

JUNE 1981

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CB

Citizens' Band

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BIG News on the Rig Scene



The Specifications

- We Have Details

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- Band On The Run

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JUNE 1981

CB

Volume 1 Number 7

Citizens' Band

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Update	6
News, news news	
Mack Chat	9
Close Encounters	
Rig Review	12
It's British Folks!	
Competition Number 5	14
Handle Scandal	
The Specs	17
An Expert's View	
Inside CB	20
CB Explained	
On The Side	24
DXing And All That	
CB & Music	30
Band On The Run	
Bugging	36
Is Anyone Listening to you?	
The Big Bubble	42
Advanced Design	
Special Offer	45
Exclusive Jacket Offer	
Antenna Review	48
Electric Antennas	
Back Chat	53
have your say	
Club News	56
It's All Happening	
Reader Questionnaire	59
Help Us To Help you	
Club Directory	62
Latest Additions	

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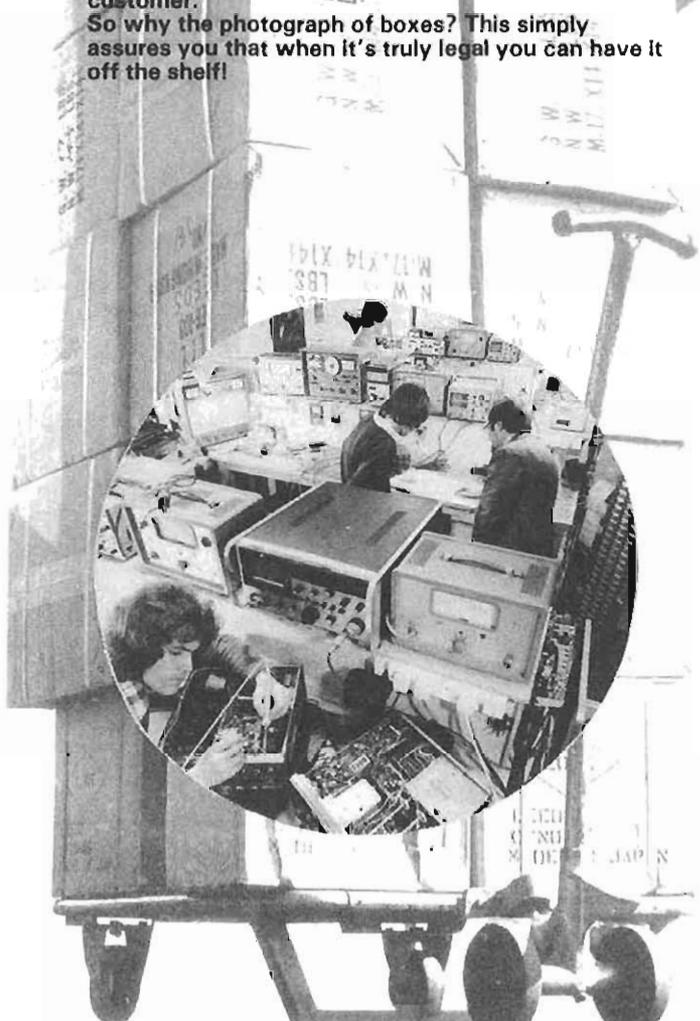
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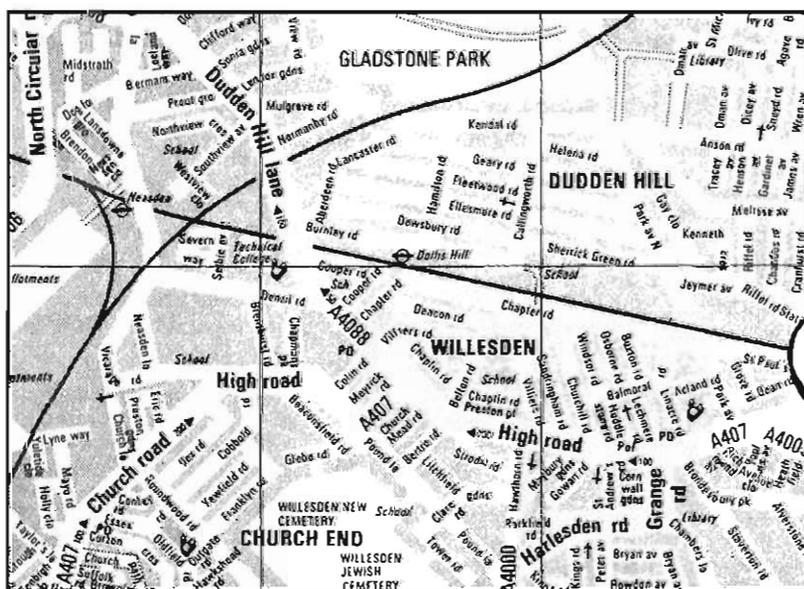
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Update

News from the world of CB



TVI In The High Street

Yesiree, a new TVI Filter is about to hit the high street and for a change it looks as though it might actually work.

This one is manufactured by a company called **Global** and it's known to its friends as the **HP4A**. It is a high pass filter, designed to be fitted into the aerial lead of your TV set. It is claimed to reject all frequencies from DC (0Hz) to 180 MHz without any noticeable degradation of the picture. It comes in a neat bubble pack and should be available anytime now from TV retailers and rental companies. For further information contact *Walters & Stanton Electronics* at *Warren House, 18-20 Main Road, Hockley Essex* or given them a bell on the landline on **0702 206835**.

Competition Number Three

This is getting ridiculous. Nearly three thousand entries to competition number three have brought the CB office to a complete standstill. We would have liked to have published the results this month but we still haven't opened all the letters. So far the number of words obtained from the Citizens' Band stands at an absurd 600 and we have to check each one. One silly s- actually ran a computer program to get all the words. His conclusion was the computer would take something like 15 years to print out all the possibilities. Needless to say that he has been instantly disqualified for being a smart ass. Anyway we're still wading through the replies and we hope to have the results next month.

By the way, last month's competition (No 4) seems to be getting almost as much response and believe it or not almost all the answers are correct. Bet this month's competition puts you off.

Working For CB

Due to the continued growth of Citizens' Band magazine we are looking for another person to join the CB editorial team. If you possess an interest in CB, a good background in electronic/RF theory and practice, some journalistic experience plus the urge to work long hours for ridiculously low wages then get in touch with Rick Maybury on 01-437-1002. This *could* be the start of something big.

CB Booze

Since we mentioned a couple of months ago that someone should invent a CB cocktail we have heard from **Victoria Wine** who are well known purveyors of alcoholic beverages. For some reason they have informed us that in future all their wines will be graded on a scale of 1-9 depending on how sweet they are (1 dry 9 sweet). Why they should have done this, or, why we are telling you about it is anybody's guess. I suppose it's all part of lifes rich tapestry. Ho hum, pass the chablis.

Book News

Two new books for review this month. We have handed them over to Andy Giles to see what he thought of them.

Questions And Answers About CB Repair by Leo. G. Sands.

This American book, which was first published in 1977, is written in the popular question and answer style i.e. What is a noise limiter? A noise is etc. It is not aimed at the service technician, more the beginner who would like to find out a little more about how his rig works. The book is written in straightforward English (well American) and technical terms are only used where necessary.

Part one deals with the basic CB rig and discusses such things as clarifiers, S-meters, phase locked loops etc. and explains how they work. Part two covers the FCC rules and regulations and asks such questions as :- What is the legal transmission frequency tolerances? What is the input power limit? etc, but as the regulations are American, this information is of limited interest in Britain. Part three looks at the type of test equipment that is needed to repair a rig and part four tells you how to install a CB system, everything from erecting an aerial to fitting a coaxial plug. Part five discusses the different measurements that have to be carried out when repairing a set and part six is a troubleshooting guide that deals with such questions as :- How can such intermittent

faults be isolated? and what is a quick way to determine if an IC is defective?

This is a very good book for anyone who would like to know a little more about what is happening inside his rig, but who does not have a technical background.

The Easi-Guide To Accessories For CB, Two-Way And Ham Radio.

by Marti McPherson And Forrest Belt

This is also an American book that was written in 1977 but the subject is not rig repairing, it is about adding on accessories. The bolt-on goodies are not only described, but full instructions are given for fitting and using them. A good example is chapter two which not only tells you all about different sorts of microphones, it also tells you how to use the various types, and, with the aid of photographs, it even tells you how to wire up the plug.

Chapter one is an introductory chapter that gives background information on accessories, tells you what you are likely to need and even tells you how to build some accessories yourself.

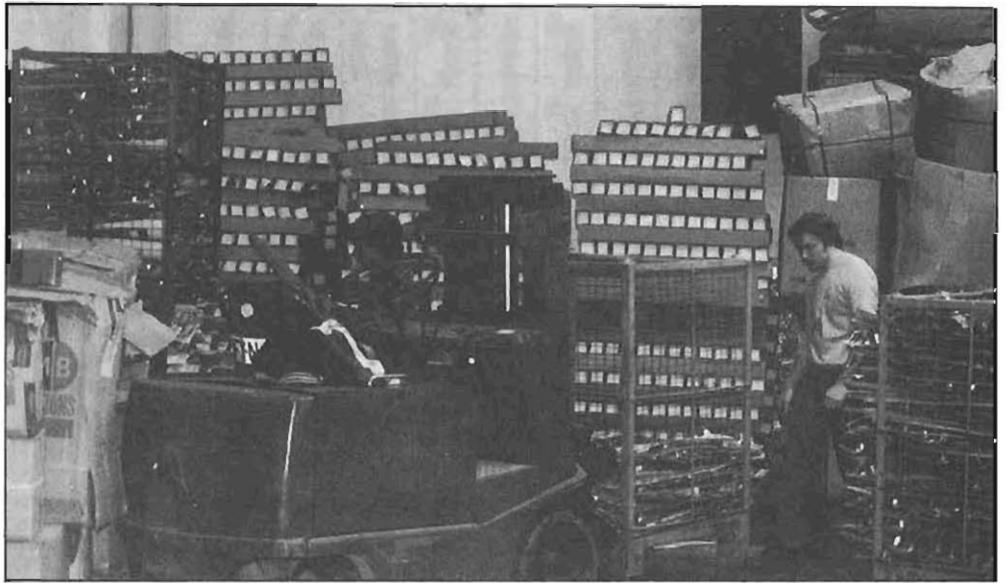
Chapter two deals with microphones, chapter three — extension speakers, chapter four — cables and connectors, chapter five — antennas and base station accessories, chapter seven — mobile accessories, and chapter eight — combating mobile noise and interference.

This is a very interesting book that is full of good ideas for improving your station, and even though it was written more than three years ago, there are some gadgets in this book that have not yet arrived in this country. Both these books cost £3.15 and are available from **NIC** at 61 Broad Lane Tottenham, London N15 and he can be reached on 808 0377.



Massive New Warehouse

Mura electronics have just opened up what might possibly be the largest trade warehouse in London. Their premises at 295-297 High Road, Willesden London NW10 has just about every single item of CB accessory that you could imagine. The new 30 foot trade counter will be open during their normal trading hours but its worth checking up on 01-451-4141 to make sure that they have the stock you require. Remember that this is really trade only but if you have any aspirations towards opening up a shop or whatever they will only be too pleased to help you out.



HELP

Regular readers may remember that we featured a rig known as HELP a few months ago. After we published the Rig Review we were inundated with phone calls and letters asking where they could be obtained. You may be interested to

know that they are being given away *free* by an American bank after opening a bank account with them. If you don't want to open an American bank account then they are available from one chain store in the 'States for just £35.00 — eat your hearts out.

CB Diary

April was a really busy month with plenty of shows and fairs but in contrast things seem to have slowed down somewhat this month. If you are organising any kind

of CB related event then why not drop us a line to **CB Diary** at our usual address on page three but please give us at least six weeks notice so that we can get it in in time. Here's the latest list for your diary.

Date	Event	Venue
May 16th	Grand Northern CB Radio Show	Exhibition Centre, York Racecourse. (0653 3827)
May 17th	CB Mass Eyeball & Trade Show	Pavillion Ballroom Matlock, Derbyshire, (Matlock 2560)
May 17th	CB Fair & Eyeball	Shoulder of Mutton Inn, Hardstaff.
June 6th	The CB Extravaganza	Granby Halls, Leicester. (10am to 5pm)
June 6th	CB Jamboree	Bingley Arts Centre (10am to 4.30am)
June 6-7th	CB Trade Fair	Malvern Winter Gardens. (Astwood Bank 3852)
June 7th	CB Radlo & Accessory Trade Fair	Grand Hotel, Torbay. (ST Dominick 50355)
June 14th	Radlo Fair & Mass Eyeball	Commodore International, Nuthall Road, Nottingham. (Long Eaton 62247)
August 31st	Radio Fair & Mass Eyeball	Commodore International, Nuthall Road, Nottingham. (Long Eaton 62247)

CB Grub

At long last someone is taking the plunge and opening a CB restaurant. It's going to be called the **Eyeball Number One Club** and will be sited very close to Oxford Circus in the centre of London. Main attraction will be a scanner receiver connected to every table that will let anyone eargwig on the airwaves. David Levy, the gov'nor says that a sophisticated intercom system will also be installed on each table so that anyone can have a ratched to any other table. As for the food, David assures us that it will suit every taste, from a quick burger or snack to a really decent meal. The Eyeball Club is due to open about the time you read this (late May) so you can bet the staff of CB will be on the doorstep with our knives and forks in hand — look out for a full report, with pix hopefully, next month.

Anti TVI Antenna

News has just reached us of a British company designing and building 27 MHz anti TVI base station antennas. The antenna in question is a centre fed dipole that consists of a 75 ohm balanced twin feeder connected to two radiating elements of aerial wire approximately 18 feet long. This particular design is ideal for installation inside lofts or back gardens and the instructions come with several suggestions for the various configurations that are possible with this design. For more information on these antennas contact: *R Beaham-Holman, Uplowman, Tiverton, Devon.*

Motorway Mobiles

Guess who is looking very seriously at selling CB rigs. How about a clue? Well they have several establishments on Britains motorways, they sell all sorts of goodies already, including our magazine, still not sure? We can't actually tell you their full name at the moment 'cos its only a possibility but if we said that their name is similar to that of a large British car, is not unlike a TV station in the Midlands and is one of the biggest companies in the entertainments business then maybe you can make a shrewd guess. Good luck lads!

R/C Modellers Compensated for CB Damage

What may well turn out to be a test case for CB related radio control interference was heard at Newham West magistrates court last month. The case involved three radio modellers tracking down a case of deliberate CB interference at Wanstead Flats London. A total of £277 damages was awarded to the three modellers and the CBer was fined a total of £180 on charges of criminal damage and installing and using a CB radio. It is also worth mentioning that a Post Office technician was responsible for tracking down the CBer. A sobering thought for all the lunatics that deliberately try to bring down these model aircraft. Think about it some time; the modellers might not be quite so tolerant next time they catch someone doing it.



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- Alcomm DPA 11 VR Very Popular
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- Avanti Sigma IV . . . £69.95
- Avanti PDL 11 Quad Ant.
12 Dbs . . . £106.26
- Hy-Gain 3 Element Beam, 8 Dbs £59.95
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Antenna . . . £10.25
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- Retractable Disguise Antenna . . £8.18
- Valor 541 SMF 48" Dial-a-Match
. . . £25.01
- Valor 531 SMF 24" Dial-a-Match
. . . £24.15
- Valor 560 60" Warrior (Whip) . . £17.15
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(Allow £3 Post/Packing on mobile ants.)

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- Bremi BRL 40 70 watt Burner . . £49.83
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mains operated . . . £103.40
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- Skipmaster 100w AM 180w SSB
. . . £118.96

- Skipmaster 150w AM 190w SSB
. . . £137.00
- RP 20 Pre-Amplifier . . . £16.45
(Allow £2 Post/Packing on linears.)

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- Ham Master 4200 (Base) . . . £29.00
- K 40 Power Mike . . . £31.00
- American Lollipop Power Mike . . £29.95
- Turner Exp. 500 . . . £48.95
- Turner RK 76 . . . £37.77
- 7 Volt Batteries . . . £2.95
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- Cobra Hand (Power Mike) . . . £16.31
(Allow £2 Post/Packing on Mikes.)

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(Allow £1.50 Post/Packing on Power Supplies.)

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. . . £19.95
- Model TC4 SWR/Power/F.S/Matcher
. . . £26.95

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- Headphones RE 220 Padded . . . £7.95
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- Slide Mount . . . £4.95
- CB Car Radio Converter 40 channel
. . . £10.25

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- Whisky Loft Antennas . . . £24.95
- Stabo Loft Antennas . . . £29.95
- Mini GP 27 Loft Antennas . . . £21.95

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Mack Chat

Mack The Hack, our tame (but mostly non-existent) breaker has a tale or two to tell on the subject of close encounters

In the time I have been involved in the CB scene, I think that now I am making enemies. Some of my old good buddies seem quite hostile when I talk of 27 megs FM. I get the impression that this proposal is like some sort of plague. Some while ago I made a promise to someone on a radio phone-in programme. My promise was that when the Government gave me and my good buddies a suitable legal CB frequency I would give up being a pirate on 27. So now I intend to keep my promise.

Since the Government announcement I have of course been talking to the breakers and asking their views. It is obvious that many say that they will be sticking with AM but I get the impression that they have been brainwashed into thinking that FM will be useless and the cost prohibitive. Well if any of these people are readers of this mag they will know how wrong they were and I hope that they have second thoughts.

Some of my buddies have even accused me of becoming 'Chicken' in my old age, perhaps I am, I think I may have more to lose than the average breaker if I were to get busted. I'll let you into a secret if you keep it to yourself. In a *roundabout* sort of way I am employed by the Home Office. I have been riding around in one of the mobiles (complete with rig) that they have control of. So if I was to get taken, not only would I lose a rig and some green stamps for a fine, I could well lose my livelihood.

I have had two near misses and you know what they say about the third time! The first near miss was when I had only been on channel for a few months. I was out in my mobile with my buddy 'Geordie Boy' and we were parked in this lane that was one of my 'safe spots', I had backed into a driveway that was not in use along this lane which very few motors used. We were startled when we saw this car coming along. We watched this vehicle turn into the driveway and stop bonnet to bonnet. I then noticed the box on its roof but the light was out. It was a smokey panda mobile. Both 'Geordie Boy' and I looked at one another and back at the bear mobile and slowly started to pull out wires from the rig. As we did this, to our surprise the smokey mobile backed up and continued along the lane. How, why, or what the bears thought we may have been up to we will never know. Needless to say we also vacated the spot super-fast.

The second time was more dramatic. If you read last months **BACK CHAT** you should have read that letter by 'Tiger One' and his encounter with 'Gus' of Hazzard county. I also have had a brush with this character. 'Gus' the nasty vampire, (if you've seen his teeth you would know why he's called the vampire) haunts the byeways of South East Essex. So there was 'King Rat' and I heading down the eyeball at St Osyth beach. As we drove along we could hear other breakers chatting as they headed to the eyeball. A mile from the 20 we pulled into a lay by and cleaned up our mobile, and then continued on our way. I knew the area well and I pointed out to King Rat that the road we were on was the only one to and from the eyeball 20 and if the nasties or smokies blocked this road they could have a field day with the breakers.

As we approached the 20 I saw the mobiles of the other breakers, it was like a radio amateurs rally, there were 'twigs' everywhere. Surely, I thought, no-one in their right

minds could be that confident against a bust. I turned my mobile around and drove back the way we had come and parked a few hundred yards away in the car park of another drinking 20. King Rat and I walked back to our arranged eyeball. Amongst the breakers assembled was my good buddy 'Tommy Tucker'

Whilst we were sitting by a window of the drinking 20 and could see the road and passing traffic. We were talking about other things when one of the breakers cried (for want of a better word) 'It's bloody Gus'. We all looked up and out of the window I caught a glimpse of a red mobile with antennas sprouting all over it. So when we saw this mobile mild panic set in. The group of us at the window split up to other parts of the pub. King Rat and I decided to disappear, as we came out of the pub door we saw the 'sus' mobile turning around and then stop at the end of some parked cars. It turned out its lights. There was no movement from its occupants. The pub where we were situated is along a lane that led to chalets. Also along the lane were amusement arcades, snack bars, (such as one finds at coastal resorts). There were a lot of people about and many other parked cars. We turned away to where our mobile was parked. Now I don't know why I do such things, but instead of driving away from the eyeball I headed back towards the pub 20 and the sus mobile. I had heard so many tales of the nasties mobiles having all sorts of equipment, antennas, and strange black boxes on the roof so I wanted to have me a look.

