure 1. Scanning

If you are not familiar with TV circuits (if you are, why are you reading this?) switch the thing off and leave it for a while before you start poking about — parts of the circuit can hold hefty charges for a long time! Fitted around the neck are some fairly hefty

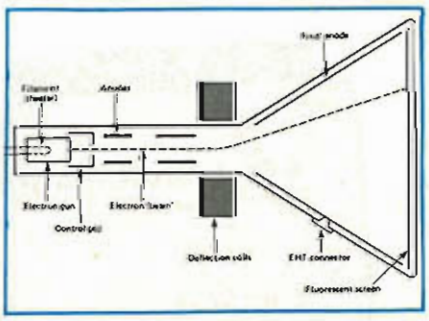


Figure 2. Simplified TV screen

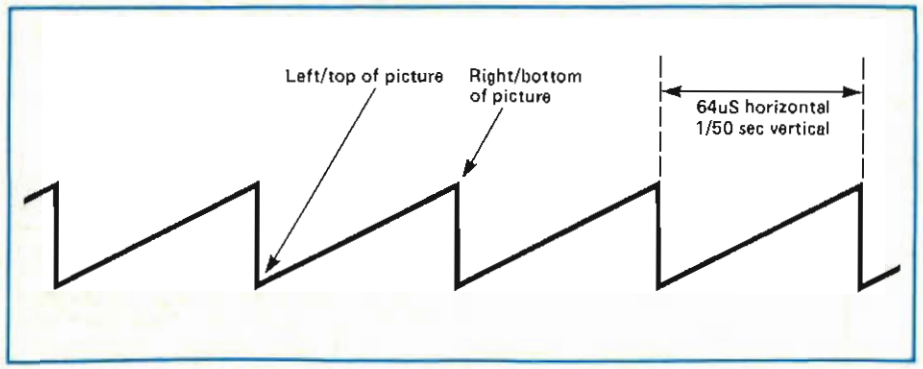


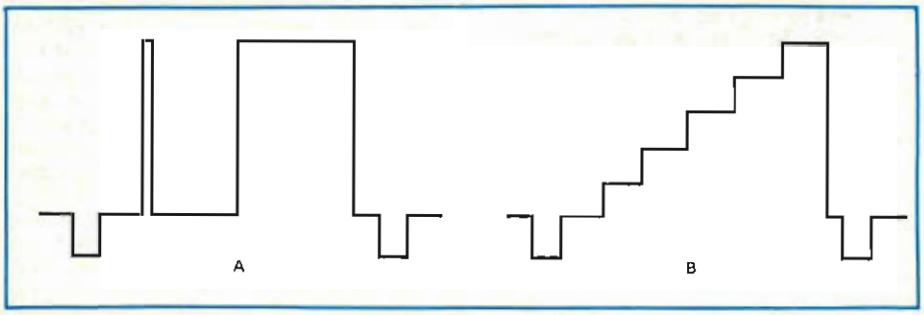
Figure 3. Timebase waveform

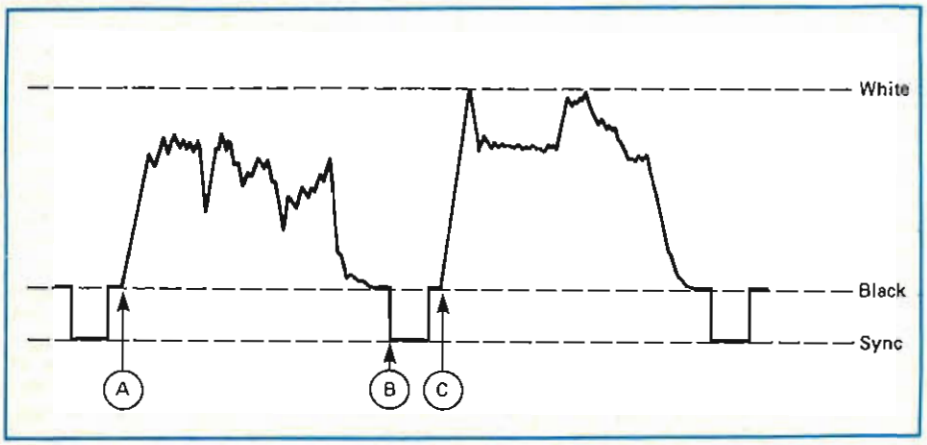
coils which are connected to powerful oscillator/amplifiers called timebases. These scanning coils form a magnetic field around the tube which "pull" the beam in the required direction. The signals are sawtooth, or ramp waveforms, as shown in Fig. 3. A horizontal timebase feeds one section of the coils and you can see from the diagram that the spot is slowly taken from the left to right of the screen (it takes every bit if 64 microseconds!) then taken quickly back to the left. The vertical timebase feeds the other section of the coils to give a similar effect from top to bottom of the screen, only much slower.

You can see the effect of magnetic fields on the electron beam by placing a small magnet in front of the screen. Before you rush off to try though, be warned — *don't try it on a colour set!* Doing this may cost you considerable amounts of hard-earned cash to get your colours right again!

The electrical signal derived from the photo-sensitive screen in the camera consists of information for 625 lines one after the other, so if this can be used to alter the intensity of the electron beam in the receiver the picture will be reproduced. There is however one other problem — keeping the scanning in the receiver in step with the scanning in the camera. The timebases must run at exactly the same frequency (and phase) or the familiar rolling picture, or zig-zag lines result. This is called synchronization, and involves adding some extra pulses to the signal to tell the timebase in the receiver when a new line is starting. Take a look at Fig. 4, where we have two lines of a picture. Starting at point A, the signal carries the varying levels of one of the picture. The peak level at the top of the diagram represents white. Anything between there and black level is varying shades of gray. At point B we have reached the end of the line, and the video signal drops to below black level, into what is called the line synchronization pulse (line sync. for short). These pulses keep the line (horizontal) timebase in the receiver locked or "synchronized" with the transmitting station. At point C the next line of the picture starts. At the end of each picture, vertical synchronization pulses are inserted to keep the vertical timebase in the receiver in step with that at the TV station. These are broader (i.e. they last longer) to distinguish them from horizontal pulses. Fig. 5 shows a couple of test signals which you may see if you get up early enough. The one line shown is repeated for the complete picture. (A) is a "pulse and bar" and on screen you'll see it as a white vertical line followed by a large white block on a black background. (B) is a "staircase" or "gray-scale" and on screen shows up as six vertical bars varying from black on the left to white on the right through 4 intermediate levels of gray.

The way that this video signal alters the intensity of the electron beam, or modulates it, is to apply a signal to a control grid in the tube neck. This is located between the electron gun and the anodes. Because electrons are negatively charged, if a negative voltage is applied to the grid some electrons don't manage to get through (like charges repel), so the intensity is reduced and the screen goes darker. The more this negative voltage in increased the more the electron beam is reduced, until a point is reached where the beam is completely cut-off and the screen is black. So linking the video signal through suitable circuits to provide correct voltages and remove the sync pulses will give us the required picture. Another way is to apply the signal to the cathode (electron gun), as it is the *difference* in voltage between it and the grid that matters.





(Top) Figure 4. TV video signal. (Bottom) Figure 5. Two typical test signals

Colour Pictures

If you're very observant (well, awake anyway) you may have noticed that so far we've only looked at black-and-white, or monochrome television. Colour TV arrived fairly late in Britain (in the late 1960s) although there are even some places today using only monochrome! To send colour pictures we must have some way of distinguishing different colours as well as just luminance (overall brightness). Any colour can be made by mixing red, green and blue in the correct proportions, as these three colours are the primaries in light. Fig. 6 is a diagram you'll see in just about any book about television servicing. If you had three projectors with red, green and blue filters fitted to them, and aimed them at a white screen as shown you would get the three secondary colours yellow, magenta and cyan where two lights mix, and white where all three mix. By adjusting the level of one projector in

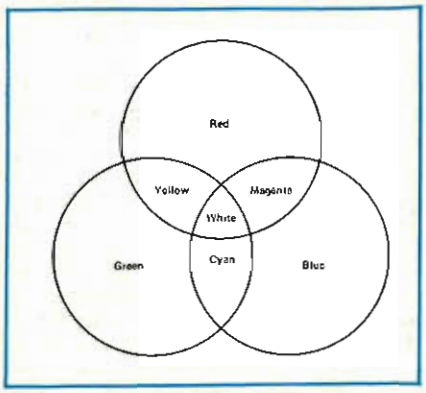


Figure 6. Mixing light

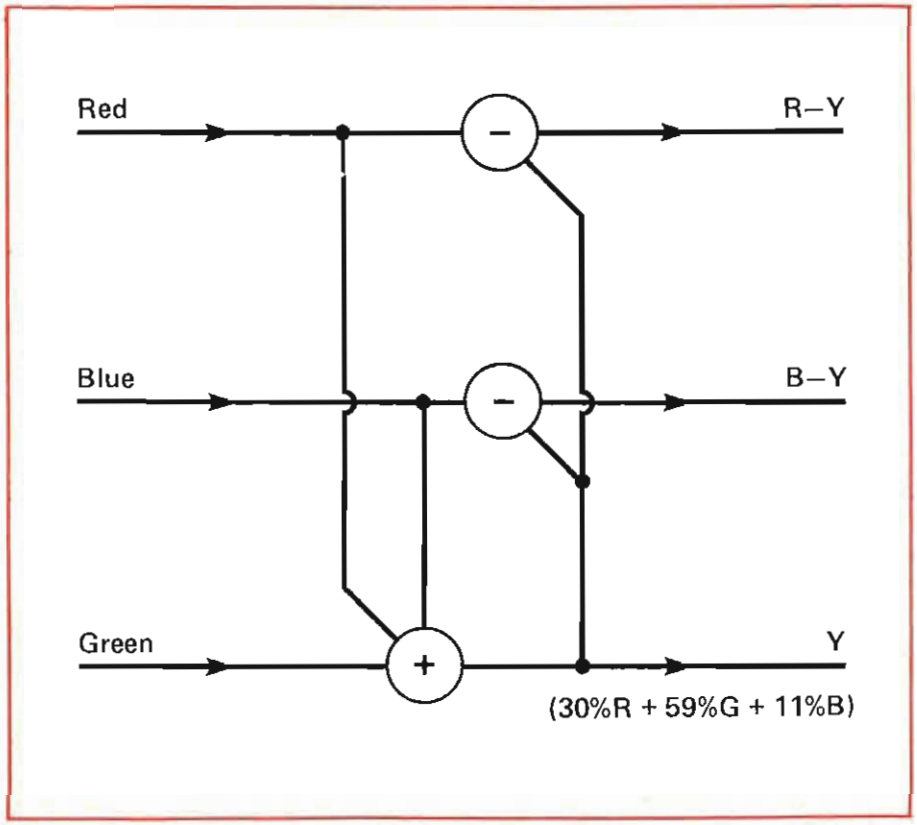


Figure 7. Obtaining colour-difference signals

relation to another you can for example, make the yellow appear more toward orange by increasing the red or reducing the green. Similarly the cyan (a turquoise colour) can be made to veer toward green by increasing the green or reducing the blue and so on. Adjusting all three beams together (i.e. keeping the proportions the same) you can make any colour brighter or darker without changing the actual colour itself.

You can often see these primary and seondary colours early in the morning or late at night as a standard "colour bar" signal, consisting of 8 vertical bars ranging from lightest to darkest — white, yellow, cyan, green, magenta, red, blue and black. These are also included in composite test patterns as that shown on Channel 4 or the BBC when they're not showing-off Teletext pages.

As you may have guessed by now, a colour TV tube has three separate electron guns, one for red, one for green and one for blue. However, they don't emit red electrons, green electrons and blue electrons! The three guns are identical, and they all emit identical particles — an electron is an electron. So how does each gun produce the appropriate colour? The fluorescent screen is a little different to monochrome tubes, and consists of groups of three dots. Within each group one dot emits red when struck by electrons, another green, and the third (surprise surprise) blue. Now all that is needed is to make sure that the beam from each gun only hits dots of the same colour. This involves using extra magnets around the tube to get each beam lined up properly. These adjustments are called purity adjustments. There's more to it than that though — it's all very nice having one gun hitting red, one green etc but all that effort is wasted if you want a yellow line somewhere and the red beam is half an inch away from the green! So even more adjustments make sure that all three beams track together over the entire screen. This is convergence. Colour tubes have a "shadowmask" just behind the fluorescent dots which has thousands of tiny holes in it. The idea is to get all three beams to pass through one particular hole at any time — this is no easy task. The shadowmask is why you shouldn't put a magnet in front of a colour screen; doing so can magnetize the shadowmask and cause the beams to be deflected after the magnet is removed. In this case the mask must be demagnetized or "degaussed" by using an alternating magnetic field. If the magnet you used is very strong it could even distort the shadowmask, and the only real answer here is to replace the complete tube.

In the colour camera, three tubes are used to scan three different photosensitive screens. These screens receive their light through red, green and blue filters, so that one only responds to red and so on. So looking at a yellow card, only the red and green tubes would give an output, there being no blue content. You can see this effect by looking through filters at various objects.

All that is needed now is some way to get the red, green and blue signals from the camera to your TV tube. It would be possible to have three separate transmitters, one for each colour, and three receiver sections in your set — similar to having three CBs set up on different channels. However, this isn't really a very good idea, not only because of the cost of all that gear, but because the colour signal wouldn't be compatible with monochrome receivers. Also the bandwidth used up would be rather high. Take a look at Fig. 7. The red, green and blue signals are fed to a mixer to add them together and provide an overall luminance or "Y" signal as it is often referred to. If we say the three individual signals range from 0 to 1.00 then the Y signal is 0.3 red, 0.59 green and 0.11 blue. The luminance signal is the only one that will eventually be used in a black-and-white receiver. Another mixer is fed with the Y signal and the red signal and provides an output which is the difference between these two. This is the red colour-difference signal. A similar scheme is used on the blue signal. The luminance signal Y is used to modulate the video transmitter just as before, after sync pulses etc have been inserted in the appropriate places. The two colour-difference signals modulate another carrier, called a sub-carrier, because the result of this is then used to modulate the main carrier!

