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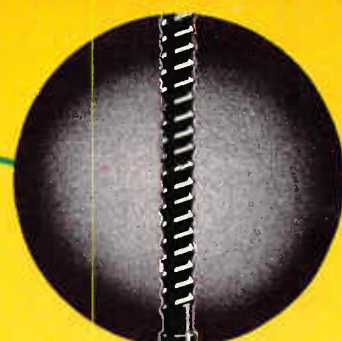
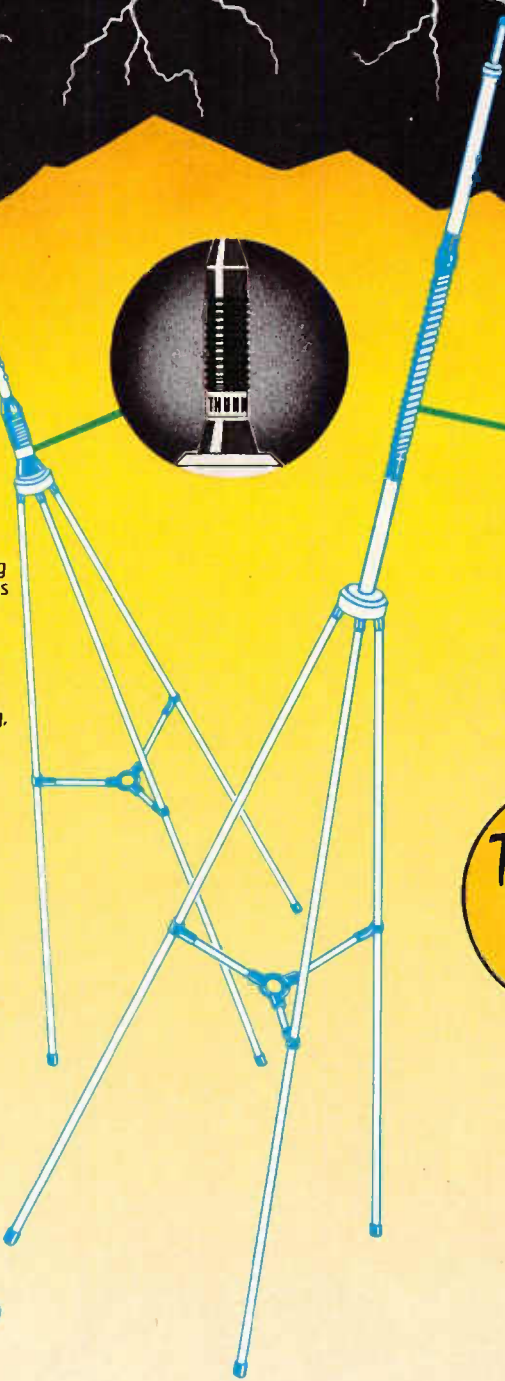
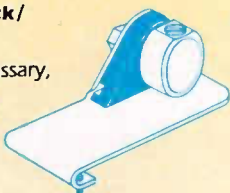
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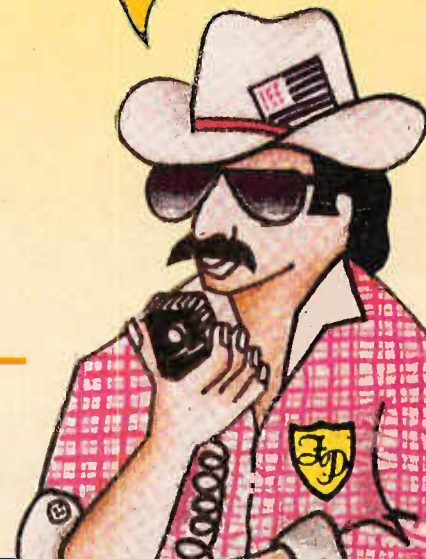
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CB

CITIZENS' BAND

March 1988

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Number 4

C O N T E N T S

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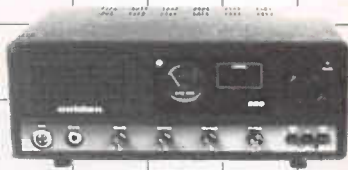
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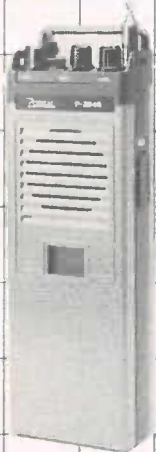
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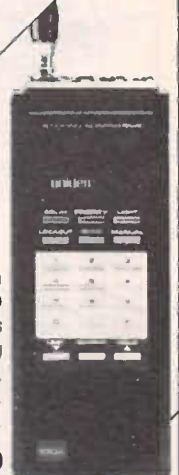
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UPDATE



Editorial

We're now into the first quarter of the New Year and charity time approaches once again. Yes, now is the time of year to start thinking about ways and means of raising monies for your club's favourite charity. This magazine is always interested in news of clubs flying the flag for CB and raising funds for deserving causes. Exact figures are not available but we estimate that CB clubs and individuals, through various projects - sponsored modulations, fun runs, eyeballs etc - have helped to amass, directly and indirectly, over £2 million pounds in the last twelve months for numerous charitable associations or causes. It is lamentable that this kind of news is not reported in the national press very often. However, well done, breakers

Simon Beval

and keep it up. Additionally, if you have any news or information on this theme, please pass it on to us and we'll do our best to report the acceptable side of CB in the UK.

Recently, there has been a lot of confusion over various new rigs on the market, specifically designed for the new CEPT frequencies. Is such-and-such radio type-approved or not? Well, we are as confused about the situation as you, the readers, and numerous retailers are. To clear the matter up, we contacted the Department of Trade and Industry who told us that, at the time of going to press (mid-January 1988), eight sets have been type-approved. These are the following.

- Zodiac M144
- Zodiac M244
- Uniden PC400
- DNT Contact 40FM
- DNT Coupe 40FM
- DNT Transit 40FM
- Albrecht AE 4002
- Albrecht Alpha 4000

The DTI have also asked us to point out that the Satcom Scan 40 has not yet been type-approved.

Well, we hope that clears things up for potential purchasers of new equipment and we shall, of course, bring you the latest update on the whole situation.

Meanwhile, enjoy the rest of this month's issue.

Big Thank You from the Echo Whisky Group

Friends of Nicholas Nicholls (*The Organ Grinder*), who died a year ago, recently gathered together to present a total of £1,550 to the Fair Havens Hospice, Southend, where Nick spent his last days.

The members of the Echo Whisky Group raised the

money through various means and presented the money to hospice matron Daphne Spencer as a thank you for the caring way they looked after Nick. One of the members, Ernie Chilvers (handle QC) said: Nick used to say that Fair Havens was like a holiday hotel. He had a heart of gold and it has been our pleasure to do this for the hospice in his memory."



'88 Cheltenham Eyeball

The Swan Inn, Coombe Hill, Cheltenham, is the venue for this year's Cheltenham Eyeball, to be held on 8th May from 10 until 6.

There will be a children's playground, various entertainments, food and a bar extension. The entrance fee is only 30p per person and overnight parking is available at £1.50 per unit. Clubs can book stalls for £5 -

or £1 non-profit-making - while trade stalls cost £10. All proceeds will go to CLIC (Cancer and Leukaemia in Childhood Trust).

Why not make a date in your diaries to support such a worthy cause and write for more details to: PO Box 135, Cheltenham, Gloucester GL50 1AA.

Workable SSB

Monitoring Service of Great Britain (Voluntary Organisation) have joined

forces with the Scottish Association of CB Clubs to compile a document for a UK SSB system. These are their words:

We are asking for your support in producing a 'draft' first stage document for a "workable" SSB system within the UK. It is very important that all CB users have a say in the requirements of a new system, and we can only do this with your help. Although the DTI have not said that we will get SSB within the 1990 review, they have said that it is a possibility - and that must be worth looking into. It would be unfair for MSGB (Voluntary Organisation) and SACBC (Scottish Assoc of CB Clubs) to do this alone. So we would welcome clubs, groups and CB individuals to take part.

Like most things in life, we only have a limited amount of time. We need your ideas before March 16th 1988. This will then allow the two Groups to put together a "workable" document based on the ideas from you, the CB users. A copy of the document will then be sent out to all those who send in ideas and other interested parties. It would be helpful if, when sending in your ideas, you could include an A4 envelope with a return address and a 23p stamp. The final draft will then be sent into the DTI for inclusion in discussion talks prior to the 1990 review.

It is possible that we may lose the UK FM system at some point after 1990, and that would affect ALL CB users. Any loss would increase the use of our already overcrowded channels. For many years CBers have been saying that we need an SSB system in line with other countries. We now have that chance. But we must act before the review. We feel sure that you will offer your ideas and support this proposal document. It will be of special benefit to DX and QSL users.

Please send your ideas to either Ian Oliver, M.S.G.B. (Voluntary Organisation), c/o School House, Meadway

School, Littleton Street, London SW18 3SZ or Tony Jaconelli, SACBC (Scottish Assoc. of CB Clubs), PO Box 35, Falkirk, Scotland.

The Scots Connection

Calling all breakers in Scotland, Evelyne, who edits the Scottish CB Newsheet is proposing to set up a linkup of Scottish CB stations to carry out a 48-hour sponsored modulation to raise funds for the Scottish Society for the Mentally Handicapped and CB for the Blind. The date set is from 30th September to 2nd October 1988.

Evelyne would, therefore, be interested to hear from anyone interested in setting up a station or anyone with advice or ideas for organising this link-up. She needs information such as which channels stations use and whether or not she could set up intermediate stations.

Evelyne is well qualified for such a task in that she is the leader of the Busy Bee CB Team, which has been carrying out sponsored modulations for over 6 years around Scotland. Their most recent mod was on Hartwoodmyre in the Borders area, in aid of cystic fibrosis.

Anyone who wishes to help should contact Evelyne at Arnail Patison, Neilston, Glasgow G78 3AT.

Citizens' Band Radio Rally

Citizens' Band radio is as popular as ever in Britain, with enthusiasts of all ages and from all walks of life. Unlike Amateur Radio, C.B. users do not need to sit an examination before they can obtain a licence, although many licenced radio amateurs are keen C.B. users as well. Whereas radio amateurs hold frequent rallies all over the country where users can meet to talk, look, bring and buy, there has been no such provision recently for C.B. enthusiasts.

Bob Brown of Stanford le Hope in Essex, a man with a life-long interest in all radio communications, has decided to organise a rally primarily for CB operators, with amateur radio also represented. He considers that this aspect of the popular hobby has been neglected for too long.

With the 'Sunspot Cycle' well on the way up, there is great anticipation among radio enthusiasts everywhere, and the rally is sure to arouse much interest and support.

It is to be held at Orsett Hall near Grays, Essex and will have stands for suppliers and clubs to display their wares, a bring and buy section, a raffle and bar facilities for those needing refreshment. There is free parking for over four hundred cars, and Orsett hall



boasts four acres of beautifully landscaped gardens and a very fine restaurant, although you are advised to book this well in advance.

Some stands are still available for the rally, which is on Sunday, March 27th between 10 am and 4 pm. For further details please phone 0375-670841 and ask for Bob or Pat.



BREMI[®]

The Return of Bremi

Nevada Communications recently announced that they have introduced the Bremi range back into the UK.

The original Italian company ran into financial difficulties some years ago and eventually went into liquidation. Now however, the founder Mr Barbagallo has purchased the Bremi brand

name from the receiver for his new company BR Instruments.

The first products to arrive are the Bremi Power Supplies models BRS 27 and BRS 31. The model BRS 27 (3/5 amp) is currently the ONLY UK CB Power Supply to have FULL B.S.I. approval. (Approval Number BS 1363) being both safe to use and of high technical quality.

During February we will introduce the rest of the Bremi range which includes Frequency Counters, Amplifiers, accessories and Test Equipment.

The new company has been particularly successful manufacturing a range of sophisticated Professional test equipment and will bring this expertise to its CB Radio products.

Special Bike Run

A very special bike run took place in October from London to Brighton. The riders were made up of totally blind, partially blind and others with poor sight in aid of the Linden Lodge School for the Blind, London SW19. Other riders came from Clapham Park School and Graveney School.

The aim was to raise money towards the £7,000 needed to send the children on a skiing holiday in Austria this year.

Monitoring cover was provided by members of MSGB Ltd and Crawley Alligators. Our thanks to Buff, who provided this information, and who would personally like to thank JOH, RB, Peter, Gutbucket and Andre.

Home Entertainment Show

The dates have been set for HEDS '88, the newly-announced Home Entertainment Dealer Show - it will run at Birmingham's National Exhibition Centre from May 8-10.

Exhibition Director, Tony May said: "As well as providing visitors and exhibitors with a many-faceted catalyst for improving communications and dialogue between dealers and manufacturers, HEDS '88 also gives the home entertainment industry the opportunity to increase its European and worldwide market and status."

Sales Executive David Willis added: "Busy home entertainment dealers will be able to see virtually every aspect of their business under one roof, with time to browse, compare, decide and then buy."

"Ideas will abound in such a way that the serious dealer will, inevitably, be able to add to the service given to the end-consumer. In short, the exhibition will be a meeting place for buyers and suppliers to - literally - get their heads together."

"The N.E.C. has excellent facilities for exhibitors and visitors alike. Combined with the buoyancy of the market, exciting new technology and



show business nature of the home entertainment industry, HEDS '88 at the N.E.C. represents, at last, the possibility of a U.K. trade event that has no bounds.

"The N.E.C. also provides

superb facilities for conferences, conventions, concerts, working breakfasts, cabaret dinners and other promotional events to dovetail and complement the exhibition", added Mr Willis.

OVER THE AIR

Shepherd Man reports on some recent charity successes

Eamonn Percival (Editor) has asked me if I would be interested in doing an article every now and then about Club News and Club Charity Fund Raising, as well as the odd bit of gossip. Well, whilst pushing a trolley around Sainsbury's and mulling over the best way to get my fellow CBers to part with information. I thought, go straight in and ask them direct - so what about it? I don't care what it's about. So long as it's printable. Maybe you know of a breaker that has done something worthwhile or a group of people that deserve a mention - let me know. Well, having demolished a stack of Bran Flakes, run over some old lady's foot and finally pinned a small child against the wall with the front of the trolley, I decided to leave this matter until I had returned home.

So here goes . . . Tinto CB Club: PO Box 1, Biggar, Edinburgh. Have raised £4,026.05 for the Bangour Hospital . . . East Surrey Monitoring Service have raised £509 for the Surrey Corps and Drums St Johns Ambulance . . . Solway Pirates CB & QSL Club: PO Box 15,

Kirkcudbright, Scotland. Have been busy raising money -£1,050 for Child Line Appeal and a further £500 towards a local Christmas Charity, and the ladies of the Club have crocheted 57 blankets for OAPs in their area . . . Scotland World Wide Group and Dumbarton District Breakers raised and donated over £1,500 to the 'Robert Mitchell Fund' . . . Clyde Coast SEARCH presented a cheque for £250 to the crew of the Largs Lifeboat . . . The 'Poppy Run' and 'Network' supported by many southern CBers to aid a very worthy cause . . . Monitoring Service of Great Britain (Voluntary Organisation) for helping the Kidney Research Fund raised £10,000 in one day. On a 13 Bridges London walk . . . The Busy Bee CB Team for raising £100 for the Huntlyburn Hospital Day Room Appeal, from their June modulation . . . CBers who took part in a Pool Tournament and raised £40 towards Hagghill Girls Club . . . 2nd City Breakers from Glasgow presented a cheque for £175 raised for the 'Lynn Gilmour Fund' to Mrs Gilmour . . .

The Truckers Guide to Information has been compiled by Stan (*Lightfoot*)

and Evelyne (*Bunny*), and is a mobile guide to local CB stations around the UK. It supplies the contact channels for weather conditions and directions. Anyone who would like a copy should send a SAE to: SCBN c/o PO Box 337, Neilston, Glasgow.

Scottish CB for the Blind are holding a 'Raft Race' in Callender Park on the 8th May 1988. This is to help them raise funds for the Charity. All CBers are welcome to come along and cheer on the teams.

Special thanks to all those CBers and Groups that assisted people during the storms and flooding during October '87. I have received a number of letters and telephone calls praising the work many of you did. Including one about two CBers that set up a mobile station in a rowing boat linking with a CB user up in a very tall tree. These two helped rescue a number of people and supply the emergency services with information.

Well, that's the first one done *and now it's up to you*. Send the information to me c/o *Citizens' Band*.

Shepherd Man

ROGER DODGERS

Paul Coxwell blags a couple of bleep boards and reports his findings

The subjects of this review are two of the new range of add-on bleep boards made by J.D. Custom Electronics which by now you have probably seen in Truck King's advertisements. One of these is designed to imitate the familiar Hy-Gain 5 bleep and the other is programmable allowing a double-bleep, K-tone etc.

Both boards measure approximately 2½ × 1½ inches so you should have little space problems fitting them to most mobile rigs. The PCBs are the superior glass-fibre type and the construction is good. I am also informed that all boards are tested before despatch. Installation is a fairly simple matter and instructions are provided. As with virtually all add-on bleeps you need a power connection, a link to the audio input on the main board for the bleep to actually reach the modulator, and a break in the transmit/receive switching lines to allow the transmitter to be held on while the

bleep is activated. This should be within the capabilities of anyone who can trace microphone wiring and make a neat job of soldering.

The bleeps are switchable, a single-pole switch being all that is necessary to accomplish this. This could be any existing switch on your radio suitably disabled (channel 9 for example) or an additional one fitted in any convenient location. The boards could of course be wired permanently on but please bear in mind that many people find K-tones and other exotic bleeps a little tiring after listening to them for a couple of hours or more!

The Hy-Gain board now requires just one adjustment before installation is completed, that being to adjust a preset to set the volume of the bleep. If your radio has a mic gain control you may want to wire the bleep to the output of it rather than to the mike socket as suggested in the instructions, unless you want the bleep level to be altered by the control as well as your voice.

The programmable bleep requires a little more thought to set-up and the first thing to do is decide what type of bleep you require at the end of each transmission. As supplied the board gives just one long tone and you must attack it with a pair of small wire-cutters to achieve the desired effect! This isn't quite so disastrous as it may sound and is really quite simple. On the board you will find nine diodes in a line, mounted vertically so that one end can easily be cut. When you release your mike key a counter circuit activates each of these nine links in turn, remaining on each for the same duration. Cutting a link at any point creates a break in the tone, leaving it connected allows tone through. Taking the most likely case of a K-bleep we find that a dash in Morse is three times longer than a dot and that the space between elements is equal in length to a dot. Assuming that each link represents the time interval for one dot we can therefore have any combination up to a total of nine dot-intervals. 'K' is dash-dot-dash (or dah-di-dah if you prefer) so links 1, 2 and 3 are left intact for the first dash, 4 is cut to give a break, 5 is left for the dot, and 6 is cut leaving 7, 8, and 9 to give the final dash. You can of course cut the links to give any combination of bleeps and breaks you can think of, and a few are shown in fig. 1 if you're still not quite sure of how it works. The same comments about mic gain controls apply to this board as to the Hy-Gain type, for obvious reasons.

The verdict? The Hy-Gain bleep definitely resembles its 'real' counterpart, unlike some which are just about recognizable as similar but would never pass as the real thing. The programmable bleep is versatile in allowing the user to select the required format and should satisfy those who need something different to be the only one in town with a certain bleep! This bleep doesn't have a level control like the Hy-Gain type however, though it was tried on several radios including both UK sets and multi-mode Export types with entirely satisfactory results. It is only a matter of changing one resistor to alter the level if you do have a slightly unusual rig, but this problem is unlikely to arise.