The mobile was a 'M' Reg maroon Maxi, on the rear bumper was a DV27 and on a gutter mount on the rear side was a SMC 25E 7/8ths 2 meter amateur antenna.

I did a three point turn behind this mobile, as I have already pointed out the lane goes nowhere and most cars turn at this point. The occupants, two of them, did not even give me a second glance as they had their eyes fixed on the pub 100 yards ahead. We drove past and headed back towards our base 20, and as we drove along King Rat and I discussed our thoughts. We wondered why where the nasties just sitting there? The DV27 was obviously for monitoring our copies, but why the 2 meter antenna? Were they in contact with someone else if so who? Perhaps you have already guessed the answer. As we drove along the road that leads back to St Osyth village I may have had a faint suspicion of what lay ahead. At the start of the village under the first street lamp were the bears and 'Gus' and they had the road blocked. There was nothing we could do and no other way we could turn. As we approached I saw two mobiles, another mobile with an antenna on its roof had its doors open and 'Gus' was poking around inside. There was a lady bear and a smokey waving torches at us so I slowed down to stop. The bears shone their torches over my mobile and then to my surprise waved us on. I did not need a second wave as I was in gear and away, but not to fast mind. I also learnt that night that adrenalin is brown!

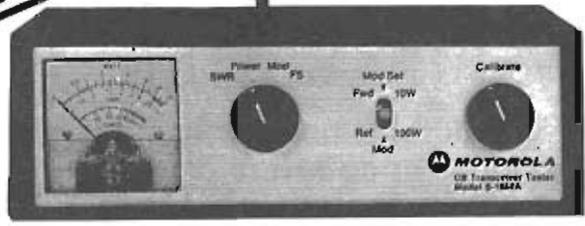
The following morning I landlined one of my buddies who had been at the eyeball the night before. He told me that only one breaker got took out of the 15 present at the eyeball. After King Rat and I had left the others followed in ones and twos and when they reached the road block the bears also waved them through. Now why did the bears let the breakers through? Perhaps the result of a successful 10-33 a few days earlier was still fresh in their minds. ●

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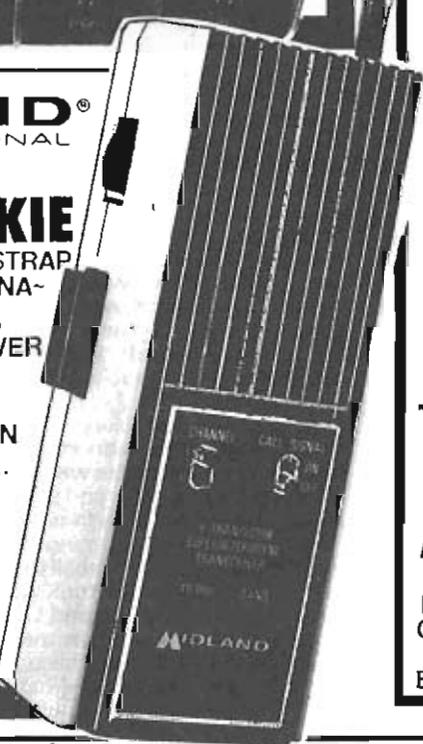
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The Specs

The long-awaited specifications for FM CB have finally been published. Keith Townsend, secretary of the CBA has a few words to say on the subject

In formulating the long-awaited draft specification for CB the Home Office has honoured the age-old tradition whereby everyone is out of step except the British. They have also given me the golden opportunity to say "I told you so" to all those prophets of doom who claimed to have definite knowledge that the legal system would be restricted to half a watt and twenty three channels. In a lengthy document they describe two distinct facilities based on widely differing frequencies and different standards of equipment.

Let's first examine the proposals as they are outlined in the Home Office publication before offering any form of comment or opinion. The first facility suggested is based on the 934MHz frequency and offers twenty channels, spaced fifty kilohertz apart, starting at 934.025MHz and finishing at 934.975MHz. The transmitter will have an input power of eight watts, which by the use of gain antennae may be increased to twenty five watts effective radiated power (ERP). Transceivers with integral antennae, i.e. hand held sets, must not exceed three watts ERP.

The second, more eagerly awaited frequency is that based around 27MHz. This will consist of forty channels, spaced ten kilohertz apart, channel one falling at 27.60125MHz and channel forty at 27.99125MHz. Four watts may be fed into the transmitter but the ERP should not exceed two watts. Frequency stability must be plus or minus 2.5KHz. All antennae sited more than ten metres above ground level must be attenuated by 10 dB.

These are the basic proposals. How will they affect us? The 934MHz section of the specification is not expected to take the world by storm, though one manufacturer is seriously considering the production of a rig capable of incorporating both legal frequencies. The antenna should prove very interesting. On the other hand the majority of enthusiasts have called very loudly for the legalisation of 27MHz., but I seriously doubt whether this is exactly what they had in mind. The first thing you will notice is that our lowest channel (*Equiv to Ch 56 - Ed*) falls far above the highest channel in common use. The obvious effect of this will be that the problems currently

experienced by those trying to import rigs into Britain will extend to those who, having saved their pennies for a smutty weekend in Paris, find that their properly licensed British rig will be unacceptable to the average, incorruptible French customs officer. Should our intrepid breaker be sufficiently devious to leave our hallowed shores with his rig in place he will have only the company of fellow breakers from dear old Blightly, since his host country's breakers will be unable to copy him. During the Adjournment Debate held on February 9th Home Office Minister, Timothy Raison stated "*We have to recognise that the world has already made its choice. 27MHz in one form or another is widely used. Any other choice would be a one off British one which no other country in the world would permit. Thus one of the wishes of the enthusiast, to be able to take his equipment abroad, would not be met.*"

"If this specification is introduced it should be clearly understood that it will be as uniquely British as roast beef and Yorkshire Pud"

Yet here we have the Home Office suggesting the use of just about the only sector of the 27MHz band not permitted in any other country. Perhaps I can be excused if I fail to follow their somewhat strange logic. On the other hand the use of such a high section of the 27MHz band has certain advantages. It would allow a skip-free service, unaffected by high-powered signals from Italy. It would also completely eliminate interference to and

from radio control models and, more importantly, hospital and other paging equipment.

The requirement for channel spacing to be taken to the fifth decimal place appears to stem from the fact that these frequencies offer marginally less change of interference to a rather obscure air traffic control band, though this factor appears insignificant when we consider that harmonics must, under the terms of the specification, be attenuated to a mere fifty nanowatts. This apparently insignificant benefit has the effect of causing the production of synthesises to become both more difficult and more expensive than it would have been had channel one been allocated the frequency 27.600MHz.

If this specification is introduced then it should be clearly understood that it will be as uniquely British as roast beef and Yorkshire pud. In these circumstances we might just as well have been allocated some entirely new frequency.

Let's now look at that part of the specification which has been the subject of so many rumours ever since the government agreed to legalise CB, the number of channels and the power output. If I had believed everyone who came to me over the last two months, claiming to have first-hand information from some private source within the Home Office then I would have been forced to consider that every Home Office employee spends his entire working day on the telephone, leaking confidential information to anyone who cares to ask for it. Since this was obviously not the case I happily ignored the solemn promises that we would be given any number of channels between twelve and twelve hundred, starting on every day between now and Boxing day. In the event the channel and power allocations appear to represent the only part of the specification which exactly fulfils our real requirements, though the maximum ERP of two watts appears to rule out the use of many common types of antenna. It should be remembered, however, that this is exactly the same as the official FCC specification. Many of the advertised claims for varying degrees of gain do not hold up in practice, whilst those

whose claims are accurate are not strictly legal, even in their country of origin. This does nothing to reduce their use in Europe and the States and it would be extremely naive to believe that their use will not continue in Britain. It is a simple matter to ascertain the input power of a rig, but quite another for the man in the street to accurately measure ERP.

Base-station owners will be faced with the additional requirement that if their antenna is sited more than ten metres above ground level then its signal must be attenuated by ten dB. This can be easily achieved by means of fitting a small device to the antenna feed-line. Any device so easily installed can be equally easily removed and I believe that this is one more small part of the regulations which will prove difficult to enforce. The maximum ERP of two watts will also affect the legal status of most commercially produced base-station antennae.

I must admit to having heaved a sigh of relief upon learning that British CB would use the full forty channels and not the half-baked, inadequate twelve and twenty-odd allocations with which our Continental cousins have been so graciously endowed. Had we been given any less than forty channels the larger towns, such as London and Birmingham, would have soon reached the stage at which the only way to use your rig would have been to book an appointment in advance. The biggest problem that I foresee is that the allocation outlined by the Home Office borders right up against the 28MHz amateur band. This means that any future increase in the number of channels must leave the authorities looking back toward that section of the band for which they have, so far, shown complete disdain.

The possible conversion of existing equipment now poses an interesting question, since, in addition to the requirement for discriminators, etc, for conversion from AM to FM the peculiar frequencies proposed make it unlikely that many types of synthesiser will be convertible, even allowing for re-crystallisation. No wonder the technocrats of Waterloo Bridge House seemed unwilling to answer any question which verged on this subject. The short, simple answer is that your existing rig just will not convert at a price you'd be prepared to pay.

By and large my first sympathy goes out to the poor old bobby. Not only will he be faced with the task of distinguishing the legal system from its illegal counterpart, he will also have the impossible task of figuring out whether a licenced operator is acting within the conditions of his licence. Since there are precious few Home Office technicians available to police the system it appears that basic enforcement will become the unwelcome task of the boys in blue. Since your average copper will have to examine your CB licence as he politely advises you that the magistrates frown upon your practice of driving through the middle of town at fifty miles an hour, waving a



Above. The type-approval mark that must be permanently affixed to every UK FM CB rig

SPECIFICATION SUMMARY

934MHz

Modulation: Amplitude Modulation

Freq Range: 934.025 to 934.975MHz

Power (Max): 25 watts ERP (3 watts max handheld)

Power (RF): 20 channels

Channel spacing: 50MHz

27MHz

Modulation: Frequency Modulation

Freq Range: 27.60125 to 27.99125 MHz

Power (Max): 2 watts ERP

Power (RF): 4 watts

Channels: 40 channels

Channel Spacing: 10kHz

Frequency Tolerance: + 1.5kHz

Max Deviation: + 2.5kHz

Adjacent Channel Power: -60dB or 2 uW

Spurious Emissions: Less than 2 nW

Receiver Emissions: Less than 20nW on any frequency

Guinness tea towel, singing "Here we go again. Catch us if you can." The only help he will receive from the specification is the fact that your legal rig will carry a small plate identifying it as such. Having examined your licence and having eyeballed the tell-tale plate he will, in practice, have no obvious alternative but to accept your word that you are the law-abiding paragon of virtue your mother always said you would be and you would not for a moment consider using an antenna which resulted in a higher ERP than was your legal right.

Once more the document fails to answer the simple questions about the cost of licences and by what means they might be obtained. Nor are we any nearer to knowing just when our new-found freedom will become available to us. It appears that the answer to the latter question lies in the hands of your friendly local MP who has the responsibility of ensuring that enough Parliamentary time can be found for the passage through the House of such amendments to the Wireless Telegraphy Acts as are needed. Parliament rises for the summer in July and if it does so without having made the necessary amendments then, in the words of a Home Office spokesman 'Some other way will have to be found and that could cost us a little time.'

Some of my more technically minded colleagues threw up their hands in horror upon reading the hallowed document and started feeding figures into computers at a phenomenal rate of knots, muttering darkly about matters beyond the scope of mere mortals such as I. Not having their enviable education I am unable to offer my opinion as to how the specification will translate into rigs, nor can I comment on how they will perform. What concerns me far more is the apparent ease with which the Home Office believes it can dismiss our legitimate desire from one country to another without the problems which besets CB enthusiasts from other parts of Europe, having admitted in Parliament that this should be one of the factors which must be taken into account. By his own proposals Mr Raison offers us what he personally described as 'a one off system which no other country in the world will permit.'

Most CB enthusiasts seem ready to explain their displeasure at the necessity to change from AM to FM in no uncertain terms and I feel certain that the shift in frequency, however slight, will raise more than a few cries of righteous indignation. It appears that we are as far from the concept of an internationally standardised specification as we ever were. Perhaps even further, since we have not yet seen the proposed Irish specification, which I have little doubt will propound yet another variation on the much-abused theme.

The final, irrevocable specification for British CB is due to be published towards the end of May. For everybody's sake I hope a few changes have been made by then. ●

COMPETITION

NO5



You lot are too clever by half! Every time we get a new competition together we get deluged with thousands of entries and we spend the whole month just opening letters.

Well, this month its going to be different 'cos there's no questions, this month's competition is quite simply a beauty/ugliness contest.

All you have to do is send us a picture of yourself dressed up as your handle (special consideration given to any Lady Godivas out there).

Our expert panel will pick out the three pictures that we consider the most amusing, rude or clever and the best will get published in a couple of months' time.

Don't worry about your photographic technique, Polaroid or instamatic snaps, colour or black and white are all OK. Remember though, that the best results, from our point of view anyway, are obtained from good quality black and white prints about 5 x 4 inches.

If your picture is precious to you then please remember to include an appropriately-sized stamped addressed envelope and please write your name and address on the back of each print.

There's no rules as such so go on, have a go. We know that you are all traditionally shy about showing your faces but if you dress up well enough no-one will recognise you. Closing date for this competition is 30th May 1981.

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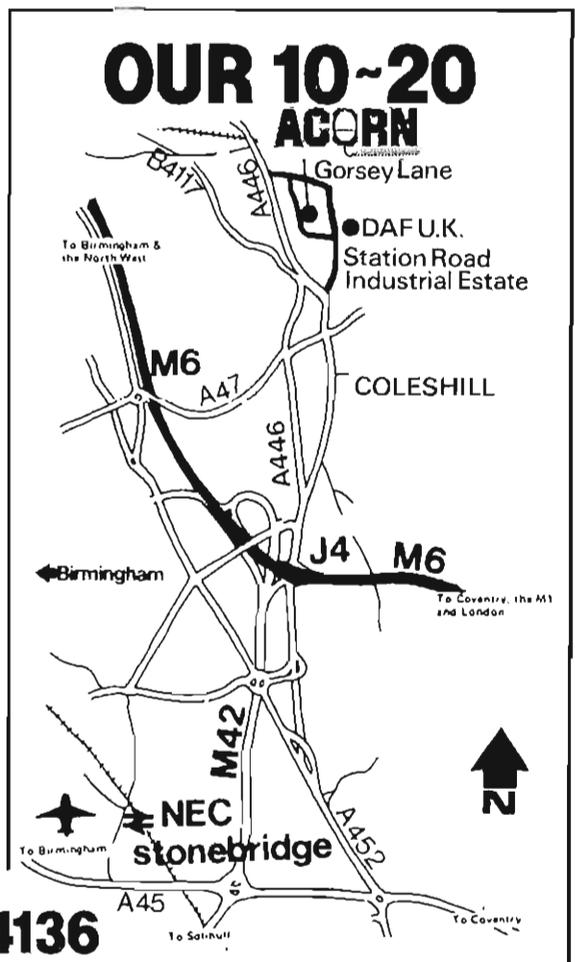
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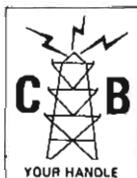
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Rig

SPECIAL!

Review

A slightly different rig review this month. Rick Maybury looks at one company that will probably become one of the foremost names in UK CB.

I think I'll make a little prediction; for every AM breaker on the air at the moment there are half a dozen people who were not willing to use the illegal AM but are eagerly awaiting the arrival of FM. How do I know? Simple, I just counted the phone calls and letters after last month's Rig Review where we released details of the new Binatone rigs.

Amongst the phone calls was a message to get along to a factory in Hertfordshire where we might find something interesting. The invitation came from a gentleman called Tony Cooper who turns out to be the Managing Director of a company called **Shadow Audio**. I confess I had never heard of Shadow before and I would guess most of you haven't either but one thing for sure, in the next few months you'll be hearing and seeing an awful lot of these people.

The reason for this company becoming well known is simple; Shadow will probably become the UK's first and largest importer of CB rigs and the rig on the cover (the small one) looks set to become a market standard. Not only that but the rigs we featured last month will also be imported by them. The reason why Shadow will become so prominent is due to their shrewd judgement of the CB scene. In practical terms there are only really three major manufacturers of CB rigs in the world. All of these companies account for approximately 80% of the world's rigs. Not surprisingly they are all based in the far East. Shadow have decided to go straight to the largest manufacturer of all, a company called **Cybernet**. That name may not exactly roll off the tongue but when I tell you they make such rigs as Midland, Realistic, Jaws, Cougar, Major etc. etc. you'll know what I mean.

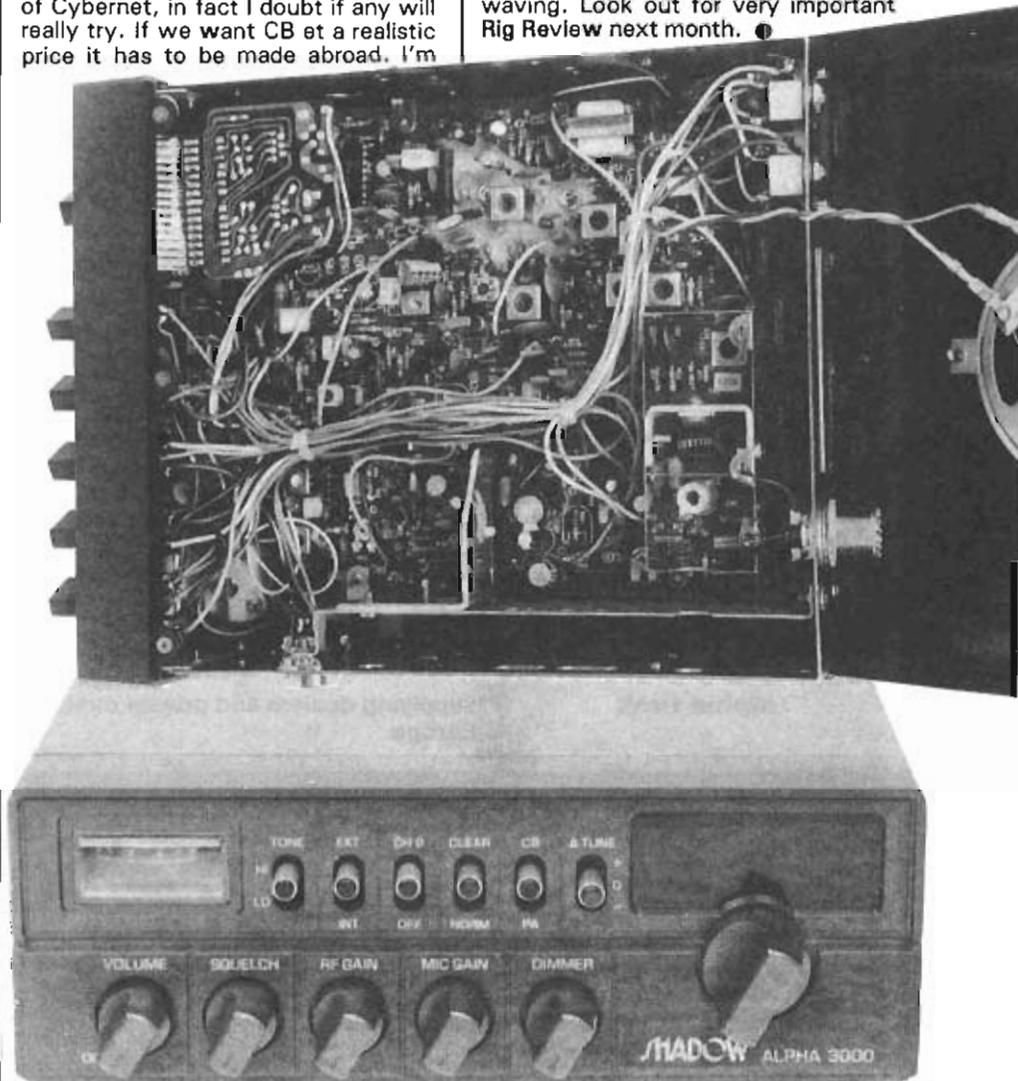
So far Shadow have indicated that they will have several very interesting models in their range, some of which will be *badged* up for their various customers. Rather than highlight any one rig this month we have decided to wait until next month when we shall be looking at least two very interesting and very important rigs that will go on the shelves this Autumn. It goes without saying that they will conform

to the specifications (for good or ill) that we have reported this month.