Simplified

If this is all getting too much don't worry — it's complicated, and this description is very simplified. All you need remember is that at the receiver we can recover the three signals Y, R-Y and B-Y. A black-and-white receiver just uses the Y signal to provide luminance information, and this same signal sets the overall brightness in a colour set. The colour-difference signals are fed to a decoder matrix which provides red, green and blue signals. Yes, green wasn't transmitted, but we have red, blue and luminance and as the luminance equals the total of the three colours we can get the green signal back by subtracting red and blue. Got it? Fig. 8 is an example of a colour signal shown on an oscilloscope. The line sync pulses and luminance signal are there just as before, but that colour sub-carrier and the colour difference signals can be seen "on top" of the luminance. Notice that the extreme right of the picture just has a peak-white luminance without any colour information. This would be white on the screen. One advantage of using difference signals rather than just sending red and blue is that when no colour is present there are no colour signals being transmitted. The system isn't perfect, and this can help avoid disturbing effects showing up on your screen — even so you've probably seen some. Another signal has been added in this diagram, the colour burst. In the receiver an oscillator is used to recover the colour-difference signals, and just as the timebases must be synchronized so must this oscillator be synchronized to that at the station. The colour burst accomplishes this, amongst other things. Here we must end our look at colour before it gets too involved!

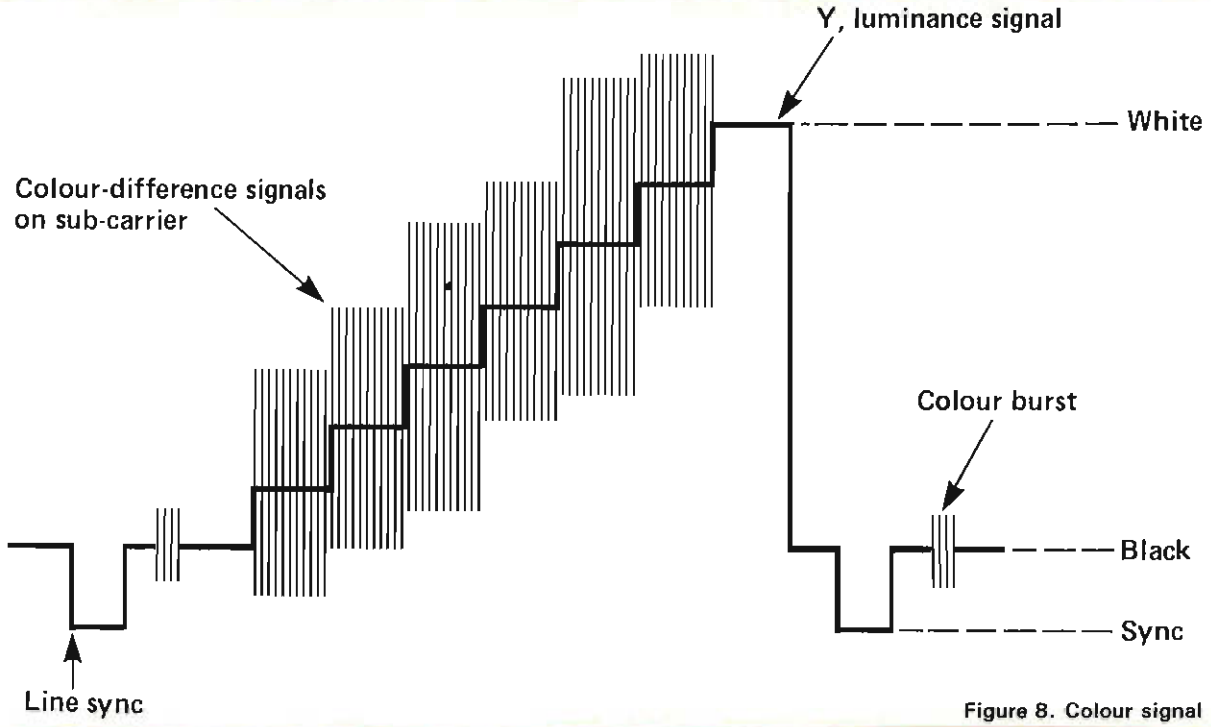


Figure 8. Colour signal

Sound

After struggling through all those bursts and sub-carriers let's move on to something a little simpler. So far we have picture but no sound — though it's probably an improvement in some programs! The sound side of television is very similar to VHF-FM broadcasts, except there is no stereo. A separate transmitter tuned to a frequency some 60MHz above the video transmitter is used for sound, and sends out an FM signal. Video information is AM (or to be precise a special form of AM called vestigial sideband). If you're wondering why the sound is so far away from the vision, it's because to transmit video uses up that bandwidth. Fig. 9 shows the overall signal. The space occupied by one TV channel could hold hundreds of CB channels. At your set one receiver covers a wide enough bandwidth to get both video and audio; they are separated further on.

Conclusion

By now you should have a very rough outline of TV operation, although obviously much has been over-simplified particularly on the colour side. To describe the system in detail would fill a book (and has). Television in other parts of the world works on the same principles but with numerous variations. Unfortunately TV is one area where there are so many different standards that transfer between countries causes a few problems. For example some European countries use a 625-line system like ours but use a slightly different way of transmitting colour information. North America uses a 525-line system and yet another way of sending colour. So that's why that exotic tape you picked up from your trip to Tokyo doesn't work back home!

We now have television developing into information databases with CEEFAX, ORACLE and other teletexts in use around the world. Some companies are experimenting with stereo sound and with Direct Broadcast by Satellite (DBS) looming closer we can look forward to even higher definition pictures and in the future maybe thousands of channels on one satellite! TV Teletext is now being used to exchange computer software over the air, and it is now possible to order goods and services, book airplane tickets etc from your armchair using your TV with systems like Prestel. In the distant future — who knows?

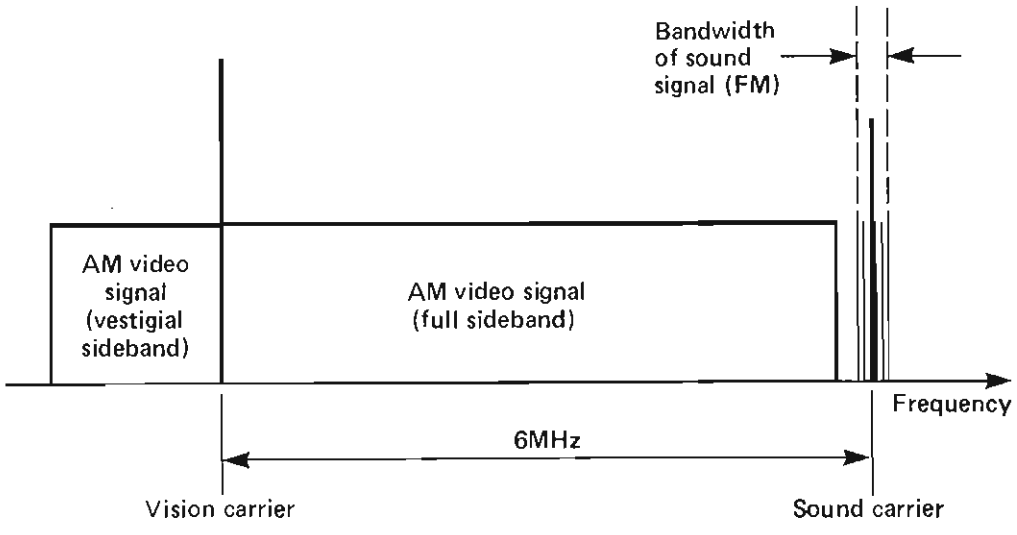
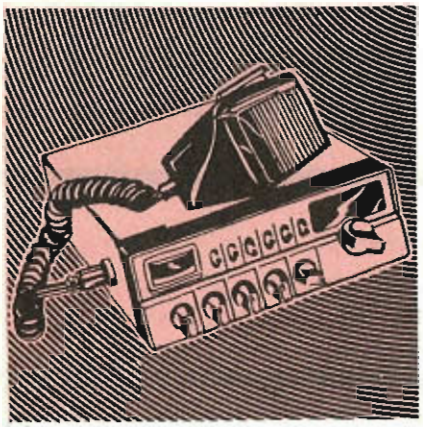


Figure 9. Complete sound/vision signal

Rig Review



LET'S SEE ACTION

Trevor Butler gets his hands on the Handic 92, the latest two-channel handheld from Micman

Made in Sweden, previously imported by Radiotechnic, these two-channel crystal controlled, low-power handhelds, complete with selective calling, at first sight seem almost ideal for every portable application. Measuring just 164mm H by 70 W and 30 D, it weighs in at 425g including batteries. Packed well in a colourful box, with protective layers of polystyrene, the rig comes with batteries, headset, strap, belt-clip, and an antenna, suitable, just, for portable applications.

According to the publicity leaflet, these units are "ideal for action people, and can be used while skiing, windsurfing, or skating or cycling, and can be used to keep in touch with fellow enthusiasts". This, of course, presumes that fellow sportsmen are also equipped with a Micman unit operating on the same frequencies . . . but what discerning action person wouldn't bel

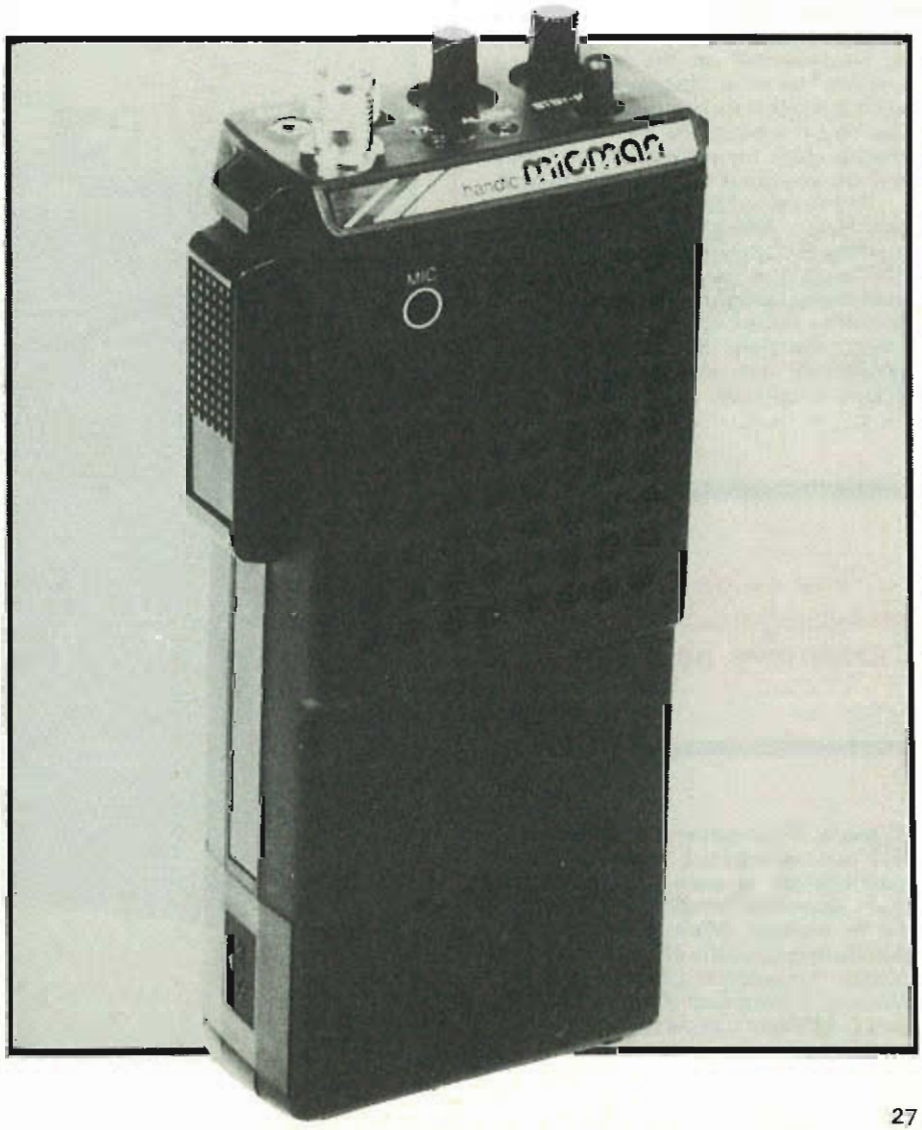
The review samples were supplied with four rechargeable NiCad batteries each; size U7, 1.2volt with recommended charging 45mA constant for 15 hours. Similar dry cell will also work, and provide a slightly increased voltage.

Most of the controls are located on the top panel; the combined on/off and rotary volume control, a separate squelch knob, the channel select switch, up for Channel A, and down to select B, while the switch to be used in conjunction with the sel-call feature just about completes the line up. This selects normal use, stand-by for call mode, and call itself. Two LEDs indicate transmit and alarm to show that a successful sel-call has been received. The antenna connector is a superior TNC 50 ohm type, similar to a BNC, but with a screw outer sleeve, rather than a bayonet.

On the left hand side of the rig, the push-to-talk switch is housed and, below this, the slide-off battery cover, revealing an ingenious pack which houses the four cells, yet which can be completely removed, none of those annoying little connecting wires here. It's just a pity that a spare pack isn't supplied to enable a quick change-over.

The charging socket is on the opposite side, and with the belt-clip fitted to the rear that's about it from the exterior, apart from the microphone and speaker housing on the front. There is a socket marked "EAR" on the top which does more than it suggests.