The J.D. Custom Electronics bleeps are available for £11.95 each from Truck King at Watford, and thanks go to them for supplying the review samples.

Fig. 1 Programming

	1	2	3	4	5	6	7	8	9
K-tone				X		X			
Double-bleep				X	X	X			
Triple-bleep	X			X			X		

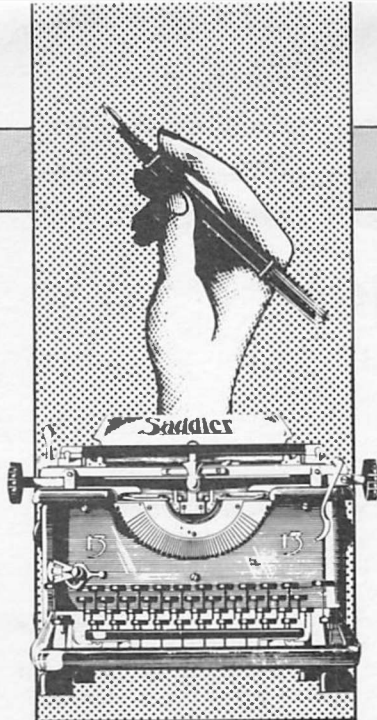
'X' indicates a cut

The double bleep shown will give two long-bleeps separated by an equal length space. The triple-bleep consists of three slightly shorter bleeps with the gaps half the length of the bleeps themselves. Try a few more for yourself.



BACK CHAT

TAXI TIME AGAIN



Taxi Time Again

Ian Oliver, National Establishments Officer for the Monitoring Service of Great Britain (Voluntary Organisation), has more than a few comments to make

Having just received my copy of the December issue of *Citizens' Band* from my newsagent - on time for once, I flicked open the pages to the "Update" section and found what seemed to be a picture of Frank Zappa sitting in a chimney (Frank Zappa being a heavy metal guitarist). But on closer examination I found it to be EP the Editor.

Anyway, after recovering from the initial shock and reading on, my attention turned to the "Back Chat" section and the letter from 'Ribena' of South Wales. As I am a National Officer of one of the CB User Groups and one who attends the DTI CB User Group Meetings, I hope that I can try to answer his question and anyone else's regarding taxis and mini-cabs who use CB to pick up 'punters'.

First of all, let me say that like many other CBers I sometimes suffer from these people and further make it very clear that the DTI have been told about this problem at the CB User Group Meetings. Even to the extent that they do pass on 'third party information'. Their answer is simple (or so the DTI think): Our system is un-protected and as such should be shared with other users (i.e. taxis, businesses etc).

Table 6 Number of licences on issue at 31 March 1986

License category	Number of licences on issue	Equipment licensed (where appropriate)
Aeronautical	170	—
Aeronautical Ground Station (General)	261	—
Aeronautical Ground Station (Glider, Hang Glider and Balloon)	781	—
Aeronautical Ground Station (Special)	43	—
Aeronautical Ground Station (Special Mobile)	3,767	—
Aircraft	427	—
Aircraft (Manufacturers' Facility)	13	—
Radar (Land) Station	3	—
Radio Beacon	59	—
Test Flight and Delivery	5	(short term only)
Amateur	28,750	—
Amateur Radio (A)	27,341	—
Amateur Radio (B)	42	—
Amateur (Special) Beacon Station	218	—
Amateur (Special) Repeater Station	—	—
Citizens' Band	139,687	N/A
Citizens' Band Radio	3	—
Citizens' Band Radio Demonstration	—	—
Maritime	N/A (short term permits only)	—
Delivery Voyage Radio	12	—
Light Station	13	—
Oil Rig Radio	262	—
Port Operations Radio	—	—
Private (Maritime) Mobile Radio	582	1,567 mobiles
1-5 mobiles	141	1,086 mobiles
6-10 mobiles	72	1,165 mobiles
11-25 mobiles	23	725 mobiles
26-40 mobiles	5	257 mobiles
41-60 mobiles	3	209 mobiles
61-80 mobiles	—	4,949 mobiles
Total	826	N/A
Private (Maritime) Base Station Only	12	—
Radar (Land) Station	83	—
Radio Beacon (including Radar Beacons)	4,262	—
Ship Radio (2 MHz)	2	—
Ship Radio (Retrieving Only)	44	—
Ship Radio (Emergency Only)	626	1,393 transportables
Ship Radio (Transportable)	25,591	—
Ship Radio (VHF)	N/A (short term permits only)	—
Ship Radio (Ship's Trial)	1,801	N/A
Telemetry System and Teletext (including Data Base)	—	—
Private Mobile Radio (Land)	7,249	23,439 mobiles
Private Mobile Radio (Standard)	4,378	35,189 mobiles
1-5 mobiles	2,111	40,524 mobiles
6-10 mobiles	687	23,075 mobiles
11-25 mobiles	550	28,099 mobiles
26-40 mobiles	169	16,377 mobiles
41-60 mobiles	139	12,721 mobiles
61-80 mobiles	95	10,609 mobiles
81-100 mobiles	75	9,761 mobiles
101-120 mobiles	50	7,600 mobiles
121-140 mobiles	—	—
141-160 mobiles	—	—

License category	Number of licences on issue	Equipment licensed (where appropriate)
161-180 mobiles	12	5,438 mobiles
181-200 mobiles	66	8,901 mobiles
Over 200 mobiles	256	195,995 mobiles
Total	16,127	383,729 mobiles
Private Mobile Radio Demonstration	130	811 mobiles
Message Handling Service	271	11,589 mobiles
Private Mobile Radio Short Term Hire Licence	102	7,923 mobiles
Private Mobile Radio Common Base Station (Trunked Service)	525	27,439 mobiles
Private Mobile Radio Common Base Station (with Message Handling Service)	7	39 mobiles
National Public Radio Telephone Service	N/A	N/A
RT System 4	1	111 channels and 14,746 mobiles
Cellular Radio 890 to 905 MHz and 935 to 950 MHz	2	320 channels and 60,000 mobiles
Fixed Link Services	40	1,699 stations
Scanning Telemetry Link	73	580 links
Fixed Radio Relay Link (On-shore)	12	124
Fixed Radio Relay Link (Off-shore)	N/A	—
Temporary Fixed Link	—	—
Low Power Devices	10,065	—
Induction Communication	2,948	—
Radio Microphone	11,087	N/A
Teletext	1,989	N/A
Telemetering and Teletext (including Local Authority Emergency Alarm)	225	—
Vehicle Detection	211	—
Vehicle Sensor	—	—
Paging	190	—
Induction Communication (Return Speech)	311	—
Local Communications	180	728 mobiles
Radiating Cable	7,246	—
Radio Paging (Standard)	791	—
Radio Paging (Return Speech)	133	N/A
Local Wide Area Paging	4	—
National Wide Area Paging	—	—
Police and Fire	123	—
Police and Fire Service	40	—
Police CB Monitoring	551	—
Radio Speedometer	34	—
Police Burglar Alarm	124	N/A
Special Licences	729	—
Testing and Development	377	—
Testing and Development (Radiating)	—	—
Testing and Development (Suppressed Radiation)	—	—
Training Establishment	93	—
Training Establishment, Wireless Telegraphy Only	51	—
Training Establishment, Wireless Telegraphy and Radar	42	—
Miscellaneous	13	N/A
Off-shore Platform (North Sea) Comprehensive	22	N/A
Press Receiving	N/A	—
Programme Contractors	14	N/A
Search and Rescue	191	—
Television Receiver Only Satellite Receiving Equipment (TVRO)	290,173	—
Total	290,173	—

Note: 1. Figures include those for PMR Demonstration, Message Handling Service, PMR Short Term Hire and PMR Common Base Station.
2. Does not include radio alarm.
3. Exempted.

However, they have said that if these types of users are known to be causing problems to other users by "pushing power" etc, the DTI would be very interested in them and would welcome ANY information. Also they would welcome information regarding the passing of "Third party info", and may I suggest that some breakers may like to consider consulting their local police as a safeguard against burglars and, if all this fails, then contact your local newspapers and let them have the facts. I feel sure that the taxi and mini-cab firms will very soon lose customers if they found out about them.

Moving on, let me say that I don't find the 10p per issue increase to be all that bad. When you weight up the value for money factor and the fact that its cost is very much inline with other specialist publications.

I was very interested in the article by 'Smart Alec' about truck thefts and even

more interested to read that West Midlands Detective Inspector B. Hewett claims that his police force "were not equipped with CB rigs". So just who does have the 40 police monitoring sets as stated in the DTI Annual Report 1985/6 and 1986/7, and what are they used for? I, for my sins, have seen CB sets in police cars in parts of the UK and I would have felt that having these sets in some cars must be a bonus in certain circumstances. Perhaps *Citizens' Band* can find out where these sets are and what they are used for!

Well done, to Brandybird for her interpretation of the BBC's series 'Truckers'. Oh, wouldn't it be nice to think that the programmes were true to life and that it was or is 'all good fun'. Oh yes, I would like to thank Yorkie Boy, a friend of hers, for the courteous manner he showed to me the other week whilst I was travelling down the M6 and I asked if Brandybird was on his channel. It was

Is Mack Mistaken? ■ For the Accused ■ CB for All ■ Fair Trading ■

nice to hear a young breaker who knows how to conduct himself – many thanks.

I would like to impart two pieces of information to the readers of this magazine and I hope that they will benefit from them. First of all, the DTI have just issued the 1986/87 Annual Report. Which, as with last year's, does give us an insight to many things, including CB. It is well worth the read and some people may find page 16 of some interest!

Secondly, like a lot of other CB users, I find that all too often we are left wondering just what is and isn't legal equipment, and how come the CB shops and outlets can get away with selling some illegal goods, when if we get caught we can be 'busted'. Well, I have just received the second letter from the DTI that informed me that, very soon there will be a further restriction Order under section 7 of the Wireless Telegraphy Act 1967 (as amended in the Telecommunications Act 1984) and I quote: "Under this it will become an offence to have in one's custody or control, to sell or offer for sale, hire or advertise CB apparatus which is defined in the Order. This will be in addition to the existing Order on manufacture and importation. RIS Officers will be able to seize equipment covered by the order and will only need to apply to the courts for a forfeiture order. They may decide to prosecute if use can be proved, but it will nevertheless be an offence merely to be in possession of illegal CB equipment, regardless of intent".

About bloody time! For too long now we have had to suffer from people selling illegal goods simply to make a profit. This should (I hope) go some way towards clearing up a major problem in the UK. It is a shame that many CBers are subjected to many 'sell' adverts offering goods or services to the user and leaving the user to pay the fines.

Is Mack Mistaken?

All the way from the Shetland Islands, Colin Reynolds writes to take Mack the Hack to task...

To Mack the Hack: I have read with

interest your article in the January 1988 issue of *Citizens' Band*, and as you are inviting comment I would like to take this opportunity to present you with my views.

First, one minor criticism. You have quoted the DTI's report of having 'captured' 438 AM'ers and then wondered why they haven't mentioned SSB operators. As a licenced amateur I would have thought that you would have known that SSB is Amplitude Modulated and that calling it AM is technically correct. Please accept my apologies for 'nit-picking' but I do think that the point should have been clarified.

As to the new frequency allocation, I do not think that it is going to be as immediately popular as the original 40 channels for a number of reasons:

1. Any kind of a lift produces S9+ hash on most receivers I have seen and used. Making anything but VERY local copy impossible. Even hardened DX'ers will find it difficult to make and hold a contact on this band. In comparison, the original 40 channel allocation is much more usable although not entirely free of continental garbage.

2. The cost of a half decent radio is prohibitive. I for one would not consider paying £100+ for a simple 40 channel radio when for the same outlay or less it is possible to obtain a 120 channel multimode with real 'Talk Power' (SSB). I know that it is possible to work some very nice DX using FM on this band but in all fairness it only really happens in 'moderate' lift conditions as a really strong lift will bring in possibly hundreds of stations on each channel and even the famous FM capture effect cannot cope with that.

3. Nearly all the hardened DX'ers in this country, as elsewhere, use SSB leaving the FM blocks free for local QSO. As there are a vast number of MPT1321 radios in use, purchasing a new one with a different frequency allocation is not going to give anyone a lot of options for making contacts.

I could think of many more reasons for not using the new band at present, but in the need for brevity will move on to my next point.

Legal SSB. Not in the immediate future, at least not by walking into your local Post Office and buying a licence. I, for one, am in favour of an integrated radio service with the ability to progress to different levels, band allocations, and power outputs. Unfortunately, the only body capable of REALLY representing these views washed its hands of CB even before it became legal. Perhaps the RSGB was concerned about opening its doors to many thousands of CB'ers probably quite rightly equating most of them as direct descendants of Attila the Hun. The obvious loss of control to these 'uneducated morons' must have given them nightmares. However, now that the band is 'coming of age', such entrenched attitudes still exist and I cannot help feeling that they are detrimental to the future of radio in this country as they have certainly been guilty of creating an 'us and them' situation.

I do not want to argue at length on the virtues of a novice licence as, like yourself, I believe that 11 metres IS totally different to Amateur operation. It's better, more informal, quite often boasts better standards of operation and is generally much friendlier and tolerant of new operators or those with limited powers of communication. This is not intended as a direct attack on the amateur fraternity but is simply the result of many years listening to the amateur fraternity but is simply the result of many years listening to the amateur bands and my own experiences operating 11 metres. How many people do you know that try to speak French to Frenchmen, German to Germans, Italian to Italians etc on the amateur bands? After all, it's not difficult to compile a list of standard phrases to help with a difficult contact instead of expecting everyone to speak English.

Perhaps the long term answer is for all serious CB users to join the RSGB and try to effect changes from within. The only problem with this approach is that the 'Establishment' that appears to control the RSGB would probably resist any reasonable move that was likely to threaten its position. As *Citizens' Band* now seems to be becoming more radio orientated instead of being an up-market comic (I've taken every issue since its launch!) perhaps the editorial staff would consider taking a lead in these matters and at least try to offer some badly needed hope and encouragement.

Finally, might I suggest the following as 'food for thought'. Several classes of

radio licence eg:

Class A. No change but + C & D

Class B. No change but + C & D

Class C. Novice. 27.415 – 30 MHz low power +D

(All Modes 12w PEP SSB, 4w FM)

Class D. 26.965/27.405. 4w FM

I apologise for the length of this letter, but as you asked for comment I hope you will find it of interest.

For the Accused

The charmingly handled Demolition Expert, from Northern Ireland, is worried about things to come . . .

Reference Mack Chat (January 1988), I write regarding the new CEPT FCC band, about which Mack the Hack seems to suggest that the allegations regarding foreign interference to be inaccurate and again seems to suggest that local pirate, all mode, off frequency transmissions are a more likely source of interference.

I don't consider myself an expert but I have 16 years of experience of CB and amateur transmissions logged over that period of time and around the last sunspot maximum in 1979, I have records of received stations from Italy, Germany, USA and South Africa, to name but a few, all of whom gave S-meter readings between 50 – 60 over 9. I have particular reference to a couple of trucks in the USA on AM, received at 60 over 9 and "both were bleeding 6 channels up and down". I shall let these records speak for themselves. In heavy skip conditions these are the sort of very strong foreign stations we shall soon have to cope with and have our local QSO's limited to two or three miles. But then we shall have the power-crazed loonies who, on the local front, feel the need to prove to the CB public that their 'superior' stations are still capable or 'normal distance' QSO's under adverse conditions. The combination of a Yaesu and a 1 or 2kW linear in the hands of an irresponsible lout can only cause more misery to the CB fraternity, whether local or DX.

This is what will happen. History will repeat itself and the selfish few will continue to cause outrageous amounts of local interference to CB, TV, video and public service networks, and continue to get CB and responsible CBers wrongly accused of causing serious interference.

I conclude that the time is long

overdue for the DTI to take a long, hard, unbiased look at the CB service and stop listening to technically indefensible arguments from individuals and groups who have a vested interest and who benefit from not introducing a logical, practical and properly policed CB service i.e. FM, SSB, 200 10kHz channels and the passing of an RAE equivalent exam before obtaining a B licence, and the passing of a much more difficult additional exam before obtaining an A licence and thus be able to transmit SSB.

My goodness, a CBER would be better qualified than a ham and the "why don't you become a radio amateur" brigade please note: some of us CBers don't wish to become radio amateurs. We prefer the easy-going style of CB, we prefer the 'glorious uncertainty' of communications at 26-27MHz, we don't want repeater stations, Yaesu's Kenwoods or 1 or 2kW linears or to be able to punch holes in the lunar surface in October. We would be most satisfied with 4 and 12 watts pep FM, SSB and on a non-interference basis with antennas limited by dB gain and not wavelength.

Surely the common sense in such a CB system proposal could find support with any unbiased, fair-minded person in the DTI and certainly your MP. In any event, it would be hard to argue against the logic of such a proposal and I would like to see some negative and positive response to this letter in a future edition of *Citizens' Band*.

CB For All

David Daniel, secretary of the Association for British Citizens' Band, would like to correct a misunderstanding

I was astonished to read a recent letter in Back Chat, because it was based on a complete misunderstanding of the licence conditions.

Condition 6 states 'A CB station shall only be used by:- (b) any person where such person's use is under the general supervision of the Licencee,' – and I emphasise the word 'General'. It is NOT necessary for the operator to be alongside of – or even within sight of the Licencee. The condition simply makes the Licencee responsible for what the operator does. This is no different to the car owner, who is registered as the 'Keeper'. If his wife or her husband gets

a parking ticket, it will come to the keeper. It is no different to the Directors of a Limited Company, who are held responsible for the acts of their employees, and it is well established in law that where the person responsible has made all reasonable efforts to control the person for whom he/she is responsible, he will not be in jeopardy. Thus all the examples given by Goldwing are not valid, and one licence will cover them.

I know this through having been the Association for British CB representative at the discussions with Government prior to the conditions being set, and because A. B. C. B. recently held an Open Meeting when the D.T.I. representative again explained the position. If Goldwing would like to join A. B. C. B. for £5 a year, he can write to me, and be gladly accepted. Then he will have an organisation looking after his interests, and be able to put to Government any matters he wishes through us.

Similarly if Lazer were an A. B. C. B. member he would have known through us of the £2 Licence increase as soon as it had occurred, because we advised our members immediately after the D.T.I. meeting when we were told of it. However it is a form of tax, and on Budget Day petrol often changes price within hours – so whilst it is nicer to have warning, it is not unusual for Government to raise prices at very short notice.

The address of the Association for British Citizens' Band is: The White House, 56 Lark Lane, Liverpool L17 8YA.

Fair Trading

D J Knights, a dealer in communications equipment, writes from South Humberside . . .

In the December issue of *Citizens' Band* magazine you accused CB dealers of selling new frequency radios which had not been type-approved, stating quite clearly that they were purposefully deceiving their customers.

I am sure that most retailers, like ourselves, were just as unaware of this fact as were their unsuspecting customers. We had no reason to suspect that any set for the new frequency would not be type-approved by the time it reached ourselves (until we were informed by a visit from the DTI, the first time they had visited us in our seven years of selling CBs). Any blame is solely and completely with the importers/distributors of the sets for releasing them to us without any warning that they were not type-approved.

I hope you will make this fact very clear to your readers and hopefully we may even see an apology printed in your magazine to all us honest dealers who were as deceived as anyone.





LADY BREAKERS

EIFFEL EYEFULL

I was sitting at my desk the other day, scratching my head and wondering what on earth to write about this month – it's been remarkably quiet on the airwaves round here – when providence intervened in the form of a loud voice outside my window.