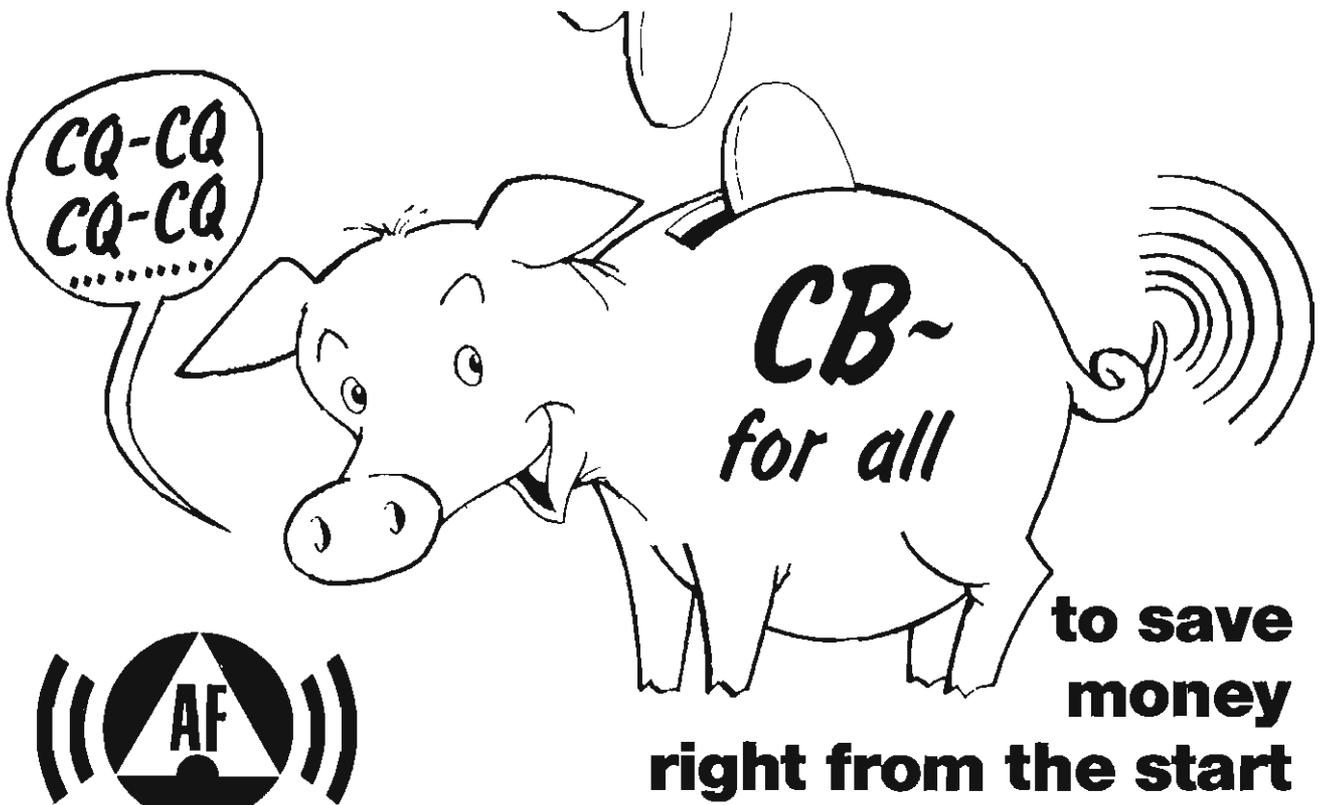
So there you have it. Things are happening thick and fast. CB will be coming to the UK in a really big way. Shadow will be placing a multi-million order within the next few weeks, direct with the factory. Few UK companies will be able to compete with the might of Cybernet, in fact I doubt if any will really try. If we want CB at a realistic price it has to be made abroad. I'm

afraid it was to be expected after the long drawn out battle for legalisation and our non-standard system.

In conclusion I would like to make an offer to any UK company that plans to manufacture and market CB equipment in this country. Tell us about it because I, and I'm sure most of our readers would like to do a little flag waving. Look out for very important Rig Review next month. ●



Above. One of the Shadow rigs that we shall be reviewing next month. The cheapest model in the range will cost under £50!



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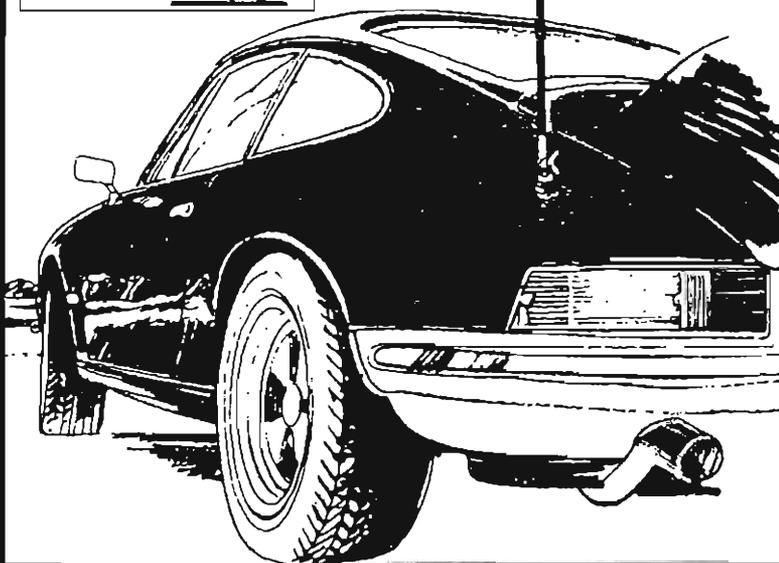
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Inside CB

Chris Peterson begins his new series looking at just how CB works. Don't worry, you don't have to be technically minded to know how they work!

You may have wondered, as you sit having a ratchet, by what miracle you are able to talk to someone miles away, without any physical connection. Radio waves apparently have the property of being able to travel through an absolute vacuum, ie nothing at all, with little or no difficulty. The precise mechanism which allows this mysterious phenomena is still being argued over by some of the world's greatest minds. The practical application however is well enough understood, and the principles are relatively easy to grasp.

At sometime or other you have probably witnessed someone bring a microphone too close to the amplifier to which it is connected. The result is an ear-splitting whistle. This is a practical demonstration of *positive feedback*, and is frequently witnessed at rock concerts! In essence, a tiny noise has been picked up by the microphone, amplified, radiated from the loudspeaker, where it is picked up by the microphone . . . etc, etc. This results in a runaway situation, and the ear-splitting whistle. This sort of oscillation is not confined to audio circuits, but can occur in any system containing an amplifier.

An ordinary transistor is just such an amplifier. If we connect it such as to cause positive feedback, it too will oscillate. Of course, unless we connect it to a speaker you won't hear it, but we could detect it with an oscilloscope.

The sort of feedback outlined above is very unstable. As the microphone is moved about the whistle will go up and down in frequency. However, if we were to include some sort of a filter in the circuit, we can control the oscillation. If the filter only allows one particular frequency to pass, then the oscillations will only occur at that specific frequency. In a transistor oscillator a *quartz crystal* is frequently used for this purpose.

Quartz crystals are relatively easy to manufacture, and can be cut to a very high degree of accuracy. A digital watch, which is regulated by a crystal can be accurate to a few seconds a month! This same accuracy can be obtained when the crystal is used to govern a radio oscillator.

The Transmitter

If we take a crystal oscillator, and hang a bit of wire on it at an appropriate point, we will have a transmitter. A very weak one, but nonetheless a transmitter. If we wish it to be detectable at a distance of more than a few inches, we need more power. Unfortunately, crystals are rather fragile devices. Try and feed too much power through them and they initially lose their accuracy, and then breakdown altogether. Therefore, if we are going to get a reasonably powerful transmitter, we will need to follow the oscillator with an amplifier. Indeed because crystal oscillators work best at very low power levels, we will need several stages of amplification.

“The practical applications of radio waves are well understood and the principles relatively easy to grasp”

Now this is all very well, but so far all we have done is produced a carrier wave. Somehow we have to get our speech signal imposed on it. Also we have to ensure that we can't over-modulate it, upsetting the people on the next channel, and that the higher audio frequencies are removed for the same reason.

Speech is picked up by the microphone, and amplified to a suitable level to drive the modulator. At some stage in this amplifier, the signal will be limited to prevent over-modulation. This limiting will distort the speech signal, so there is no point in shouting into the mike! Far from making it easier to copy you, you will make it more difficult! Next the signal will be filtered to remove unnecessary information. The more information you attempt to transmit over a radio link, the less transmitter power is devoted to each

part of it. It has been shown that for clear recognition of a speech signal, you need only transmit the audio frequencies between 300Hz and 3KHz. All frequencies outside this band are removed, thus devoting all the transmitter power to that band of frequencies necessary for speech. At the same time this effectively defines the channel spacing. If you want to transmit more information, then you need a wider channel to do it! Thus CB channels are 10KHz apart, whereas VHF radio (Capital Radio, Radio 3 etc) are spaced over 200KHz apart. A colour TV channel is over 6MHz wide!

Coming back to our humble CB rig, we now have a carrier, and a filtered and limited audio signal. These are brought together in a *modulator*. In a simple FM system, the modulator can be the crystal oscillator! Although crystals are highly stable, they can be pulled off frequency slightly by putting a small capacitor in series with them. The amount of frequency shift depends on the size of the capacitor. Now there is a device known as a varicap diode. This amazing piece of semiconductor wizardry acts as a voltage controlled capacitor! By placing one of these in-series with the crystal, and applying the speech signal, *bingo*; we have FM! In practice, when generating FM this way it is more usual to run the oscillator at half the final output frequency, and following it by a doubler. This increases the amount of deviation obtained at the output. Fig. 1a shows a block diagram of the transmitter just described, and for the technically inclined, 1b shows a single transistor acting as oscillator, modulator and doubler!

Before leaving transmitters, notice the last box on the block diagram labelled 'matching network'. The matching network is roughly equivalent to the gearbox on a car. It doesn't contribute any power, but it does enable the output transistor to drive the appropriate load, in our case 50 ohms. It can also serve a useful function in suppressing harmonic output, that is multiples of 27MHz. Never be tempted to tweak the output circuits of a transmitter in an attempt to get more output. You may well get more output, but not necessarily on 27MHz!

The Receiver

So now we have a modulated carrier winging its way through the ether. Somehow we have to receive it, and here we have a problem. By the time the signal reaches the receiver, it may be only a microvolt or so in amplitude. (micro volt = millionth of a volt) To drive a loudspeaker we need a signal of at least a volt or so. Thus we can see that the total gain needed in the receiver must be around a million times. That's a lot of gain! Further it must select a specific channel only 10KHz wide in 27MHz; that's around 0.04%! That degree of selectivity is clearly impossible in one step. Firstly we must select a 27 MHz band, and then slice our 10KHz block out of that.

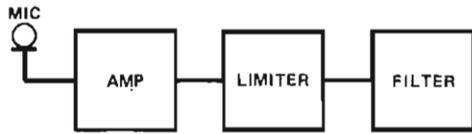


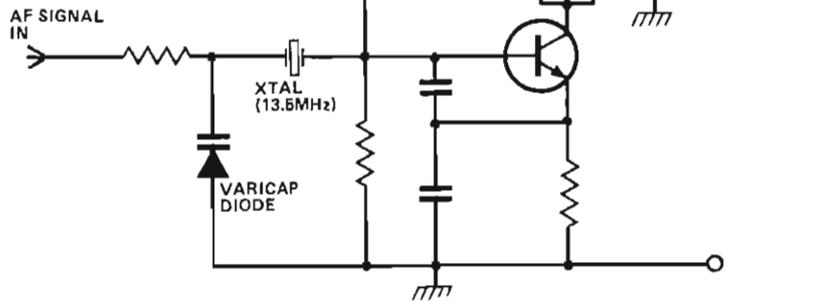
Fig. 1. (a) Above. A block diagram of a transmitter. (b) Right. A simple, single transistor oscillator, modulator and doubler.

signal is selected by a filter (the IF or intermediate frequency filter) and passed on to a high gain amplifier (the IF amp.) In a modern receiver design, the filter will probably take the form of a ceramic block filter, followed by an integrated circuit containing an IF amplifier and FM discriminator all in one. If goes in, and audio comes out! Marvelous, isn't it? Unfortunately most existing CB rigs are a bit more old fashioned than this, and the IF amplifier and filter will be

distributed along the board. It will probably consist of three or four transistor stages coupled by IF transformers, each contributing a bit of gain and a bit of filtering.

The audio signal leaving the discriminator will probably only be 0.25 volt at the most, so this will need to be amplified in an audio amplifier to a level suitable for driving a speaker. Fig. 2 shows a block diagram of a modern FM receiver.

The first stage we reach after the aerial is the preselector. This selects the 27MHz band, in fact a chunk of it 400KHz wide. (That's a selectivity of 1.5%, and reasonably achievable) The preselector may or may not contain an RF amplifier to give the signal a small boost on the way through. The next stage is the mixer. The receiver will contain a local oscillator just like the one in the transmitter, but running at a slightly different frequency. In a simple *single conversion* receiver, the oscillator will run 455KHz below (or maybe above) the transmitter frequency. When this oscillator signal is fed into the mixer with the incoming signal a number of outputs occur from the mixer. These are the incoming signal, slightly amplified; the local oscillator signal, slightly amplified; the *sum* of the two signals (around 54MHz); and most importantly the *difference* between the two signals. This will be around 455KHz. This difference signal will be found to have on it exactly the same modulation as the original incoming signal. Now we are only trying to select 10KHz in 455KHz. That's 2.2% and relatively simply. The 455KHz



“Never be tempted to tweak the output circuits of a transmitter in an attempt to get more output”

When the receiver and transmitter are installed in the same box, some kind of changeover switching is needed. This must serve two purposes. One is to switch the aerial from the receiver to the transmitter or vice-versa. The other is to protect the receiver input stages from the full might of the transmitter! Failure to achieve this will result in the instant destruction of the receiver! A few years ago this would have been achieved with a changeover relay, but these are now being rapidly replaced with more reliable diode switches.

Well that concludes our quick guided tour of a simple CB rig. In future issues we'll try and take a slightly more detailed look at some of the problems and practicalities of electronics in CB. ●

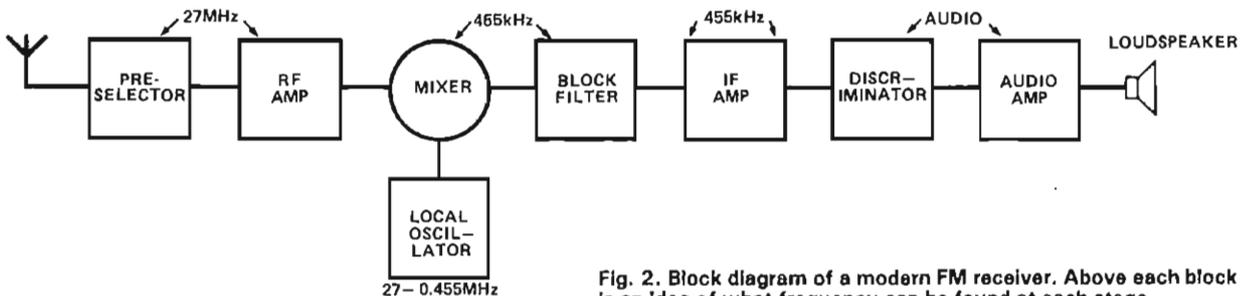


Fig. 2. Block diagram of a modern FM receiver. Above each block is an idea of what frequency can be found at each stage.

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On the side

On The Side is turning out to be very popular amongst SSB operators. Here's Albie Vickers with this month's instalment

Well I have been sitting here for the last half hour staring at the paper, not wondering what to write, but looking at my notes and logbook wondering where to start. OK first we have to ask you guys for some help. As you will all know Sunday the 12/4/81 was a bit of a dead loss for most of the day. Having had a frustrating day in the mobile I arrived home around 13.00 (1pm) had lunch and thinking I would listen on 27-815 LSB to see if any of the Network members were looking for me I flick-

ed through the frequencies and out of the bowels of the Kenwood (my Tranceiver), I heard a very strong station calling "CQ DX U.K. MAY DAY, MAY DAY." The operator went on to say to anyone listening, that his callsign was Echo Tango 333, name was Achmed, and his QTH was in Addis Abbaba, the country Ethiopia. His message was, that his country was at that moment in time fighting to destroy the Marxist oppressor and would any station in the U.K. relay the information to the Red Cross and any other bodies who might be able to help. *PHEW!* Well there were suddenly a lot of people in the World. From a dead band suddenly everybody wanted to get in on the act. This included a station in Florida who kept on asking between the Ethiopian Mayday calls 'That station in Ethiopia do you QSL Feilal' I had visions of a guy crouching in a bomb smashed house with bullets whistling overhead scratching in the ruins of house for a pen and QSL card. Well I did as I was asked, but afterwards the guys in the Network kept pulling my leg, and asking how my revolution was going. Now along with

Kuwait C.B. Club



Unit No 103
Club Frequency 27-980LSB

Desert DXers.
See Below.

me on the frequency that was for a while 27-985 I heard a few other UK stations calling the guy. Question? Did these operators hear what I heard? Did they hear more than I did? Also if there is anyone who knows what happened afterwards? Please let us know. Who said nothing ever happens on 11 meters. Drop me a line at the Network HQ we will print the outcome next month.

Japan

Heard from Tom ASA 53 Tokyo he has been listening on the frequencies I mentioned last month, but so far none of you guys seem to be calling him apart from a station in the Orkneys who he worked a couple of weeks back, now if you don't switch on your radios on you are not going to talk to Japan. 'The Desert DX'ers (Kuwait CB club) Spoke with Pam again from the mobile this week.....If you remember from last month Pam and her hubby Tom are

members of the Network 205 & 102 respectively, well Pam's son started the club in Kuwait some time back. Pam wanted me to pass on to all Desert DXers in the UK that the DD calling frequency has been changed from 27-980 LSB down to 27-760 LSB as a lot of you guys can't get that high. Lets hear from any Delta Delta stations, lets have your news.

We have had a lot of people's ideas about how long the skip conditions will last, and most people think the hour is at hand to pack up your SBS equipment and join your good buddies on AM, from whence you came. So far most of these guys it seems are not even operators, just journalists trying to screw a little extra revenue out of an inexperienced readership. One guy writing in a CB mag, for 81 described himself in another article as an Anglican Pentecostal Methodist who believed in faith healing and wanted to wait till CB was legal before he started to operate. Where do these people get there information? You guys are going to be able to work skip for a long time yet, in fact, some skip will always be with us. The flat periods we have been experiencing will get longer but with patience and keeping a good log book you can start to log the conditions prevailing. You will start to build up a picture that in the long term will be the basis for your own predicting of propagation. Dont forget its a regular 11 year cycle we are talking about. For the time being, keep watching the band all those countries are still there. Australia is going to be in most nights from around 10 pm right through till the early hours, and you will still work these stations at various times of the day. We have had Indonesia, Japan, the Phillipines in the log, Iceland in there,

Chile, Argententina to. We used to hear a lot of stations coming out of Scandinavia, it seems the conditions aren't favouring these countries to much now. Finland used to be heard quite regularly. We had a cracking contact with a base station in Moscow this week. We had a new member to the Network in the mobile with us for some instruction, Bob U.K.42 couldn't believe his ears. I have worked other USSR stations over the years, but I must admit that we had several reports from Network members regarding Russian contacts. As all Russian Amateurs get their licences from a joint military body and the fact that people just don't run CB radios in Moscow, we wonder what the Kremlin thinks of all this. The guy we spoke with offered a PO BOX number in Moscow. Lets hear about any news you guys have regarding Russians on 11 meters, lets see if we can't start a file on this type of contact, could be fun, definitely will be interesting.