For a field trial, I opted out of the activities pictured in the instruction leaflet, as they included energetic pursuits like go-karting and horse-riding, and instead chose a quiet walk through the Sussex countryside. Fixing the 43cm long glass-fibre antenna and neck strap, I clutched the rig and set off in the opposite direction to my colleague. Not untypically he soon



came across a public house and sat down ouside clutching a pint of amber nectar. I, on the other hand, walked on, exchanging conversation. It was when we were about three-quarters of a mile apart that the signals became unreadable and disappeared into the noise.

Not much of a range? Well, with just 500mW output into an antenna which is really a compromise, not bad going we thought. Trying the gizmos was even more interesting. We moved nearer so that we were about a quarter of a mile or so apart, thereby having fully quieting signals above the noise. The headset provided consists of a single earphone, electret microphone on a 15cm flexi-boom, and a headstrap with a supporting padded bar in place of the second earphone. A 123cm lead is terminated in a three-pole 3.5mm jack carrying mic, ear and common connections. The received audio through the headset was noticeably harsher compared with the internal speaker, although perfectly adequate.

The audio produced by the microphone on the headset, on the other hand, was considerably better than that through the internal mic insert. A bright, crisp report was obtained. Although the headset was comfortable, prolonged use is not recommended; there are adjustment bars to suit different head sizes, although with sudden movement there was a tendency for the headset to fall off. The lead was of an adequate length to allow the rig to be mounted on the belt or in a pocket. The main criticism is that there is no push-to-talk facility on the headset, and therefore the PTT switch on the rig must be available at all times and be activated to achieve transmit.

The supplied aerial is also worthy of discussion. Being 43cm long it has a loading coil at the base, just above the TNC plug. It is obviously too short to operate successfully at 27MHz, and therefore rather "lossy". It will, by its nature, therefore have a low radiation resistance, whereas to be most efficient it should have the highest possible. More power is therefore lost and less is radiated. While the MPT specification is such that the maximum permitted length is deliberately set to prohibit efficient antenna and therefore reduce the effective radiated power, the antenna supplied with the Micman is even less efficient than the most efficient allowed under the specification.

"The selcall feature provided much fin inthe extensive field trials"

A measurement of the aerial termination on the set, however, revealed that it is 50 ohms, and therefore it should be possible to attach another 50 ohm antenna and achieve better results. This is a distinct advantage, and indicates that the matching is in the aerial, rather than in the rig, and that the loading is in the portable whip supplied. The TNC connector is another 'plus' feature and provides a reliable and secure fixing with its screw thread on the outer sleeve. An adaptor can easily be obtained to allow other plugs, perhaps on base antenna, to be connected.

"The TNC connector is another 'plus' feature and provides a reliable and secure fixing with its screw thread on the outer sleeve"

The selcall feature provided much fun in the extensive field trials. The idea here is that only selected signals will be received, thereby rendering the set quiet until the wanted signal is heard. The set is left with the function switch set at Standby, while the calling station presses his key to Call; this will transmit a tone code which the other set should recognise. At this point the squelch will be lifted and the signal heard.

One drawback is that both units must have similar tone encoders/decoders, both must be set to the same frequency/channel, and that channel must be clear of other traffic. If all these conditions are met, a successful call is received and indicated by a red LED on the top panel. After several attempts, the units were both restored to their normal positions. A number of different so-called tuning forks, or selcall codes, are available which can be paired up to make different calling codes, so it is possible to make up groups of Micman units that will all respond to the same code.

This facility would lend itself to other applications, and it would be possible to have a base station and use the units as a pager with answering possibility. Up to 12 handhelds can be called from, for example, the switchboard of a company, or used on a farm.

Having exhausted the facility I rendezvoused with my colleague and we sat together outside the pub, and looked inside the Handic 92. Removing two screws on the back panel, the front and rear pull apart to reveal the "works". There is a sufficiently long lead on both speaker and microphone to allow the unit to be opened fully and laid on the bench for maintenance.

It's immediately obvious that this is a well constructed, and well designed box of tricks. High quality components are employed throughout, good board layout, high quality soldering, neat internal wiring, well seated crystals, and varnished coils to prevent movement are all evident.

It is possible to have access to any two of the 27MHz channels by installing the appropriate receive and transmit crystals in the housing provided. The transmit crystal is that of the direct operating frequency eg 27.98125MHz, while the receive crystal is that less the IF frequency of 455kHz 27.52625MHz. The frequency coverage is 300kHz in 27-31MHz band producing 475mW under test on rechargeable cells and 500mW on dry cells. It was felt that just two channels was limiting, especially in busy areas, as it was often the case that neither of the channels available was free of other traffic.

Just above the charging socket, a 3.5mm type, it was noticed that a further socket has been blanked-off; following the wiring back it seemed as though this was concerned with the PTT arrangement, and may be for use in other markets. Some of the receiver coils are screened off with a small metal sheet, while the main processor is a 16-pin device located in the centre of the board.

The loudspeaker employed was of a very thin nature, rated at 0.1W, it was perhaps because of this that rather poor received audio was evident at all times, and it was often difficult to hear signals against high background noises such as busy roads. The audio amp will deliver 0.2W with 10% THD quoted at 1kHz, although this level introduced distortion through the speaker.

When wearing the Micman on the belt, the antenna supplied tended to be obtrusive and impede arm movements rather; the optional aerial, a 26cm rubber duck, was more convenient but gave a considerably reduced performance. However, unless the long antenna can be held in the clear, the rubber duck was almost identical in response. A great improvement was noticed when a mobile installation was used; although a base station was not tested, this would undoubtedly have been ideal. The drawback then is that because only the internal batteries can supply the unit with DC, any use as a mobile or base station puts a considerable drain on these.

A useful accessory, certainly from the illustrations in the information leaflet, is the carry harness which could be used on the chest or on the back, and can be sited so that the antenna is held away from the body. The charger, also optional, is rather snazzy, with indicators to show the state of the cells during charging. While flat batteries take some 15 hours to fully recover, a green indicator will show when charging has finished. During tests, it was found that with a cycle of 10% transmit and 90% receive, the fully charged cells lasted all day, with only slightly diminished performance towards the end as the voltage dropped, until that sudden dramatic deterioration which takes place with NiCads.

Also available, for those engaged in watersports, is a waterproof package. It consists of two very elasticated covers, one for the Micman and the other for the headset, so that even if you fall into the water, the set will not be damaged. It is designed to guard against splashes, of course, but it isn't known how well a conversation could be continued through rubber waterproof covering!

"... this is a well constructed and well designed box of tricks"

A small, A5, owner's manual is supplied and gives the brief operating instructions in three languages. Also included is a schematic circuit diagram, and some specification information. The rated current drain on transmit is 240mA and this was found to be accurate, as was the frequency stability when checked. On receive, current drain drops to about 12mA. The accompanying colour information leaflet suggests that different channels are employed by people with different hobbies, so that 26.965Mhz is reserved for "Foreningssport", 27.005 for jogging and 27.015 for Slalom skiing. That's the story in Sweden anyway which is where the Micman is made; could it work here?

Great fun was had trying out these little units, and they could prove the ideal answer for 'action' people, many athletes use radio communication during training to keep in contact with their coaches to achieve the best results. Whilst it's small and easy to carry, and does provide reliable short range communication, it must be said that it is designed for sports applications, and will not replace other rigs.

Just two channels is rather limiting for general communications, but the sel-call feature is a great success. How encouraging, as well, to see a European manufactured rig, and one which employs high quality components. The outside is not the same high ergonomic design as the interior, rather clumsy in places, notably the PTT switch. The low power is also a disadvantage, but at least the batteries last. A telescopic whip might have been an improvement over the flexi-whip which, when not in use, has to be carried and doesn't fit into a pocket. Nevertheless, a well made rig, ideal for its intended purpose, and with other applications possible. They need to be operated as a pair unless by chance you happen to have a matching set to a close neighbour, because with the variation in channels and also in the sel-call tone codes it could be that being the owner of a single unit you wouldn't have any conversations!

Construction

The case is of plastic construction, although robust and easily cleaned with a damp cloth. It was found to withstand everyday handling and even some rough treatment.

The Handic 92, though, seems to be neither one thing nor another; it's not a multi-channel general purpose CB handheld, yet it's not a cheap single/twin channel low-power walkie-talkie which you might buy the children as a Christmas present. It is, of course, possible to have single channel operation by inserting just two crystals. What a pity, with all the intricate sel-call circuitry, that a few more, maybe twelve channels were not available. These could be switched in by means of a rotary switch . . . but being "rock bound" is a distinct disadvantage.

Whether the sporting fraternity of Britain will lap them up as the Swedish designers hope will remain to be seen but they're not cheap and this factor may deter several potential buyers.

The thing in their favour must be the ease with which they can be licensed; conforming to the British MPT CB specification, they can be included under a standard CB licence, without any problems. Similar ideas on the market have inherent licence problems and need the permission of the DTI before use, and have to by type-approved.

I'm not an 'action' person, and therefore wouldn't dash out and buy a pair, but anyone involved with sport may find them the answer to a need that is short-range, two-way radio contact. I only hope that the manufacturers take their high quality and good design work and incorporate both in other CBs, be it mobile or home base.

Priced at £79 each, they are available from Telecomms of Portsmouth, whom we thank for the review samples.

CALLING ALL CLUBS!

CLUB SPOTLIGHT

The first of an occasional look at an everyday CB club

When most people are tucked up in their little beds and bleary-eyed TV addicts are glued to the screens watching the late-night horror movie, the silence of the CB airwaves is broken by a strange sound. "Knight to King four. No, it's not a commentary from some modern-day medieval duel, but Mississippi Lady (Pat) making her latest move in a bizarre game of chess with a friend sitting two miles away.

"We usually start about 11.30 when it's nice and quiet on channel", she says. "It's just a bit of fun really, but sometimes we get so engrossed in the game, we don't finish until four in the morning."

It was Pat's sense of fun and her interest in CB that led her and five friends to form the Hemel Hempstead Fun-Makers Club some four years ago. Originally run from the function room of a local hotel in Hemel Hempstead, the club thrived on a membership of 150, which helped to pay the rather exhorbitant £45 charge for the hire of the room. That, of course, was at a time when CB was at its most popular and unfortunately as the interest in CB dwindled, so did the club's attendances. Although shadowings of the total membership occasionally visit the club, there is never only a nucleus of 15 regulars. Each meeting is, however, well attended. The numbers are boosted by a large proportion of guests.

The membership is rather surprising really, because, as the name suggests, the FMBC is a fun club. How run from the Eastern Electricity Social Club, where they meet every Tuesday, the FMBC has an endless calendar of events. With talent nights, fancy dress dances, horse-racing nights, treasure hunts, pop quizzes and a fortnightly disco just a few of the things they get up to, so you can see that they really live up to their name.

Right from the start, says Pat, our aim was to be more than just a club for CBers to talk about CB. We wanted people to come and enjoy themselves, and that meant non-CBers as well.

Pat feels that the club belongs to the members — "Without the members there is no club. So the subscriptions they pay not only covers the cost of the club house, but also goes towards paying for the many trips organised. Like the day at Alton Towers, one shaking at Queens and the annual jaunt down to Southend.

"I feel the club continues to function with such a small membership is, without doubt, due to the dedication and enthusiasm of Pat and her four other committee members. On the night I visited the club, it was the club secretary (otherwise known as "Fairy Lights" because of the array of lights around the roof of his van) had organised a race night and was frantically shouting the odds, collecting the bets, playing the video and pouring the winnings. All this activity was obviously thirsty work for our surrogate bookie, and it wasn't long before his table was full of empty glasses from drinks supplied by lucky punters — and not forgetting CB Magazine reporter, I might add.

At the other end of the hall, the FMBC darts team was having a closely fought match with Eastern Electricity, while those who weren't gambling away their life savings on the horses were chatting at the bar, playing pool or trying to win a few bob on the fruit machines.

In a nutshell, with organisations of this nature, the FMBC has its fair share of shortcomings. Some, as I've hinted, already guessed, has got a rather out-going personality, and in his spare time is the drums (bass player with a local band called Eve. Anybody who likes good 80's music should get along to see these guys. And there's the lady (who wishes to remain anonymous) who admits to belting into a rousing chorus of "New York, New York" in the middle of Sainsbury's, much to her daughter's embarrassment!

In my opinion, many breakers in the area are missing out on a good thing. The specific facilities of the club house (with the added attraction of cheap booze), the full programme of events and the crazy members, all add up to a fun club to be with. So if you're within shouting distance of Hemel Hempstead in Hertfordshire get along to see Pat and her friends on a Tuesday night. New faces are always welcome.

CITIZENS' BAND SEPTEMBER 1986

In our September issue, the Fun Makers Breakers Club enjoyed a fair amount of free publicity in our Club Spotlight feature (see above). Jealous? You needn't be. We intend to make Club Spotlight a regular feature but we can't be everywhere at the same time so why not get one of your members to take a dozen or so shots of *your* club night and send them to us for possible inclusion in the magazine?

Ideally, photographs should be in black-and-white, but good quality colour pix will also be acceptable. We would also like a few words about your club to accompany the photos — information abouts is aims, meeting place and times, presidents, secretaries etc. It would also be handy if you could provide one or two-line captions to go with the photos — for example "left to right: Fred Bloggs, Joe Blow" and suchlike, even just handles if you prefer. A free service? Too good to be true? No, just zap the information along to us quickly as you can and you could see your names and faces featured prominently in your favourite magazine in a matter of months!

Send photos and information to: CLUB SPOTLIGHT, Citizens' Band, 1 Golden Square, London W1R 3AB.