"You miserable little runt, take it down, and take it down quick!" it snarled. I jumped and sat quaking in my chair, recognizing the voice of our new neighbour – a retired builder, six feet four with muscles to make Hercules weep.

"Think I want to sit in my garden looking at that Eiffel Tower thing towering over me 'edge?" the voice bellowed furiously. Eiffel Tower thing? Could he possibly mean my humble three-foot antenna clipped inconspicuously to the eave?

It belatedly occurred to me that since my study is on the first floor, no neighbour, however tall, could be shouting at me through the window. Perhaps he wasn't yelling at me at all! I tiptoed to the window and cautiously looked out.

My formidable new neighbour was standing at the bottom of his garden, some one hundred feet away from me, towering threateningly over the hedge. Standing imperturbably on the other side was a breaker friend of mine, known as Jiminy Cricket because of his irrespressible cheerfulness and short stature. The top of his head came up to the builder's breastbone. And behind him, soaring majestically above the roof of his little house (which backed on to my neighbour's), was a huge radio aerial, which I certainly hadn't seen before. I blinked at it.

It was the very king of aeriels. It was huge. It looked like a cross between the mast of a ship and a giant, mutant television aerial. It had bits sticking off it in all directions. It must have been all of twelve feet tall, perhaps more. It would

be visible from my garden, I thought, but not directly between me and the setting sun, and a couple of poplar trees would obscure most of it. But my new neighbour had no such screen. I began to see his point.

The wind must have been blowing in my direction, because I heard Jiminy's response to the angry tirade quite clearly.

"Tough luck, mate," he said cheerfully. "It's all legal, and I've got planning permission. So you'll just have to get used to it, won't you?"

Scenting the makings of a good, full-blown, all-out neighbourly dispute which could not possibly embroil me, I slid the sash window up and stuck my head out to enjoy it better. This, however, was a bad move. Jiminy caught sight of me.

"Just the gal we want," he called out brightly. "We'll be needing a referee. Come down and adjudicate, lass!"

The builder turned and fixed me with a fulminating, bloodshot eye.

"Er, no thanks, Jiminy dear," I shouted hastily. "I, er, just looked out to see what the noise was. Got to get back to work, you know." I tried to withdraw my head too hurriedly and banged it on the sash.

"I've gone into short wave radio," Jiminy informed me brightly, if needlessly. "How do you like my new aerial?"

The builder waited for my reply. I gulped.

"It's very – er – very handsome," I stammered. "Isn't it rather, er, large, though, Jiminy?"

"Course it is," he said, looking at it fondly. "A lovely array, isn't it? And that's only the start."

"Only the start?" growled the builder ominously, swelling slightly. "Whajja mean?"

"Oh, I'm into multi-wavelengths," Jiminy informed him cheerily. "One aerial for every wavelength, you know. I've already got planning permission for the next one."

The builder struggled to find the words

to express his feelings.

I hastily stepped into the breach.

"Now Jiminy," I said severely, "you really ought to have let your neighbours know what you were up to. I expect poor Mr Smith here got a real shock when he went out into his garden this morning. He didn't move to the village to live eyeball to eyeball with a metal monster looking at him over his garden fence. And why didn't you tell *me* you were going to put it up?"

"I did, a month ago. I said, 'You don't mind me putting up a short wave radio aerial, do you, filly?' and you said, 'Not at all, Jiminy.'"

"Yes," I said indignantly, "but I didn't know – I didn't mean – you know perfectly well I don't know anything about short wave radio! I thought you meant another three-footer, like your CB antenna!"

"If you was just two foot taller, my lad . . ." said the builder ominously, eyeing our diminutive neighbour in a frustrated fashion. Jiminy beamed back at him. I suddenly had a flash of inspiration.

"Jiminy, couldn't you move the thing to the other side of the roof, the other side of the chimney? Then the poplar trees would hide it from both of us. That would be an improvement, wouldn't it, Mr Smith?"

"It would," said the builder absently. He was staring at Jiminy's roof, apparently struck by something.

"Come off it, Filly," snorted Jiminy. "I've only just put it up! Took me ages! It's staying right where it is."

"You just 'ad a loft conversion job done, ain't you?" said Mr Smith suddenly. Jiminy stiffened. The builder's gaze dropped from the contemplation of the roof to Jiminy's wary face. "You told the council, mate?" he enquired, mildly.

"Er –" said Jiminy. "Great idea, Filly. I'll move the aerial to the other side of the roof. These little disputes can always be resolved. All it takes is old-fashioned goodwill and common-sense."

I withdrew my head, grinning – and banged it on the sash again.

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CAPTAIN SPARX

THE RADIO DREAMBOAT

Captain Sparx attempts to sort out the arguments on the Cable Communication Prospect

Long years ago, when international relations were not as chummy as they are today, cynics used to joke that 'the optimist learns Russian and the pessimist learns Chinese'. By the beginning of 1988, the old chestnut had a special relevance to satellite communication. That gallant enterprise, the space shuttle, was still grounded, whilst both the Russians and the Chinese seem keen to get into the satellite launch business. Whilst shrewd westerners comment that the rocketry is of 1960s design, slightly updated, the fact is that, like old valve radio sets we might mention, the old stuff seems to work well enough, *when* carefully checked over and rigorously maintained. Incidental to the arguments is the fact that the cable versus satellite argument has cropped up again. Given the virtues of optical fibre communication, and its relative ease of access, compared to mending a communications satellite 22,000 miles out in space, cable enthusiasts think that the wisest course for mankind to follow is that of co-operating in a true international fibre optics cable network linking the nations, with appropriate international communications systems funded to help poorer nations. Satellites, they add, will have a diminishing role, the shuttle's problems merely emphasising what we should have known all along - space is expensive (this is more than a reference to renting a small apartment in London).

The first underwater optical fibre link between Britain and Belgium has proved a noteworthy success, and high hopes (including those linked with the folding green stuff) are being expressed vis-a-vis a similar link across the Atlantic and Pacific Oceans. Thousands of telephone conversations can be carried simultaneously with this 'tiny technology', which now incorporates new cost-cutting factors, e.g. signal



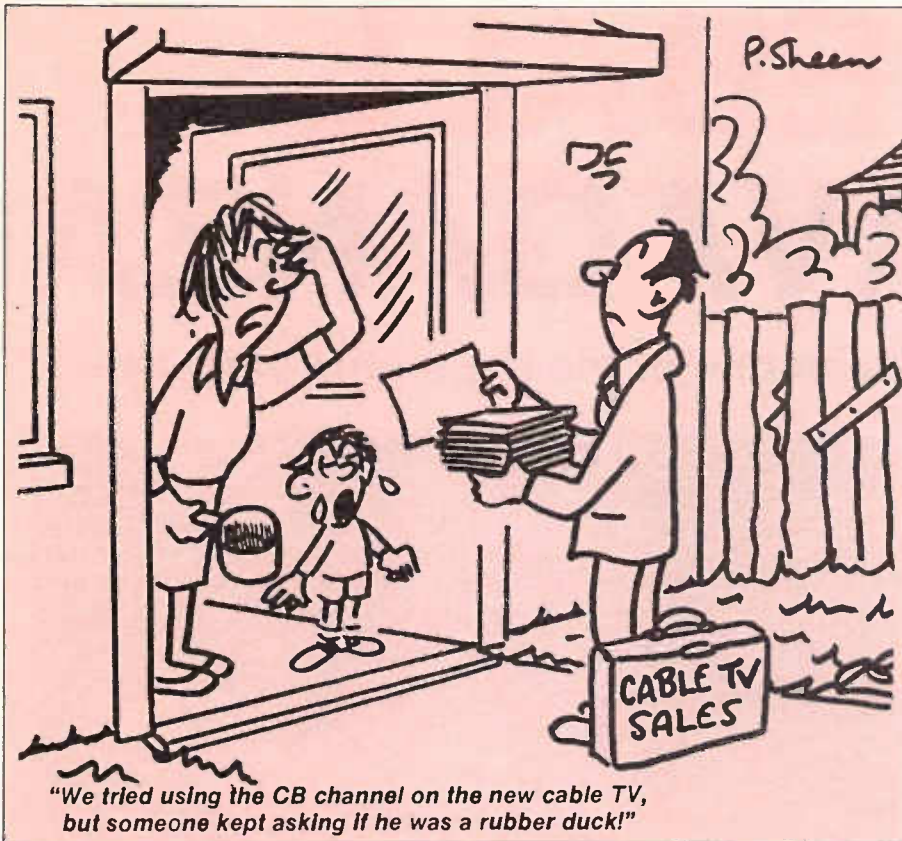
compression, wider gaps between repeaters without loss of signal quality, and so on. Frequency bandwidths, previously considered more appropriate for satellite communication, can also be exploited with optical fibre. Indeed, the early 1988 rumours that Britain's research in this area was under-funded were more significant than most people realise. Any advanced nation dropping its investment here is likely to be technology-primitive in the next decade.

Meanwhile, satellite enthusiasts argue that a new generation of communications satellites could provide far greater capacity than presently likely fibre optic links, and of course, satellites, once up and operating, can be moved to alternative orbital slots. You cannot move a chunk of cable, so they say. Indeed, with the booming business in mobile communication, satellites are truly irreplaceable. Thus, the CB enthusiast of the 1990s will possibly use satellite links for his mobile-to-base or mobile-to-mobile communication, ie for low-cost clarity and confidentiality (where needed), but have a homebase linked (ultimately) to an international optical fibre system. The CB operator of the future could participate in CB 'nets' thousands of miles away, or participate in a new high-quality regional CB

service delivered by cable rather than antenna. Most CB enthusiasts I've known over the years have expressed a willingness to pay a realistic CB licence fee, and even *if* necessary some other kind of service charge *if* quality of service could be guaranteed, also an absence of those oafs that still clutter the airwaves in some places we might mention.

Strangely enough, the case for cable radio was advanced by no less a person than Captain P. P. Eckersley, the first Chief Engineer of the BBC. From the 1920s, when the BBC was hardly more than a hot transformer and a drinks cabinet, Captain Eckersley argued that the problems of radio, as then experienced, could be solved by using 'wires, not wire-less, to distribute programming'. Incidentally, he foresaw that newspapers could also be created by radio signal sent to printers installed in apartment blocks or offices. His vision for the potential of radio was a bright one, and included a large measure of cable communication. But, he reported in the early days of the second world war, 'for fifteen years authority, as much governmental as financial, has blocked progress' (sounds a bit like a CB campaigner of the late 1970s). He added: 'had we been using wires for transmission when the present war broke out, our listeners would have been enjoying a clear instead of a distorted reproduction of programmes, and would have had many programmes to choose between'.

An extended discussion on the virtues of cable radio ('Broadcasting Through Wires') can be found in Captain Eckersley's excellent autobiographical *The Power Behind The Microphone* printed in 1941 and one of the best radio books ever published. And incidentally including reference to the ham (amateur) radio interest in the pioneering work done by Captain Eckersley at the Marconi radio



transmitter at Writtle, near Chelmsford. He concluded that progress towards a well-cabled Britain had been held up by 'vested interests of all kinds (with) enough power to stop any wire broadcasting system being put to the uses I have envisaged'. He would have expected cable to incorporate other services, including television and (had he known of them) the kind of interactive plans included in the *Hunt Report on Cable* (1982). With a multi-channel cable system with interactive potential, it would be simple enough to design a CB service that was effective, well-ordered and with a noteworthy absence of licence dodgers. And, although equipment manufacturers may have had their initial reservations, such a system would ultimately be good for business, too (i.e. by widening the market). Off-air options could be included, of course, and it would seem unlikely that antenna-received/transmitted services would disappear, being an important adjunct for much mobile communication. However, in the 1990s, there will be a tightening up of radio use, where abuse of the airwaves is clearly involved. I'm not saying that the Kids and the Lids will serve their sentences in some remote island devoid of equipment, but CB will be included in a new 'organised mobile and hobby radio system'.

Britain's lack of enterprise in cable communication – for internal consumption – was happily counter-balanced by enthusiasm for international communication. It is sometimes forgotten that Germany, that



most radio-minded of nations, was keen on a cabled radio and TV service in the late 1930s, linked to a European Common Market or trading community. In Britain, Cable and Wireless had been formed in 1928, mainly as the result of increasing co-operation among Commonwealth (then known as 'Empire') nations. The various cable and communications operations developed by individual nations were brought together, organisationally speaking, with a headquarters in London. Though the British Government held some of the capital, there was in the radio press outbursts of criticism in respect of a somewhat lackadaisical approach to what was known as 'Empire Broadcasting'.

The 1930s had their equivalent of those cash cuts inflicted on the excellent BBC World Service in recent times. At the beginning of the war on 3rd September 1939, Cable and Wireless owned almost half of the total international cable resources, i.e. about 155,000 miles of a 350,000 mile total. In

a truly stirring study of the war-time activities of Cable and Wireless (one suspects, a better read than most of the books by former agents being hyped today), Charles Graves aptly wrote, "One wonders whether, if wireless had been discovered after cables, instead of before them, cables would not have been regarded as a far greater invention than radio. Cables which are seventy years old (note – Graves was writing in the later 1940s) can work for 24 hours a day, for 365 days a year, unlike radio with its vulnerability to thunderstorms and other phenomena" (see 'The Thin Red Lines', by Charles Graves, late 1940s).

So today's advocates of cable communication – using the amazing fibre optics technology – are repeating arguments long advanced by radio buffs, surprising as they may seem. CB operators using domestic computers will hardly need reminding about the possibilities of cable-related services, e.g. those linking home computers to networks via a modem. Base-to-base CB is likely to move closer to computerisation, with 'packaged' transmission of messages giving increasing economy in use. As community radio at last gets a go-ahead during the course of this year, so CB may also relate increasingly to local limited range studios, participation being 'along the wire', as well as in person.

As an old-time marketing man, reared on radiograms, and chewing 78s (those old records) rather than biscuits in my childhood, I believe that options will be ever wider to the radio enthusiast. CB has diverse uses, from personal conversation to passing along important road and traffic info to fellow motorists. Its originators saw CB as a powerful tool for aiding traffic flow, and helping drivers find fastest routes to their destination. Many of the high hopes for CB have yet to be realised, not through lack of willingness by Brits using the medium, but because, as presently constituted, CB has its limitations. Maybe it says much for the bright future of CB that so many ideas are still in the air, if not actually on it. My guess is that clarity and range of signal will be the big issue as CB users reflect on the possibilities of the fibre optics revolution – access to the world via home terminals. I am, incidentally, still an enthusiast for that amazing space shuttle, and expect to see it successfully flying soon, though that happy event will not in itself much affect the present satellite versus cable arguments. As an old-timer beamed, as we sat in his radio shack a few weeks ago: "Of course I am enthusiastic about fibre-optic communication. Anything that gives me a good reason for going to the radio store with my credit card has to be a great idea."

As they say up west, progress is just another way of telling you it's time to get yourself . . . *new equipment.*

EYEBALL EXTRAVAGANZA

Shepherd Man reports on one of the highlights of last year

If CB is all about having a good time with good company, then the Solway Pirates Eyeball Weekend in October had to have been one of the highlights of 1987.

Held in the Southernness Holiday Village, 15 miles along the Solway Coast from Dumfries. It offered CB'ers the chance to greet friends from all over the UK. Over 250 breakers and their families booked caravans and many more turned up during the weekend to enjoy the merriment laid on by the Club's Committee. Each night we were entertained in the Admiral's dancehall by a different band, and this gave us all a chance to strike up new friendships or renew old ones.

Big H (Hugh), the Club Chairman, was on hand to give out the Club prizes to Tartan Lad, for his work for 'Child Line Appeal'. For that and his other works he was made 'breaker of the year'. Apache of Daleattie won the Club DX'ing Competition for which he was awarded a bottle of whisky and a shield - for the most overseas copies. He also won the trophy for the furthest distance copy, which was to Milan in Italy. A lady breaker with the handle of Setter, won the prize for the most copies in the UK (South of Cumbria). Happy Harry from Stoke on Trent was given the task of selecting the lady breaker to be made 'Eyeball Queen', and this went to Blonde Bombshell of the Kendal Breakers Club.

On Sunday afternoon, The Scottish Association of CB Clubs (SACBC) held their meeting at the Holiday Village. Rock-a-Jock (Tony Jaconelli) chaired the meeting. After which the invited guests Ian Oliver and David Bedward, two National Officers from Monitoring Service of Great Britain (Voluntary Organisation), gave an interesting talk about the work of the organisation, DTI forum meetings and the changing face of CB within the UK. They also gave out information sheets and booklets given to them by the DTI for the Scottish breakers. This led on to some very interesting questions from those present and although some answers were given, Ian and David have promised to relay a number of questions to the DTI for answering and pass back the replies.

The Solway Pirates had raised £1,050



in aid of the 'Child Line Appeal' and the press were on hand to take photographs of the cheque being accepted for the worthy cause from the Club Chairman to Tony Jaconelli and Ian Oliver. The money was collected through sponsored modulations and other means, and more is still flowing in. The Club also supports other worthy causes throughout the year and are open to most challenges from other CB clubs in an effort to help others.

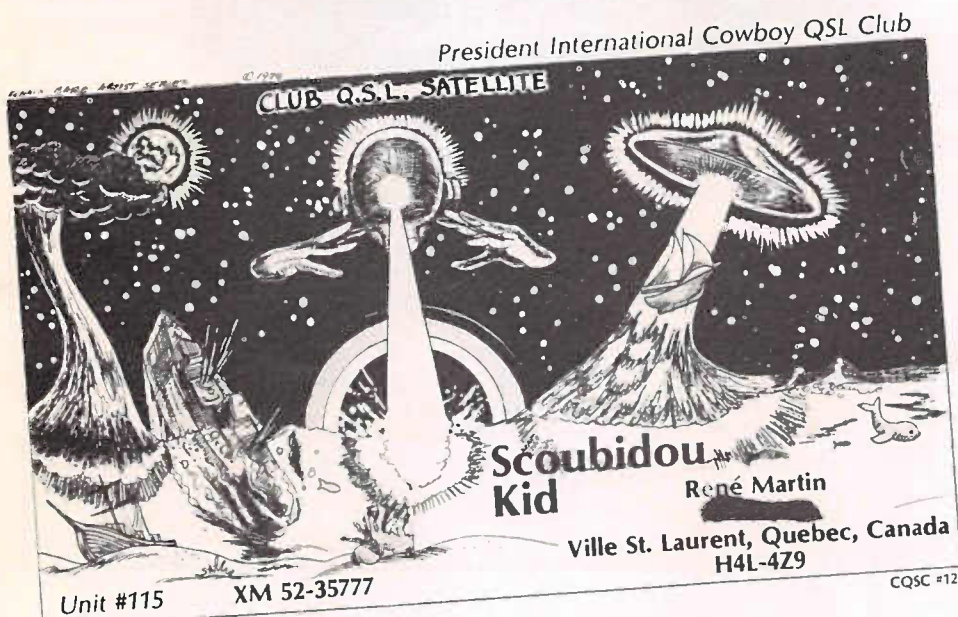
Anyone who wishes to contact the Club can do so through PO Box 15, Kirkcudbright, Scotland DG6 4DH. The whole weekend was a great success with plenty to do for everyone, and full credit must go to the whole Committee for their hard work. We look forward to seeing them all again next year and they are already making plans to hold another 'Eyeball Weekend' at the same place in 1988. So, do yourself a favour and make it a date for next year.