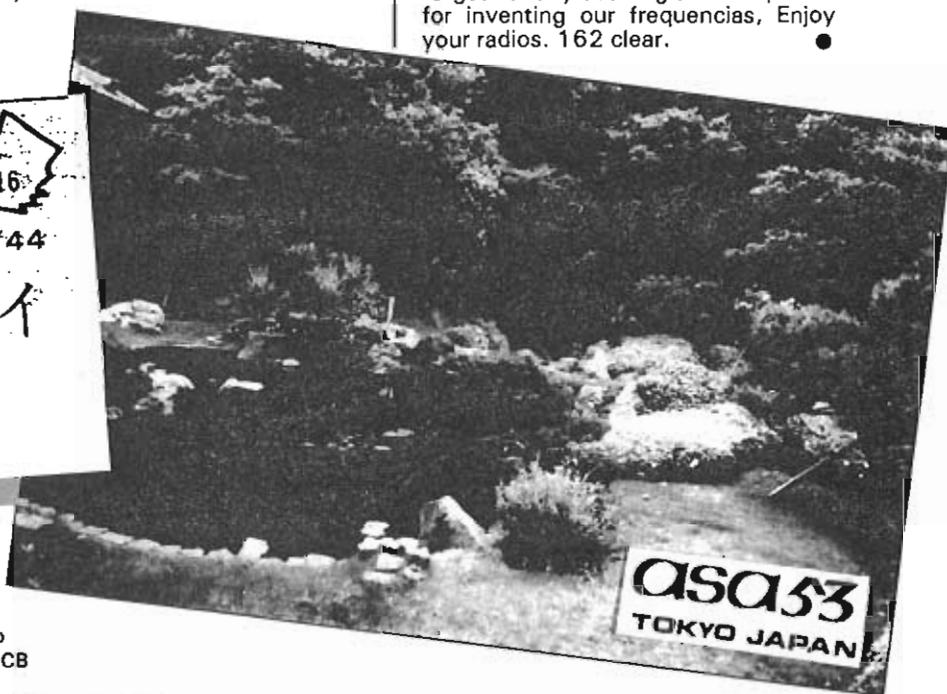
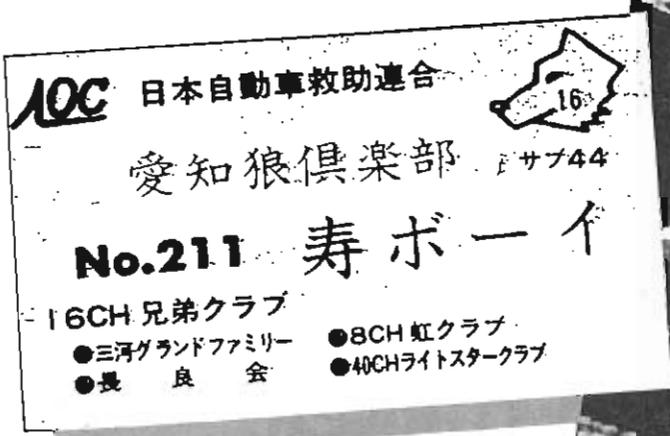
Obituary

I have just heard from the G.I.R. Group International radio (Italy) Virgillo, G.I.R. 1 and Mimmo, G.I.R. 2 write to inform us of the death of Michele, G.I.R. 3. Michele was a founder member of the Group and its secretary. He leaves a wife and we believe 2 little daughters. The British Sideband Network and CB Citizen Band magazine, along with all the U.K.'s SSB operators offer our sincere regrets and sympathy at the passing of this committed and concerned operator who gave as much as anyone could to our very worthwhile hobby.

Affiliation

The Garden of England Sidebanders, (Kent) were affiliated into the British Sideband Network on the 9/4/81. Any of you operators that have been looking for a DX group that care about their hobby ought to be happy now. This is a country group, if you live in Kent and are committed to the SSB cause drop me a line and SAE I will pass it on to the Club secretary of the G.E.S. Also any enquiries regarding membership to the British Sideband Network should be addressed to the 'Secretary B.S. Network, 15 Carman Walk, Broadfield, Crawley, W. Sussex. If you want a reply you will also have to enclose a large SAE that will take a large postcard. You can also send any news of your contacts etc. to the same address. We will happily give any DX club a mention as long as they set a standard of operating for their members and don't demand that their potential members buy cards or sweatshirts with club motif before they are admitted. We want to hear about what they are doing for the hobby.

For all Network Members. The Network Radio shack has just been renovated, and sits in a nice 5 acre field in Sussex, with an interesting assortment of antennas on site for the use of members. Any members can come along with their tents caravans etc, and use the facilities. Don't forget the Networks get together in August timed to coincide with the Whisky, Whisky, (World Wide Groups Jamboree in Nova Scotia. We will be running some all night nets and having a go at cooking beef on an open fire, 'should be dreadful' Well that's how it is, and don't forget nobody ever registered a patent for inventing our frequencias, Enjoy your radios. 162 clear.



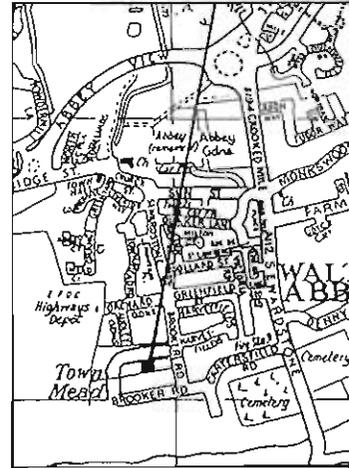
QSLs from the land of the rising sun. Anyone care to translate the wording on the card. Drop a line to the CB office if you can oblige. Notice how small the card is in relation to an ordinary QSL post card.

The card used by the Desert DXers (left) actually shows the old frequencies used by the DD, the new calling frequency is now 27.760 LSB (lower side band). Anyone working this or any other interesting stations might like to drop Albie a line. For address see above.

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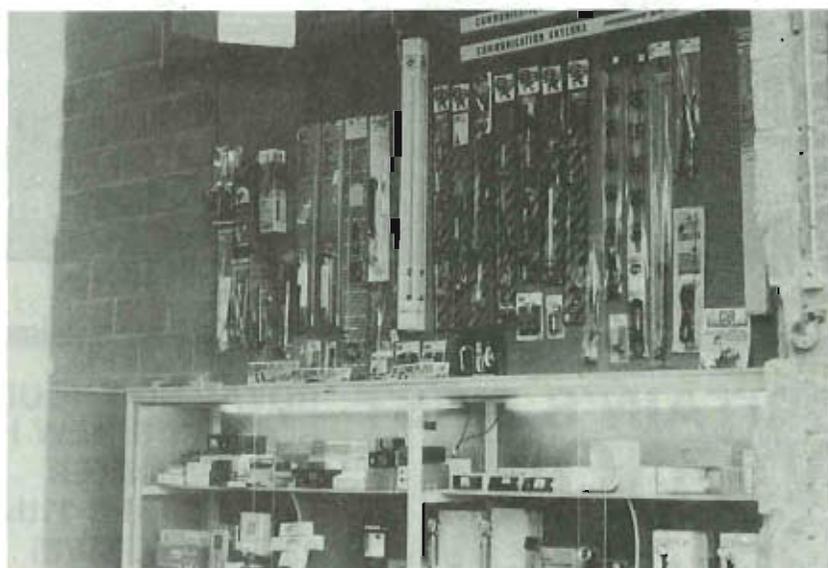


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CB Citizens' Band

WHAT TO LOOK FOR IN THE JULY ISSUE OF CITIZENS' BAND

Next month time again. This has got to be the most difficult bit in the magazine to write. OK we've got dozens of really fantastic features, reviews, in-depth surveys etc etc. They are all ready to go but the trouble is lack of space. Dunno why I'm burdening you with my problems, 'spose I should tell you what we've got instead of all this waffle. How does this sound?

Chris Peterson will be getting into to top gear with his introductory feature on how CB works in **Inside CB**. Andy Giles (poor lad, he lost half his beard in a rather nasty fire round his flat the other day. He's OK though, just wheezes a bit and looks really upset about his diminished beard, took him six years to grow, understandable in the circumstances I suppose) sorry about that, now where was I? Oh yes Andy will be telling us all about **Alter-**

native Telephone Technology, all about the *VERY* interesting bits you can connect up to your phone. They are all illegal of course but then we're not encouraging you to do it, are we? Just for information of course. We thought it was about time we looked at the wider aspects of CB, we've bribed one very knowledgeable person to tell us how **CB & The Small Business** will be working in the future-looks very interesting it does. Now, what else? Well, all our regulars will be here with their usual stuff, **Mack The Hack** will be getting us into trouble again. Albie Vickers will be dishing out those naughty frequencies for all you Short Wave *'Listeners'* — know what I mean? And of course there will all sorts of **Rig Reviews, Antenna Reviews, Club News** plus lots, lots more. Can you afford to miss it? Course not, so

see you all again next month. By the way, *big* surprise next month, can't tell you too much about it at the moment — miss the July issue and you'll never know, know what I mean?

NEXT MONTH

The July Issue of
Citizens' Band will be on
sale on June the 19th.

Circumstances may affect the actual contents

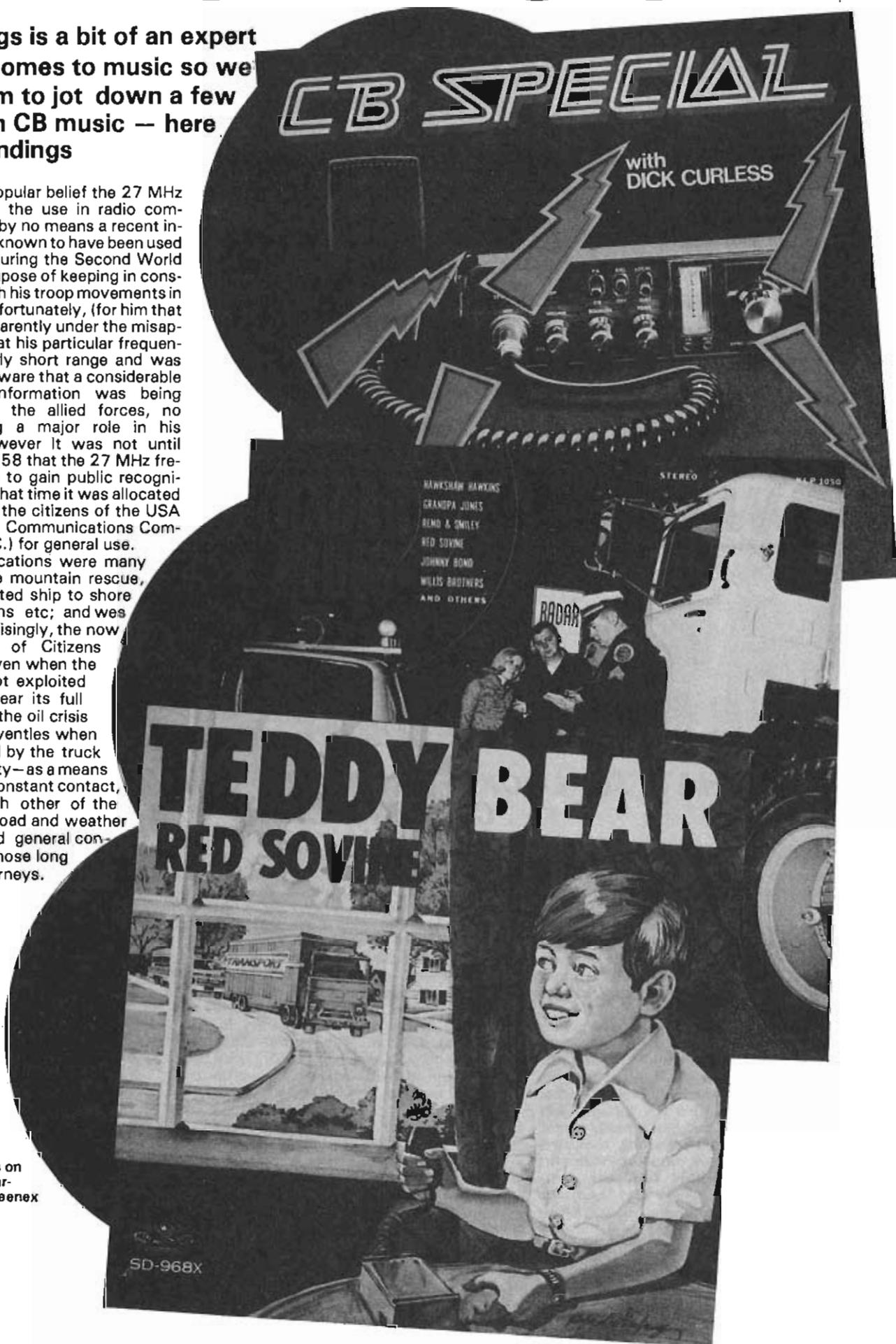
CB & Music

Jeff Briggs is a bit of an expert when it comes to music so we asked him to jot down a few words on CB music — here are his findings

Contrary to popular belief the 27 MHz frequency for the use in radio communication is by no means a recent innovation. It is known to have been used by Rommel, during the Second World War for the purpose of keeping in constant touch with his troop movements in the desert. Unfortunately, (for him that is) he was apparently under the misapprehension that his particular frequency was entirely short range and was doubtless unaware that a considerable amount of information was being monitored by the allied forces, no doubt playing a major role in his downfall. However it was not until September 1958 that the 27 MHz frequency began to gain public recognition, when at that time it was allocated exclusively to the citizens of the USA by the Federal Communications Commission (F.C.C.) for general use.

The applications were many and varied, ie mountain rescue, camping, limited ship to shore communications etc; and was given not surprisingly, the now famous name of Citizens Band Radio. Even when the system was not exploited to anywhere near its full potential until the oil crisis of the early seventies when it was adopted by the truck driving fraternity—as a means of keeping in constant contact, informing each other of the fuel situation, road and weather conditions and general conversation on those long and lonely journeys.

Right: A selection of CB Albums. Teddy Bear (bottom) is probably one of the classic CB records and tells the story of a crippled boy making friends with the truckers on his CB. A real tear-jerker let them kleenex roll, 10-4



Then suddenly a cult was born, with it a crazy new language, full of 'Beavers', 'Smokies' and 'Flip-Flops', not to mention hundreds of other just as unbelievable words and phrases. This inevitably led to a breakthrough in the music industry, when they too, if you'll pardon the pun, climbed on the Citizens Band Wagon.

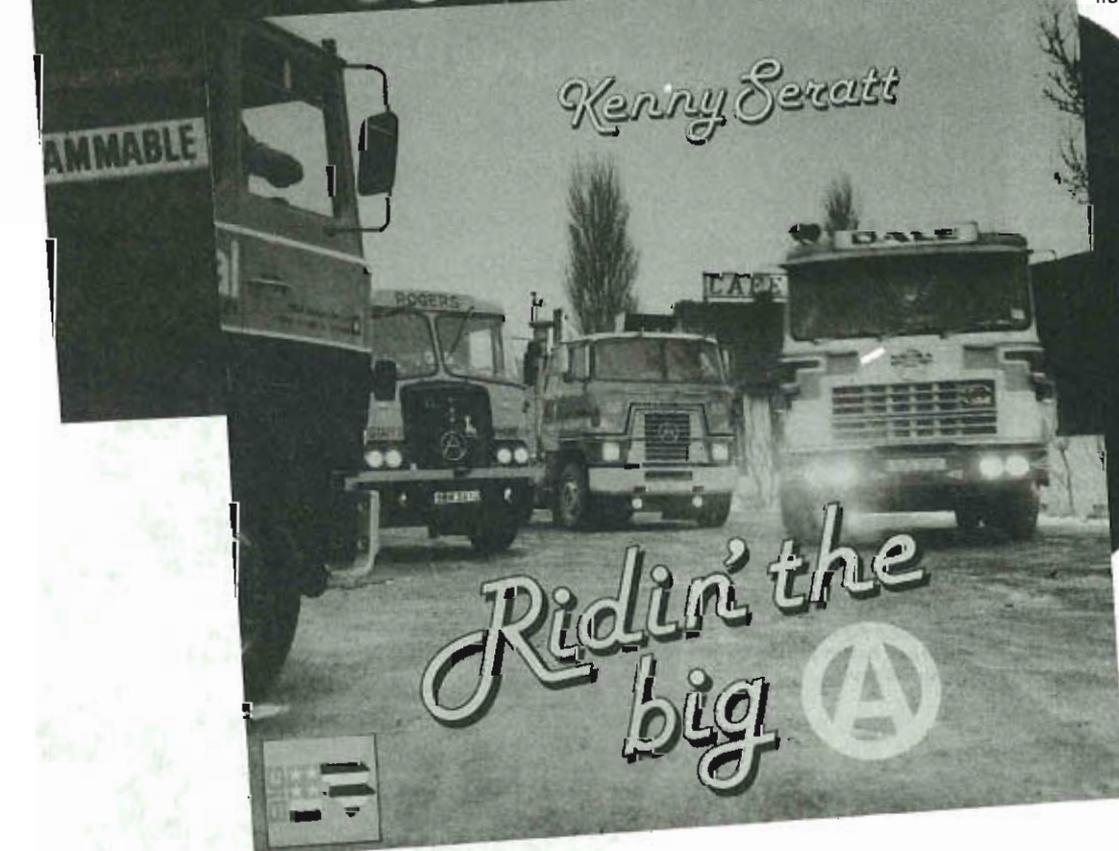
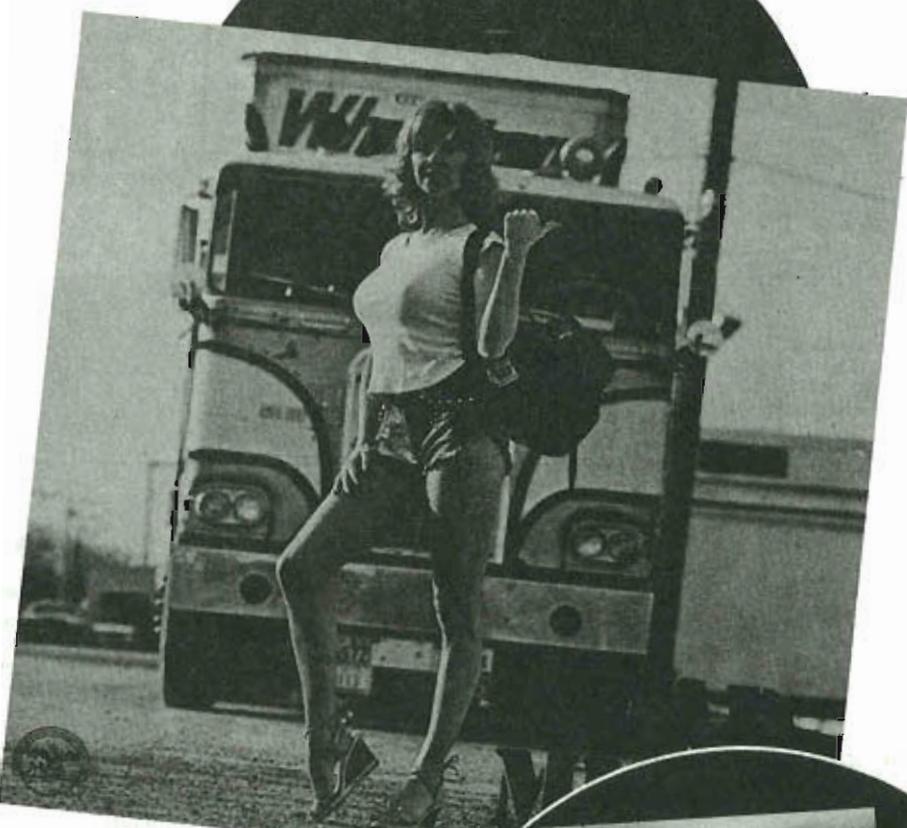
The first we in Britain really knew of it was in late 1975, when the question 'what the hell is he talking about?' was on the lips of thousands after hearing a gentleman by the name of C.W. McCall give his rendition of a recording entitled 'Convoy' which shot to number one in the national charts and C.W. McCall to instant fame. This was to be the daddy of all CB oriented trucking songs. However, there are many more truck driving songs available although not all of them making reference to CB, but most in the same style of Country music, some excellent, some not so good, some humorous, some sad.