POWER TO

Paul Coxwell takes a close look at power supplies and how they work

All electronic equipment requires a power source of some description, whether it is a battery, AC converter or even a solar cell. CB equipment does not have very stringent requirements — just a reasonably modest AC converter suffices for most installations. In the early days of CB before everything was transistorised, power supplies needed to provide several different outputs — a low voltage (typically 6.3V) for the valve filaments and one or more high voltage outputs for the anode and grid supplies (typically 200 to 300V). Modern transistor sets require only the now well-known 12V supply.

The power supply unit has several fuctions. Firstly, it must convert the incoming 240V AC supply to a much lower voltage suitable for the rest of the circuitry. Then the power must be converted to DC and all the "ripple" removed. Thirdly the voltage must then be stabilised so that it remains at a constant level regardless of the current being drawn from the supply. Let's take a look at a typical supply unit and see how each of these functions is carried out.

Referring to Fig. 1 you can see that the incoming 240V supply is fed through the on/off switch S1 and fuse F1 to transformer T1. There is no direct connection between the windings in a transformer. The current flowing in the 240V (primary) winding sets up a magnetic field in the iron core and this field includes a current in the 15V (secondary) windings.

Now take a look at Fig. 2. At (A) you can see the output at the transformer tags. This waveform is simply a duplicate of the mains input, but at a much lower level. To feed the stabilising circuitry, and ultimately the set, we need DC and this is where the diodes D1 and D2 come in. These two diodes will only allow current to pass through them in one direction, and their action is illustrated in Fig. 3. Starting at (A) the top end of the transformer winding is positive and the bottom end is negative with respect to the centre ground point. Because the stabiliser and rig provide a circuit from the rectifier output back to ground, in this condition the anode of D1 (left-hand side) is more positive than the cathode (right-hand side). Under these circumstances the diode conducts and lets a half-cycle from the top winding through. D2, on the other hand, has its anode more negative than its cathode and therefore does not conduct. In technical terms it is said to be "reverse-biased", and D1 is "forward-biased". During the next half-cycle shown at Fig. 3(B) the top end of the windings is negative with respect to ground and the bottom end positive. D1 is now reverse-biased and D2 forward-biased, so that the bottom winding and D2 provide power during the second half-cycle. The start of the next half-cycle then reverts back to the situation shown in (A).

If the output of the rectifier were just connected to the set we would have the waveform shown in Fig. 2(B). As you can see; the negative half-cycles have been rectified to become positive. Another commonly used rectifier circuit is shown in Fig. 4. With this rectifier, only one winding is needed on the transformer, but four diodes are required. These diodes are often combined in one plastic package with just the four connection points

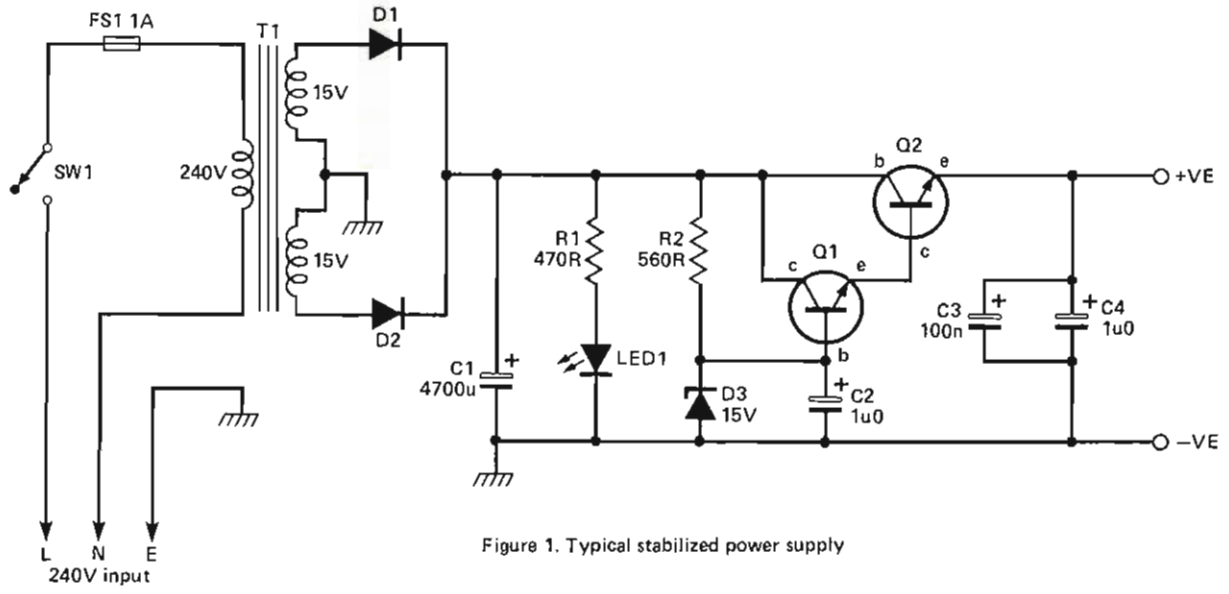
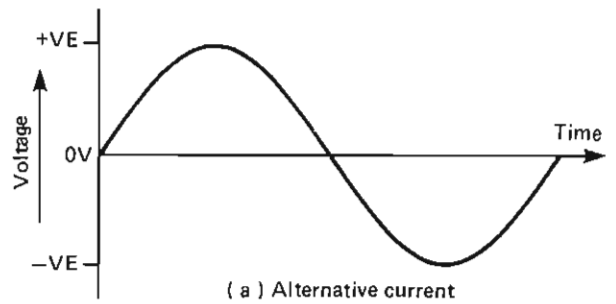
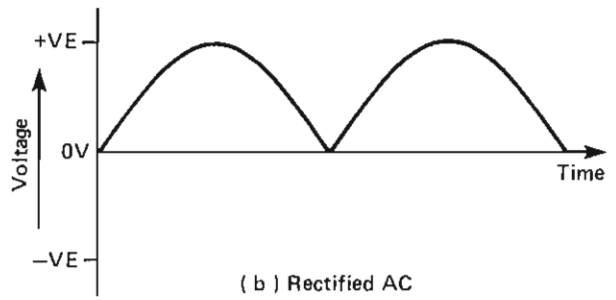


Figure 1. Typical stabilized power supply

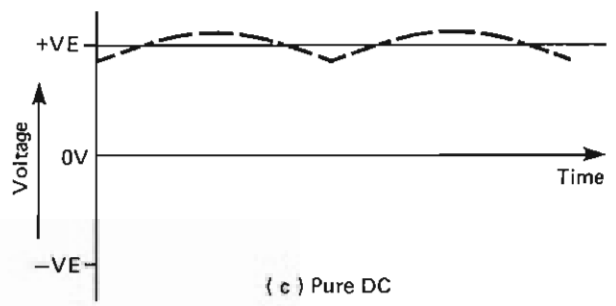
THE PEOPLE



(a) Alternative current



(b) Rectified AC



(c) Pure DC

Figure 2. Rectification & smoothing

emerging. When the top end of the winding is positive and the bottom negative as shown the current flows through D2 and D3 which are forward-biased. D1 and D4 are reverse-biased in this condition. During the next half-cycle when the positive and negative from the transformer are reversed, the current flows through D1 and D4, and D2 and D3 are cut-off. The output with this circuit is identical to that for the rectifier shown in Figs. 1 & 3.

Going back to the waveform shown in Fig. 2(B), this is not suitable for feeding straight into a set. The ideal power source is pure DC, shown in Fig. 2(C), and this is what you would get from a battery. Capacitor C1 in our typical supply circuit is connected across the output of the rectifier and charges up with each positive half-cycle. During the period when the output from the rectifier drops toward zero, C1 discharges and so "fills in the gaps". The result is a smoothed DC output, although a certain amount of ripple remains superimposed on the DC. This is shown dotted in Fig. 2(C). So long as this ripple is of a low enough level it will not cause any problems with the operation of the set. More on this subject a little later.

So we now have reasonably smooth DC across C1 — that's what we want, right? Unfortunately, things aren't quite that simple. CB sets place a varying load on their power supply, drawing maybe 200mA (0.2A) on receive at low volume, and going up to 1 or 1.5A on transmit. If the supply were designed to give 12V at 200mA load the voltage would drastically drop when you tried to transmit. Similarly if the supply were designed to give 12V at a load of, say, 1.2A, as soon as you switched to receive the voltage would probably rise to near 20V. This is where the stabiliser comes in, and it consists of Q1 and 2, R2, D3 and C2.

D3 is a special type of diode called a zener, and is used to provide a stable reference voltage. Resistor R2 provides a supply to this diode and limits the current that can flow through it. Let's look more closely at how this circuit operates by referring to Fig. 5. At (A) we have a simple potential divider consisting of two resistors. If we have 12V across 1000Ω then we have 6V across 500Ω. Try this proportion calculation on (B). The resistance that has the voltage we are calculating across it is 250Ω. The total resistance that has 12V across it is 750Ω. So 250 ÷ 750 = ⅓. And a third of 12V is 4V. You can see that by varying the values of resistance we can determine the output voltage. Now suppose that the lower resistor is replaced by some special component that varies its resistance to always keep the same voltage across it. This is what we have with the zener diode at (C).

Returning to Fig. 1, we have a supply that starts off at more than the 12V we have just been looking at, typically 20V or thereabouts. The exact voltage here will vary depending on the current the unit is supplying. R2 drops a portion of this voltage and we have a constant 15V across zener D3. Whilst this arrangement can cope with minor variations in load and supply, we

can't just connect our rig across D3, because the difference between the lowest current demand and highest is still too great. So two transistors are used (Q1 an Q2) to allow us to do this. Without getting too involved with the operation of transistors, with the transistors connected as they are here with their collectors to the supply, the emitter will always follow the base voltage but be slightly lower. With the silicon transistors used in most units these days, this voltage drop is 0.6V, so with the base of Q1 at 15V, its emitter will always be 14.4V. If the base voltage were set at 10V, the emitter would be 9.4V and so on. For the more technically-minded, the transistors are connected as cascaded emitter-followers and the 0.6V difference is the standard voltage drop across a forward-biased silicon junction.

The output of Q1 (at 14.4V) feeds the base of Q2 which acts in the same way, but is a higher power device as it has to carry the full load of the rig. So the emitter of Q2 will be 0.6V less than its base which comes to 13.8V — sound familiar? It's the standard rating of most CB power supplies. To complete the circuit we have capacitors C2, 3 and 4 which are decoupling capacitors and help to prevent stray RF signals and ripple getting in where they shouldn't and R1 and LED1 across the main supply give a power on indication.

The circuit described here is a simple unit, and many of the power supplies available today have more sophisticated voltage regulators that use integrated circuits to give even better stabilisation. Often, a couple of extra transistors and other components form a current-limiting circuit that prevents you from trying to draw more current than the supply can cope with. As soon as the load becomes too much the output voltage is reduced to limit the current to a suitably low value. So if the maximum current is set at 4A for example, this is the maximum current that can possibly flow, even if you short-circuit the output.

Practice

Enough of the theoretical side for now — what does all this mean in practice? When choosing a power supply for your CB installation there are two main things to look for. Firstly the supply must deliver a well-regulated 13.8V nominal. Some units have a variable output from, say, 5 to 30V but these are more likely to be found on a test bench rather than the average CB set-up. Secondly, the power supply must be able to deliver the required current whilst maintaining good smoothing and regulation. This is where we start getting into trouble.

UK rigs usually take no more than 1.5A maximum, and certainly no more than 2A. The cheapest CB power units usually available are rated at 3A continuous output so should be perfectly capable of feeding such sets. In fact they should be able to feed two without any difficulty unless both sets are consuming well above-average amounts of power. Unfortunately some of the cheap power supplies around are not very well designed and, while they will deliver 3 amps, they tend to suffer from bad regulation and smoothing at such values. If you've got one of those cheap imported supplies that says 3 amps on the front and every time you try to transmit the lights on the set go dim and/or people complain that you have a hum or buzz coming through with your voice then the chances are that your power supply isn't working very well. It is possible for these symptoms to show up because of a fault in the rig itself, but it is more likely to be the PSU and this can be confirmed or otherwise by trying a different set on it, or trying your own set on another supply or a battery.

Ripple

The hum that finds its way into your rig is the ripple that was mentioned earlier. Remember that big capacitor across the output of the rectifier? If it is either not large enough to start with, or it goes faulty, then a lot of that AC ripple finds its way through the stabiliser into your rig circuitry. Because the rig draws most current on transmit this is when the problem shows up most. The more current it is required to draw, the larger that capacitor must be in order to feed the circuitry in those drops to zero every half cycle. Big capacitors cost money, so if the manufacturer can get away with a smaller one it might only save 20p on each supply, but imagine the saving on say 100,000 units — it's £20,000. Large value capacitors such as these do have a tendency to go faulty over long periods of time, particularly if they run fairly warm. And one good reason for them getting warm is where they are in a power supply where everything has been packed into the smallest possible area. Once again, a smaller case means less cost, less space needed to store the units in a warehouse, less space in trucks to distribute them and so on. The majority of CB equipment is designed to be cheap. Nothing that isn't absolutely essential is put in without the increase in price being passed straight on to the customer.

By far the heaviest and bulkiest part in a power supply is the transformer. It's also the most expensive. Once again, if a smaller transformer will do then it will get used. Smaller transformers mean a smaller case size, less cost and less weight. Less weight leads on to less shipping charges etc. As a result of this the transformers in a lot of the cheap units tend to run very warm, often too hot to touch after a few hours use, and as was mentioned with regard to capacitors this can affect other components too.