COMMUNICATION THE

QSL WAY



More names and addresses from QSLers all over the world, courtesy of David Shepherdson



Full Colour Collector Series cards now, mainly PCMA's but with a few Winnetou thrown in for good measure. Must admit my favourites include 4417 (phew!), 4469/9 and 5103.

Another massive bundle of cards of all types comes from Norman (*Signalman*) of Gateshead who sends out personal Collector cards from the Currie series, along with many other cards, both personal and club ones. Let's move on to a couple of problems that people have asked for help with. The first is: what has happened to the Freightliner/Foxtrot Lima Club of Braintree in Essex? Whilst at an eyeball last year I was given the information that the Club President had decided to finish QSLing. I wrote to Ian (*Conman*) but have not heard anything from him. Does anyone have any current contact or information about the Club please?

Also, a request in from Brian (*Runabout*) who asks for info on the Papa Bravo Club of Ferndale, Wales. He sent off for some Club cards in August 1987, followed up in September but at the time of writing he has not heard anything or received any cards yet. Again, any current info will be most appreciated. If the Club, in fact, if *any* Club is having difficulties with the mail or whatever, please let people know!

I've had quite a few complaints about certain of the QSLers I've mentioned in the past in these pages. The names I pass on are all given in good faith and 99.99% do QSL 100% plus, but every now and then some one does seem to let the system down. It has been brought to my attention that a certain member of the Tripe City Breakers is *not* returning QSLs sent to him. He was mentioned in these pages last year but since then I have also been informed that he has had a collector series card done and, again, has not been exchanging these in the spirit of the Series. I am sorry to have to pass this news on but, in all fairness to the

Many thanks to everyone who has been in touch with details of various events later this year. To those of you who are organising a "do" and haven't let me know don't you think that your event might benefit from a mention in these pages? Come on, please put pen to paper and let me know of any more events going on around the country this year. It can be a general all-round eyeball, a card-specific meeting, a sponsored modulation or anything to do with CB radio!

I've even had some details of a sponsored walk by a couple of QSLers! This is in aid of Multiple Sclerosis and Blackfriars Special School Children and starts on Monday 4th of April at Arbroath and finishes at Stoke on Trent in Staffordshire. A distance of some 406 miles! Any CBers who wish to eyeball Phillip and his brother who are doing the

walk will be most welcome, as will anyone who feels able to help sponsor them. Phillip (*The Wanderer*) also asks me to pass on his apologies to anyone who has been awaiting a return QSL from him but there have been a couple of bereavements in the family which have caused him to lose track of QSLing. Phillip asks for anyone who still awaits a QSL to drop him a line and just jog his memory.

A selection of names and cards here starting with the contents of a bumper package from Gordon (*Robin Hood*) of Abbey Wood who sends out such a mixture of QSL cards, eyeball cards, floaters, even greeting style cards and quite a lot more!

Someone else with a tremendous amount of cards is Miles & Teresa (*Spaceman & Lady T*) of Dyfed, Wales. Last time I heard of Miles, he lived down Aldershot way so please take note of his new address. Miles says he has over 60

thousands of genuine QSLers who read these pages and hopefully enjoy them, I cannot just ignore your wishes. I did ask some time back if you wanted me to pass on information, good or bad and the overall response was Yes!

Unfortunately, when things like the above happen, we are all guilty of jumping to conclusions but unless we know all the circumstances we should not make judgements, though we all do, I know. With respect to this person, I have since heard from someone else that he DX's only but nothing from the man himself. In such circumstances, I really shouldn't have been asked to include his name and, in future, I will try not to include DXers unless they state that they are willing to swap QSLs without a QSO.

Club News time now with some details of a club which is fairly local to me, this being the Sierra Mike Bravo's of Leeds. The SMB actually stands for Swillington Miners Breakers Club, though you don't have to be a miner to be a member! Membership costs £3 (UK) and 10 personal cards with large SAE for which you get the following items. Your membership number, ID Card, Club stickers, cards and invites, exchange QSLs and invites, 10, 11 & 13 codes, phonetic alphabet, log sheet, frequency chart, roster and rubber stamp; not bad for £3 (plus SAE) huh? Club extras available include club cards, stickers, union jack stickers and a rubber stamp. Details upon joining.

News in from the Swooping Hawk CB Club of Gloucestershire now to the effect that it has changed hands and is now run by Robert (*Rotopower*) of Tenby, Wales and costs 10 personal QSL cards (or 5 view cards which *must* show your address), a stamp suitable for 300 grammes and £5. The package you should receive back for this consists of your SH number, ID card, rubber stamp, invites, President's cards (and he's a lot of those!), Vice Pressie's cards, postcard, exchange invites and cards, tourist info, lots of info sheets, Kilo Papa Club number (if requested) and quite a bit more too! The Kilo Papa of Glasgow has recently dropped its prices from £5 to £3.50 plus 20 personal QSL cards for a package with the following: unit number, ID card, certificate, rubber stamp, 20 club QSLs, invites, exchange cards and invites, stickers, etc.

News in from Adrian (*Gunga Din*) of Leicester that he is now the UK PRO for De Discus QSL Club of Rotterdam and holds packages for anyone interested in joining this fairly new Dutch Club. Contact Adrian if interested for costs with a SASE for his reply. News in from the Eastern Star QSL and exchange club that Jean (*Superstar*) is compiling a list of clubs that are either no longer active or have not been heard from in a long time. Originally, these were for Eastern Star members only but after requests from many people for copies, she has asked me to pass on the information that, if

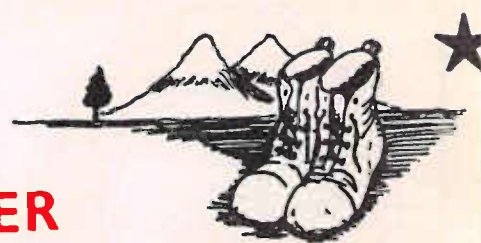
Q.S.L. From

(TANGO WHISKY 18)
THE WANDERER

and

(SIERRA CHARLIE 09)
SOUTHERN COMFORT

*From Smokey Town
(Arbroath)*



QSL SERVICES ADDRESSES

Currie Cards	89 Derwent St, Blackhill, Consett, Co Durham, DH8 8LT.
POMA (Ray — UK Rep)	PO Box 106, Canterbury, Kent, CT1 3YN.
Twrog Print	Penybont, Gellilydan, Blaenau Ffestiniog, Gwynedd, LL41 4EP, Wales.
Vine Lodge Products (Labels)	11 Mill Lane, Butterwick, Boston, Lincs, PE22 0JE.
Glass Engraving	Bob McWilliam, 150 Yoden Road, Peterlee, Co Durham, SR8 5DU. Tel: 091 5868889.
Scottish CB Newsheet	C/o 'Arnail,' Patison, Neilston, Glasgow, G78 3AT, Scotland. One year's subscription £2.10.

QSL CLUB ADDRESSES

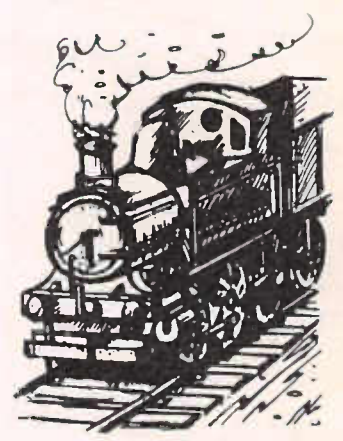
De Discus QSL Club	Adrian, PO Box 1, Kirkby Muxloe, Leics, LE9 9DP.
Eastern Star QSL/Exchange International	PO Box 184, Drayton, Norwich, Norfolk, NR8 6RJ.
Cowboys QSL	CP 5373, Ville St-Laurent, MTL, PQ, Canada, H4L 4Z9.
Kilo Papa	38 Kingshurst Avenue, Glasgow, Scotland, G44 4QZ.
Sierra Mike Bravo	PO Box 4, Garforth, Leeds, West Yorks, LS26 8UZ.
Swooping Hawk CB Club	59 Heywood Court, Tenby, Dyfed, SA70 8BS.

required, she will send a copy to anyone interested for 30p plus a large SASE which goes part-way to the costs of photocopying. Jean also issues a newsletter nowadays for 25p plus A5 SASE. A massive membership package is available for this club for £8 plus 10 (or more) personal QSL cards. UK cheques are acceptable, made out to the Eastern Star Club, otherwise it's cash only. The contents of the package which have altered since I browsed through the package last February include number, ID card, certificate, letter, magazine, keyfob, mounted rubber stamp, sew-on patch, 20 club QSLs etc.

A quick run through some more names and addresses here to finish off with. Starting this time with Steven (Powerslave) with some new cards, as mentioned the other month, Ken (26-AS-10) UK Director for the Alpha Scorpio, of which I'll try to fit more details in next month, Steve (The Rigburner) of the

"SIGNALMAN" Norman

212 Kingston Road, Deckham, Gateshead Tyne & Wear, NE8 3UL, England, U.K.



QSO WITH
 DATE TIME
 MODE R S T
 FREQ/CHANNEL WATTS
 MY TX/RX
 ANT MIC
 BASE MOBILE QTH
 PSE QSL TNX QSL

Golf
 November
 One One

LONDON
 U.K.

Thank you for t
 contact.

Mode
 Channel
 Date 15-8-1987
 Time
 R S

My Radio
 Antena
 TX PWR
 To DRAGON
 From G.C.

73's 88's To you and your f

Currie Collector No 544

THE REBELS
 AZORES
 POWERSLAVE 08

EN
 88NG, U.K.

Alpha Scorpio

DX INTERNATIONAL GROUP
 PO BOX 28, PRAIA DA VITORIA
 9761 TERCEIRA - AZORES ISLANDS

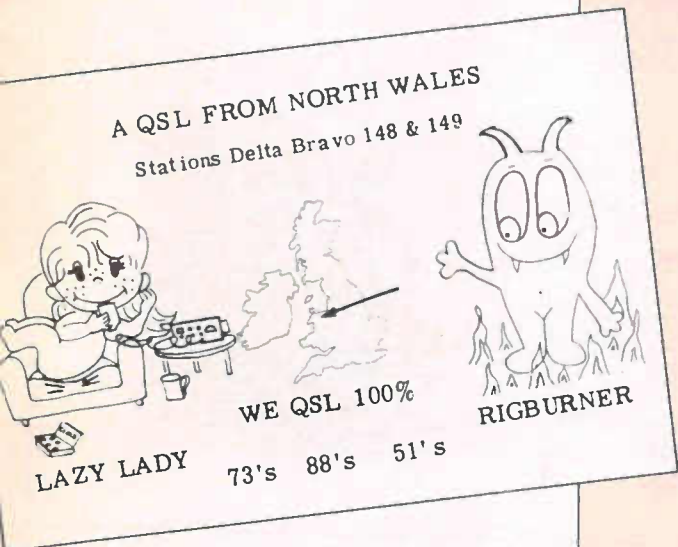
QSO WITH 6 OCT 1987
 DATE TIME
 MODE R S T
 FREQ/CHANNEL WATTS
 MY TX/RX
 ANT MIC
 BASE MOBILE QTH
 PSE QSL TNX QSL



First Currie Card in the Azores Islands

Delyn Radio Club in Wales and Rene Martin of the International Cowboy QSL Club in Canada. When QSLing to Canada or Belgium do *not* put radio handles on the envelope as these will not be delivered! Membership to the Cowboy costs five US Dollars for which you get unit number, certificate, ID card and, if you let Rene know what type of items you collect, a list of other collectors.

QSLer ADDRESSES



Phillip (*The Wanderer*) PO Box 4, Arbroath, Scotland.
 DD11 1HS
 Gordon (*Robin Hood*) 13 Stanbrook Road, Abbey Wood,
 London, SE2 9XR.
 Miles & Teresa 1 Fro Villa, Doldre, Tregaron, Dyfed,
 (Spaceman & Lady T) SY25 6JZ.
 Norman (*Signalman*) 212 Kingston Rd, Deckham, Gateshead,
 Tyne & Wear, NE8 3UL.
 Brian (*Runabout*) 18 Oak Lane, Ambrosden, Bicester,
 Oxon, OX6 0SH.
 Steven (*Power Slave*) PO Box 5, Consett, Co. Durham,
 DH8 8NG.
 Ken (26-AS-10) PO Box 17, Leicester.
 Steve (*The Rigburner*) PO Box 150, Mold, Clwyd, North
 Wales, CH7 1YL.

FORTHCOMING EVENTS 1988

Sponsored Marathon Walk between Arbroath and Stoke on Trent starting Monday April 4th in aid of Multiple Sclerosis/ Blackfriars Special School by Phillip (*The Wanderer*) and his brother. Anyone on the route who wants to eyeball or sponsor them will be most welcome. Contact Ad: PO Box 4, Arbroath, DD11 1HS, Scotland.

April Bank Holiday Weekend — Co Durham Giant Eyeball '88 held by GBQDC at the Stanley Youth Centre, Stanley. Contact AD: GBQDC Eyeball '88, PO Box 5, Consett, Co Durham, DH8 8LT.

April 1988 — Cutty Sark POMA Meet — Cutty Sark Club, 116 Bradenham Ave., Welling, Kent, DA16 2JG.

May 1988 — Southport Charity Eyeball — Tango Papa (83), PO Box 13, Southport, Lancs.

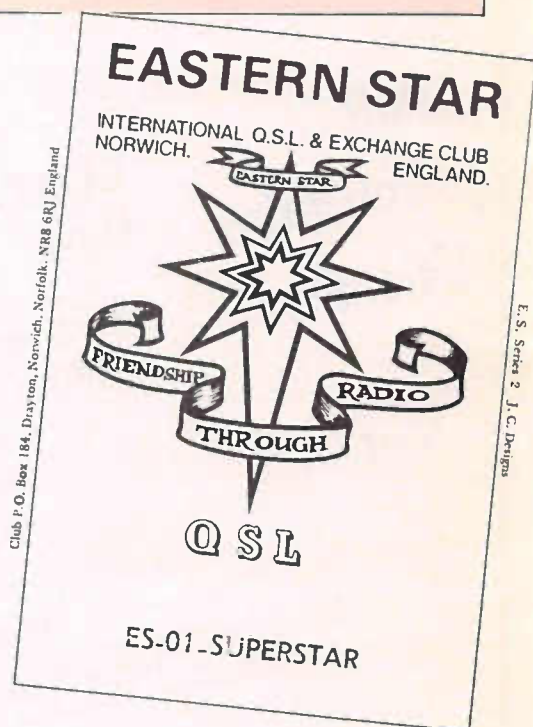
June 19th 1988 — Sheffield Charity Gala & CB Eyeball held once again at the British Steel Sports Ground, Tinsley, Sheffield. The venue is approximately one mile from Junction 34 (M1). Contact Derek (*Roadrunner*), PO Box 275, Sheffield, S2 5HY for further details a little nearer the time.

June 26th 1988 — North Wales Breakers 1st Annual Eyeball held at the Nova Complex, Central Beach, Prestatyn, North Wales from 11 am until 4.30pm. with an evening of entertainment from 7.30pm to 11 pm. Contact Ad: Derek (*Red Devil*), PO Box 35, Prestatyn, Clwyd, LL19 9YH.

When writing for details on any of the above, don't forget a suitable SASE for the Club's reply. Also, should you send monies to book, don't forget a SASE if you require a receipt.

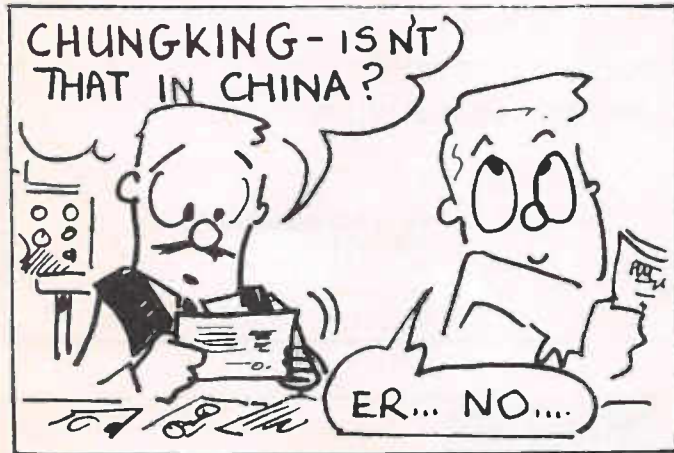
Rene himself is very much into the collecting of Souvenir spoons and he even won a trophy as the spoon collector

with the largest collection in Canada! Club extras available include Club stamp at 3 dollars, embroidered crest for 5



dollars, Club souvenir spoon for 5 dollars. These prices include Surface mail, for Air please add US\$3.50. When sending cash for membership or Club "goodies" purchase, it is always recommended to use Registered Post, but especially when sending abroad! Also, when sending abroad, do check the current rates of exchange as these do change quite rapidly!

Anyway, that's it again for this month; take care and I'll catch you again next month. For a mention, for yourself or Club, drop me a line, either c/o the mag or direct to: 3 Tarn Villas, Cowpasture Road, Ilkley, West Yorks, LS29 8RH. If you want a reply, then please do include return postage and if it's about an event, please mark the envelope, "EVENT" nice and clear so I can spot it easily.



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Citizens' Band

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Midland 77104
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DNT HT4000
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DNT Contact 40
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Valor 48" MDL540
Dial-a-Match £12.95



Valor Warrior MDL 560 £12.95



Valor Halfbreed
MDL 520 £12.95

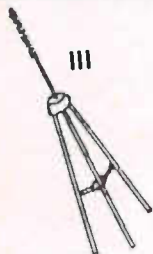


Valor 24" MDL 530
Dial-a-Match
£11.95

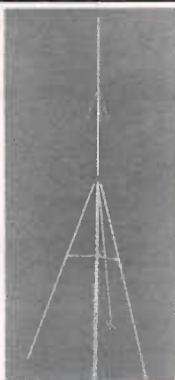
Valor Fibreglass Antennas
MDL 833
2ft. £9.95
3ft. £10.95
4ft. £11.95

BASE ANTENNAE

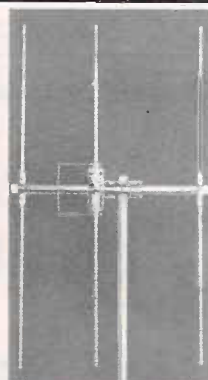
Thunderpole II
£19.95



Thunderpole III
£22.50



CTE Skylab
£28.75



CTE Spitfire
3 element beam
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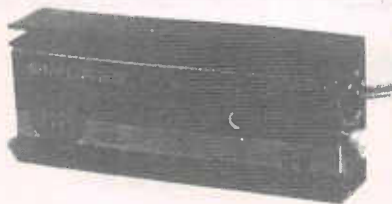
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ON THE EIRE

Peter Julian visits the Emerald Isle and gets the lowdown on Irish CB



Now that we are allowed to use the CEPT European frequencies, I thought it would be interesting to see how our nearest

English-speaking neighbours are making out on the CB scene. I therefore welcomed a recent family wedding as an opportunity to visit Dublin's fair city and while there I sought out some CB operators to get the low-down on local activity. I spoke to a number of breakers and found that many were rather vague about what was legal and what was not. More than once I was told that FM CB had just become legal but opinions were divided as to the legality of AM. In order to set the record straight I decided to pay a visit to the relevant government body, the Department of Communications. Here I was met with charm and courtesy and my questions were answered, well, most of them anyway.