Although C.W. McCall's 'Convoy' grabbed the limelight, the classic must be **Teddy Bear** narrated rather than sung by **Red Sovine**. This recording is so sentimental and tear jerking that blood almost oozes from the stereo speakers. It tells of a conversation between a long distance truck driver and a little crippled boy. It all makes for highly recommended listening and must be heard to be appreciated. In fact, Red Sovine must be considered as something of a maestro in this specialist field of Country Music, having recorded other such greats as **Phantom 309**, **Freightliner Fever**, **The Gear-jammer** and **The Hobo, Giddy-up Go** and many more excellent trucking songs. Sadly, Red Sovine died recently, but his particular musical talent will never be forgotten.

Several other very enjoyable truck driving songs have been made available by various artists, listed below for the discerning enthusiasts is only a very small selection, the name of the recording artist is given first:

Del Reeves Looking at the World through a Windshield. Girl on the Billboard. ▶

Left: Some more classic CB and trucking albums. All of the examples shown can be obtained from Keith Palmer (see text) who specialises in imported C & W and CB music from the 'States.



Smokey AND THE Bandit

Coleman Wilson Passing Zone Blues. Radar Blues.

The Willis Brothers Give Me Forty Acres to Turn This Rig Around. Truck Drivers Queen.

Dave Dudley Six Days on the Road.

Jimmy Griggs Overloaded Diesel.

Claude Gray How Fast Them Trucks Can Go.

In a more humorous vein

Tommy Hill Music Festival White Knight

Rod Hart C.B. Savage.

Most of these songs are only available as tracks on American imported trucking song albums, but never-the-less are fairly easily obtainable from specialist music shops.

The Americans, it seems, have an uncanny ability to transform almost anything into folklore then epitomise it in the form of music as they did with the legend of the old west, in songs such as **Gunfight at O.K. Corral**, then again with the railway in songs like **Canadian Pacific** and **The Wreck of Number Nine**, its obvious that trucking and CB proves no exception

Just imagine, that if we British decided at some future date to do the same it is quite conceivable that we could be listening to classics with such romantic sounding names as **Trucking on Down to Wigan** or **The Glasgow Gearjammer**, or perhaps even **Only Eight More Miles to Martin-Cum-Chorley**.

In fact, we have already begun with two notable recordings pioneering the way. They take the form of protest songs which have helped tremendously the cause to legalise CB in Britain. They are **C.B. Independence**, recorded by a North East based band with the handle of **Roadrunner 10-4**, also known as the **Chris Roberts Band**, it is available from **Cavalcade Records of 138, New Bond Street, London, W1**. The other British CB recording is **The C.B. Song** recorded by a group called **Citizens Banned**, this is available on the **Chesnut** record label, both of these recordings are worthy of an investment, not only for the excellent listening pleasure they provide, but also they will eventually become something of a collectors item.

Another British first by way of CB recordings is a cassette entitled **Teach**

Right: **Smokey And The Bandit**, the latest CB film and album soundtrack.



yourself CB, A British guide to CB language. This serves as a first class introduction to CB for beginners, explaining the fundamentals of how to use and speak CB it also features a certain amount of music synonymous with CB radio.

All of the recordings referred to are available in Britain from specialist music shops, one such shop to contact is **D.J.'s Records & Tapes, 143 Park View, Whitley Bay, Tyne and Wear**. Telephone Number 0632-534155, where you can be sure of helpful friendly service. All of the records shown on these pages are available from a

specialist record importer called **Keith Palmer**. He has offered to supply any of the records shown for just £4.50 to readers of **Citizens' Band**, You can contact Keith at: **248 Mutton Lane, Potters Bar, Herts** and the price includes VAT and p&p.

Well Breakers, why not get your ears on and make a point of listening to real music, and maybe adding CB and trucking albums to your collection and remember, by doing so will encourage radio stations to play more on the air, which is one sure way of making a helluva protest.

Above and right: Two examples of home grown British CB music.

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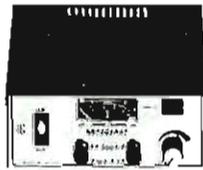


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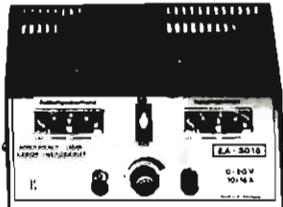
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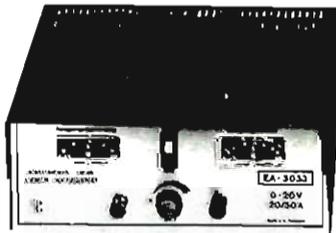
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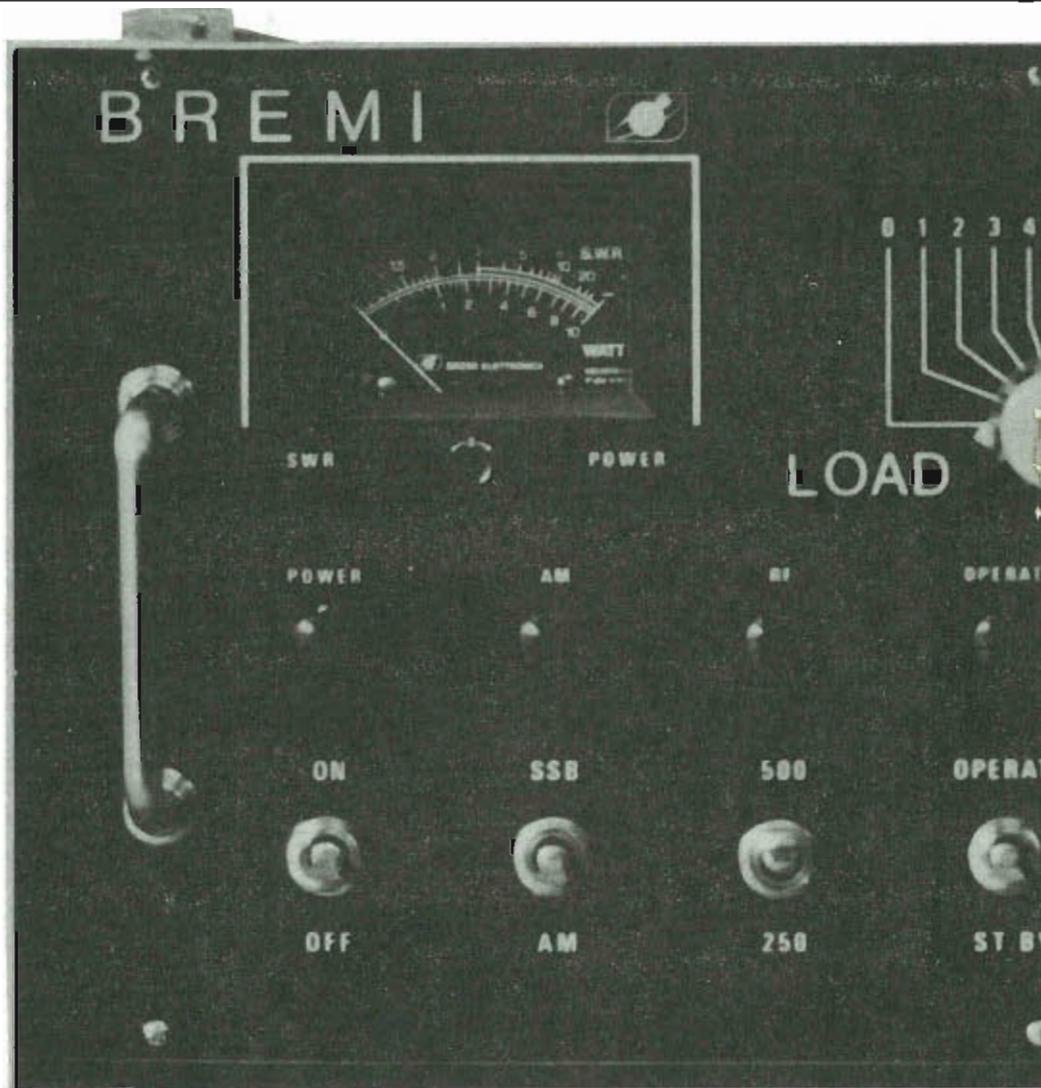
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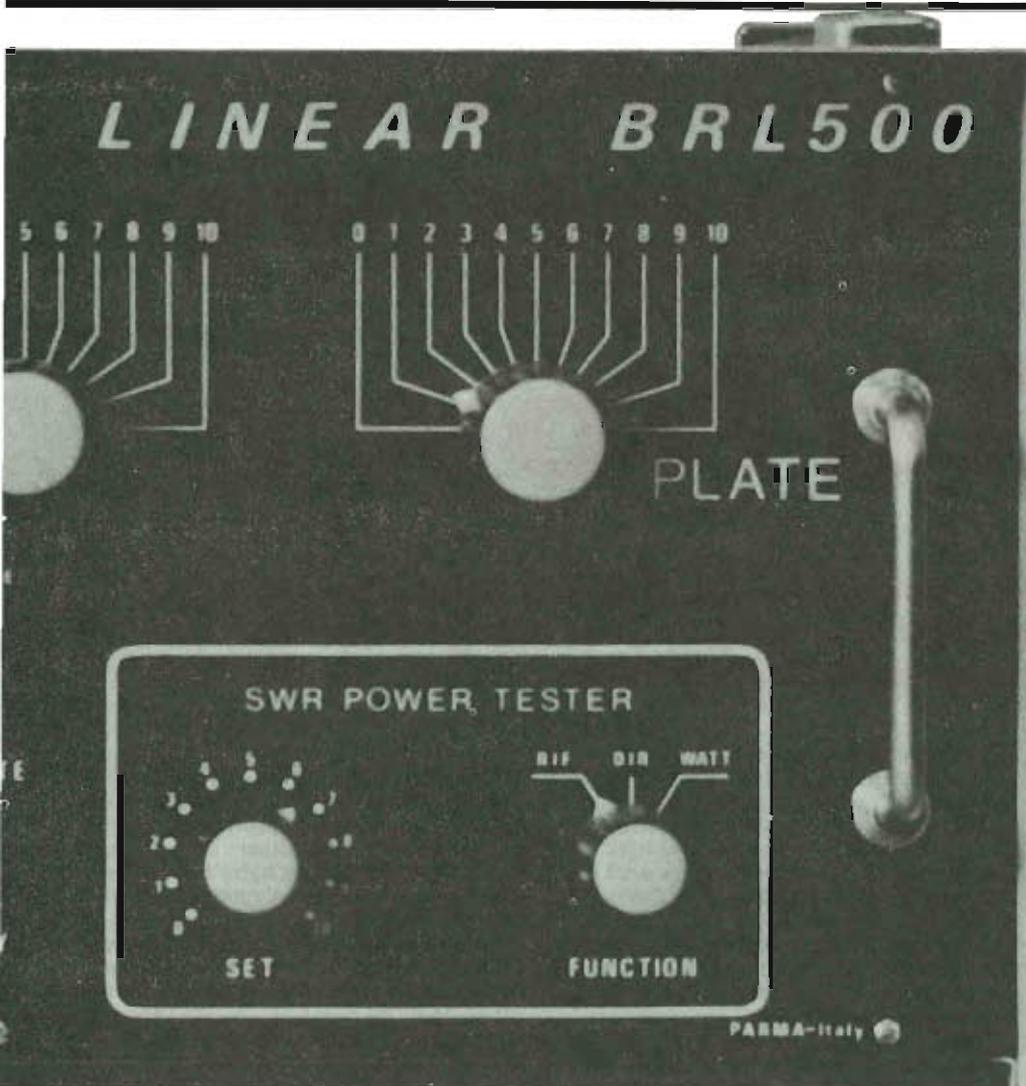
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What Are The 'Buggers' Up To Now?



Andy Giles has been looking at some of the advances that have been made in the field of bugging and has been playing with some highly desirable 'toys'.

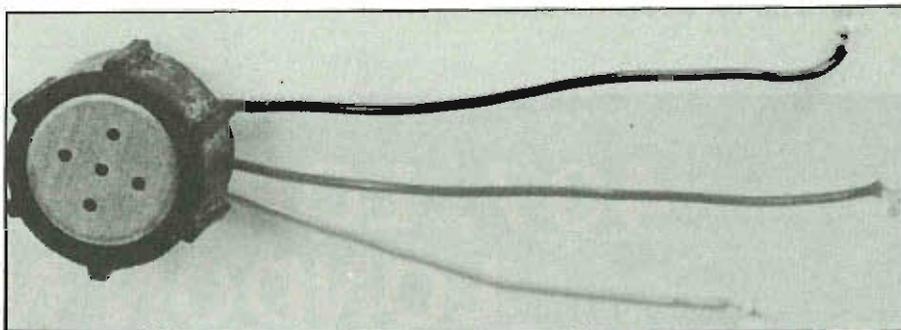


The electronics industry is one of the few that has remained almost unaffected by the current economic depression although some of the consumer durables such as washing machines and 'fridges are not selling as well as the manufacturers would like them to. Other fields such as CB and video are booming. One of the biggest growth areas over the last year or so has been the one that has received the least publicity — espionage. There has never been so much interest in electronic surveillance and the companies that manufacture and sell the various 'devices' are now selling more than they have ever done. Some economists have said that some manufacturers are finding that research and developments costs are so high that it is far cheaper to bug a rivals office and steal his ideas. This may or may not be true but the fact remains, more and more bugging equipment is being sold and whoever is buying it, it is not being used as an ornament.

Basic Bugging

The basic bug is nothing more than an FM transmitter. The wireless babyphone shown in the photograph is a miniature transmitter that was designed to be left in a baby's room so that its parents could monitor the room on their ordinary FM radio. If, however, this device were to be concealed in an office, it would make a very effective bug, anything that was said inside that office could be heard by anyone listening to the right frequency on an FM receiver. There are problems with using this type of device as a bug, it is quite large and awkwardly shaped, and as it uses batteries it must be revisited at regular intervals so that the batteries can be changed when they run out.

A solution to one of the problems would be to make the device very small but that would not overcome the need to replace batteries. One firm has solved these problems with at least two of their devices. They sell a micro-sized FM transmitter that is built inside a



Above. Now, we're not making any accusations but the device above was found in a PO telephone after a visit by PO engineers, apparently to fix a phone. Draw your own conclusions.

Left. A 'modified' TMS microphone capsule.

PLEASE NOTE:— Not only is it not very nice to bug people, it is an offence against the Wireless Telegraphy Act of 1949 to operate a radio transmitter without the appropriate licence, and also the Post Office do not take kindly to people adding extra circuitry to their equipment, nor do they like having their junction boxes tampered with.

standard 13 Amp two-way adaptor that is indistinguishable from a normal one in appearance, and which can be used quite normally (see photo). It takes its power from the mains, so no batteries are required, and therefore once it is plugged in, no maintenance is needed. Because of its appearance there is obviously no need to hide it, just plug it into the wallsocket. Any sounds in the room are picked up by a built in high sensitivity electret microphone and then transmitted on about 115MHz. This can be picked up on any of those small portable radios that have that airband on them. The range is approximately 1000 yards, but as with all radio signals, that depends on numerous factors.

Another of this company's disguised transmitters is the TM5 which looks just like a standard GPO mouthpiece capsule. To instal it, simply unscrew the mouthpiece of the telephone to be bugged, remove the ordinary capsule, drop in the TM5 capsule and replace the mouthpiece. Now whenever the telephone is used, the transmitter will switch on automatically and both sides of the conversation will be transmitted on about 110 MHz. Which can also be picked up on an Airband radio. The range of this gadget is about 500 yards. The TM5 does not require batteries or maintenance and once it has been installed it can be left indefinitely as it does not interfere with the normal operation of the telephone. Ingenious eh?

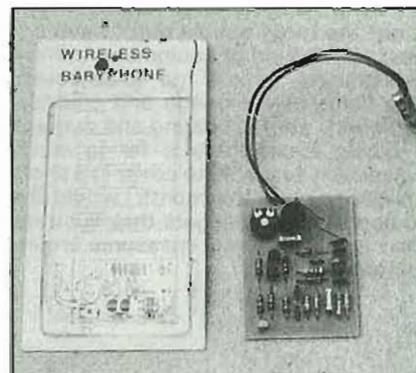
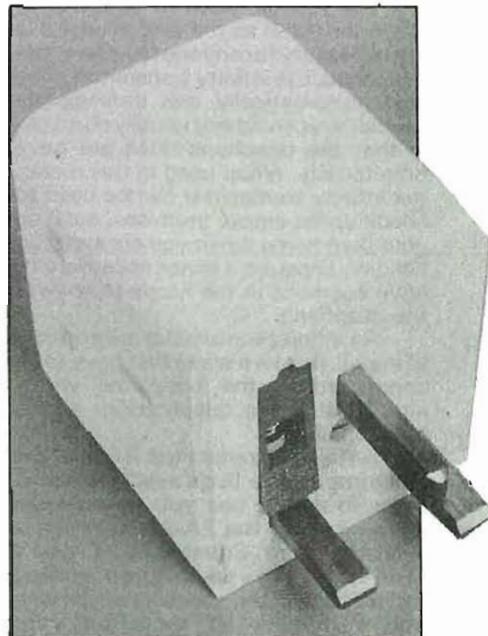
For almost every bug there is an anti-bug and the way to find out if you have a transmitter hidden in your office is to use a panoramic receiver such as the one shown in the photograph which is available from **Communication Control Systems** at their aptly named shop **Counterspy** which is at **62 South Audley Street, London W1**. This type of receiver can cover an enormous range of frequencies, typically 5-500 MHz, and they sweep up and down the band looking for signals. They have all sorts of visual displays and audio outputs and if there is any sort of transmitter on virtually any frequency in the vicinity, then this set will find it.

Range

As we have seen, we can overcome most of the disadvantages of using an FM transmitter as a bug, but we cannot overcome the problems of limited range and the fact that there is a radio signal that can be picked up by anyone with the appropriate receiver.

A bug that has none of these disadvantages is the infinity transmitter, which is again available from this company. It is about the size of a packet of cigarettes and is connected to the target telephone with just two wires. It does not radiate a radio signal and it is virtually undetectable by a Post Office line check.

It has two modes of operation and it can be switched on for either. In the first mode the target telephone is called from anywhere in the world, hence the name infinity transmitter, and when the call is answered, you get the recipient to replace the 'phone by pretending you've called a wrong number, and then, when their phone is back on the hook, you whistle down your 'phone. The whistle switches on the transmitter and it will then pick up any sounds or conversations in the room and relay them to you via the telephone lines for as long as you want and despite the fact that the target phone is on the hook.



Top right. An adaptor type bug.

Right. A 'wireless' babyphone.

Bottom. An anti-bug system comprising tap detector, tap defater, telephone monitor and scrambler.



The second mode of operation is much the same as the first except it is not necessary for anyone to answer the telephone, the infinity transmitter does that, automatically and immediately the call is received and usually so quickly that the telephone does not have time to ring. When used in this mode, the infinity transmitter can be used to check up on empty premises, such as your own home when you are away on holiday, because it is not necessary to have someone in the house to answer the telephone.

An infinity transmitter is very easy to install, just two wires that have to be connected to the telephone wires, either inside the telephone or at the junction box.

An infinity transmitter is one of the most impressive bugs available and in order to detect one you would need something like the TA-2000 which is available from Counterspy. I won't even attempt to explain how it works, I will only say that its capable of carrying out a number of tests on your telephone line and will soon detect anything naughty that has been put there. As most people don't have access to this kind of equipment, infinity transmitters usually go undetected. The fields of espionage and counter-espionage are fascinating and warrant a whole book, there is far too much equipment available to cover in a short article. To close this month I would like to describe two gadgets that illustrate how quickly counter-measures are invented.