So what other problems can power supplies suffer from? Obviously the parts used in the supply can fail just like any others, but it is quite common for power units to fail due to some external cause. Units with current-limiting (sometimes called short-circuit or overload protection) should be able to withstand an indefinite short on the output — though once again this is doubtful with some. Supplies without such protection often include a fuse somewhere between the secondary of the transformer (that's the low-voltage side) and the regulator that should blow in such an event. However, it is quite normal to find that a user has replaced the fuse with a piece of wire or silver paper so when a short does occur something else has to go! Q2 gets all the current flowing through it and, whilst it is a high-power device mounted on a heatsink to help cool it, there is a limit and this transistor can go open or short-circuit. Another likely candidate under these circumstances is the rectifier, and like the regulator transistor these diodes can either burn

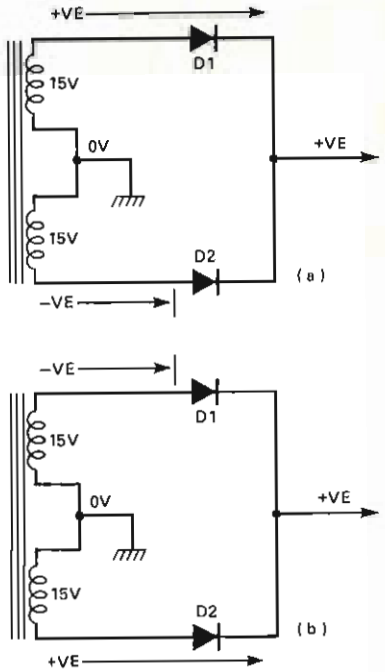


Figure 3. Action of rectifier

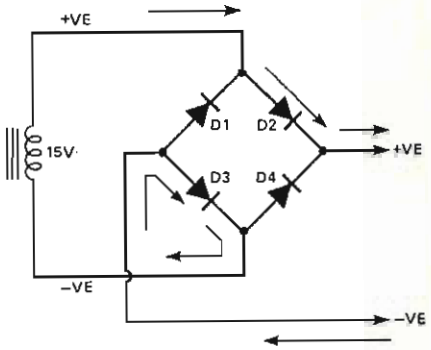


Figure 4. Bridge rectifier

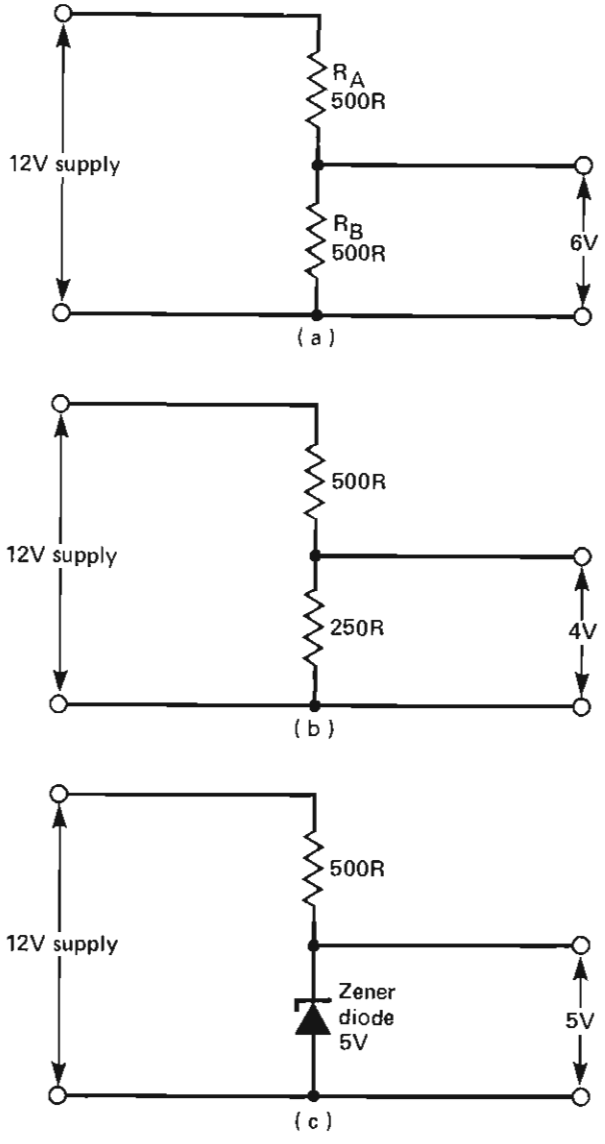


Figure 5. Potential dividers and the zener diode

out open or shorted. It is one of those unfortunate facts that in some cases one component failing causes another to fail, which may in turn cause yet another to fail. Kind of like knocking down a line of dominoes.

Some faults can cause the output of the supply to rise well above the intended 12-14V level, if Q2 shorts our for instance, or diode D3 goes open-circuit. Too high an output can cause damage to the rig and it is possible to incorporate an overvoltage protection circuit. Very few CB-type supplies have these (guess why — it costs more!) but they work in one of two ways. One type of circuit monitors the output voltage and cuts-off the supply if it rises too high. The other is a more drastic method called a crowbar. What happens here is that if the output voltage rises too high the crowbar circuit puts a direct short across the output. This is intended to blow the fuse, so obviously silver paper and wire fuses here will help destroy your PSU if the crowbar circuit ever trips! Either that or the protection circuit blows as well and your rig still gets zapped.

On the subject of fuses, this brings us to the important question of safety, both for your and your equipment. Remember a few years ago when everyone was trying to cash-in big on the CB boom? Several power supplies appeared then that were, to say the least, a little dodgy. Such units have largely disappeared now but there must still be a good few thousand of them around being used. Some of these cheap supplies had transformers with very suspect insulation, meaning that the 240V on the primary could find its way to the metal casing or the secondary. Some units had fuses in the neutral side of the incoming supply, which means in the event of a winding-to-chassis fault the fuse would offer no protection whatsoever. The fuse in a 13A plug offers some protection, but is only likely to be a 3A device at best, whereas 1A is common in the supply itself. Whether having the on/off switch in the neutral is a safety hazard is open to debate. With the unit turned off, the transformer winding still has 240V applied to it even though the neutral end is disconnected. This is not a problem in itself, but anyone going inside the supply must realise that with such switching simply turning off the switch on the supply does not leave the transformer safe to touch (or the fuse if it is in the live side where it should be). It is always best to pull out the plug before working on a unit if possible anyway.

Still on the subject of switches, some of them used were not really suitable for 240V input circuits. The result of this is an arc every time the switch is moved, which burns the contacts so making the problem increasingly worse. It is possible for this arcing to burn the insulation and even start a small fire.

Competent

If you think your power supply may be a little suspect in this respect, or that it isn't working properly for any reason, then take it along to someone who can check it out for you. But check first that they really do know what they're doing — the number of people on the CB who can competently, safely and reliably repair equipment is very few.

Finally, a word about power for all those extra goodies you want to connect up. A 3-amp supply (a good one that is, remembering what has already been said) should feed a rig, pre-amplifier, echo chamber, the light for your extension S-meter and SWR meter, speech processor, selective call unit and anything else you care to mention (with one exception). So long as you don't go crazy, these devices take so little current that their effect is negligible. If you want to use a multi-mode rig that draws more current with all your accessories then a 5A supply may be needed, but then only with a lot of extras. A 3A unit should adequately feed a multimode rig by itself unless it has been "tweaked-up" considerably. If it won't then the supply isn't what it claims to be. The exception to the list of accessories is of course, linear amplifiers. The supply needed to feed one of these depends on the rating of the amplifier, and a good unit to feed a hundred watt linear is going to cost as much as the linear itself.

So when choosing a power supply, decide what the maximum current demand is then look for a suitably rated unit. Get a good quality power supply that is well designed and constructed. It may cost a little more to begin with, but you just might save yourself a lot of trouble and expense later on.

LADY BREAKERS

A group of visiting breakers gets Filly's back up

Out in the sticks, it's easy for CBers to get out of touch. I know that sounds ridiculous; after all, CB is all about communication, but it's been brought home to me recently just how cosy and cut-off a local CB community can get.

Take, for example, all this business of trouble between rival monitoring organizations. When I first started to read and hear about it, I found it all very hard to believe. Monitoring organizations are, by their very nature, a service to people, not elitist cliques. Aren't they? I mean, why do people join them in the first place? What do they have to gain by huddling over a base station for hours on end listening out for people in trouble? Private armies? Paramilitary uniforms? What *is* all this, the silly season?

The truth, of course, is that we'd never experienced any of this, out in our quiet country backwater. We have monitors, but not a monitoring organization, there aren't enough of us. Also, there's never been much of a need for a round the clock listening service. So we look at Flo sitting in her flat above the post office chatting up the truckies passing on the slab a few miles away, try and picture her strutting about in an SS-style uniform, and have a good laugh about the whole thing. Anyway, we thought, even if it does happen in other parts of the country, even if other nasty, rough breakers are at each other's throats, it can't affect *us*. We're all right, Jack.

But of course, this inward-looking attitude is precisely how all the trouble starts.

A few weeks ago, a small group of breakers from somewhere near Bristol came to visit us. One of them is an old school friend of the treasurer of a local club, and he had arranged a kind of exchange visit.

Everyone was looking forward to it. We don't get to see new faces very often, and we thought it would be fun to meet some breakers from another part of the country, and hear what they had to say about things. Only it didn't quite turn out how we expected. . .

There were four of them, and we'd arranged for them to stay with various members of the club. Needless to say, I found myself roped in to play hostess to one of them, a lady who rejoiced in the handle of Sahara Lady. (Sahara Lady! I thought to myself when I heard the name, can't they do any better than that in Bristol?)

Now, we're not backward, we country folk. We don't go around in smocks chewing bits of straw and swilling cider all day long. We know that folk from other parts don't have tails or anything like that. We were expecting our visitors to be just like us. But right from the start, it all went wrong.

Up the village high street they came, in a scruffy old van with a precariously swaying antenna, laughing and joking and with an ordinary radio playing — not loud, admittedly, but audible. You could almost see the reception committee, waiting outside the pub, drawing closer in the face of this invasion. These people were *noisy!* Noisy strangers.

They tumbled out the van and came towards us, holding out their hands, exclaiming how 'sweet' the village was — good heavens, we thought, they're almost like *Americans!* We returned their greetings somewhat stiffly, and took them into the pub for a drink. We had it all planned, we'd buy the drinks and all that, but they took matters into their own hands and before we knew where we were, they'd plonked pints in front of all of us and were discussing plans for their stay. Somehow, I don't really know how it happened, from that moment on it was Them and Us — yet, looking back, they were as friendly as we could have wished.

We had always thought, vaguely, that we were part of a nationwide — even worldwide — community of CBers, but to our horror, we found this was far from the case. We treated those people, not as fellow breakers, but as outsiders, to be competed with. Whenever one of them said anything in praise of their own clubs in Bristol, their charity work, their social events, anything at all, one of us would leap to the defence of our own district, as though we were fighting for points in some wordless, unseen competition.

None of it was pre-planned, and at no time did we get together and plot how to 'keep our end up' against the visiting delegation. It was the way we all instinctively responded to some perceived threat that now alarms me so much. Of course they were different. People are different. Of course they had, sometimes, differing views and opinions, naturally they arranged their own CB affairs in their own way. But instead of using that as the basis of frank and interesting discussions, we found ourselves on the defensive, convinced our own way was best, not wanting to hear anything that could be construed as criticism.

OK, so we're an insular, parochial lot, but this is all a million miles away from private armies and Flo in fatigues. Or — is it?

Mack Chat

Mack the Hack offers some thoughts on the new frequencies — and a new 934 club

Skip! You can, at times, curse it or praise it. When you hear stations coming in on the skip from other countries, you get a feeling of achievement after realising that it's not a wind-up and you are actually chatting to another surprised station from another country on 27MHz — all legal, of course, without any 'extra help'. However, when chatting to another station a mile or so away and your signals are jammed out by a sideband station, that's when you feel like cursing.

At the moment it's not too bad as the skip conditions are very occasional and, of course, many DX-seeking sidebanders operate further down the band. I am sure that most of you know that the skip conditions rely on sunspot activity and I am sure you have heard of the 11-year sunspot cycle. When this cycle reaches its peak, the DX groups will be in raptures over the new, and sometimes rare, DX that they will be working. For the many legal FM users, it could be a nightmare.

I recall listening, some years ago, on 27MHz and hearing even those DX stations that operate on AM chatting to each other and giving me S9+ and they were not even in this country. I also remember that day as I listened around the FCC channels — on a receiver of course — an American mobile station chatting to his home about the breakfast of pancakes he was looking forward to on his return. Naturally, I could only hear one side of the conversation but the audio received was just as good as if the station was down the road.