Ireland has had legal CB on the CEPT frequencies since 1982. Equipment is FM and must be type-approved. As with our MPT 1320 the manufacturer, assembler or importer of personal radio equipment is responsible for ensuring that it conforms to the specifications. A type-approval mark containing the letters PR 27 IRL 82 is displayed on legal equipment but, before it can go on sale full particulars, including a certificate that the equipment complies with the specifications, together with a sample production unit must be sent to

the Department of Communications. The problem facing Ireland's Cbers is that until September 1987, over five years after legalisation, no suitable transceivers have been available so although officially the legal use of AM rigs ended on 31st December 1982, AM has continued to be used. When I asked how many prosecutions for illegal operation have been brought, I was politely told that that information was restricted, as was information about the numbers of licences issued, but in practice it appears that action has really only been taken where a station has caused interference.



A CB or, as it is officially called, a Personal Radio licence costs IR£20 a year and allows the holder to possess as many sets as he or she likes but the make, model number and number of channels of each set must be recorded on the licence application form. The licensee may authorise anyone to operate this equipment but is held responsible for its use. The restrictions on prohibited communications (obscene messages, advertising etc) are similar to ours in Britain although it is also forbidden to communicate with any station outside the state of Eire. However the antenna regulations would seem to encourage DXing since the maximum legal length of an antenna is 7 metres! But only vertically polarised, single element, omnidirectional antennae are allowed.

At present, legal FM equipment seems only to be used for business, farming and industrial purposes. The hobby

activity continues on AM, but at a much reduced level from some years back. At least one ex-breaker told me that he gave up the hobby because of all the anti-social wallies but since many of them have now disappeared from the scene, he did express some interest in digging out his multi-mode and returning to the airwaves. It remains to be seen whether the authorities will have a big clampdown on AM use now that legal CB sets are available.

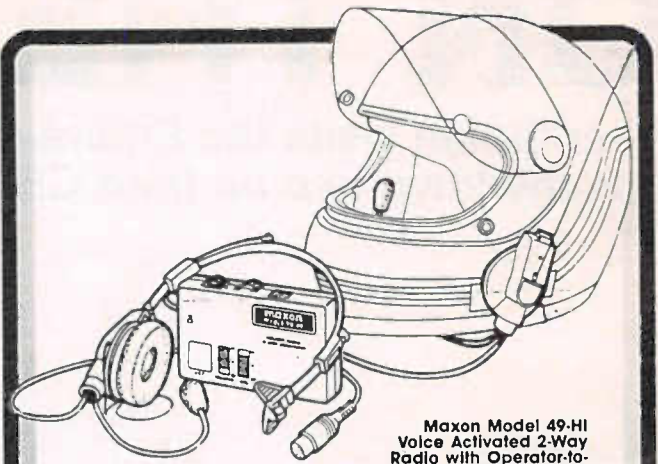
From my enquiries there seems to be only one shop in Dublin that at present stocks legal FM rigs and that is Peats of Parnell Street in the city centre. There were one or two other emporiums I visited but the only rigs I saw were old AM sets. I think those stores are biding their time to see whether there is any interest in FM before investing in new stock. I was surprised to learn that the Tandy store which was in central Dublin has closed, leaving only a dealership in the suburbs. However, Peats, which opened in 1934, has just moved to new premises and is the electronics store to visit if ever you are in Dublin. You can be sure of a friendly welcome from people who know what they're talking about. Peats withdrew from the CB market when AM became illegal; however they have made repeated requests to Uniden to manufacture rigs to the Irish specifications. It is probably no coincidence that these have now become available at the same time as the introduction of British specification MPT1333. The following Uniden sets are



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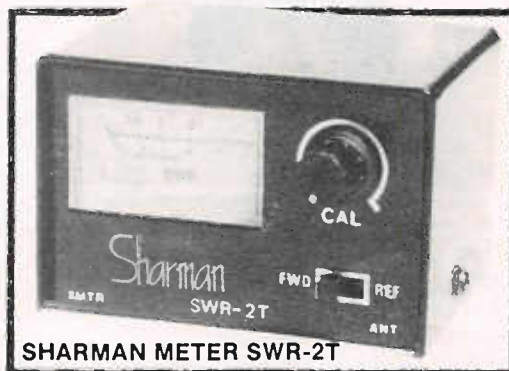
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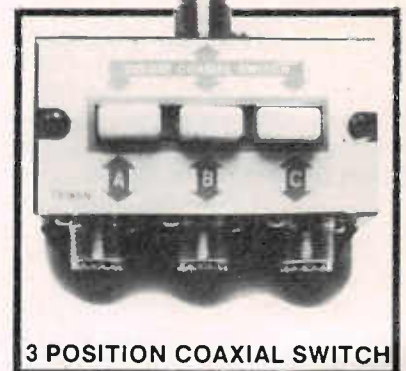
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FIXED		FM AM FM AM	1 2 3
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3. MAKE OF EQUIPMENT

Type	SET 1	SET 2	SET 3
Make			
Model			
Number of Channels			

4. ADDRESS WHERE FIXED EQUIPMENT LOCATED
IF DIFFERENT TO ABOVE _____

5. DETAILS IN RELATION TO MOBILE EQUIPMENT

Vehicle	Registration No.
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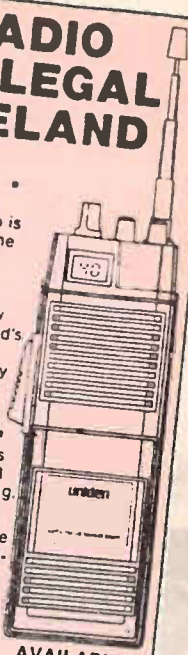
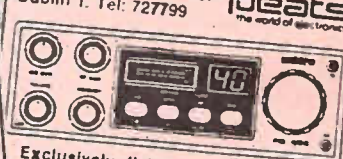
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Pirate commercial radio has become a popular part of radio life in Ireland. There are now about 70 of these stations operating regular services on the medium wave and VHF bands while some part-timers transmit on short wave. The addresses and telephone numbers of the more established stations can even be found in the telephone directory! In the early days the authorities raided the pirates in an attempt to close them down but without much effect for the stations generally reappeared within a fairly short time. Today there is little attempt to disguise or hide the aerials which are often clearly visible. One station has its antenna on top of a hotel and another has its aerial system in a field near the Dublin mountains.

At long last the Irish government has decided to legalise commercial radio but at the same time introduce very stiff £10,000 fines or prison sentences for illegal operation as well as heavy penalties for firms who advertise on unauthorised stations. Despite this, one part-time short-wave pirate I spoke to said that he planned to continue flying the Jolly Roger; being illegal was half the fun. However for the stations which are commercial enterprises the good news is that most of them will be licensed to broadcast in the New Year under the terms of the new Local Radio Bill. However, the national State broadcasting authority, Radio Telefis Eirann, is definitely not happy. Those of you who have listened to RTE's medium wave transmissions will have noticed that unlike the BBC there are advertisements. There is an estimated £15 million annual revenue to be obtained from radio advertising and the government has not planned for RTE to have any role in local radio. Further breaking of RTE's monopoly is imminent since the Irish government also has plans for allowing commercial television. Although in Dublin itself competition is not new since widespread use of cable television allows reception of not only RTE's two TV stations but BBC, ITV and satellite TV as well.

One final footnote about official attempts to prosecute pirates which I read the other day. Apparently the European Court upheld a case brought



before it recently a German pirate operator who claimed that his government was putting a "restraint on trade" by preventing him from broadcasting.

Irish CB Specifications

For the more technically-minded, here are a few of the main details taken from the official 'Performance Specification, Personal Radio Equipment (Citizen Band)' document. Besides setting out the specification figures the document also lays down test conditions and measuring methods.

Transmitter frequency tolerance is +/- 1.5 kHz.

Output power shall not exceed 4 watts.

I could not find any specific statement of maximum deviation levels but the figure of +/- 1.5 kHz is mentioned in the section on test conditions.

The power in the adjacent channels (i.e. +/- 10 kHz either side of the transmit frequency) shall not exceed 10 microwatt.

Spurious transmitter output shall not exceed 4 nanowatt on any of the following frequency bands:-

41MHz to 68MHz
87.5MHz to 118MHz
162MHz to 230MHz
470MHz to 862MHz

Spurious transmitter output shall now exceed 0.25 microwatt on any other frequency in the range 100 kHz to

2000MHz except in the wanted channel and the adjacent channels.

Cabinet radiation shall not exceed the limits laid down above.

The receiver shall be capable of receiving signals only on the official 40 channels.

Receiver spurious outputs shall not exceed 2 nanowatts on any frequency in the range 30MHz to 2000MHz under

normal test conditions.

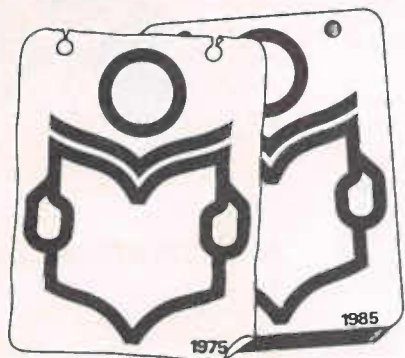
The document also contains adjacent channel selectivity, blocking or desensitisation and intermodulation rejection figures but the requirement for equipment to comply with these is optional.

Home assembled equipment is not permitted under this specification.



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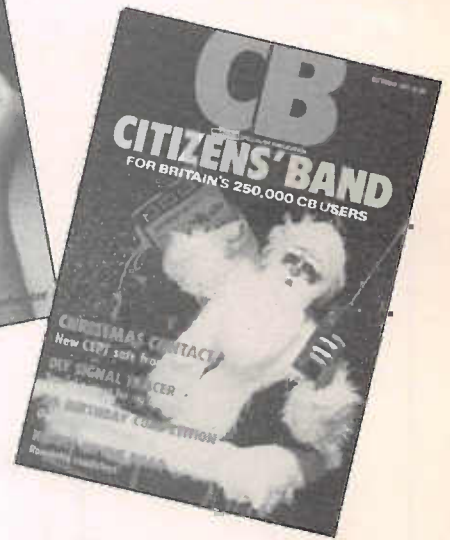
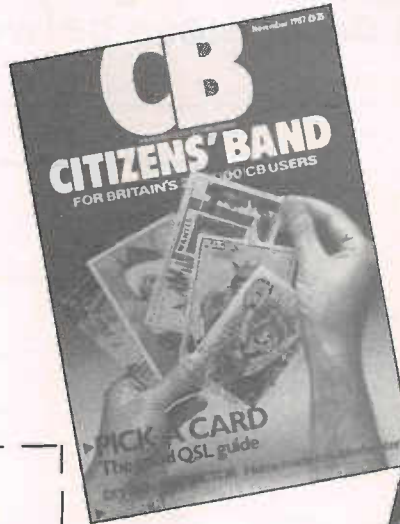
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CB IN DEPTH

(part 12)

Paul Coxwell gets his magnifying glass to check out the main differences between AM and FM

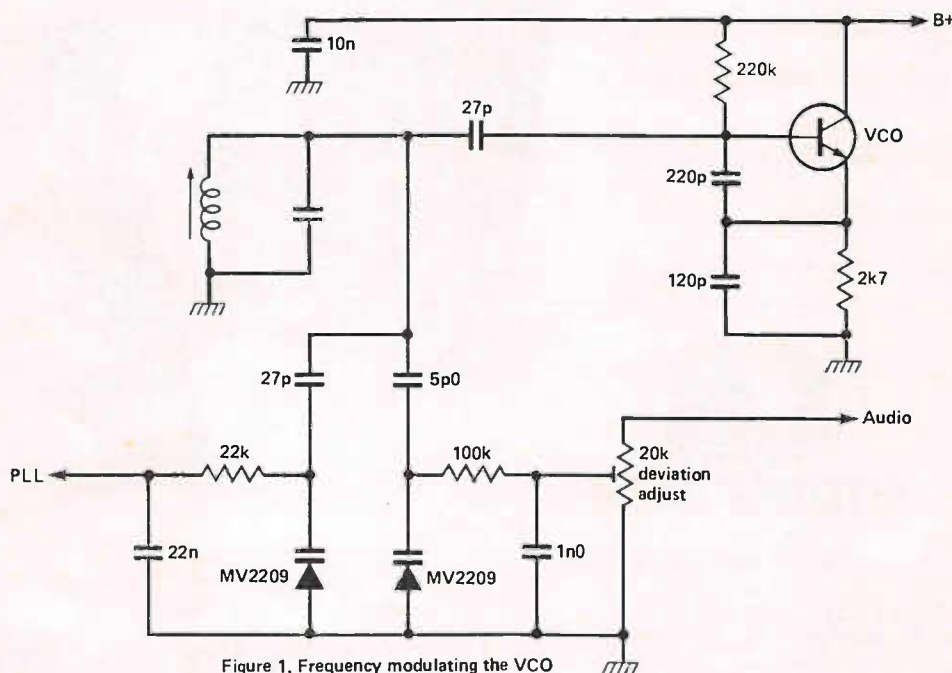


Figure 1. Frequency modulating the VCO

So far we have examined typical transceiver circuitry from oscillators to RF output and antenna to speaker. This has been for a simple AM set however and we will now see the differences between this and the FM used in England and many European countries.

The differences are not quite as great as many people would have you believe; there is no such thing as an AM frequency or FM frequency for instance — you can use AM or FM on any frequency (whether you are authorised to do so is another matter of course). Taking the transmit side first we find the same oscillators and amplification that we have already seen in detail. The PLL/VCO of a British set will be for the UK channels of course but this is totally irrelevant to the question of AM or FM. A European FM set can use the same circuitry here as an American AM one and many in fact do. The RF output transistor will take its collector feed straight from the positive supply rail rather than through the

modulator because we do not need to vary the amplitude of the signal in any way. So how does the audio get on to the carrier?

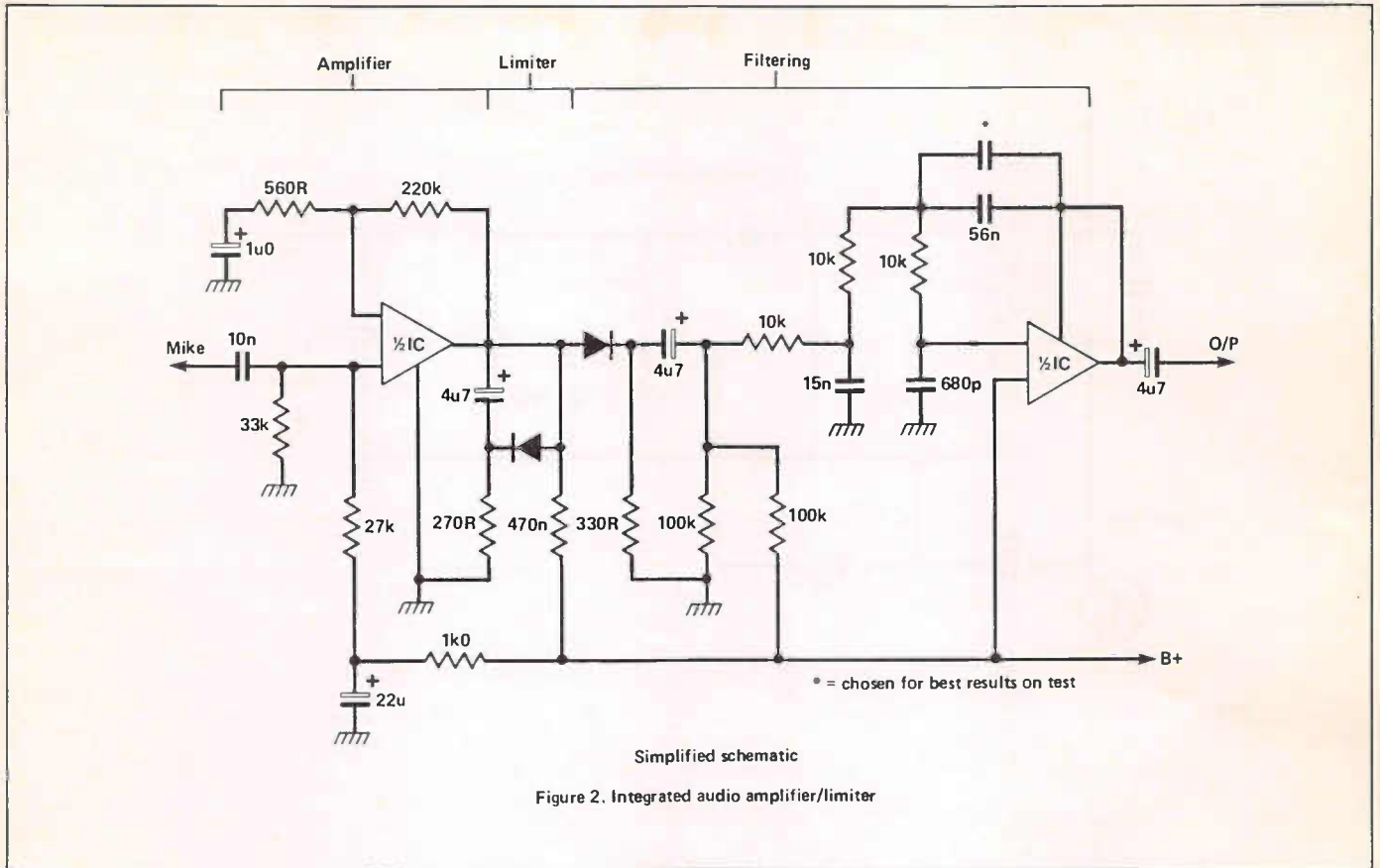
Applying FM to Oscillators

In an FM transmitter you will find that audio is connected not to the output transistor but to the oscillator. Assuming the modern PLL synthesised rig it will be the VCO and fig. 1 shows how this may be achieved. The usual varactor diode in the base circuit of the transistor is connected to the PLL through a low-pass filter and an additional varicap is placed in parallel via a low value capacitor. This ensures that this second varicap has much less effect than the one used to select channels. Now if we connect audio to this diode what happens? As the A.F. goes one side of zero the capacitance of the varicap increases causing a lowering of the oscillator frequency. As it crosses the zero point and goes to the opposite polarity the capacitance decreases causing the VCO to run at a slightly higher frequency. The result is

Frequency Modulation. The frequency shift or *deviation* from the nominal value is generally set at a maximum of $\pm 2.5\text{kHz}$. The other varactor diode must be capable of swinging the VCO right across a band of 40 or more channels so the reason for the capacitor in series to limit the effect of the modulation diode should now be obvious.