Voice Variations

A fairly recent invention, the Voice Stress Analyser (VSA), is based on the principle that we all have certain areas within our bodies that we cannot control with our conscious minds. One of these is our heartbeat, (please don't write in and tell me about Buddhist monks, I'm talking generally) and another is the size of our pupils, they grow larger in the dark and smaller in the light. The micro-motor muscles that control them will also react to our state of mind i.e. when we see something we like, our pupils tend to enlarge and when we are looking at something that we don't like they tend to shrink. We have no conscious control over this process. We also have some of these micro-motor muscles in our larynx and whenever we are under stress, such as when we are lying, these muscles introduce a tremor to the voice. The VSA detects those tremors it that shows the operator that you are under stress, for whatever reason. The advantage of this type of 'lie detector', for want of a better phrase, is that, unlike the old style polygraph, it does not have to be physically connected to the subject. This means that an interviewer could have one in his desk drawer while he is interviewing you, or he could tape record the conversation and then analyse your voice from the recording, or the device could be used on you over the telephone. The VSA is an ingenious device which, as I have already said,

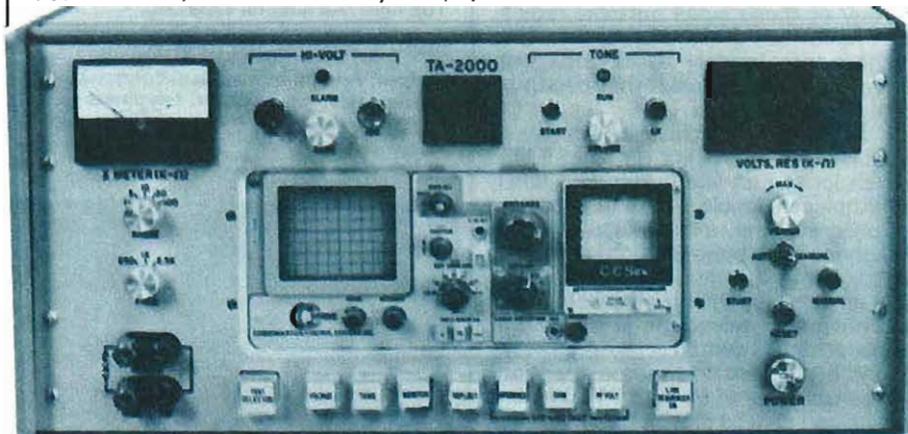
has not been out all that long but already CCS have a gadget that can be used against it, it is called the electronic handkerchief, for reasons that will become apparent.

Hanky Panky

We are all familiar with that visual cliché that appears with monotonous regularity in 'B' movies where the kidnapper puts a handkerchief over the mouthpiece of the telephone, while he is making the ransom demand, so that no-one will recognise his voice, well now he can do it electronically because the CP2 allows you to alter your voice to such an extent that you become totally unrecognisable whilst remaining intelligible. With the aid of this gadget it is quite feasible for a woman to answer her telephone and then pretend to put her husband on the line when in fact all she has done is turned a knob on this machine and that has made her sound like a man. You could even 'phone your wife with an excuse for not coming in all night and pretend to be someone else and she would not recognise your voice.

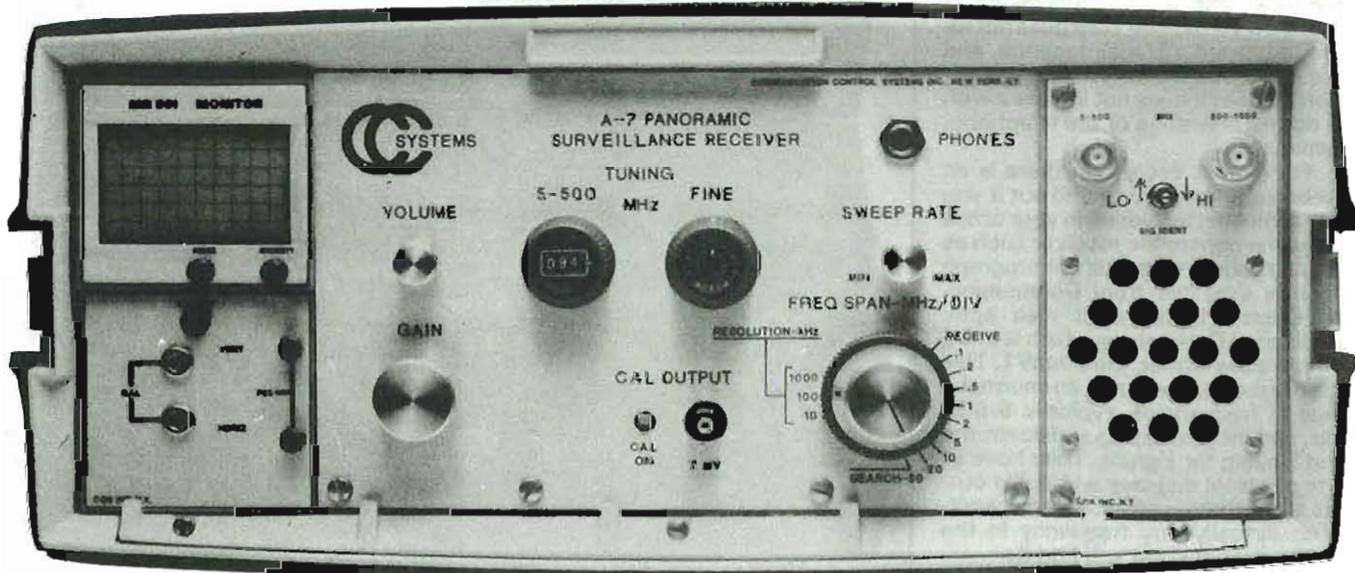
The main purpose of this device is to fool Voice Stress Analysers as they will not work on a voice that has been through an electronic handkerchief. The disguising of voices by these gadgets is just a useful side effect. ●

Thanks to Counterspy and Spectronics Ltd. of 98 Westgreen Road, London N16 for their help in preparing this article



Right. The TA-200 telephone bug detector

Below. Wide band surveillance receiver covering a range of 1 to 1500 MHz. Impressive stuff!



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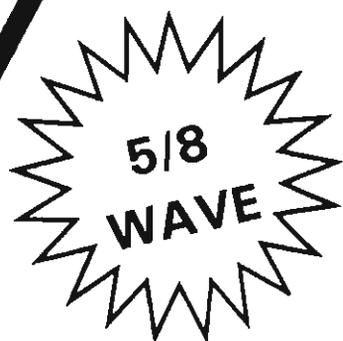
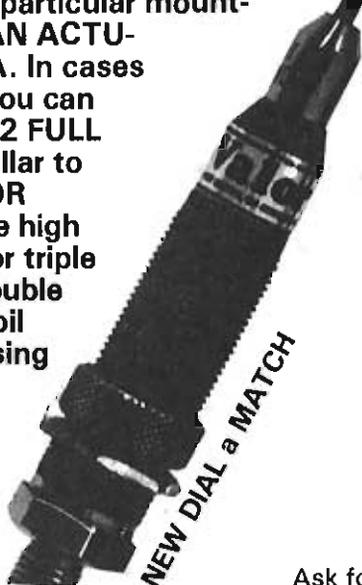
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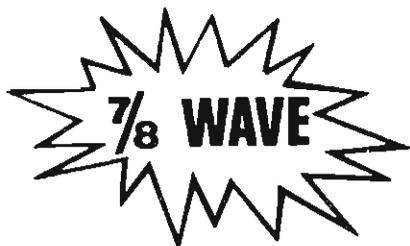
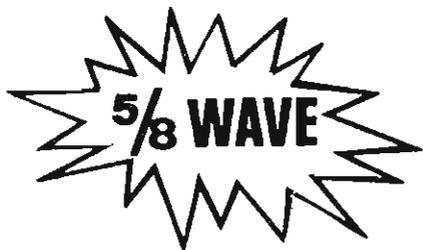
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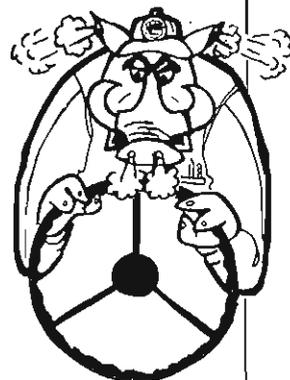
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The Big Bubble

Bubble And Tweek has been at it again with his hacksaw and soldering iron to produce what may well be the most revolutionary DIY CB antenna yet!

We do take notice of what you say. From hundreds of letters and phone calls we receive each month it seems that our DIY projects are incredibly popular. In the early days of the magazine we published some electronic projects but soon learnt our mistakes. In nearly every case the project we featured could be purchased ready built for less than it costs to build. However, one area where we can compete is with simple accessories and of course antennas. Our project this month is just such a project; a revolutionary, high performance yet simple and cheap to build base station antenna. (You could use it mobile but beware of low bridges!)

The Big Bubble is a true quarter wavelength antenna with a matching stub for SWR adjustment, wound as a coil around the base of the mounting tube.

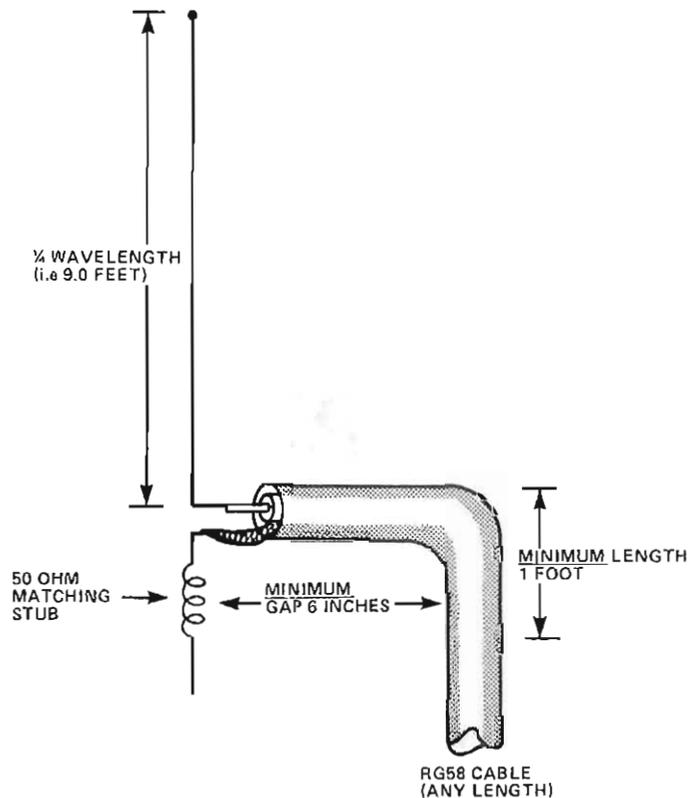
The basis of the design is a rigid plastic tube, not less than $\frac{3}{4}$ inch diameter, most hardware shops stock this item and it should only cost a few pence per foot you'll need a piece about a foot or so long.

The radiating element is made up from nine feet of alloy rod or tube. This should be obtainable from good hardware shops, aerial installation companies, electrical contractors etc.

The mounting tube is again from TV aerial installation contractors or good electrical shops and you'll need about four or five feet depending on how and where you mount the Big Bubble. The diameter of the tube is not critical.

Other items you'll need are four inches of copper or other similar handy metal tube. Look for a piece that will fit snugly inside the plastic tube. A metal rod that will fit inside the copper tube and lastly about eighteen feet of plastic insulated wire, the gauge isn't important. Don't forget to find a piece of wood, (don't worry about the size,) about 6 inches long.

First trick is to put a 90 degree bend in the alloy tube-try asking for your friendly TV aerial installation con-



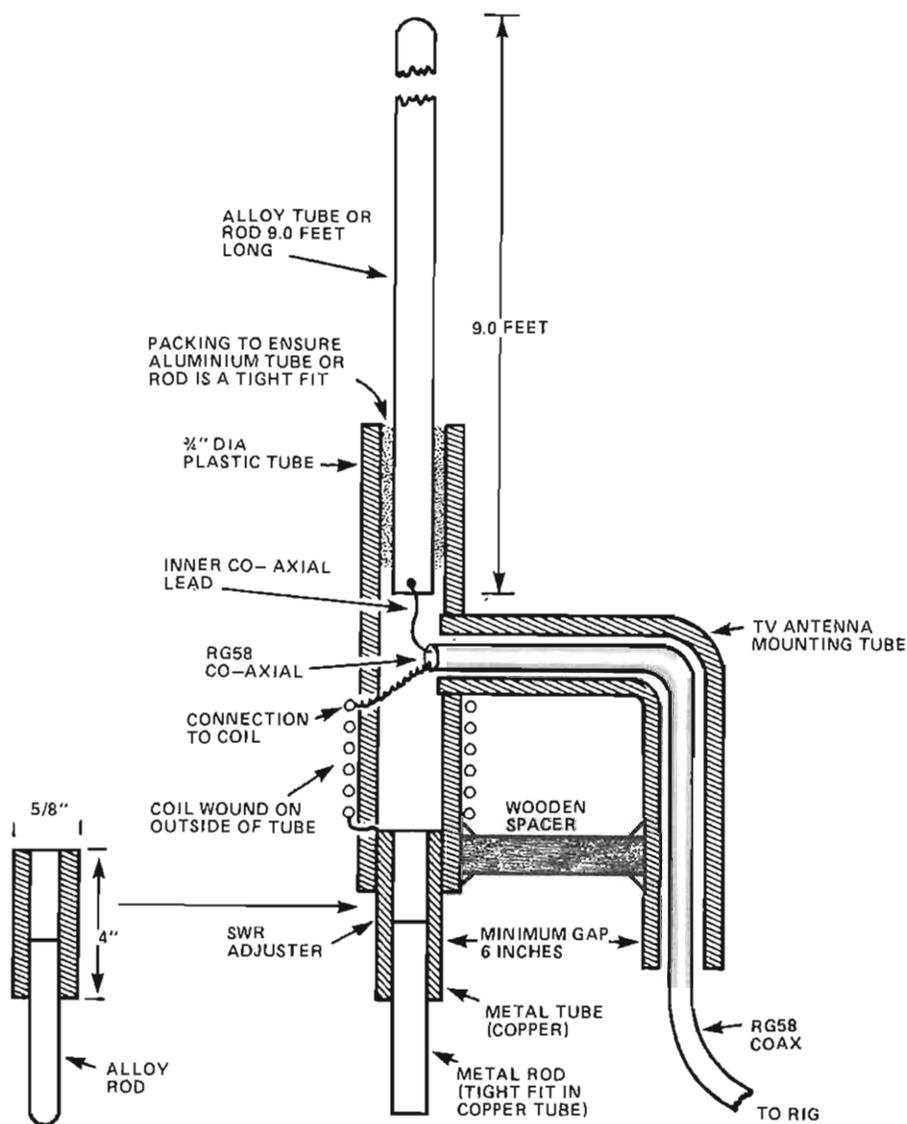
Basic electrical diagram of the 'Big bubble' base station antenna. No more 10.1 copies with this beauty.

tractor or alternatively look for a building site where they use a pipe bender. You can do it by hand but remember it's pretty fragile stuff and tends to collapse if bent too harshly. Anyway, you are a pretty resourceful lot and we're sure you'll find a way.

Next step is to bond the alloy tube to the plastic tube. There are several ways of doing this, depending upon the diameter of the alloy tube you've brought. If it is less than the plastic tube then you could bore a hole in the plastic tube and fit it good and tight. A quick squirt of the epoxy resin glue (Araldite

or similar) and affix the wooden brace and you're away. If your tube is larger than the plastic tube then you can either peel it back, like a banana and wrap it around the plastic tube, again with liberal sploshings of epoxy, don't forget to drill a hole for the coax lead. One other way is to bind both tubes together, use a strong string or twine and once again use epoxy glue to keep your handywork good and strong.

The matching stub is wound on the outside of underside of the tube, the number of turns is unimportant at this stage, just close wind the whole eigh-



Constructional details of the Big Bubble. All our dimensions are critical so pay particular attention to getting it right first time.

ten feet from the bottom in one or two layers, depending on how neat you are and run the two ends on the wire through a couple of small holes in the plastic tube. The end closest to the bottom should now be connected to the short metal tube. If you use copper then you can solder it, if not, you'll have to drill a small hole and fix it with a nut, countersunk bolt and washer. Slip the metal tube inside the plastic tube so that it lies inside the coil wound on the plastic tube. Fix it with the good old epoxy if the fit isn't snug enough to stop it dropping out.

The top end of the antenna now; this consists of an nine foot length of alloy tube or rod. The first thing to do is make sure that it is a tight, and we mean tight, fit, inside the plastic tube. At the bottom end you will need to connect the inner conductor from your coaxial feedline. Simplest method is to drill a hole up the rod and keep the wire in place with a self tapping screw of suitable size. If it is a tube then you could crimp the conductor in the tube with a vice. One other possibility exists with the use of aliminum solder. We haven't tried it as yet but it sound OK.

Nearly ready to go now. Pack the alloy tube or rod inside the plastic tube and seal it off with — you guessed it, epoxy resin glue. The outer braid that should now be poking out of a hole in the side of the plastic tube can be lightly soldered to the free end of the coil that was wound around the outside of the plastic tube. Find your metal rod (about four inches long) that fits tightly inside the metal tube at the bottom and mount your Big Bubble on a pole in the back garden for final adjustment. Having connected up the rig and SWR meter see what can be done by just moving the metal rod up and down. If you can get an SWR of 1:1 under these conditions with plenty of movement (both up and down) left on the metal rod then skip the next paragraph.

If you cannot get the SWR down then whip off an inch or so from the coil and try again. Keep doing this until your SWR meter reads 1:1 with the metal rod half in the metal tube.

Welcome to those that got it right first time and hello again to those that didn't. Now we are ready to get to the final preparations prior to bunging your Big Bubble on the roof or whatever. If you intend to keep it up there for a while it is a good idea to do a bit of weather-proofing. Most vulnerable areas are the joints between the tubes. Easiest thing to do is paint the whole antenna in a clear varnish, rod and all. Remember though, do not paint the SWR adjusting rod just yet because you might have to give it a bit of a tickle once it's up.

Let us now suppose that the Big Bubble is now permanently installed (easy wasn't it?, and if you think we're going to spend the next six pages telling you how to fix antennas to chimney pots you're mistaken). All you have to do is finally adjust the SWR and seal the rod with a little clear varnish.

All that remains now is to try it out. And if it isn't the most amazing, incredible, super efficient antenna you've ever built then you've done something wrong!

PARTS LIST

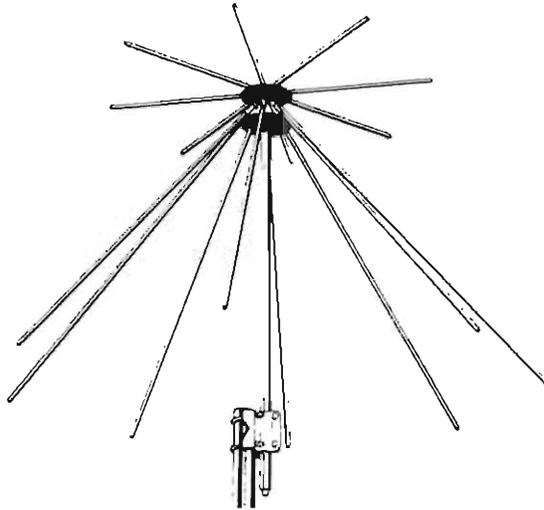
9 feet of 1/2 inch dia alloy tube or rod.
 1 foot 1/2 inch dia plastic tube (Internal dia 1/2 approx).
 18 feet plastic covered multi-strand wire.
 4 or 5 feet TV antenna mounting tube.
 Wooden spacer.
 4 or 5 inches copper (or similar) metal tube 1/2 inch dia metal rod to fit tightly inside copper tube (approx 6 in long).
 Lots and lots of epoxy resin and clear varnish.
 RG58 coaxial cable and PL259 connector.