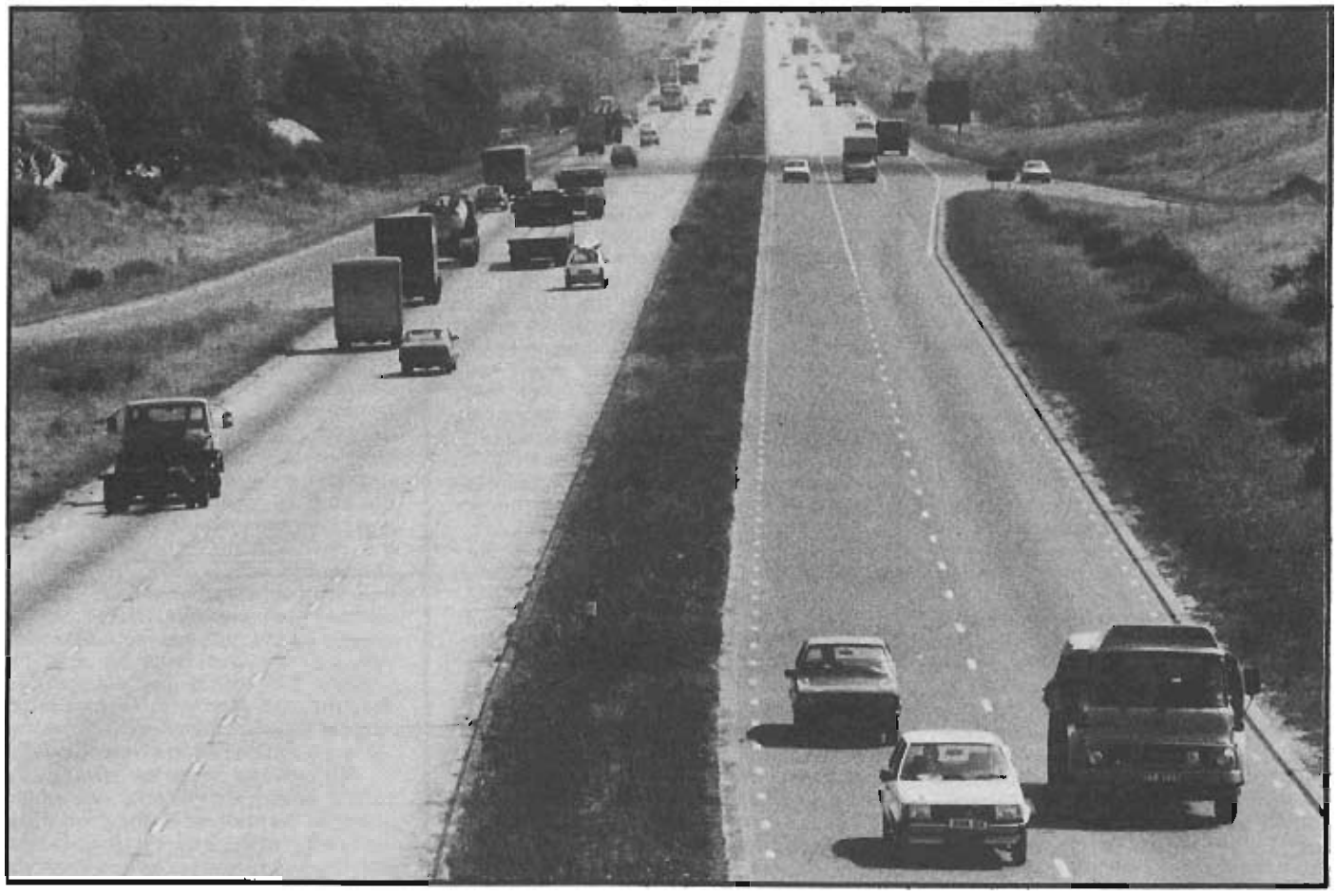
It is hoped that, next year, we CBers will be allowed to use the new (but old) so-called FCC frequencies — but on FM, of course. Now that we are settled in on the 27 frequency, we are told we must change. Lack of foresight is what I would call it. I wonder if the people who decide upon frequency allocation ever stop and think about possible future developments. I feel sure they must, but do they care? When things go wrong, I bet the buck gets passed around and another department is left to sort out the problems. In a few years' time, the sunspots reach the peak of their activity and when this happens, as I said earlier, the skip becomes active. Although the peak of the cycle lasts for about six months — usually the summer months — there is the build up and decline and this could be a year or so either side of the peak. Imagine all those hundreds of thousands of CB users from the many countries around the world that use the 27MHz FCC channels. Many of them use the preferred mode of FM but there are still lots of AMers and SSBers — all of them gathering on the channel you want to use. It won't be any use saying "This channel is 10-6" because I don't suppose they would hear you anyway. They said that CB is a short-range communications system and, believe, me, when the peak of the sunspot cycle arrives, it will be!

Now, as you may have read in the August issue of this mag, another 934 club has been formed — the Personal Radio Club of Great Britain 934MHz is the name. Why another 934 club? I put the question to Jim Finch, the founder of the club, when I rang him the other evening. It is his opinion that not enough is being done for 934 operators and he believes that a lot of people are dissatisfied with the already established 934 Club UK. Applicants of this club will receive, along with the application form and other literature, a questionnaire to help the club's committee promote members' interests and to assimilate authentic statistics which may be used in promoting the aims of the PRCGB. The 22 questions basically ask for details of station setup and performance achieved. One of the questions that attracted my attention was "What/who do you think is responsible for cellular interference?". Once upon a time, I and many others believed it was the mobile phone people with their 10-1 bleeding over equipment. Then we were told it's our own duff 934 gear. Jim Finch says it is lack of foresight (yes, that again) in that the authorities supposedly knew that we 934 users were here on 934MHz and when the cellular frequencies were allocated they should have realised that interference could be caused to other users on other frequencies.

The PRCGB also holds membership of the Japan Personal Radio Association and Jim says this allows the club to receive their newsletters and gives the latest information about the development of 900MHz radios and various accessories. From my 1¼-hour long conversation (£5.25 — Editor please note!) with Jim, I gather that he is in favour of a personal radio service for this country and believes that the present 934 *could* be, with careful thought and planning, incorporated. Jim has been involved with CB now for 18 years and has extensive knowledge of the various systems around the world. And, I should add, one of the subjects mentioned in the Club's first newsletter is the interest in horizontal polarisation for antennas — I think you all know by now that this is something I am in favour of. Anyway, further details of membership can be obtained from: The Secretary, PRCGB, 41 Twyford Avenue, Shirley, Southampton.

It is estimated that there are around 2,000 934 users in this country and I have heard a few people ask "Do we need another club?". Well, that is up to you the 934 operator. Some people who are dedicated to a hobby buy, join and read anything that is connected with their hobby be it radio, cars or whatever. I wish Jim well with this club and hope it doesn't go the way of so many other organisations where they become dissatisfied with the goings on of a club, break away and form another. In many cases, they fail because of squabbling, instead of getting on with the real duties of the organisation. I could name many CB clubs or monitoring groups of old where this has happened. They split, fail and who suffers? The dedicated members.

THE MYTH ABOUT ONE-NINE



Brandybird lets fly with a few home truths about channel 19 monitors

Hi, I'm Sandra, alias 'Brandybird', and I monitor Channel 19 Homebase, very close to Corley Service area (M6 between junctions 3 and 4). There is a rumour doing the rounds, that the women who sit on channel 19 are all frustrated housewives unable to get on with their housework. I would like to help shatter this myth. So perhaps I'd better start by giving a bit of my own background.

My entire family (both parents and a younger brother) came on channel about the middle of 1977 on the then naughty AM channels. In those days, everyone used 19 as a breaking channel as the film "Convoy" was just doing the rounds. In my area, being very close to the Motorway, we used to get a lot of verbal abuse from the truckers, so the local CB clubs all got together and it was decided that Coventry should use 21 and Nuneaton and Bedworth stick to 14. This worked very successfully and the truckers were left to their own devices.

One evening, a married friend and myself were doing one of our naughty wind-ups down the channels, when we were interrupted by a Lancashire accent. This man did a trailer change-over, at approximately the same time every night on Corley Services and, after apparently listening to us messing about for a couple of weeks, decided that it was time for him to join in.

After this, my friend and I used to go up to 19 and see just how far he could copy us. Over the next twelve months or so, every time we shouted for Silver Shadow (Martin) one of his mates came back and chatted to us. I made an awful lot of very good friends that year who still talk to me now. It soon got to a point where I was sitting on 19 all the time, and soon got known as a reliable source of information and directions, and when I lost my job, I gladly took up full-time monitoring. I was, at the time, Secretary of a CB club and Treasurer of an emergency monitoring group, set up by my family and a few close friends. During this time, FM CB was introduced. We had been using FM for several years to avoid the wallies, but had never really liked the noise etc that came with it.

I think I gave FM a fair chance, I brought the second licence issued in Nuneaton, and changed to the legal system. Six months later, I gave it up as a bad job, and went back onto the illegal channels, where I was welcomed back. I kept a log book in those days and, at the last count, I had over 850

truckers' handles listed, and had eyeballed about 400 of them. To this day, it is not unusual to see a 40-foot truck parked at the top of my road, whilst the driver enjoys our tea and coffee.

After a couple of very lucky visits from the DTI, I very reluctantly decided that it just wasn't worth the risk any more. AM had dropped off to the extent that I only spoke to four or five people a day. So the FM was reconnected permanently, and the AM hidden away out of harm's way. I had been using FM for a couple of months, but sitting on a channel used by a particular group of truckers, so I was fairly new to the 19.

After the first couple of weeks, I was fast becoming disillusioned. There wasn't quite so many on but, no matter how I tried, I just couldn't get anyone to talk to me. I gave out 10-13s during the very rare occasions that Corley Control weren't on channel. Then one day, instead of just saying "Thank you", someone asked my name. Dead chuffed, I replied "Brandybird" to which came the reply, "Funny, you sound just like that Paper Knickers off the Aunty Mary". Isn't it funny how people recognise your voice, even after a couple of years? Well, since then, I've got talking to a couple of dozen of our Knights of the Road, I seem to be becoming accepted now, but it has been a long haul. So now you know what I'm doing . . .

Let's first clear up a few sore points; first of all, people will keep asking me why I always sit on 19 and don't talk to any of the locals. The answer to that is quite simple; I haven't found anyone of my own age group on 14. All I get is a load of abuse from the youngsters. On 19 you can talk to reasonably sensible people of a similar age. Albeit very quick conversations, but they are interesting. All of the lady breakers who monitor 19 are of a similar mind. We are not all lonely, frustrated housewives, who would do better getting on with their housework. Women are clever creatures, we can do more than one thing at once; hoovering, dusting ironing etc can all be done whilst watching the afternoon serial on TV, catching up on the charts on Radio 1, or listening to channel 19. It isn't that difficult. I regularly sit at the side of the rig, painting pictures whilst chatting up truckers.

Another common complaint about homebase monitors is that the information they give out is out-of-date. Well, let's be honest, by now there really should be sufficient coverage of 19 by the truckers themselves on our major roads and motorways to deal with any request for a 10-13. Unfortunately, a large majority of drivers use their CB purely to keep themselves informed. They only listen and will not reply to requests for info.

My CB is switched on when I fall out of bed in the morning, and switched off when I return to bed at night. My modus operandi is that I listen to the drivers informing each other, and then when someone calls for a 10-13 I wait. First to allow any considerate driver to give an update, then I wait again to allow Corley Control to do their service. If there is still no reply, then I will go in and pass on the latest information that I have heard. In reply to those drivers that make sarcastic, even abusive, remarks about homebases not knowing anything about the road conditions, I will say to you that the 10-13 reports that we homebases give out can only be as good as the drivers who give us those reports in the first place. Every report that we receive could possibly be up to an hour out-of-date, the time that it has taken the driver to reach us from where the incident has occurred. So please do not give us abuse, we are only trying to help you.

Another big bug-bear is the amount of people that use the 19 as a breaking channel to call for their mates. I can understand a lot of people came away from 14 because of the wallies etc, but now it is better on our channels, we'd be very grateful if they would use their own channel 14. Especially during the winter when our drivers need every second they can get to gather information. The majority of these local breakers don't even talk to mobiles, they just chat away on 19 totally ignoring the drivers trying to find out where ahead the roads are blocked. Please be a bit more considerate. And please don't call for rig-checks on 19. The drivers have enough problems on their plates, without having to take their eyes off the road, to check their signal meters. If you need a rig check, modulation check, time chack or to sell equipment (which is illegal anyway) please do it on 14.

Whilst on the subject of the 'Wally Squad'. We all moan and complain about the language, mike keyers and channel blockers, but do we do anything about it? No, we just moan amongst ourselves. Recently I took courage and sent a long list of complaints to the local DTI office in Birmingham. I was very pleasantly surprised to get a visit from one of their officers who reeled off a list of names; did I know any of them, where did they live etc. He explained that, with the low man-power allocated to them, it just wasn't possible to monitor the channels (all 40) 24 hours a day, seven days a week, without our help. They were, at time of writing, concentrating on one area at a time and using three or four cars in that area. They were monitoring for channel abuse, but were more concerned with unlicensed use. If everyone had a licence, there would be more funds available for monitoring. What he did ask was that if I suffered from any idiots, and I could get a rough idea of where their transmitter was based, and their handle/call signs, I should let the DTI have this information and then they have something to go on. So instead of just moaning or selling up, start writing things down, and let's start and get something done about these wallies that spoil CB for the rest of us.

One of the offenders was recently taken to court. Much to the disgust of this particular officer, he was fined £145, had his licence revoked, and *all* of his equipment confiscated. He should have been fined more, but it does prove that something is being done.

Well that's about it for now, I've got a few things off my chest. Hope to hear you all soon.

BRANDYBIRD

CAPTAIN SPARX ON THE WAVELENGTHS

Captain Sparx, hero of the airwaves, explains the latest position of community radio

If the average churchgoer ran his jumble sale the way that the government runs broadcasting, none of us would have a pair of pyjamas to stand up in. Latest in a run of quasi-fiascos, including the ups-and-downs of satellite television, is the brouhaha on community radio — something that has been imminent for more years than a middle-aged gent cares to mention. Most people keen on community radio thought that it would be launched by the end of 1986 i.e. this year, give or take a short fortnight. Some 280 applications had been received at the Home Office for the first allocation of 25 licences for community radio stations around this old nation of ours. Indeed, as recently as January, Mr Leon Brittan, as nice a gent who ever sat at the Home Office desk, said that a new third tier of radio in Britain represented a 'constructive development which should be given impetus.' Well, it was given impetus all right. On the 30th June, a sort of Black Monday for all community radio addicts, the prospect was chucked down that chute into the basement where all unusable documents are shredded before being made into civil service vending machine coffee. During July, normally a quiet month in politics, give or take a constitutional crisis or two, the subject simmered with all kinds of sharp comments made by those applicants who had spent much time and money in preparing their applications. Indeed, there was no shortage of bloodshot eyes around the community radio lobby through one could not tell whether this was due to late nights preparing licence applications — or to hours of weeping into the cocoa.