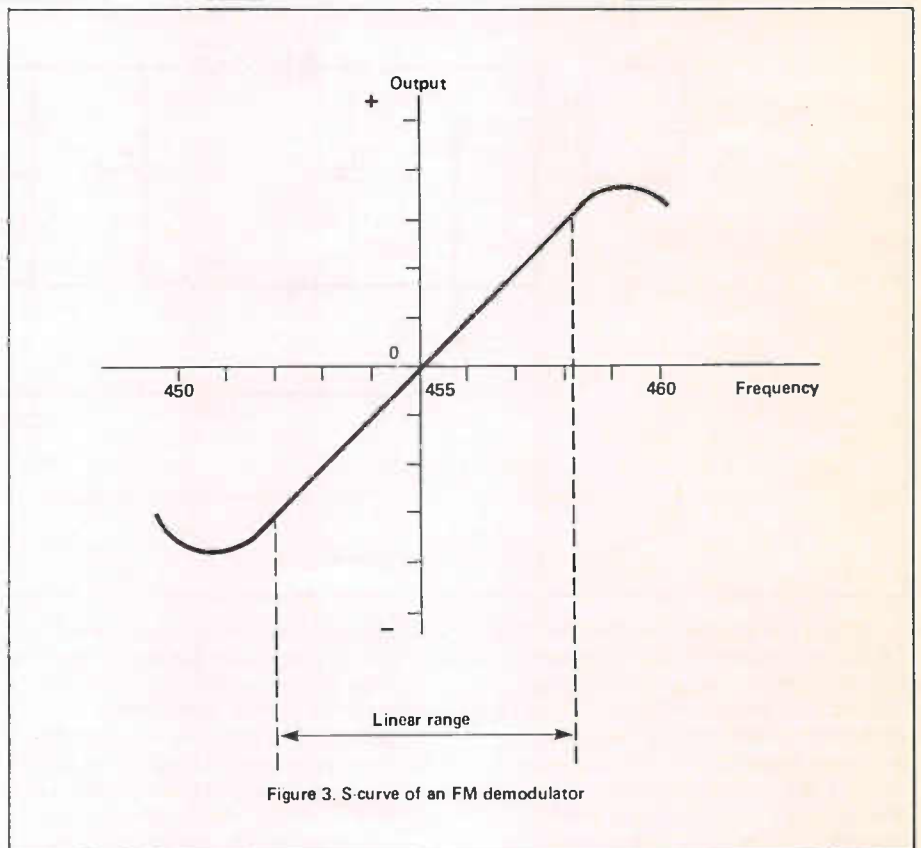
If you're not reading this on a Monday morning, you may now notice a conflict of interests; on one hand we are deliberately applying audio to vary the VCO frequency and on the other hand we have the PLL trying to keep it constant! The resolution of this snag lies in the filtering between the PLL and VCO. The phase-locked loop itself could easily respond to the few hundred Hertz of audio (a PLL is in fact sometimes used to demodulate FM) but because of the low-pass filter the PLL does not correct the frequency changes due to modulation, only the longer term variations due to drift or switching channels.

Audio for application to the modulating diode comes from the usual audio



amplifiers from the microphone. Some chassis have a completely separate audio section for transmission such as that in fig. 2. This is another area where integrated-circuits are common in newer equipment and the circuit shown is that found in the Audioline/Uniace series of UK sets. We'll skip the description of each individual component because that would involve us in a detailed examination of the IC, which we do not have time or space for. Suffice it to say that a number of different ICs are used in this position, each with their own pin connections and wiring requirements.

The block as a whole resembles a regular audio amplifier, with two extra conditions imposed. Firstly we have filtering to remove extreme low and high frequencies as with the AM modulator and secondly we must have some form of limiting. In an AM transmitter you will remember that modulation must never exceed 100%, otherwise spurious signals are generated causing interference, not to mention severe distortion. This requirement extends to FM where excess deviation causes splatter onto adjacent channels, as many people who have an over-deviation specialist near them will know only too well. Audio clipping is usually used these days and in its simplest form can be a pair of diodes back-to-back across the audio path. The advantage of this agreement over some form of automatic gain control is that it is better at getting rid of high-level transients, i.e. sudden peaks in the speech. The disadvantage is that speech clipping tends to introduce harmonic



distortion which must be filtered out before applying the signal to the oscillator. Taking 1kHz as a reference level it is common to find the response of the modulator dropping slowly to -10dB or so at 200 to 300Hz and sharply to about the same level at 2kHz. This attenuation gets rid of harmonics both from the natural speech and the clipper

which would otherwise cause havoc if allowed on the air. Having tailored the frequency response and peak level of the audio all that remains is to connect it to the VCo through a level control to set the maximum deviation (that's right — the one I'm always telling you to leave alone if you don't have the equipment to set it properly!).

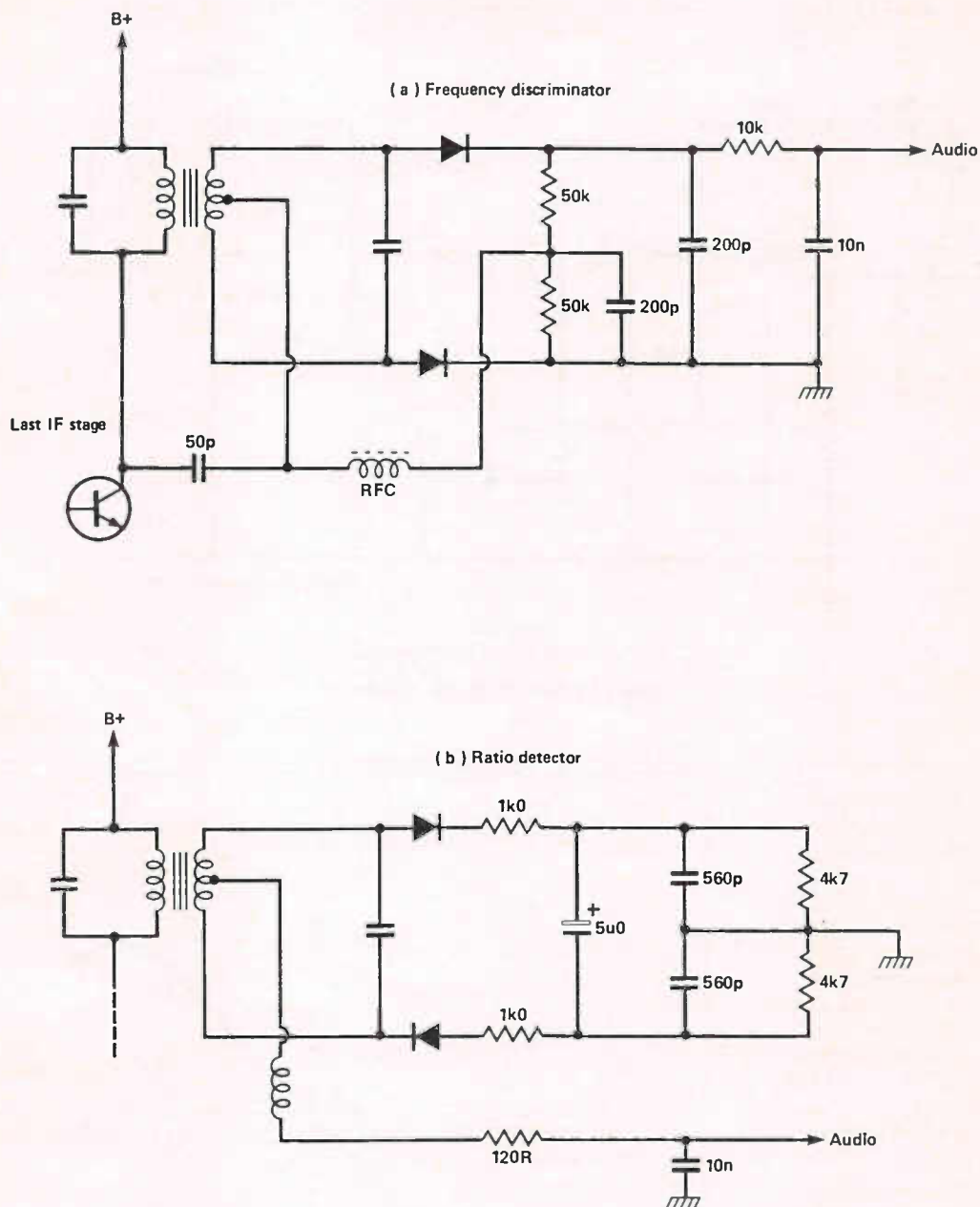


Figure 4. Two ways of demodulating FM

Quite a few chassis use the main audio chain during transmit too, tapping a signal off the output I.C. and feeding it to the transmit filters and limiter. A few of the early FM rigs clearly give away their ancestry as being from AM. The board layouts are virtually identical, everything that could be left unchanged was! Sometimes audio was just taken off the output chip and fed through a level control and crude filter to the varicap.

Receiving FM

In an FM receiver, the signal path at the front-end is the same as in the AM receiver. The usual RF amplifier and mixers feed into the I.F. amplifier stages and it is here we find the first difference.

With amplitude modulation the exact envelope of the incoming signal must be maintained right up to the detector or distortion will result. With FM the amplitude of the signal is not important, we are concerned only with its frequency and a limiter is placed between the output of the second I.F. and the demodulator.

This stage works just like the audio limiter, clipping the tops off of signals once they exceed a predetermined level. The amplification here however is high enough for the limiter to operate as soon as a reasonable strength signal is received. This results in a good clean FM signal with no variation in amplitude when presented to the demodulator. Because much interference is in the form of AM an

FM system therefore has a certain degree of inherent immunity to static and man-made hash. Nothing is perfect of course, so don't expect miracles. It is normal these days for the limiter to be incorporated in an integrated-circuit along with the demodulator and quite often part of the I.F. amplifiers too.

Figure 3 shows the translation from deviation of RF to audio that the demodulator must perform. With the carrier at 455kHz (output of the I.F. remember) we have zero output. As the frequency rises so the output rises and similarly as the frequency falls below centre the output increases with opposite polarity. The important point is that the output must be linear to avoid distortion.

The linear portion on the graph is the part of the line that is straight and this should be to about $\pm 3\text{kHz}$ of centre. The transmitters are set for maximum deviation of 2.5kHz so this is adequate. This doesn't mean that the total transmitted bandwidth is only 5kHz however — FM is a complicated beast! The graph shown is often referred to as an S-curve, for obvious reasons. Various methods of achieving demodulation have evolved over the years since the start of FM over 50 years ago. The basic discriminator and ratio detector have largely disappeared in CB work in favour of the quadrature detector in integrated-circuit form. The two former circuits are shown in outline in fig. 4 so you know what to look for but the explanation requires some knowledge of AC voltage and current phase relationships which are too complex for us to discuss here. Your local library should yield a few suitable books going into this subject in more detail if you wish.

As we have said already the limiter and demodulator are now often found in an I.C. and fig. 5 shows a typical schematic. Unfortunately we have yet another "black box" that contains dozens of transistors making explanations difficult in a short space. The coil is adjusted to carrier frequency at which point the audio output should be strongest and with the least distortion.

It is worth mentioning a specific I.C. at this point because it is very popular in UK transceivers — the MC3357. This contains the limiter, demodulator, a squelch gate, mixer and oscillator. The idea is to feed the 10.695MHz first I.F. to this chip where it is converted to 455kHz for demodulation. The oscillator runs at the familiar 10.24MHz , though if the PLL has an oscillator built in, it is normal to see the signal derived from this. The squelch is noise-operated and operates as follows. Audio from the output of the demodulator is tapped off and fed through an amplifier/filter network. This is a high-pass type which eliminates normal speech content and leaves just the higher frequency components of any noise. The squelch gate itself then cuts off the audio path when the noise exceeds the level set by the squelch control. This offers a significant improvement over carrier-operated squelch because it is less prone to false triggering due to noise pulses etc. It is only used for FM simply because with AM there is no high-level background noise to detect when there is no signal present! Receivers based around this I.C. will have just an RF amplifier, first mixer and filter before the chip, the few components connected between various pins of the 3357 such as the 455kHz filter and quadrature demodulator coil and an audio output to the volume control and amplifiers. The squelch circuit comprises just a small handful of components. And that is where we leave this brief look at

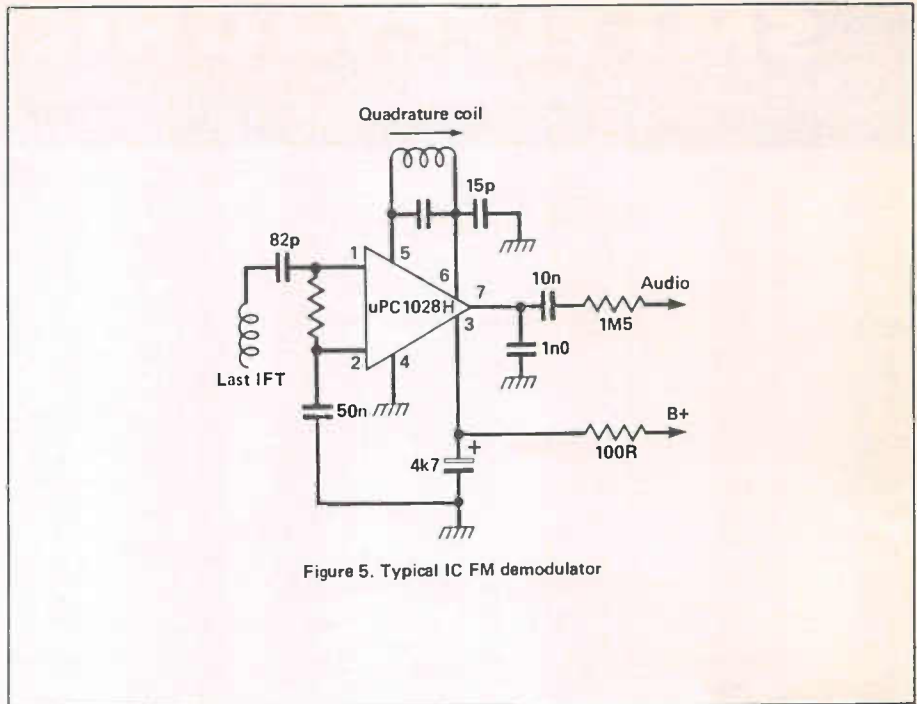


Figure 5. Typical IC FM demodulator

FM because to cover it completely would fill a book (and has).

Other Differences

You'll be pleased to hear that all the switching circuits, power supplies and so on are no different for FM transceivers than for their AM counterparts. You won't find the ANL circuit on an FM set because the limiter used after the I.F.s automatically provides such action. Noise blankers are occasionally found like those described previously, sometimes in-circuit permanently, sometimes switchable. On rigs designed for both AM and FM use the switching

arrangements usually appear to be more complicated on the schematic than they need to, mainly because of the insistence of manufacturers on putting all the switches down one side of the page instead of at the appropriate place in the drawing. However the audio must be switched from the RF output to the oscillator and the second IF output from the AM detector to the FM limiter and demodulator. Squelch on such sets is invariably carrier operated to be compatible with both modes at least expense.

Next month we look at single-sideband operation.