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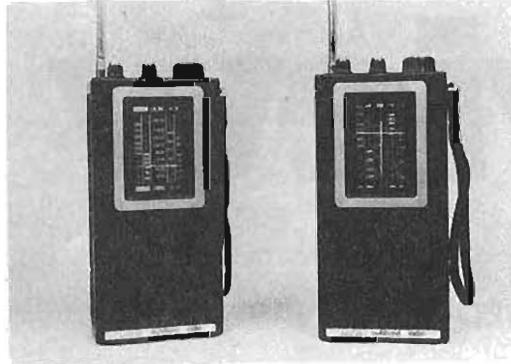
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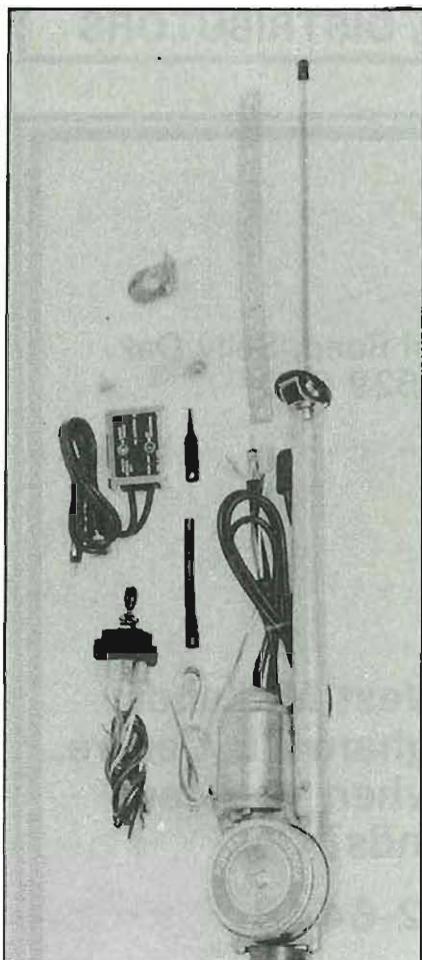
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Antenna Review

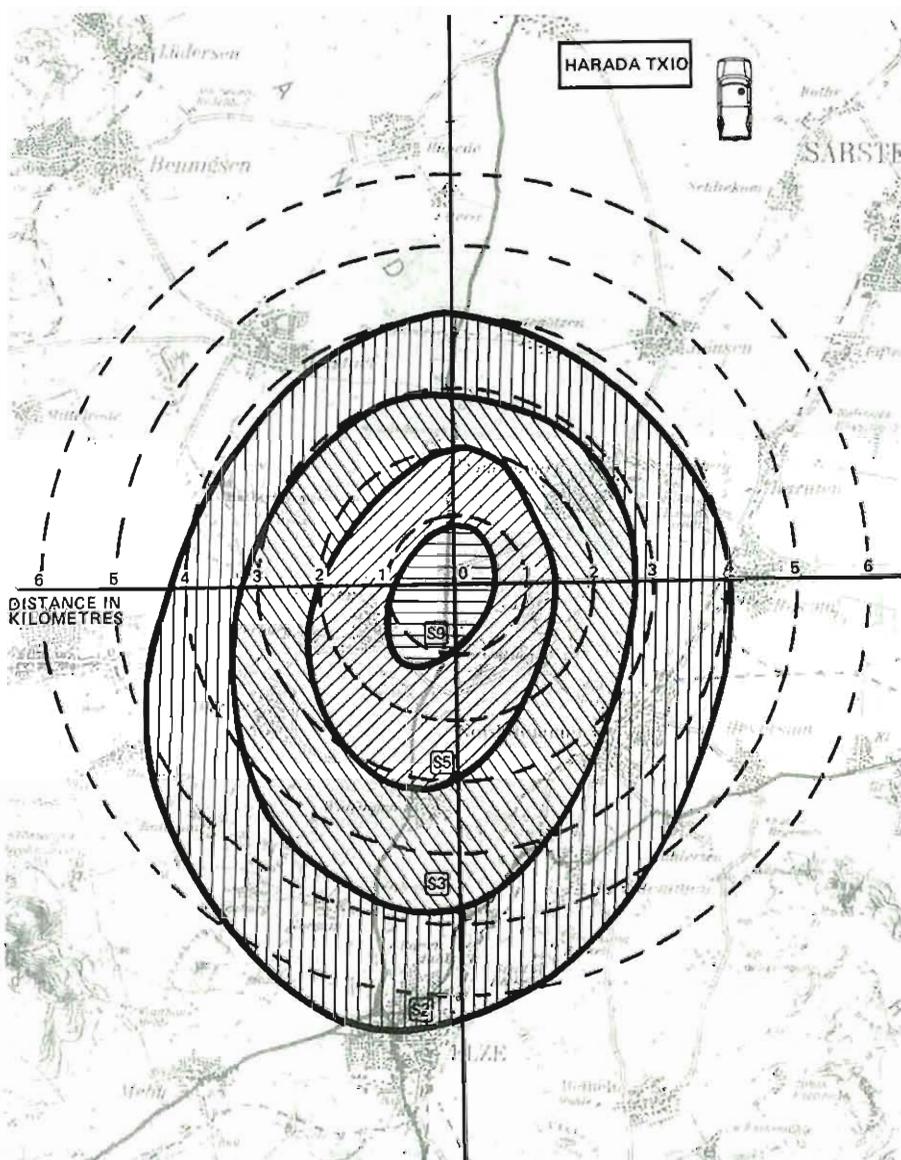
TWO ELECTRIC DISGUISED ANTENNAS

Looking for an electric antenna? Then look no further as our European tests team has been putting two models through their paces for this months Antenna Review.

Fig. 1. Radiation patterns for the Harada TX10 antenna



The Harada TX10 electric CB antenna



MIYOSHI vs HIRADA TX10

There's nothing quite like it; sitting in a traffic queue and casually flipping the switch that sends your electric antenna skywards. For maximum effect as many people as possible should be watching and you should maintain an expression of complete indifference, even boredom.

To be really sharp your electric aerial shouldn't be just any old car aerial, it should be a CB/AM/FM electric antenna — not too blatant, just enough to let the enlightened know that you've got ears in your wheels. This month we shall be looking at two such devices and as usual putting them through their paces to see how well they work.

The two models we have both originate from the land of the rising yen and both look and function in more or less the same way.

Both of these antennas are made from stainless steel telescopic whips with a loading coil atop the top section. On top of both loading coils are small threaded knobs that are used to adjust the SWR (Standing Wave Ratio). Electrically, both of these antennas are $\frac{1}{4}$

wave top loaded ground plane antennas designed specifically for installation in metal bodied vehicles. The Miyoshi at 43 inches is slightly longer when fully extended than the 42 inch Harada. Both antennas take about four seconds to fully extend though the Harada is a lot more subdued in doing so — the Miyoshi does sound a little noisy at the end of its travel.

Both antennas come with fixing kits, switches and ample cable for most installations though again the Harada scores again longer co-ax for rear wing mounted installations. Each antenna terminates in a single coaxial cable that is plugged into a splitter or diplexer box that provides two cables; one terminated in a PL259 connector to go to the CB rig and the other in a standard car radio aerial plug. The diplexer on the Harada has two pre-set adjustments for fine tuning for the car radio and the CB rig.

Installation

Both antennas are mounted in a similar fashion though the Harada needs a slightly larger hole in the car body and a little more room under the wing due to

its bulkier motor. Installation in most cars takes about 45 minutes.

Connecting the Miyoshi up to the power is relatively simple requiring only a positive and negative feed to the switch. The Harada on the other hand is actually quite complicated and continual reference to the instruction booklet is needed to get all the wires in the right places.

Once installed it is then necessary to adjust the SWR and on both antennas this is accomplished by undoing a locknut to release a small threaded knob on the top section. Harada have thoughtfully included two small spanners for this purpose. Remember it is important to recognise that these adjustments should only be made with the antenna fully extended.

In Use

Both the Harada and the Myoshi could be easily adjusted for SWR, both coming down to less than 1:2:1 which we consider satisfactory. Before we look at the actual CB performance it is as well to comment on how both antennas functioned on AM/FM broadcast stations. ▶

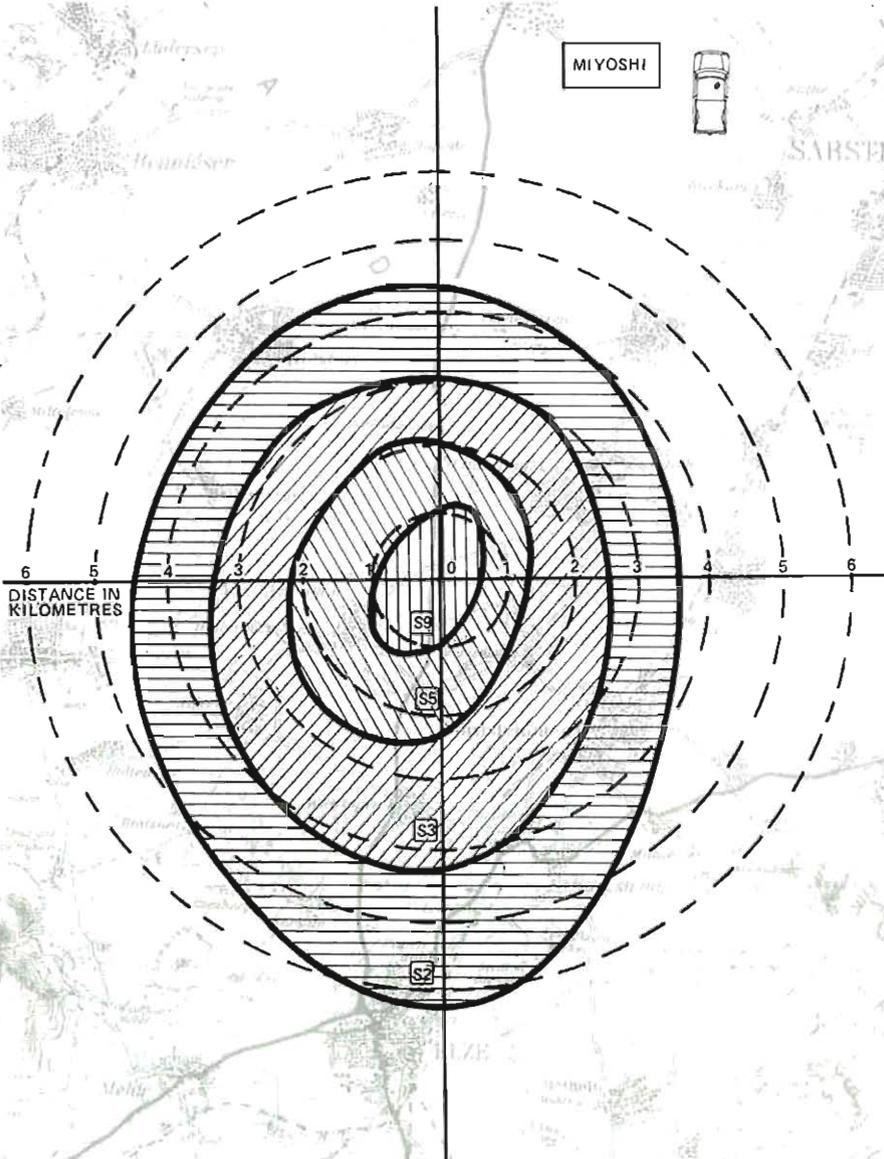
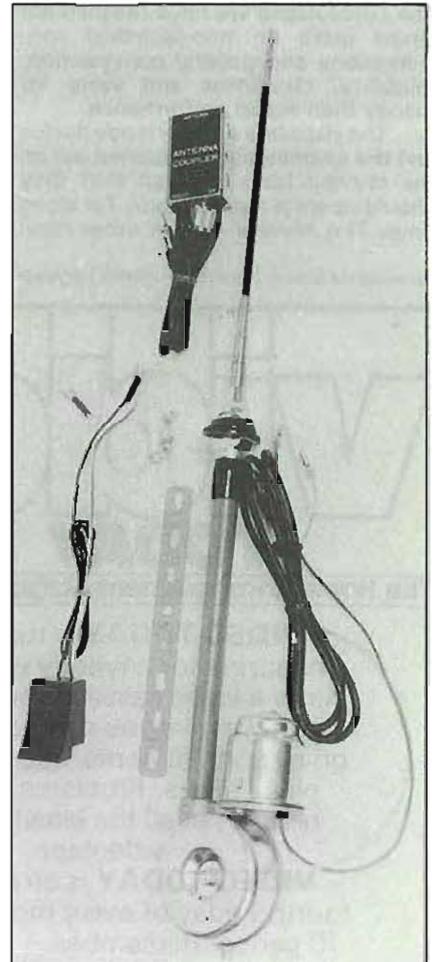


Fig. 2. Radiation patterns for the Miyoshi antenna



The Miyoshi electric CB antenna

Without doubt the Harada was noticeably quieter on FM stereo and marginally more sensitive. The Miyoshi seemed to suffer from quite a high level of noise on FM and we suspect that this was due to the rather, poorly designed splitter box rather than the antenna itself. On AM both antennas performed equally well though the Harada again scored rather better with the tuning adjustment on the splitter box which permitted the car radio to be 'peaked' in over the whole tuning scale.

CB Performance

Neither of these two antennas performed all that well. Disguised and telescopic antennas are after all somewhat of a compromise over a proper CB antenna. That aside they did both work adequately though approximately 15-20% less efficient than our standard DV27 test antenna.

The results shown in figs 1 and 2 are based on our standard test procedure which regular readers should be familiar with by now, though for new readers these tests are outlined in the box opposite.

It would be difficult to differentiate between our two samples in terms of performance though there is evidence that the Harada is capable of approximately 1 or 2% better transmission range.

Conclusions

The conclusions we have reached are based more on non-technical considerations and general construction, reliability, sturdiness and value for money than actual performance.

The Harada is a better made device and the examination we carried out on the moving parts showed that they should operate satisfactorily for along time. The Miyoshi on the other hand

reflects the cheaper retail price and whilst we have no reason to suspect it is any less reliable than the Harada it is cheaply made.

The Harada TX10 has one or two small features worth nothing; instructions are excellent compared to the pidgin English printing on the Miyoshi box. The telescopic whip is replaceable without having to remove the whole

antenna assembly — the switching arrangements for this antenna mean that it will not be left in a half erected state which could be disastrous for a CB rig due to the mis-aligned SWR.

Taking all this into account we recommend the Harada TX10, even at the significantly higher price. The Miyoshi is OK as a budget CB electric antenna but the extras are worth paying for. ●

The Tests

We have used our standard test procedure to assess the efficiency of these two antennas. Just to bring new readers up to date this involves two tests; one static and one mobile. Our test samples are fitted to a stationary mobile and a second mobile follows a pre-arranged route that orbits the stationary test vehicle, sending and receiving signal reports at measured intervals. This is then repeated with the test antenna on

the mobile test vehicle and the signals are sent and received between a stationary test vehicle. A standard rig and antenna is used in all the tests. With the results obtained we are able to draw up the radiation patterns (fig 1 & 2) shown here. These are simplified to make the results more easily understood. The antennas are also subjected to a series of 'lab' tests to assess their durability, quality of construction etc and finally we hand them over to a panel of CBers for comment.

SPECIFICATIONS

Miyoshi (Typical price £25.00)

Impedance	50 ohm
VSWR	Better than 1.5:1
Max power	10 watts
Length	4 section 43 inches
Length under wing	12 inches

Harada (Typical price £37.00)

Impedance	50 ohms
VSWR	Better than 1.5:1
Max Power	10 Watts
Length	5 sections 42 inches
Length under wing	14.5 inches

We would like to thank Globe Communications for supplying the test samples.

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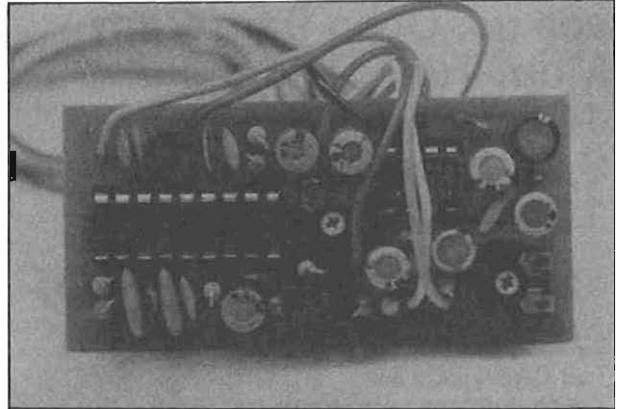
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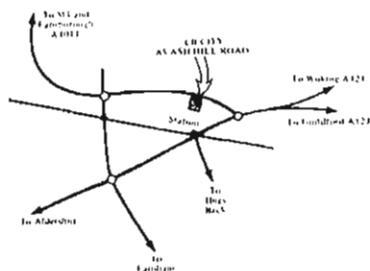
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Backchat

The Evil Eye, 'Grandad' CBers, foul language, cancelled orders for the mag — what next? Find out now in CBs liveliest letters pages, the pages that let you have your say!

We get some very strange letters here at the CB office, many are too strange to print but here's one that, whilst rather unusual does raise an important point

*Dear CB,
I am asking for your help to stamp out a new kind of thief. This thief is the same as a blackmailer, they prey on a persons fear of going to the police for help. Well, I am different, I did go to the police to report my rig stolen and they have sent all the details to Scotland Yard. My wheels have been fingerprinted and details of footprints taken.*

Our local CB clubs will be eyeballing every rig in the area and through your magazine we ask every club in the country to do the same.

The rig in question is quite rare and the case is scratched with my initials 'EJ'. The rig itself is a Realistic TRC-471 combo CB, AM/FM stereo radio. If the rig is found and it has been purchased unawares then I will not ask for the rig back, however I am offering a £200 reward upon conviction of this thief.

This type of theft must be stamped out now. Should the thief have second thoughts he can return it within the next few days and no action will be taken. No police action or me turning on my powers of the 'evil eye' will take place, and believe me I can. All who know me know my powers to fight evil with evil and to put wrongs right, My own Swindon Club have seen my powers at club meetings to put right a wronged person!

*E.J. Johns
Wiltshire.*

Very heavy, CB and the evil eye, what next? Anyway, to be serious Mr Johns does have a very valid point and this kind of theft is well out of order. Anyone coming across the rig in question can contact Mr Johns through us. Still on the same subject, anyone else who has had a rig stolen might like to get in touch with us (in strictest confidence) so that we can

get an idea as to how widespread this problem is.

Time for two letters commenting on last month's mag, **Rig Review** in particular caused a lot of interest, here's a typical letter.

*Dear Cb,
With reference to your May issue and Rig Review of the Binatone Power Base 5 the specifications state that this rig has a built in power unit run from the 240 volt mains.*

Now, this makes the rig useless when there is a power cut, especially in an emergency, like the weather conditions we have been experiencing lately.

Is it possible for you to get in contact with the rig manufacturers to fit a socket so that the car can be powered from a car battery in an emergency?

*W L West
Trowbridge.*

It just so happens that Citizens' Band gets read in all the right places and your very useful suggestion will get to the people that matter. By the by, if any of you have suggestions (please keep them sensible) let us know and we'll pass them on. Already one or two hints we've come up with may well be incorporated on future designs so don't despair, someone is listening.

Now for a comment on last month's Monitor Survey feature.

*Dear CB
After reading your CB Monitor Survey in the May issue of Citizens' Band I decided to buy an Everco HH857 type monitor under the name of 'Flight'. I chose this unit due to the high praise it received in your review.*

I am writing to you because I would like to know why, after 11 hours of listening I heard only two short bursts of CB jargon, and that was from a car that passed in front of me. Is this the full extent of the monitors range or could it be due to the shortage of CBers in the city of Carlisle? Whatever the reasons I am

rather dissatisfied with the unit and hope you can help me in justifying my outlay of £16.00.

*Graeme Ross
Carlisle.*

The Everco and its variants is possibly the most popular CB monitor on sale at the moment. The reason for its popularity is twofold; firstly all the examples we've seen perform excellently and secondly they are both cheap and easy to obtain. We've given these monitors glowing reports in the past simply because they deserve it. Yours is only the second letter of complaint we've received so we must assume that by and large they live up to the owners expectations.

Looking at your particular problem I can see two possibilities. Firstly you mention that (or at least I must assume from your letter) that you are using it in a car. Unless you have made provision for an external antenna it just won't work very well. The problem is that there is a lot of metal between your receiver and whoever you are trying to copy. The second, and I'm afraid the most likely possibility is that your particular specimen is not working correctly. By that I mean that I would reckon that you should take it to wherever you bought it from and ask to try another model. When equipment like this is manufactured in such vast numbers it is expected that one or two duff ones will get through.

Now for a very common question;

*Dear CB
I have bought and read your magazine Citizens' Band (May issue) and enjoyed it immensely.*

I would like to know whether it is possible to obtain the back numbers in Volume One from you.

*If this is possible could you tell me how much it costs, including postage and packing so that I may order them.
Peter Gass
Basildon*

What a lovely man. Of course backnumbers are available but there are a some gaps. Give our Backnumbers department a ring on ▶

01-437-1002 first to check whether the issue you require is in stock. Back issues cost 80 pence each and that includes P & P.