The cause of community radio has been close to that of Citizens Band, as you may know. That may have been the reason why some bright-eyed (though not well-endowed intellectually) people referred to 900MHz as 'Open Channel' when this high falutin' frequency was offered as the alternative to the system which the breakers all wanted, i.e. 27MHz AM. Long before Britain got its CB legally, the issue of community radio had been much discussed. That is, a facility where people, groups and individuals, can make their own programmes — with professional advice if necessary — then have them broadcast over the local radio frequency. As Captain Sparx recalls from his misspent youth in quiet corridors of BBC out-stations, there was much talk of community radio more than twenty years ago, in reference to what was to come in the shape of local radio. Clever folks said how nice it would be if bright folk could be dragged in off the street, sat at a microphone and instructed to tell all they knew.

Trouble with all the talk about local (or community) radio in those days was the problem about *money*. The comrades in the Labour Government did not think it a grand idea to introduce local radio on a commercial basis, since this was no way of bringing the Socialist Millennium to pass. On the other hand, the BBC was in its usual condition, short of money. So all kinds of high hopes related to the possibilities of local councils forking out some cash in aid of local radio, local colleges finding a few bob, and so on. Some of the talk supposed that a sort of flag day and raffle ticket effort might be arranged to get local radio on the air. Still, the government was being pressed to do something, and in the mid 1960s, the first batch of nine 'experimental' stations was announced.

Problem

The BBC — which thinks that community radio has a place, mainly in the dog kennel — had to take over the local radio stations, and did so with good grace. That was inevitable, seeing there was no-one else around to do the job, though no doubt were the same thing to happen today, the stations might be sold off to the first bidder. Over the years, BBC local radio has done fine work, for ethnic and other groups most interested in local radio — BBC Radio Leicester, for example, has done about as much as any leanly-financed station could. None of the BBC stations have really had enough mazoolah to make original/community programming more than a modest proportion of the total schedule. As for the commercial radio stations;

well, some seem to think that the sound of community radio is the 'clink' of a cash register. The high-point of their ambition in too many cases is to sound as much like Radio One as possible, but with lotsa commercials thrown in. My own local commercial station has access to the studios restricted by vast doors opened only by a tricky plastic card issued to staff. It's significant: poor blooming erks, keep out! In short, non-professionals are not allowed to sample the magic of electronics.

There need be no gulf between community programme-makers (non-professionals) and full-timers. Both, in the long run, want to see the fullest use made of radio, and not only to sell merchandise. In Australia, where community radio has been an issue since the early 1970s, with some stations already operating, the situation on 27MHz AM Citizens Band had become nauseous by 1980. All kinds of retailers were selling rigs at virtually give-away prices, and intellectuals were (there as here in Britain) reading up on SSB operation. However, a new kind of Citizens Radio was introduced, an up-market Citizens 8and operating on 477MHz UHF, developed by Philips. Like all UHF systems, this had its limitations, though Philips generously helped with UHF repeaters for city installation. Although kids and lids were not entirely absent from this medium, 477MHz UHF showed what could be done, as all kinds of initiatives developed in Sydney, Melbourne and other cities. UHF 'nets' are somewhat akin to community radio, within the programme format idea, as ordinary people can come on air and share in a fairly spontaneous discussion. It is *live,* and there is some minimal risk of bad language or worse. On the whole, though, the UHF system has been useful, as 'nets' have included 'Angels on Thirty', housewives and other ladies coming onto Channel 30 at a pre-arranged time, and 'On 18 at 8', where UHF users can share in a general discussion, perhaps initiated by someone with expert knowledge. Such 'nets' require some behind-the-scenes preparation, and a good chairman, i.e. to guide if not to control the discussion. Of course, all kinds of Citizens Band systems can lend themselves to abuse, but the Australian 477MHz UHF approach showed that 'nets' can be developed, and generate interest in other aspects of radio participation. Some of the experts invited to share in these UHF projects were members of the regulatory Department of Communication, sometimes called DOC.

Theoretical

Britain's interest in community radio has been more theoretical than practical. have a two year run to prove their system was completed with none of the useful controls and guidelines that would have helped make a success of 27MHz FM, though somewhat belatedly, and after pressure from responsible CB groups, some voluntary guidelines were issued.

From the tone of recent comments on community radio, one gets the impression that our alleged Wisers and Betters think that it would be like the worst of 27MHz FM CB, but with more power behind it. This unrealistic view of community radio somehow fails to take note of the highly competent people who applied for licences, a point well made on a television interview by a broadcaster involved in one of the applications (for the Manchester franchise, I believe). Local and ethnic groups have certainly been keen to see the development of community radio, i.e. relatively low powered stations which could truly cater for local special interest and/or ethnic populations who have little access to, or coverage by, existing media. Originally, the Home Office gave a clear signal that there was no difficulty in launching the experimental stations, which would have a two year run to prove their viability. Basically, these new broadcasters would no doubt introduce special interest cultural, and own-language programming, from reggae to Greek language material, from Arabic to Indian music to language lessons for those for whom English is a second language. In addition, and in the original spirit of local radio, all kinds of local groups and individuals could make their own programming, and, with appropriate regard for laws of libel, have it broadcast.

So — why did the plans get the Titanic treatment, seeing that one could these days compare Cabinet discussion to a blooming big iceberg in the way of progress and worthy sentiments. On the government' side, it must be true that the proposed upheaval in broadcasting and electronic media generally, needs some kind of strategy. True enough. So far, the strategy has been a bit like Captain Sparx trying to launch a space satellite with his worn-out Gloster Gladiator (lovely as that biplane is). So the arrival of community radio may have to wait until a new emerging picture of Radio in the 1990s comes across, as is promised with the government Green Paper this autumn. Still, some people are getting a little miffed at waiting, especially after spending cash on submissions for licences that are not being issued. One major newspaper noted that 'there is now a danger of a rapid rise in the number of pirate radio stations, many of which went off the air in order to apply for one of the experimental community radio station licences'.

Abandoning

Among possible reasons for the abandoning of the community radio scheme, at least for the time being, was that relating to politicians' fears that the new stations could be used for unkind political propaganda in the run up to the next general election. Not merely aghast at the sentiments that would be offered on air, the politicians were properly concerned that, as things stand, there is no straightforward regulatory organisation to control community radio. As the House of Commons was gently informed on 30th June, the government gave up the idea of the experiment because 'the exact form was still causing difficulty'.

Does this mean that community radio is a dead duck? Not quite. First, it is likely to be a political issue shortly, and will certainly be subject to publicity by groups whose aspirations were genuine, and remain so. Second, in an age where youngsters are learning about computers and electronic publishing in school, how come that anyone seriously thinks that 'participation radio' can be kept away from the ordinary folks of this land? In any case, local community work can be greatly helped by community radio — in outreach to people down on their luck and incomes. If we are all still around, and free of nuclear fall-out from an inadequate nuclear power plant, in ten years time, I guess that community radio will be accepted, and almost normal. But you can't help feeling that if the government were in the grass-growing business, Britain would look a bit like the Sahara Desert.

CLUB NEWS

This month, more news from clubs throughout England — not to mention Zimbabwe

Steeltown Breakerways

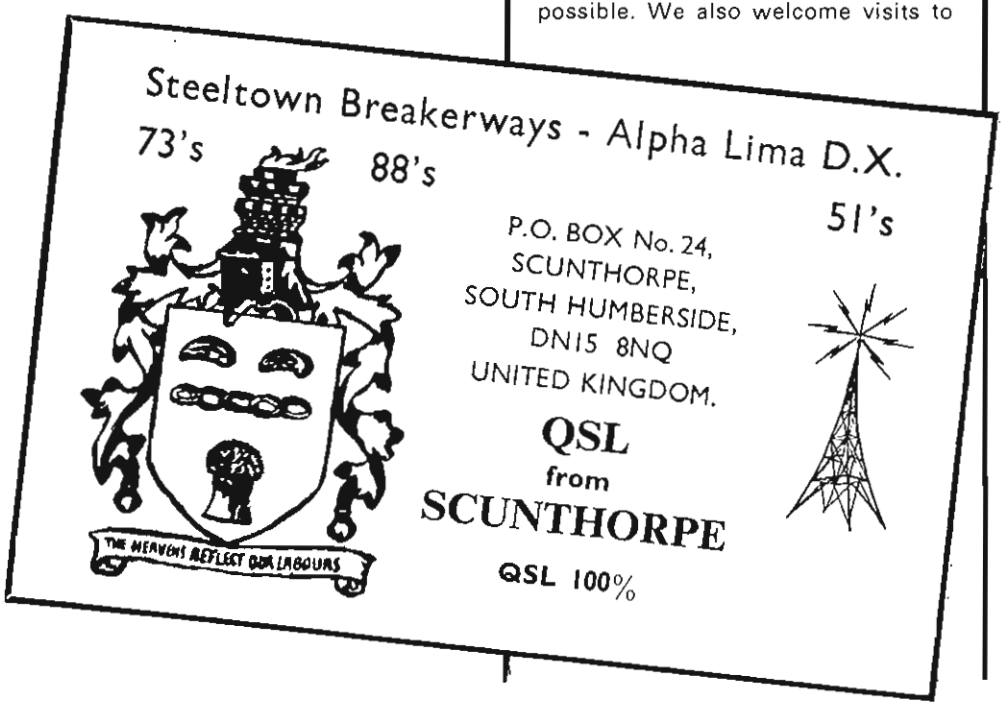
In your August issue, you published details of the Steeltown Breakerways CB Club. As the club is progressing all the time, I thought that you might like an update.

The club membership has now reached 180 and is growing so fast, that we have had to start a postal membership section for breakers who live more than 25 miles away fom our home base of Scunthorpe. The Alpha Lima DX section are receiving QSL cards from all over the country as well as from abroad and we now have an additional club QSL available for members. We also have our own eyeball badges, key rings and a number of other items on sale.

The club makes donations to charities and holds regular eyeballs, discos, dances and social evenings. Meetings are held once a month for members at the Flixborough Inn, just outside Scunthorpe.

We still organise outings by coach and have had many pleasant visits to other clubs. Our own sports section has just been organised and we pride ourselves in providing as many different functions for our members as possible. We also welcome visits to our larger functions from other clubs and details of these can be obtained by writing to the Secretary, as can details of postal membership of the club.

Columbo (Secretary),
PO Box 24,
Scunthorpe



Zimbabwe Flame Lily

Having just returned from a holiday in Britain and the USA, I must say I was surprised to find your magazine the only one on the shelves at WH Smith in the UK. I first bought your magazine in 1981 along with many other CB magazines — but now you're the only one. So, I would be very pleased if you could include my DX club in your Club News section. This club is the only one of its kind in Zimbabwe and I have about 90-odd members so far. I also belong to about 15 clubs worldwide.

The CB scene here is still very popular on the DX circuit and, when the skip runs, we're right out front in the thick of it. Unfortunately, the availability of CB equipment is very limited — as is the servicing over here. But we get by and we don't get too much hassle from the authorities over here.

F. Reynolds,
Box 8164,
Belmont,
Bulawayo
Zimbabwe

Foxtrot Charlie CB Club

The Foxtrot Charlie CB club began in October last year. We are a small club and meet every Friday evening at 7.30 pm at Pontlliw Village Hall, on the A48 between Penllergaer and Pontardulais near Swansea.

Since starting the club, we have made baby clothes for the Premature Baby Unit at one of our local hospitals. However, our main charity for the year is D.E.B.R.A. (Dystrophic Epidermolysis Bullosa Research Association), more commonly known as the 'skin blister

children'. At the beginning of June, we did a 56-hour DX which raised £230, thanks to the breakers who were very generous.

Also, at this point, I would like to mention two members of the Foxtrot Mike CB club up there in Falkirk, Scotland, who went out of their way to get in touch with us on Sunday 1st June. So, to Foxtrot Mike 23 and 33, thanks very much for the effort. I know it made my job worthwhile. The longest copy recorded that weekend was by Foxtrot Charlie 32 into Barcelona.

We made our own QSL cards to cover the DX so that anyone sending a donation, enclosing their address received a DX, club and personal card from the breakers they copied. Thanks to everyone who made this DX a success.

The Secretary,
Foxtrot Charlie CB Club,
PO Box 7,
Swansea

Yankee Bravo DX Group

I would like to introduce CB readers to the Yankee Bravo DX Group. We are located in the Yate area, 10 miles north-east of Bristol. Our group has been going for just over a year and we have about 60 members to date. We cater for all ages from 18 upwards and, while most of the members use 27MHz, some use 934MHz and the amateur bands.

We meet every Monday at the Coalpit Heath Village Club at 7.30pm. Further details can be obtained from the club at PO Box 1029 or you could try contacting a member on channel 19.

Sheriff,
Yankee Bravo DX Group,
PO Box 1029,
Yate,
Bristol

Earn Valley CB Radio Club

I would like to tell your readers, through your great magazine, about our club. My handle is Columbo and I am the Chairman. We meet every Tuesday at the Rosebank Hotel and membership runs to about 150. All proceeds from our events go to local charities. This year, we are raising money for an electric wheelchair which will cost £1,750.

One of the major events every year is a sponsored cross-country bed-push across very rough ground, through woods, round a loch and with obstacles on the way. One part of the course is so steep that a block and tackle has to be used! Any readers who would like to find out more details should write to me.

E. A. Prime,
Earn Valley Radio Club,
PO Box 4,
Crieff,
Perthshire

Worthing DX and QSL Group

Firstly, may I say thank you for publishing my previous letter about the formation of the WDX Group in the October issue of your magazine last year. As a result of that, I have had some enquiries from readers about joining the group.

The WDX Group is nearing the end of its first year and the membership now stands at 57. Members use all CB frequencies, including 934MHz and the amateur bands. Radio users from far and wide belong to the WDX Group — from Birmingham, Daventry, Kettering, Romford and Pinner, to name but a few.

Available to WDX members are Group QSL cards, printed envelopes with the group logo and PO Box details on the front. Further, shortly, we can offer 934MHz WDX QSL cards.