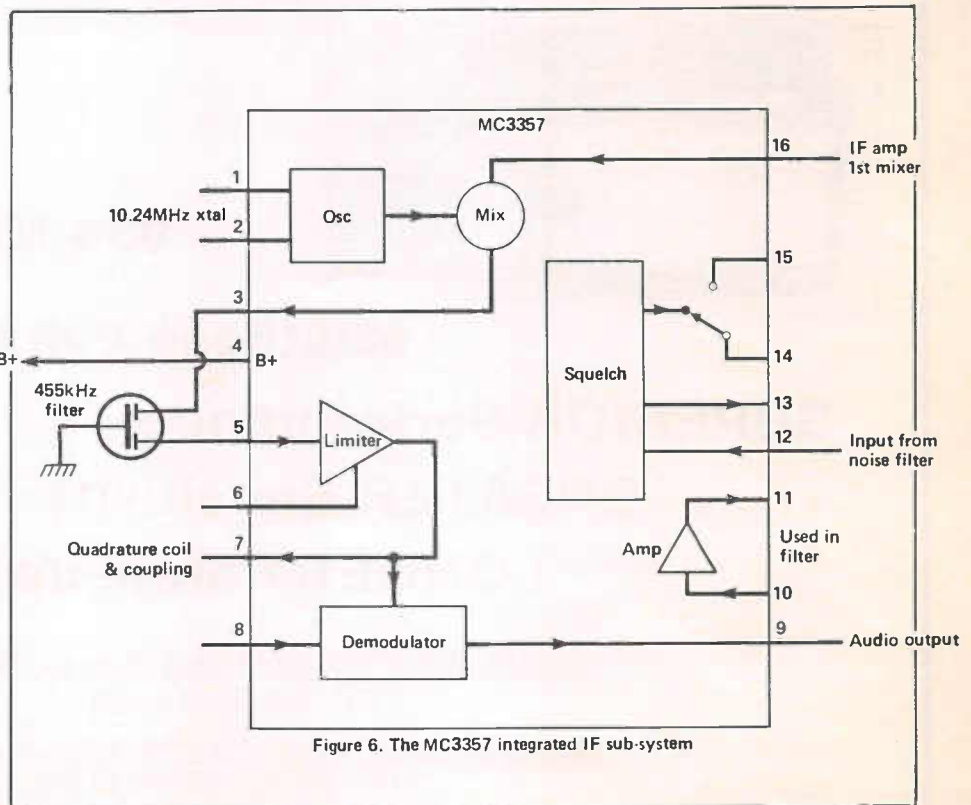


Figure 6. The MC3357 integrated IF sub-system

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AD149	75	BD318	1.79	MRF454	22.94	2SC1384	.23	3SK48	2.71	SO42	2.50	RC4558	51
AD161	40	BD507	65	MRF455	19.80	2SC1398	60	3SK88	4.45	TA7061	78	TA7217	1.19
AD162	40	BD508	87	TIP2C	.26	2SC1413	3.50	3SK97	1.66	TA7120	58	TA7222	1.24
AF124	42	BD529	54	TIP30C	.29	2SC1674	15	40673	1.30	TA7130	46	TA7227	2.07
AF127	33	BD530	99	TIP31C	.28	2SC1675	.13			TA7137	61	TA7240/1	1.98
AF239	32	BD901	46	TIP32C	.33	2SC1678	1.07	IC'S		TA7204	1.38	TA7270/1	1.86
BC107	11	BD902	49	TIP33C	.67	2SC1815	.10	AN240	1.13	TA7205	96	TA7280	2.31
BC108	07	BF115	36	TIP34C	.67	2SC1909	.91	AN6551	.73	TA7208	1.40	TA7310	.91
BC109	13	BF173	26	TIP41C	.27	2SC1923	13	AN7131	1.37	LC7120	2.75	TA75902	.97
BC114	09	BF180	12	TIP42C	.27	2SC1942	1.98	AN7140	1.18	LC7130	3.26	TBA800	1.38
BC141	26	BF184	87	TIP47	.52	2SC1945	3.83	AN7178	2.47	LC7131	2.88	TBA810T	.49
BC142	19	BF195	24	TIP120	.38	2SC1946	12.62	BA402	.59	LC7132	2.89	TC9106	4.31
BC147	11	BF194	11	2N3055	.28	2SC1947	3.78	BA521	1.35	LC7137	3.15	TC9109	5.46
BC170	11	BF195	06	2N3054	.95	2SC1957	.56	BA656	.92	LM301	.35	TD41010	1.10
BC182/L	06	BF196	09	2N3055	.42	2SC1969	1.58	CA3086	.91	LM311N	.56	TD41011	1.37
BC183/L	07	BF197	15	2N3771	1.16	2SC1970	1.48	CA3089	2.45	LM3177	.78	TD41020	1.99
BC184/L	10	BF198	06	2N3772	1.31	2SC1971	2.82	CA3240	1.39	LM324	.41	TD41510	3.18
BC212/L	07	BF199	09	2N3773	1.40	2SC1972	B.25	HA1319	2.16	LM329	4.46	TD41512	3.12
BC213/L	10	BF200	21	2N3819	.35	2SC1973	.58	HA1322	1.82	LM380N	1.32	TD41515	3.71
BC214/L	08	BF244	39	2N3866	1.10	2SC2002	.25	HA1338	2.31	LM383	3.50	TD41903	.82
BC238	06	BF245	29	2SA473	.46	2SC2028	1.25	HA1339A	3.80	LM384N	2.90	TD42002	.63
BC308	06	BF255	05	2SA674	.10	2SC2029	1.12	HA1342A	3.80	LM386	1.15	TD42003	.76
BC327	06	BF256	31	2SA678	.11	2SC2078	.55	HA1366W/WR	1.72	LM387	2.10	TD42004	1.68
BC328	.11	BF259	25	2SA673	.13	2SC2086	.49	HA1367	2.64	LM3900N	.78	TD42005	1.40
BC546	05	BF324	22	2SA678	.38	2SC2092	1.32	HA1368/R	1.63	M51102	1.85	TD42020	1.81
BC547	05	BF337	28	2SA683	.20	2SC2097	21.09	HA1374	2.11	M51513	1.86	TD42030	1.06
BC548	05	BF422	23	2SA684	.28	2SC2099	19.25	HA1377	1.73	M51514	1.12	TD42611A	.86
BC550	14	BF423	23	2SA699	.66	2SC2166	.83	HA1388	1.77	M51515	1.94	UPC1028	.98
BC558	06	BF469	18	2SA733	.13	2SC2236	.26	HA1389	2.39	M51516	2.22	UPC1032	.73
BC639	11	BF470	45	2SA966	.28	2SC2290	23.61	HA1392	1.90	M51517	2.06	UPC1156	2.05
BC640	14	BF490A	60	2SA999	.10	2SC2312	2.85	HA1394	2.72	MB3712	1.22	UPC1181/2	.89
BD124P	50	BF50	25	2SA1012	.67	2SC2314	.30	HA1397	2.55	MB3730	2.06	UPC1185	1.75
BD131	38	BFY51	24	2SA1015	.08	2SC2320	.10	HA1398	2.57	MB3731	2.15	UPC1186	.71
BD132	38	BFY90	50	2SB625	.25	2SC2395	16.20	HA13001	1.60	M63756	1.83	UPC1230	1.49
BD135	22	BFY51	24	2SC380	.09	2SC2539	10.79	LA1201	.73	MB8719	4.12	UPC575	.79
BD136	23	BFY90	50	2SC495	.40	2SC3020	12.90	LA1230	1.27	MC1310	.65	UP0858	1.65
BD137	23	BU205	74	2SC536	.10	2SD234	.46	LA4032	1.99	MC1350	1.41	UPD2816	5.34
BD138	28	BY208A	89	2SC710	.10	2SD235	.68	LA4102	.84	MC1723	.30		
BD139	21	BU208D	1.03	2SC711	.09	2SD235	.68	LA4112	.94	MC3357	1.54	V REGS	
BD140	25	BU326A	.99	2SC730	3.67	2SD313	.41	LA4140	.58	MC3359	2.54	7805	.27
BD201	33	BU406	.63	2SC828	.10	2SD325	.36	LA4201	1.15	MC13002	3.05	7808	.34
BD235	28	BU406D	1.29	2SC800	.27	2SD330	.46	LA4220	1.41	MC145106P	4.19	7812	.27
BD237	27	BU426A	.89	2SC830	.17	2SD380	4.26	LA4250	2.23	MM55108	3.00	7815	.35
BD238	31	BU508A	.96	2SC945	.08	2SD471	.26	LA4400	2.59	NE545	2.38	7905	.49
BD241	34	BU508D	1.11	2SC1060	.59	2SD837	.79	LA4420	1.32	NE555	.16	7908	.49
BD242	33	BU526	1.11	2SC1061	.57	2SD880	.36	LA4422	1.02	NE556	.56	7912	.49
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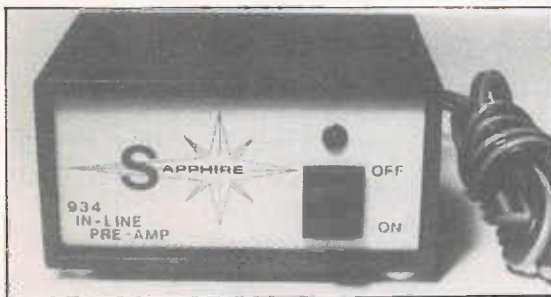
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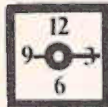
A DAY IN THE LIFE

Paul Coxwell describes a typical 24 hours
in the life of a rig doctor

Have you ever wondered what your average CB "rig doctor" goes through on a typical day? Perhaps you have considered learning enough about electronics to set-up as a repairman yourself. The general image seems to be of easy-money fixing and modifying radios, which to a certain extent may be true, but there is also the less attractive side of the job, such as people wanting rigs repaired at 10pm when you've just got interested in the late movie. Presented here is a typical day on the job - the actual story is fictitious but the activities are based firmly on real events that do happen!



9:00 Decide that as there's nothing left on video-tape worth watching and it's raining outside so it might be a good idea to clear some of the back-log of work piled up on the bench.



9:15 Make a cup of coffee, switch on all the test equipment and settle down in front of the heap of scrap parts left on the bench from the previous night. Oh yes, it was that rig with the intermittent fault that seems impossible to find. Every time the circuit-board catches sight of a test-probe it works perfectly - always the way! Sit and drink coffee while waiting for the fault to return. Idly flick through the latest copy of Citizens' Band.



9:30 The radio on test suddenly goes quiet so it looks as if we'll have to work after all. Intermittent faults are about the

worst that there are. After two hours searching for it last night you can only hope that the culprit will be revealed this morning. Gently lower the test probe onto the circuit board and . . . well what do you know? It's working again. Tap the board around the audio chip; the sound disappears. Touch the soldering-iron on a few joints and tap again. Looks like it's working now. Decide to leave the set running during the day while doing some other work.



9:50 Look forlornly at the rack of sets awaiting repair trying to choose one that will have a nice simple fault. Select a rather battered old Maxcom that looks as if it's spent the last year in a cattle-truck. Some clever person has added an extension to the power cord and crossed the red and black wires! Some people don't half like to make life difficult for themselves. Still, at least there's a fuse in line. Open the holder to reveal a 35-Amp car fuse. Mutter something or other about people who use 35-Amp fuses.

"Bet they've wired it up the wrong way round and burnt-out the protection diode."

Connect ohm-meter to wires and switch set on. Dead short. Open case, remote protection diode, short disappears. Fit new diode and test set. Find it works perfectly so that guy was lucky. Put case back together and fit a 2-Amp fuse in the holder. Write a note on the service docket suggesting that the owner buys a new power cord.



10:15 Mailman finally arrives with a bundle of letters and packets. Assign all the official looking letters to a corner of the bench to be read and inwardly

digested later (when the Red-Tape to English translation dictionary can be found). Open the packets to find the spare parts needed for a few sets. Discover that someone has sent a channel switch for a Cobra 148 instead of a Cobra 21X. No way that's going to work - send it back.



10:20 Get interrupted by someone at the door. He's never used CB before but has just bought this rig from someone who assured him that it would be perfect for his requirements. The only trouble is he can't hear anyone; would it be possible to have a quick look at it now because he has to go back to France this evening? Rig up the set to test it while chatting. Seems the guy has a permanent job in Paris or something and wants the set to make friends with the local people. Tactfully ask whether he realizes that the set on the bench is illegal in France and that there probably won't be many French people to hear on those channels anyway. No he doesn't; what was that he said he'd do to the person who sold him the rig? Find a broken wire in the microphone plug and reconnect it. Radio now functions normally. He asks whether I'd be interested in buying it as it was sold to him under false pretences and wouldn't be much good. Offer him a tenner. By the way he jumped at the offer he probably only paid £5 for it, so the guy who sold it to him must be deliberately trying to bankrupt himself. Exit one rig-less but happy customer.



10:45 Go through the rig just purchased and perform a thorough alignment check. Seal it up and put on the "For Sale" shelf at £30. This is the easy part of this job!



11:20 Phone rings.

"You know that Rotel 220 you sold me?"

"I've sold about ten in the last month. Who are you?"

The caller identifies himself.

"It was working fine then one morning I just couldn't hear anything. I tried transmitting to a friend up the road and he couldn't hear me either. Oh yeah, the needle was clicking off the scale on transmit too."

"Have you checked your antenna?"

"It can't be that because I only put it up myself six weeks ago."

Long conversation trying to persuade the reluctant Rotel-user that it is a thousand to one that it is his antenna or connections at fault and not the radio itself.

"Why not take your Rotel to your friend's house up the road and try it on his antenna?"

"Well . . . I suppose I *could*, but . . ."

"And if it doesn't work there bring the set along to me, okay?"

"Well, alright. Thanks. Bye."

He didn't sound convinced somehow. Oh well, don't suppose I'll hear anymore from him after he tries it on another antenna.



11:35 Pick a Cobra transceiver from the rack. Read the note attached. It says "Please add 10kHz shift to channel 9 switch and super-low/high bands." Ah, a nice easy conversion job, no trouble-shooting. Slowly but steadily progress through the conversion.



12:55 Decide that it's well past lunch-time so now would be a good time to stop before tackling the next set.



12:56 Knock at door. Oh no, it's the idiot who always turns up at the worst possible time wanting an impossible job done. Diplomacy doesn't work here; you have to be as subtle as a sledgehammer. Think up a quick excuse.

"Sorry, I've just had a urgent call that can't wait. Can you come back this afternoon?" Hope that he can't.

"Mmm, I could, but I just wanted you

to have a quick look at this set. It'll only take a minute."

"What's wrong with it?"

His answer tells me absolutely nothing, except that he's stupid which I knew already. He's trying to be technical and sound as if he knows that he's talking about; pity it's a load of nonsense. Edge out of the door telling him I'll be back around three. That way he may not come back until two so I'll have a chance to eat lunch. Everyone can't be expected to be technically minded but why do some of them pretend to be?



1:10 Finally go to lunch.



1:50 Tidy-up bench and make coffee (yet again).



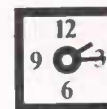
2:00 A customer. It's the nice old-lady from downtown who uses the set to contact her daughter and their family in the suburbs. Offer her a seat while you examine the radio she had in her shopping bag.

"My daughter says that when I'm talking sometimes my voice just disappears, but when I wiggle that plug thing it comes and goes. I hope it isn't too expensive." These are the customers that it is a pleasure to deal with – straightforward explanations of what works or doesn't work.

If you can spare a few minutes I can probably fix it right now." Strip the microphone plug and rewire it. As expected the rig now works perfectly; another nice easy fault.

"How much do I owe you dearie?"

Tell her that as she spent rather a lot of money last week on replacement antennas there is no charge for such a simple job.



2:15 As the old lady departs for the bus-stop trouble is seen approaching from the other direction. Obviously hasn't learnt the difference between two fifteen and three o'clock yet. Still, if he watches Sesame Street for long enough who knows? Very reluctantly show him into the workshop and try to extract a reasonable description of what he wants

without all the extra bits about a "good deal" he did with a fantastic rig and how he managed to take twenty home-made half-wave antennas up to Scotland and sell them for £45 each. (Oh yeah?!) I seem to recognise that radio he has under his arm. It's the one I spent two-hours re-aligning last week after he tried to make it "sound better." Ask what's up.

"I tried this set after you did it and it was better that it was before but I did have to just tweak the modulation up a bit on FM because Joe up the hill said it sounded quiet. The needle wasn't going high enough on sideband either so I tried to turn it up, only I forgot which can it was. I know I put them back where they were but two people I was talking to last night couldn't clarify me in properly. I'm sure it's their rigs off-frequency so I wanted you to just check this one again and . . ."

"Okay, I get the picture."

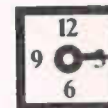
Connect up all the appropriate equipment and find that the set is worse that it ever was before. Remove the covers and peek inside. It looks as if he tried adjusting some of the cores with a monkey-wrench! Find some new cores and replace them. One coil has its core completely locked inside.

"Er, did you use a screwdriver on these?" Thought as much. Tell him it'll need a new coil (which is why it doesn't work on AM at all now) and it'll be ready at the end of the week. The fact that there's a coil in stock is irrelevant – the sooner he's out of the way the better. He wants to know how much it's going to cost.

"Twenty-five quid guv."

Hopefully he'll get fed-up with paying me and go somewhere else eventually.

Listen to story about how he personally fixed a Ham Jumbo 3 on the weekend and added 120 channels to it. Imagine pink elephants flying. If he's so clever why does he keep bringing things to me? Finally manage to get him out the door after hearing about his brilliant new antenna design (that Avanti developed years ago), and the new rig he has in the car which is even better than last month's rig which was the "best in the world."



3:15 What a waste of the last hour! Decide that the radio that's been on soak-test all day must have just had a dodgy connection and start screwing the cover back on properly. If this was the big flash repair shop in Main Street we could charge £15 an hour for labour plus £2.50 for a sixteenth of an inch of solder and get away with it. Still, people come back if they get good service at a reasonable price. Charge them a fiver.



3:25 Hastily repair two radios with burnt-out RF power transistors. Another easy task done.



4:00 Drive out to check someone's antenna installation. Find elevator out of order and walk up fifteen flights of stairs carrying large toolbox. Remember the SWR meter was left in the back of the car. Go back and get it. Start to check installation. Remember all the patch leads were left in the car. Go back and get them. Who needs exercise? Re-wire a PL259 that was very scientifically connected with a paperclip and a matchstick. Hand the occupants a bill including charges for shoe-leather and danger-money for entering a neighbourhood such as this. Drive round housing complex five times looking for way out while a group of humanoid-looking creatures with hair that looks as if it's just had an electric shock make helpful suggestions, most of which are physically impossible.



5:00 Listen to the usual five o'clock rush-hour on the air while sitting in a two-mile tailback. That'll teach me to take a short-cut.



5:30 Turn off down a side alley and take the long-way home. Arrive five minutes later.



5.40 Find irate customer clutching a transceiver at the door.

"Ere, geezer in town said you fix these fings."

"Did he?"

Go inside and examine radio, which internally is rather black. Discover that someone connected a 12-volt set to a 240-volt supply. Suggest that the best place for it is the great service bench in the sky.

"Ow much to make the *&!% fing work ven?"

"Ain't worf it. I mean it's not worth repairing. It'd be cheaper to buy a new one."

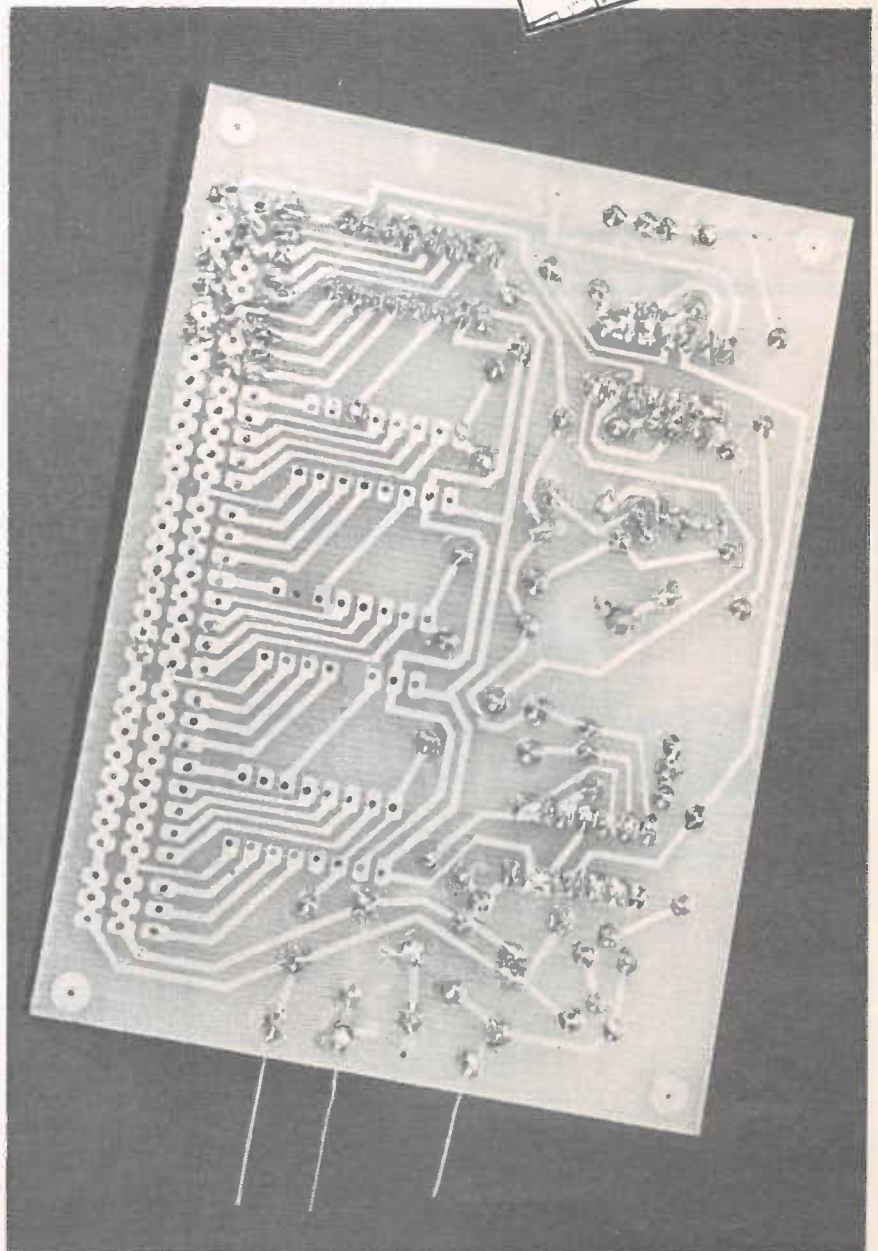
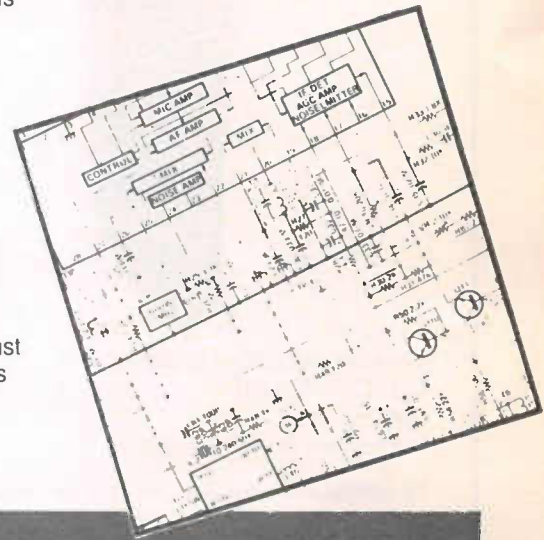


5:55 Look through spares cupboard and order some replenishments. Open the official-looking letters that were carefully filed earlier. Pay all the red bills and consign all others to the filing cabinet (in reality a large cardboard box).



6:05 Last minute arrival at workshop. Someone after a multimode rig with as many channels as possible. Money no object.

"Well, I have a nice set here that's just in. 25 to 30MHz all modes..." Perhaps it's not such a bad job after all!