Membership is still open to all keen DXers and further information about applications can be obtained from me on receipt of a stamped addressed envelope.

Joe 90 (Group Organiser),
Worthing DX and QSL Group,
PO Box 404
Worthing,
West Sussex

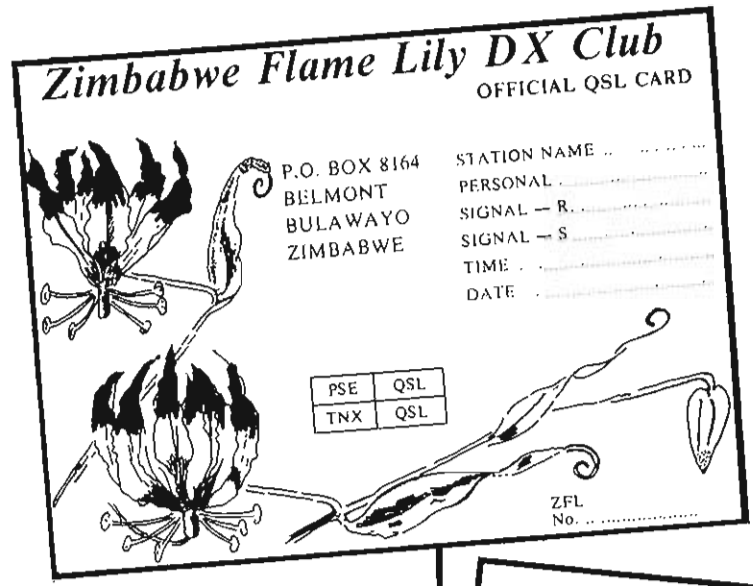
Tango Bravo Group

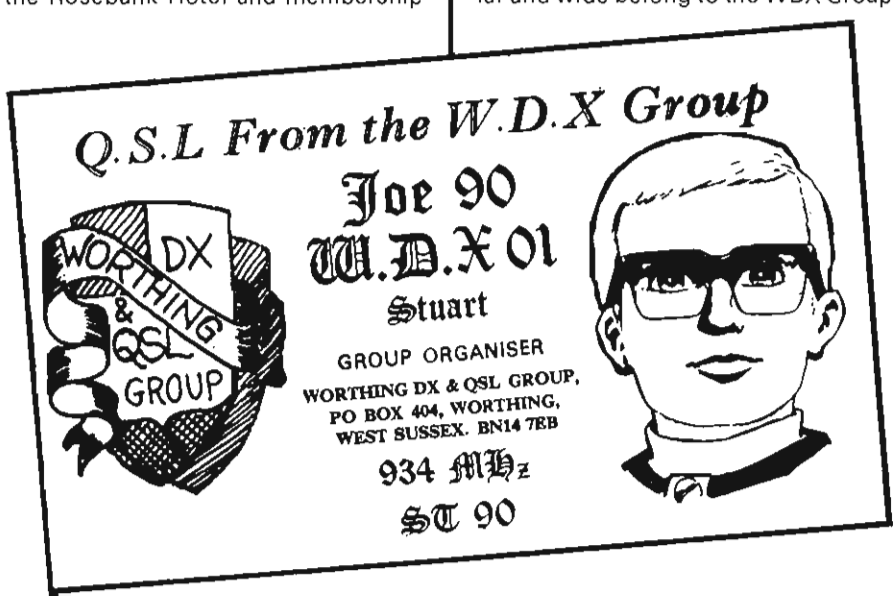
On behalf of the Tango Bravo Group, I would be obliged if you would insert the following notification in your Club News columns.

Due to recent circumstances, it has been found necessary to change our PO Box address. Our new PO Box address is: PO Box 5, Stanley, Co Durham DH9 9XT. Also membership of our International Section has now been reduced to £3.50.

We would be obliged if all existing members of the above group would take note of this change.

H H Harrison,
c/o Tango Bravo Group,
37 Parkside,
Tanfield Lea,
Stanley,
Co Durham





More tales of Big T's travels

This week saw one of the highlights of the DXers' year — the Sheffield eyeball. As many of our regular readers will remember, I gave it a mention in the May issue. This year's eyeball was Sheffield's third and by far the best — several clubs had got together and were rewarded by a crowd in excess of 2,000. Breakers from all over the country shared in a superb day out and, although several times during the day the sky looked threatening as forecast, the rain did manage to keep away (at least until we were on our way home). It was smashing to catch so many of the northern breakers I speak to so often on my travels and to be able to put a face to a voice is always a pleasure.

The eyeball was held at the British Steel Sports Ground just off Gate 34 M1 and as well as the 2,000+ breakers and families, a large selection of stalls and club tents were there too. Many of the stalls specialize in CB equipment and I must admit there is always a good selection to choose from for anyone interested. I know many of the stall-holders get all over the country — I have seen them on my visits to these eyeballs and I am sure they enjoy themselves and at the same time make a little bit of cash. Badgeman, Paul and his crowd always seem to be doing a roaring trade but since buying badges from Paul, I can see that his badges are first-class and very reasonably priced. The 200 our Club bought were sold out almost overnight. Thanks, Paul, for a beautiful badge and first class service — anyone wanting badges can contact Paul at Warwick Trophies on (0926) 495370 or 497078.

Ensign cards are another firm who always seem to be busy but I can understand why because in my opinion their new photo-cards are unbeatable. The first 100 are a little on the expensive side, but if you want an exceptional card then you must pay. As I stated a few months ago, Eileen and myself were hoping to have a new design done which we have now had and, at present, they are in the process of being printed and hopefully should arrive in the not too distant future. Martyn (Pilsbury) tells me delivery is now down to approximately two to three weeks. It is nice to be able to give the different lads and ladies a mention in the magazine and I will try to do so each month — space permitting.

The one thing I did like about the Sheffield eyeball was the large variety of things to do, a tug-of-war was held between many of the clubs present and the eventual winners were the Whisky Novembers from Wolverhampton. Bluto (Bill), Pathfinder, (Major), Cloud 9 (Ron) and the rest of the gang were very pleased (I bet we shall never hear the last of it). Well done Whisky Novembers, we in the midlands had to show the others how! I did hear a rumour that their anchor was Whiskey Lady's tongue (sorry Wendy)!

A couple of weeks ago I was down in Exeter staying overnight and as usual, the following morning I tuned into channel 35 to catch Diane (Melody Rider) running her early morning network. After our usual five minutes insulting each other, she gave me some information about the club of which she is chairperson, Exeter Breakers Club. It appears that Diane and her gang had decided to raise money for a special machine to help the treatment of cancer patients. This particular machine costs £50,000 and, to date, the breakers have raised a total £1,185. The money has been raised in a variety of ways like breakdancing in the High Street, car-boot sales, jumble sales, juniors cycle ride and a nappy-run, where five of the lads toured all the pubs and raised a total of £300. Well done Di and all of your friends down there in Devon, it is a very worthy case.

Last month I did forget to give a mention to a lady breaker who I had the pleasure of copying whilst in Market Harborough — her handle was Busy Bee with the personal of Ann. Sorry about the wind-up, Ann, but I look forward to speaking to you again when I next visit Metro Man (Ron).

Another eyeball which several of the Thunderbirds visited was down in Kempsey, Gloucestershire — we met several of our old friends and made several new ones on this day. The weather was perfect for an eyeball and we give our thanks to all the Kempsey breakers for a super day — the Terry and Joan show was superb and anyone having the chance to see these in action, please do so, you certainly will not be disappointed. I would also like to mention that I won the skittles in a play off against Les (Solo One) — hard luck Les, the wine was beautiful.

This month's featured cafe is the Salt Box Cafe at Foston, Derby. The cafe is situated on the A52, Uttoxeter — Derby road and as well as having a transport section, there is also a restaurant. The food is excellent, the service is very good with a very large lorry park at the rear where overnight parking is available. The cafe is open Monday to Friday 7 am till 7pm and Saturdays 7 am until 2.30 pm. The proprietor, Jim, and the girls are all very pleasant and it makes a nice change from many of the places I visit.

I have not been able to find a monitor again this month but I would like to give a quick mention to Telford Control's two latest recruits — Momma G (Beryl) and Solitaire (Heather). Keep up the good work, girls — lots of my trucker friends from all over the country are always telling me what a smashing job you all do and ask me to pass on their thanks to you.

One last word on the eyeball scene — I would sincerely like to apologise to my mate Big Daddy (Ian) who sent me the information on his club's eyeball at Birmingham to be held on the 2nd and 3rd August. I was too late getting it to the magazine — sorry, Ian, and I have heard on very good authority that Ian's wife, Big Dragon, is out to get me — sorry Babs!!

Well I had better end this month with a little mention about trucking, well more of a question — could anyone please tell me why, years ago, we had motorways built to ease the congestion on the minor roads? There seem to be that many roadworks we are now diverted back on to the A and B roads to avoid the motorways — I think the M1 is rapidly becoming the longest lorry/car park in the country. Well, thank goodness for breakers like Naughty Norman — at least we have a good laugh.

Finally I would like to apologise to the many breakers who ask me to give their clubs and friends a mention — I get inundated with names and dates and have to choose a small selection. Hopefully, some of you will not be too disappointed but I am restricted by space available. Until next time, stay lucky.

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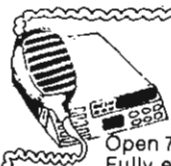

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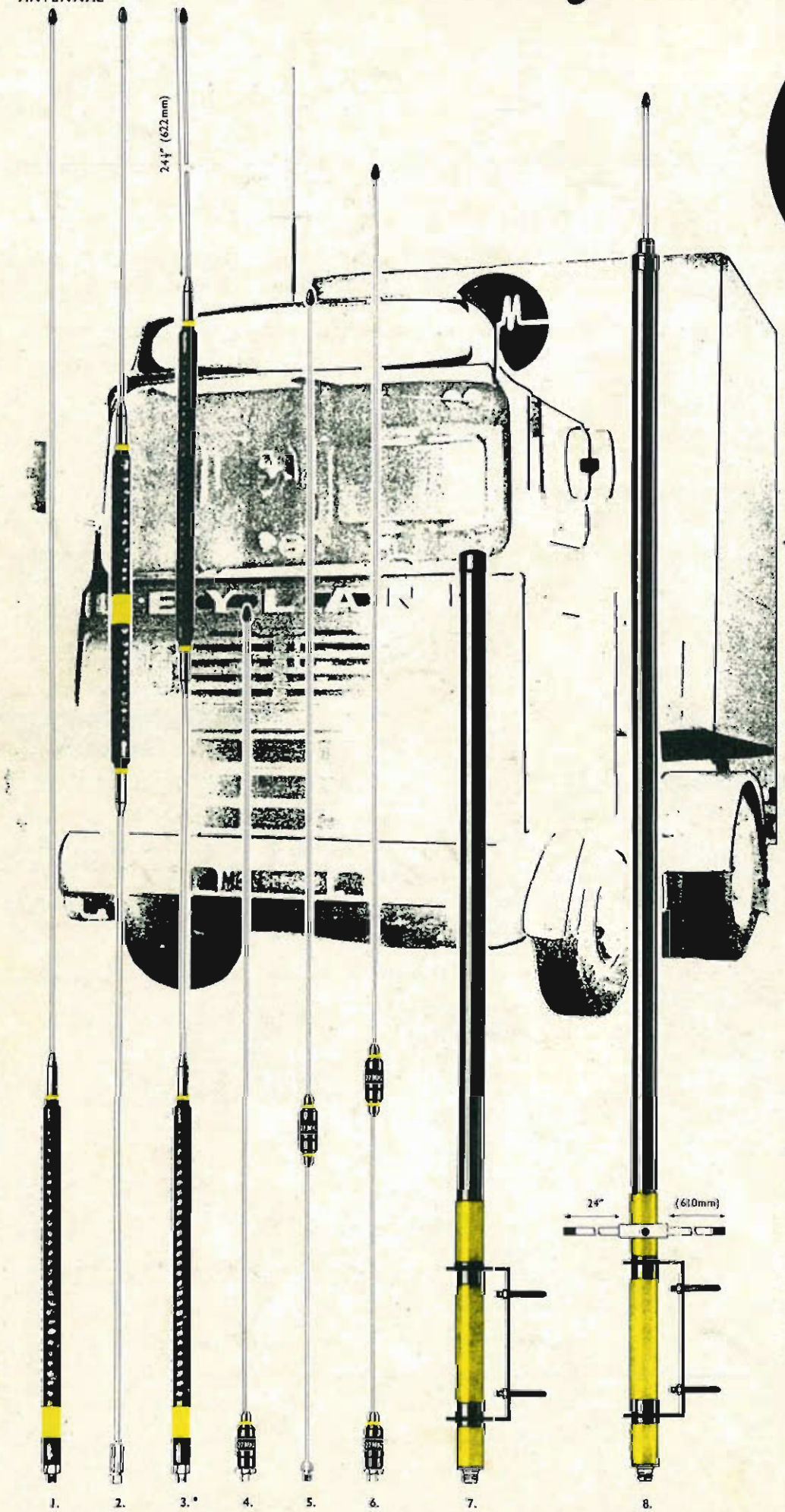

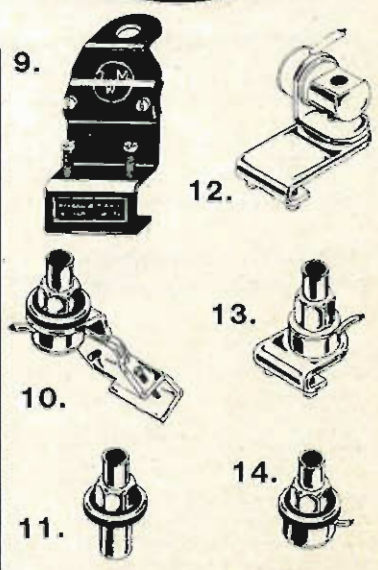

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