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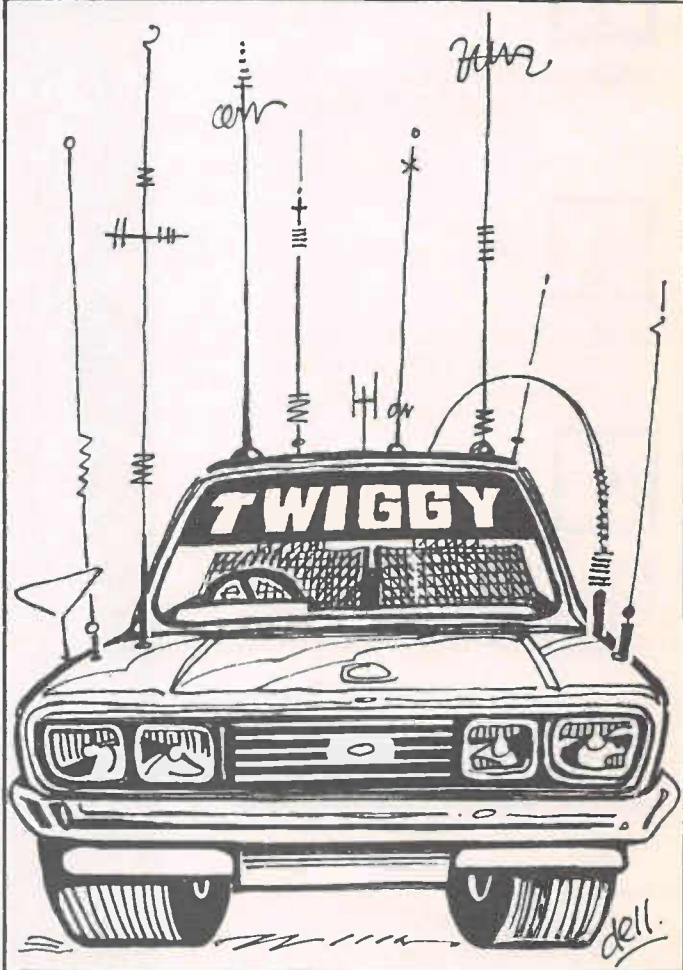
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LOOKIT! TWONG VISITIN' THE OL' BARFROOM! HAS HE SUPPED TOO MUCH BROWN ALE...? ...EAT'N A BENT PORK-PIE...?



...NOPE! HE JUS' HAD HIS FIRST SWIG OF WATER!

NATHY!

HEY! MY HERO! I'VE JUST HAD A TERRIFIC IDEA!

GIDDADAWAY! TWONG NOT LIKE WATER! ME GOIN' UP-CHUCK OUTSIDE!



WHY DON'T WE TRY TO INTEREST BOATING ENTHUSIASTS IN CITIZENS BAND RADIO! HUH? WHY NOT? EH? HUH?



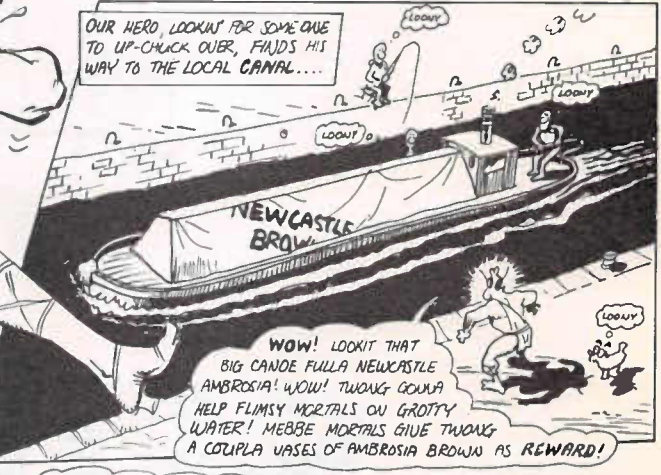
THERE THEY ARE, RISKING THEIR WHOSITS, FLOATING ABOUT ALL ALONE, JUST DYING TO TALK TO SOMEONE ELSE WHO'S ON THE WATER

WATER?

BLAH!

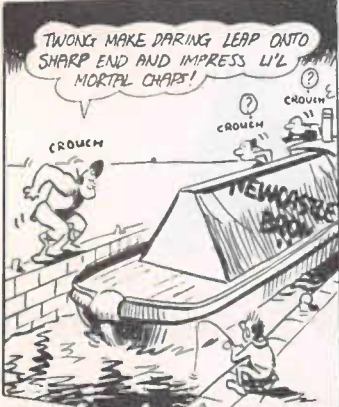


ACK!



OUR HERO, LOOKIN' FOR SOMEONE TO UP-CHUCK OVER, FINDS HIS WAY TO THE LOCAL CANAL....

WOW! LOOKIT THAT BIG CANDE FULLA NEWCASTLE AMBROSIA! WOW! TWONG GOUNA HELP FLIMSY MORTALS ON GROTTY WATER! MEBBEE MORTALS GIVE TWONG A COUPLA VASES OF AMBROSIA BROWN AS REWARD!



TWONG MAKE DARING LEAP ONTO SHARP END AND IMPRESS LIL' MORTAL CHAP!

CROUCH



HAH! KIN GOOD JUMPER, ME!

NOW ME GUIDE PRECIOUS NEWCASTLE NECTAR THROUGH WATER!



NOTHIN' WILL HOLD UP THIS SACRED VESSEL WHILE TWONG ON GUARD!

HAH! KIN ROTTEN DRIVER UP BACK END!

CRUMPSH



THAT WAS THE LOONY WITH THE G.B. EARS, WASN'T IT?

YEAH! MEBBEE WE SHOULD ALL GET A C.B. SET APPECE SO'S WE'D KNOW WHERE HE'S AT!



AND SO...

HAH! SEE HOW TREMBLIN' LIL' MORTALS MAKE WAY FOR AWE INSPIRIN' ME! TOO RIGHT!

DUCK-PLUCKER TO POWD-WEED LOONY COMIN' UP AFTERN!



AT LAST, TWONG REACHES HIS DESTINATION.

GIVE 'IM A CRATE AN' GET RID OF 'IM!

WOW!

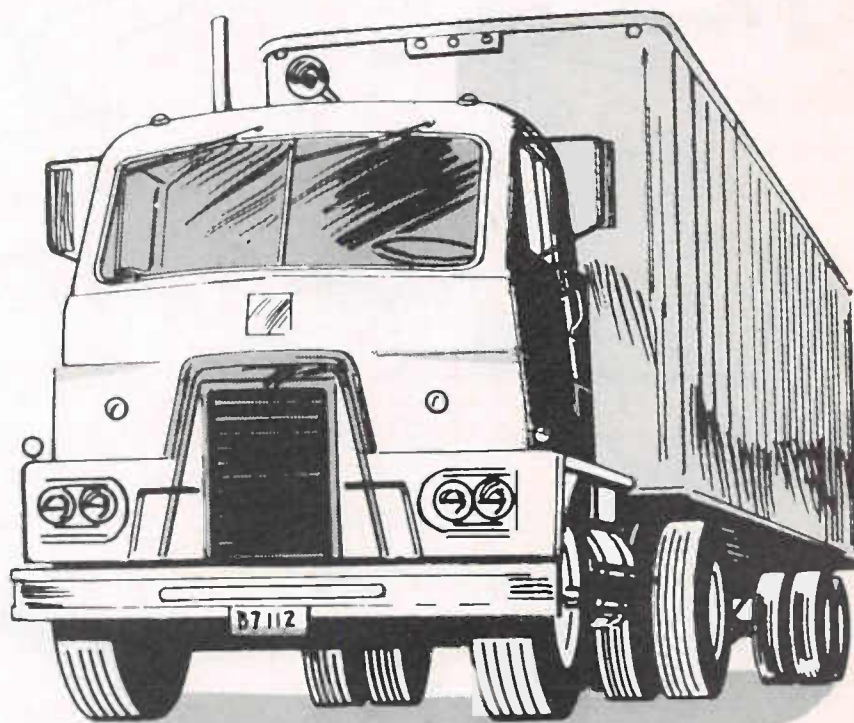
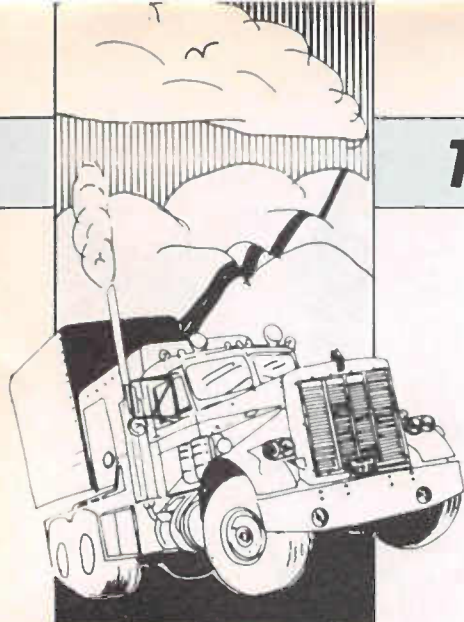
WHICH ONLY GOES TO PROVE, ALL THAT IS BROWN IS PROBABLY SOME OTHER KINDA CRAP!

WHARRUP!

THIS IS NOT THE END!

FRED NEWCASTLE BROWN PAINT MORE LIKE A SATAN PAINT!

TRUCK STOP



SUPER SCANIA

Brandybird looks at some changes in the new Scania range

Last month, I told you that Scania had recently announced a new range of trucks. We had a look, albeit a quick one, at the major changes on the interior, new panels etc and the major changes on the exterior styling. That will probably be enough for the majority of you lads out there. Nevertheless, I did promise to look under the bonnet, at the technical changes this month. Here we go then.

In many cases, engine power has been boosted, the output of the new Scania DSC14 being 450bhp. The whole power train is stronger, including a new gearbox on the highest power units. A manual torque converter gearbox is an option with the 11 and 14 litre engines

for Special Types Operations.

Steering improvements have been obtained through taper roller bearings in the kingpins of the new front axles (AM56 and AM61) which, in combination with more direct gearing, provide considerably better steering feel.

Two-leaf parabolic springs with a third helper spring on the rear replace the multi-leaf assemblies on all 4x2 models. These springs, with a thickness of 30mm on the front and 34mm (rear) are new to all models except the Urban (and 6x2/4). Anti-roll bars are standard fitment front and rear to all 4x2 models except rigids where the front anti-roll bar is optional. Twin-steer models have the option of air suspension on the rear which reduces rear overhang. On these 6x2/4 models the steering linkage has

been revised and now runs above the fuel tank, giving more space for PTO's.

All G and P 4x2 rigid models have the bulk cargo layout pioneered on the previous Urban models, i.e. with relocated air intake the turbocharger and compact gear linkage. Through this design, the platform can be extended 22cm further towards the rear wall of the cab giving an increase in paycube of 1.5 cubic metres.

New pistons are introduced, in the DSC14 engine, with a thicker compression ring located closer to the piston crown while cooling oil ducts are now cast in the piston. Also introduced for the DSC14 is a faster cooling fan with a new bearing housing and new drive.

To ensure dependable transmission

for the boosted engine outputs of the DSC14, a new ten-speed range change gearbox has been introduced; the GR880. This has reinforced gears and bearings and replaces the GR871 unit on the 143 series. The new gearbox also features a new type of synchromesh that makes gear changing easier. Double synchromesh is incorporated in 1st/6th gear with dual cones that speed up the synchronizing process to provide easier shifting between the set of gears and the mainshaft e.g. between 5th and 6th. The step in ratio between 4th/9th and 5th/10th gears has been reduced from 35% to 28%. The lubrication of the main gearbox section has been improved by spray lubrication straight into the mesh of the gear wheels. The oil flow in the planetary section is now greater and the annulus has an oil bowl that further enhances lubrication. *Good God, enough of that technical stuff – got the idea yet?*

Scania have also introduced a new fuel injection system, Electronic Diesel Control (EDC) for the 14 litre engine, to be available in the U.K. in 1989. I shan't go into anymore details about that, 'cus you won't understand it either. But I will add, it allows greater mobility, with no undesirable effects on the fuel economy. It has automatic cold start control, and that the key is used for stopping as well as starting ... WOW!

Right, I've wasted two whole pages of my precious paper on that. I would like to thank Scania, as they were the only company who have bothered to send me press releases, out of every manufacturer that has an agent in the U.K. I wrote to them all. Scania send me at least one large envelope a week (not all as complicated as this) and Seddon Atkinson send me one occasionally (I've had three in the past twelve months). So thanks to both companies for sending me info, despite the fact that I have little room in which to feature them.

Well, I had a little chat today with a guy who I haven't spoken to since the AM Days (as in – Good Old). He asked me to give a mention to those out there who don't have 14 or 18 wheels, but only four but still manage to have courtesy and consideration for those who do drive the big ones! I hate to say this, but I don't know of many. Do you? Anyway, to give the guy a plug, his handle is Bell Boy (alias Nigel), who drives all over the country as a consultant for accountants. Just the sort of friend we all need! He told me that he likes my articles, but would like to hear more of his four-wheeled friends, who use our roads and motorways just as much, but never get a mention. Well Nigel, little do you know, but lots of the people that I talk to and give a mention

to, on my page(s) only drive baby ones. I'm not going to name names, but one of my favourite 'gay' truckers, who tells everyone that he's driving a superb truck – is really only driving a baby, a car in fact so there!

I'd also like to thank Chocolate Soldier (the creep), for sending me a Christmas card, I did have quite a few from trucking friends, so thanks everyone, it didn't half make my boring wall look nicer at Chrimbo.

Can I also remind you all, that I give you my address, *EVERY* month, so you can write to me and complain or congratulate (Huh, little chance of that) but still, no-one wants to tell me anything. I'd love some amusing stories about your mates. Come on let's embarrass them. I won't tell them who told me! Promise. The address is Brandybird, P.O. Box 158, Coventry, CV6 6BD, or, if you're passing junction 3 on the M6, give me a call on the 19. As I've said before, I'm not fussy. I'll talk to anyone. Also, if you would like to see what sort of idiot I am, I shall be at the Mike Quebec Eyeball in Coventry on Sunday June 5th. We would all be pleased to meet you there. It will be signposted from junction 2 of the M6, so you've no excuses.

Right lads and lasses, that's it for yet another month, Truck em easy, stay safe and most of all stay lucky.

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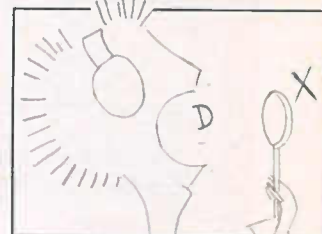
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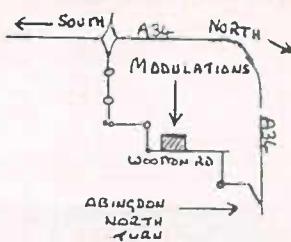
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TRUCK KING U.K.'S No. 1 TRUCK & CB STORE

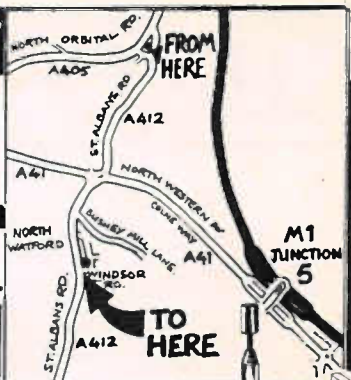
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NOTE We Have Moved



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Check our very low prices then save even more on our special offer items!

NEW PRICE

UNIDEN 400 (CEPT Spec) £98.00
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YES, IF YOU BUY ANY ONE OF THE CB RADIOS LISTED IN THIS ADVERTISEMENT NOW, YOU CAN AT THE SAME TIME PURCHASE ONE OF THE SPECIAL OFFER ITEMS BELOW AT A SUPER LOW PRICE!

This offer is subject to one special offer item per each CB radio ordered and is only available to mail order purchasers. Goods must be ordered and paid for together and can be sent to one address only. No catalogue discount vouchers will be accepted. Offer closes April 30th 1988. All offers subject to availability.

SPECIAL OFFER ITEMS
*SUBJECT TO RADIO PURCHASE

LEMM MINI GP DX
OFFER PRICE **£16** *SUBJECT TO RADIO PURCHASE
SAVE £5 ON LIST PRICE

Standing just over 2m high the new GP DX comes with a stand off bracket for outside mounting or can freestand in a room or loft. Top loaded for high performance but compact enough for use where a discreet antenna is required. Performance equal to many bigger base station antennas and highly recommended.

LEGAL

UBC-100XL SCANNER
OFFER PRICE **£169** *SUBJECT TO RADIO PURCHASE
SAVE £20 ON LIST PRICE

The Uniden 100XL is a crystalless, hand-held scanner with more scanning power than many base or mobile units. Sixteen channels cover nine bands, including the aircraft band. Your priority frequency is checked automatically every two seconds. The keyboard can be locked to prevent accidental programming. The LCD display is lighted for better night viewing.

RP10S PRE AMP
OFFER PRICE **£26.00** *SUBJECT TO RADIO PURCHASE
SAVE £3.95 ON LIST PRICE

K40 ANTENNA
OFFER PRICE **£36** *SUBJECT TO RADIO PURCHASE
SAVE £6 ON LIST PRICE

ASTATIC TEARDROP
OFFER PRICE **£40.00** *SUBJECT TO RADIO PURCHASE
SAVE £6 ON LIST PRICE

Includes Wiring & Battery State radio model type when ordering

THUNDERPOLE 3
OFFER PRICE **£18** *SUBJECT TO RADIO PURCHASE
SAVE £7 ON LIST PRICE

Incorporating 3 angled 1/4 wave radials and a helically wound centre load whip. This well known home base twig is a popular choice for both CEPT and UK frequencies.

LEGAL

HAM INTERNATIONAL ROS 110 SWR-POWER-MATCHER UNIT
OFFER PRICE **£19** *SUBJECT TO RADIO PURCHASE
SAVE £7 ON LIST PRICE

Gives SWR measurement, power read out to 100 watts plus built-in matcher unit. Supplied also with field strength antenna and AM monitor facility with earpiece. Good quality unit with most of the required facilities for CB use incorporated.

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OFFER PRICE **£49.00** *SUBJECT TO RADIO PURCHASE
SAVE £6 ON LIST PRICE

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ACCESS/VISA orders phone 0923 35943

SIRIO antennae

**"COPIED BY MANY"
EQUALLED BY NONE**



GPE 27% Base Antennae

Type: $\frac{5}{8}$ λ ground plane
 Impedance: 50 Ohm
 Frequency: 27 MHz
 Polarization: vertical
 V.S.W.R. 1.2:1
 Max. Power: 500 Watt
 Gain: 3.5 dB ISO
 Connection: UHF FEMALE
 Length: approx. mt. 6.50
 Weight: approx. kg. 2.5
 Mounting mast: \varnothing mm 30/40



SIRIO CT27

Short centre loaded DV type but with robust steel shaft and shock spring, good performance for its size. (70cm S/S COMP).

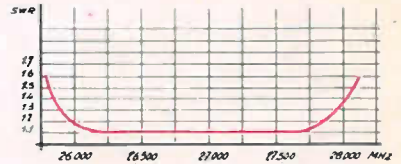
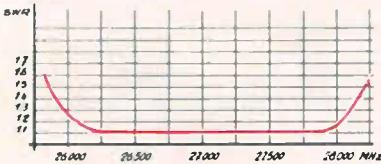
SIRIO T27

Pint sized version of the DV-27 includes shock absorbing spring, used usually where a short whip is essential - van or truck roofs especially. (60cm F/G COMP.)

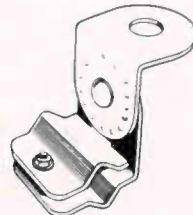


GPS 27 1/2 Base Antennae

Type: $\frac{1}{2}$ λ ground plane
 Impedance: 50 Ohm
 Frequency: 27 MHz
 Polarization: vertical
 V.S.W.R. 1.2:1
 Max. Power: 500 Watt
 Gain: 3 dB ISO
 Connection: UHF FEMALE
 Length: approx. mt. 5.50
 Weight: approx. kg. 2.1
 Mounting mast: \varnothing mm 30/40



White KF Gutter Mount



Mirror Mount



Mag H12 PL



Base Mount



Galletto Screw + Bolt



Galletto Wingbolt



'N' Connector

SIRIO Panther 27

A slightly longer all black version of the CT27



SIRIO T2-27

580mm long all black. Helically wound. 400W.



WE ALSO HAVE:

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 - SIRIO: Gutter Mount
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 - SIRIO: DV Nut & Bolts
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