Now, here's an interesting idea.....

Dear CB

I am an OAP motorist with no knowledge of CB. When we OAPs go rambling around the countryside we always have on our minds the fear of something going wrong. This is especially worrying if it should happen in a spot where we are unable to make contact to get help.

If a 'Grandad' section of the CB clubs could be organised and a special 'Grandad' Mayday call that would be recognised by the motoring services then we could feel much more safe and secure when out on our runs.

Prospective members of such a club would be in need of help and advice from other CB clubs in order to assist in setting up such a system. Possibly, on joining a club they could be advised to buy a receiver only, to enable the members to get familiar with the procedures and jargon.

Although most 'Grandads' wouldn't do much transmitting except in times of need, I am sure just listening will make most of them want to become members of an official 'Grandad' club

I do not know any CBers and my only contact with CB so far is via the April issue of this magazine. I do not know if such a club is possible but I have spoken to one or two OAP cronies, and from their remarks I feel sure that as soon as CB is legal and well organised this type of club would not be short of paid-up members who could well be able to assist in the running of the club.

Mr C G Appleton
Chorley, Lancs.

As many of you will already know many senior citizens or retired people form the backbone of the American emergency monitoring services. CB provides a valuable source of communication to the housebound or lonely so I have no doubt that 'Grandad' clubs will be springing up all over the place. In the meantime I am sure that if any of Mr Appletons local CB clubs would like to write to us we will pass on the name and address to Mr Appleton. Now, as is our wont, some letters that have something to say about the forthcoming service.

Dear Sir,
I am appalled by the 'American fever' which seems to be sweeping our country. I am all in favour of CB (preferably FM) but why must it be linked with pictures of huge trucks, idiots wearing cowboy hats and so on? We must keep our own identity.

Also disturbing is the growing number of adverts for 100, 500 and even 1000 watt burners (linear amplifiers). Who the hell needs so much power

When I joined the CBA four years

ago they only had 200 members and if my memory serves me correctly we were asking for; 'a short range personal two-way radio service', not a DX band. Get your Ham licence if you're into that, we don't want hundreds of watts of SSB messing up our FM rigs.

I am a fully qualified RF systems engineer, and believe me FM will blow the socks off AM any day of the week. So for God's sake, stop moaning, you'll have CB in September — take it and shut up!!

A J Howlett
Cheshire

And.....

Dear Sir,
'CB RADIO, THE NEW SCOURGE TO HIT BRITAIN'
'COWBOYS OF THE AIRWAVES'
'NEW SECURITY RISK'
'COMMUNIST PLOT TO MOBILISE THE PUBLIC'
'RADIO PIRATES HOLD COUNTRY TO RANSOM'

What marvellous headlines for the media

Like all ideas involving the general public there is a good side and a bad side in setting up a radio service available to all and sundry. The good side reflects the feeling of freedom, that the airwaves are not just for the chosen few. A lot of good public services should emerge once the service is in LEGAL operation.

The bad side is the aping of American slang which is so unnecessary for the enjoyment of good CB, and the foul mouth. Slang for slangs sake is unworthy of a good network, codes can be an asset for speedy transmission of intelligence, especially in an emergency — as for the foul mouth, note his handle and blackball that breaker.

In order to encourage the Government that CB is not a ghastly mistake let us write our letters without slang. Get the clubs to communicate with each other so that by the Autumn there will be a common breaking system on the channels. Channel 9 is the Emergency Channel, (should be monitored at all times by the Police

forces in this country) Channel 14 appears to be the most popular breaking channel — let it remain so. There should be a breaking channel for motorways, this leaves all the other channels free for chat.

As an Ex-Yogi I know the advantages of communication, especially in out of the way places where there is no telephone or when stuck in a car. More good than bad will come out of legal CB.

May your signal never fade, may your ears never burn, here's to the beginning of a good solid service.
L Brett (Papa-Ex)
Orpington, Kent.

And.....

Dear Ed,
I have just purchased both your March and April issues and I am in total agreement with Birdog (Backchat May) in your last issue and I for one will never buy another copy of your pro-27MHz FM propaganda.

Stuntman.

PS. Please withhold my full address, if your democracy extends to printing this letter.

I am sorry to hear that Mr Stuntman, of course we wouldn't dream of printing your full address if you are worried about your convictions causing you problems.

Anyway, you may have gathered that one or two letters this month are not all full of gushing praise for the mag. The reason is simple, those letters are the only ones we received that could be in any way termed non-praiseworthy, so we thought we would clear out the 'complaints' file once and for all. In contrast we receive several hundred letters each month that are generally enthusiastic about the mag, CB, legalisation etc etc. However, this is your page and we're not ashamed or too proud to accept criticism. If you have something to say then drop us a line, please try to keep it as short and to the point as possible so that we can get more letters in this very limited space. See you all next month. ●

Below. Registration form for CB Clubs — see page 56.

CITIZENS' BAND CLUB DIRECTORY REGISTRATION FORM	
CLUB NAME	()
CHAIRMAN	()
Secretary	()
PR Contact	()
Contact Address	()
..... (Tel No.)	
MEETING PLACE, DAY AND TIME	()
No. of members	Position in club
Fee/sub etc	(Committee members only please)
Please mark (*) information that may be published.	

40 CHANNEL CB RECEIVER WITH FM RADIO

FREQUENCY RANGE
 AIR 108-145 MHz
 P.B 145-176 MHz
 W.B 162-5 MHz
 TV 54-87 MHz
 FM 88-108 MHz
 C.B. 1-40 channels



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Tel: 041 881 3824
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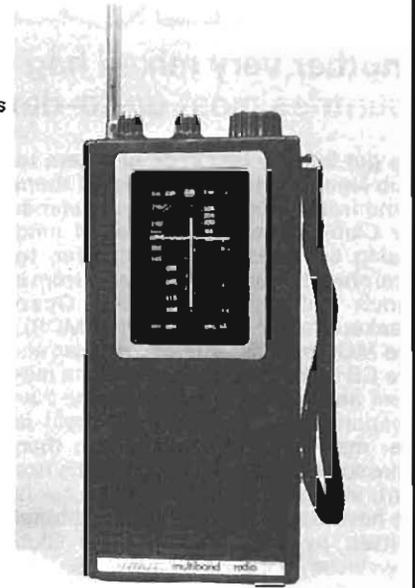
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 ● Air-PB-WB Transmissions
 ● TV-FM Transmissions
 ● CB Transmissions (channels 1 to 40)

Controls
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COMPLETE THE FOLLOWING OR TELEPHONE FOR A QUOTATION

Name

Address

..... Tel:

Cover required: Comprehensive/TPF&T/TPO Age:

Use: SD&P/Business/Commuting to work

Drivers: Any/Insured and spouse/Owner only

Age of youngest driver years

Full/Provisional licence held years Years In UK

Occupation NCB years

Garaged yes/no Year cc value

Car make model

Present Insurance Co

Present Insurance Expires

Existing premium

Enclose details of all convictions and accidents

Club News

Another very mixed bag of reports for you in this the countries most up-to-date Club pages

We get literally hundreds of letters to Club News each month. Most of them come from clubs wishing to register in our Club Directory, many tell of fund raising activities or support given to local charities and the rest come from a bunch called the Molesey Open Breakers (aptly known as the MOB). The MOB must be one of the most active CB clubs in the country at the moment and it would seem from the correspondence that Mike Newbold is the man responsible. Rather than reproduce the dozens of letters he has sent, including a mound of QSL cards we have decided to reprint an editorial written by Mike in the MOB Club newsletter, we think it says it all.

Molesey Open Breakers (MOB)

Welcome, and thanks for buying this issue of MOB News. We publish monthly and a normal issue could contain almost anything from intellectual in-depth discussions to cartoons, newscuttings and wallies renderings but all is welcome for publication, well almost.

We are a small club with just over 250 members and we meet at the Royal Oak Pub at 317 Walton Road, West Molesey in Surrey (about 1½ miles from Hampton Court bridge) and all fellow CBers and breakers are most welcome. Some of our members are avid QSLers, some DX fanatics some have literary talents, we have professors, we have wallies, but all are fellow MOBsters. You are welcome to join us today or call in at our 'Meet' any Wednesday evening and for just a few measley silver washers you can become one of the elite MOB. Hope to catch you real soon

The Medicman

Molesey Open Breakers
Royal Oak,
317 Walton Road,
West Molesey
Surrey.

Well, what can we say? Sounds like a really lively club judging from the newsletters, why not drop in sometime if you're in the area — we will.

Now for news of a very different club, here's the Commander to tell you all about it.

Dear CB,

I am writing to tell you all about a super new club. It operates on a 12 hour basis and is on channel 15. So far there are about 20 members but we hope to build it up to about 50 in the near

Right: The MOB Mole and below members of the MOB with Mrs. Alice Roberts. Mrs. Roberts' electric wheelchair was recently vandalised so the MOB came to the rescue with the necessary funds.



future. It is on the air from 7 pm till 7 am and eyeballs are arranged over the air. If you are ever in the Radlett area tune in to channel 15 and ask for the commander. 10-10 The Commander.

How strange! Wonder what happens at annual general meetings, channel 15 must be very busy!

But now time for more serious matters. EARS is a new organisation that we may well be hearing a lot more of come the Autumn, here's a report:

Emergency Action Radio Service (E.A.R.S.).

At a highly successful Press Conference held at Everards Hotel, Bury St Edmunds on 31st March 1981, details of a new emergency radio service we

announced. The service called E.A.R.S., standing for Emergency Action Radio Service, will come into operation on the 27 MHz FM Citizens' Band Radio frequency when the Government legalises CB later this Autumn.

Initially the service will be set up to cover the busy A45 between Bury St Edmunds and Stowmarket and will be the first of its kind in Suffolk. It is hoped to quickly expand the service to cover the whole county and beyond.

EARS is a voluntary, non-profit making organisation which has been formed to provide facilities for continuous monitoring of Citizens' Band Radio frequencies in order that highway emergency messages can be rapidly relayed to the Emergency Services. This monitoring will be perform-



EARS on 27

Left: A new monthly magazine for breakers in the ST. Neots district. We wish them good luck with this very worthwhile project.

The Magazine for
CB BREAKERS
in ST. NEOTS & DISTRICT

VOLUME 1. NUMBER 1
APRIL 1981

Inside this issue

Smokies view on CB Club News	Sales and Wants
Letters to the Editor	A letter from J. Major, M.P.
St. Neots Handles	S and N Survey
Win a £10 Voucher Competition	Clean & Green handles
	CB Lingo
	10 Code

ed by specially selected base stations situated at key points throughout the county, providing 24 hour coverage of the emergency CB channel (9). In addition, these base stations will provide traffic and weather information for mobile CB users in the area.

All motorists with legal CB radios will be invited to become 'mobile members' of the organisation and will be given instruction on how to make an emergency call over their CB sets as well as some basic first aid.

Dr Andrew Mason, a member of the Suffolk Accident Rescue Service and one of the founder members of EARS believes that the system could save several lives in Suffolk each year. Mike Braband, Chairman of the Eastern Counties Open Channel Club and another founder member of EARS is seeking any volunteers who might be prepared to operate base stations, give technical help or assist in fund raising.

Negotiations have already started with the Emergency Services and the response has been most encouraging. In a recent statement, the Chief Constable of Suffolk said that, "The Police will explore the possibility of liaising with any responsible bodies who represent users of lawful equipment to see what benefits can be provided by the services". Senior Staff Officer of the Suffolk Fire Service, Mr Colin Foster stated that, "Any plans which would

speed up the emergency process would be welcomed. An early call means an early response."

The EARS committee would welcome hearing from any club or organisation which would be interested in setting up a similar scheme in another area. Information can be obtained through EARS, c/o Everards Hotel, Bury St Edmunds, Suffolk.

Sounds very interesting but when is someone going to try and co-ordinate all these very worthwhile emergency monitoring services? Any offers? We get a lot of letters from clubs doing great things for local charities but heres a letter, addressed to CB clubs that sees a potential use for any old AM rigs.

Dear Sir,
The problem facing CBers now it what to do with their old AM rigs.

The thought has occured to me that some Third World Countries who's telephone systems are not so extensive as our own could well do with the AM rigs. Missionaries overseas would also find them useful.

Why don't CB clubs get together, form a charity and register it with the Government with the aim of:
(a) Receiving gifts of the old AM rigs.
(b) Buying AM rigs from those who couldn't afford to donate them wholly or partly.

The rigs could then be serviced and despatched. It might be legal if the charity was properly registered to collect money from the general public as well as CBers to defray transport costs.

The only snag that I forsee would be the cost of batteries in the Third World. However, wind generators or solar power might be possible, (in some locations even water power is practical).

D O French
26A Denver Road,
Stamford Hill,
London N16 5JH.

An intriguing thought Mr French though I suspect that many AM rigs will continue to be used for some time to come. However, it is a worthwhile proposition and we will be happy to pass on any messages to Mr French, or, you can write to him directly at the address shown.

And finally, a letter from a club which must rate as having the strangest name yet.

Bread and Lard Original Breakers (BLOB)

Dear Good Buddies at CB Mag, I thought you may like to know of our clubs activities. Just to clear up any confusion over the name, West Bridgford is known locally as 'Bread & Lard Island' in the Robin Hood City.

Just recently we had a convoy of six skates (we only have a membership of 50 breakers) from Nottingham to Leicester to a demonstration. The organisers asked for participants to donate soft toys to the local Royal Infirmary. After some thought we decided to have a five foot Buzby Bird made for us. At the demo the BLOBs kept the back door of the coloumn closed with our bandaged Buzby being carried shoulder high on a stretcher, covered with a jacket to protect him from the constant drizzle. After arriving at the Victorial Park (the rally 20) we bundled our, now, damp, Buzby into my skate and I then led the BLOB convoy to the childrens ward of the Infirmary where he was gratefully received by both staff and patients.

Plans are now afoot to do something for the childrens ward at our local hospital, Queens University Medical Centre in Robin Hood City. We also plan to hold a convoy to Brighton for a week-end break for our members. Heavy Spanner.

BLOB
Test Match Hotel,
Gordon Square,
West Bridgford,
Nottingham.

Good to hear that a small club is so active, especially one with such a strange name. Any other clubs with weird names?

Well, time's up once again. Keep those letters coming, oh, and don't forget the stickers, badges, newsletters as we like to know what's going on. See you all next month.

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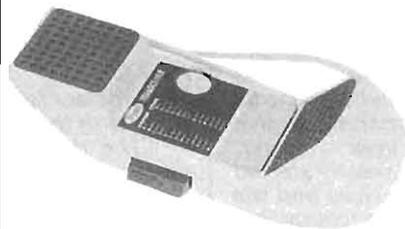
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READER SURVEY

Help us to Help You

We want to make sure we're giving you what you want, and would be very grateful for some help. If you can, please spare us five minutes to answer these questions and return the form.

Please rate the following articles from 1 to 5, using 3 as average. Give 0 if you haven't read it.

Update		Mack Chat		Project	
The Specs		Big Bubble		Antenna Review	
Inside CB		Special Offer		Backchat	
Rig Review		CB & Music		Club News	
On The Side		Bugging		Club Directory	

Please give your general opinion of our coverage of

CB rigs, antennas & accessories

CB Clubs & DXing

This is issue seven of Citizens' Band. How many other issues do you have? How many more issues of Citizens' Band do you expect to buy in the next six months? . Have you bought any other CB magazines this month (May)? Please give title _____

Please name any subject not covered in this issue which you feel should be included:

And is there any subject which we cover which you feel should be left out?

Do you own a CB rig?

Do you intend buying an FM rig?

Are you a member of any CB club (please state which)

Do you expect your interest in CB to increase or decrease in the future? Increase

Decrease

If you have a CB rig, please give make and model _____

If not, do you expect to get a legal one in the next six months? Yes No

Please rate our competitors' coverage of the following subjects. Give them a mark out of five, giving 3 points if you think they're about the same as us, more if you think they're better, and less if they're poorer. Leave blanks if you haven't seen the magazines.

Information
about
equipment

Equipment
reviews

Information
about clubs

Rig Reviews

Information
about
equipment

Equipment
reviews

Information
about clubs

Rig
reviews

Breaker					CB News				
CB World					CB Euro Review				
CB Radio					CB '81				
					CB Gazette				

Do you look at the ads in CB Regularly? Occasionally? Never?

How many times have you written directly to an advertiser as a result of an advertisement in Citizens' Band

And how many coupons did you cut from the magazine in doing this?

If you reply to an advertisement do you prefer to cut out the coupon? Or write a letter

Do you use Citizens' Band as a source of information on purchasing accessories Often Sometimes
 Never

Would you agree that Citizens' Band is suitable for anyone, of any age, to see? Yes No

Is there anything in this issue to which you object? Please give page numbers _____

READER PROFILE: Please note that we are not asking for your name or address, so there is no possible way that this information can be used beyond the purposes of this survey:

How old are you? What sex are you? M F

Which town do you live in? _____ Do you have children of school age? Yes No

What is your occupation? _____ Do you own the home you live in? Yes No

Please tick your annual income bracket. Less than £3,999 (); £4,000-6,999 (); £7,000-£9,999 ();
£10,000-£12,499 (); Over £12,500 ().

Do you hold one or more of the following credit cards? Access, Barclaycard and other 'Visa' cards, American Express, Diners Club. Yes No

COMMENTS – Please give any further comments which you feel will help us to improve Citizens' Band.

THANK YOU FOR YOUR HELP

FIRST FOLD

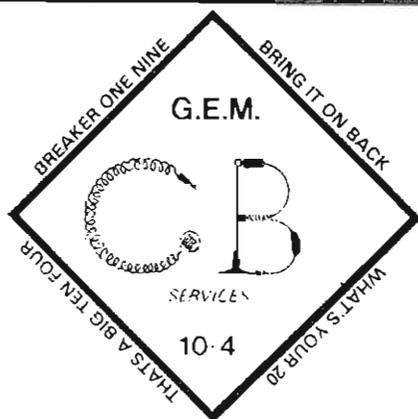
AFFIX
STAMP
HERE

THIRD FOLD

CB Reader Survey
Modmags Ltd.,
145 Charing Cross Rd,
London WC2H 0BR.

SECOND FOLD

TUCK INTO A



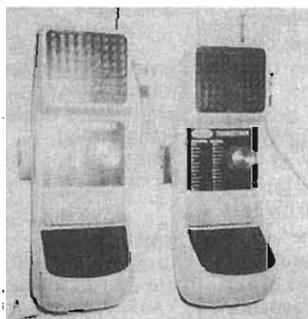
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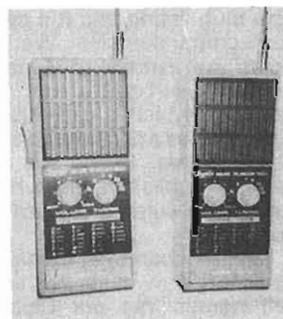
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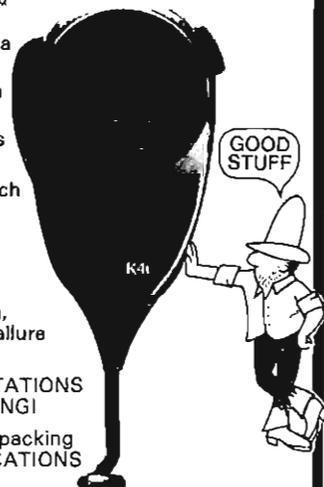
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Club Directory

Glasses and Contact lenses at the ready for this month's new additions to our famous Club Directory.

Here we go again with this month's new clubs. The full National Directory of Clubs will be appearing in a couple of months when space permits.

Remember, this is the most complete club listing and it's certainly the most comprehensive. We have been seeing our listings appearing in other magazines (complete with our mistakes) which is particularly annoying as it takes a considerable time to get it all together. If you see any of our material published elsewhere let us know and a suitable reward will be forthcoming.

In the meantime, to make our lives easier any new clubs wishing to enter their names into our Club Directory might like to use the registration form on page 65. Of course we still want to hear from you all and keep us up to date with all your goings on so keep the letters, reports, stickers and badges coming.

ALPHA 5 CBRC

Secretary: P Mason
30 St Andrews Avenue,
Pelsall,
Walsall WS3 4EN.

ATTIC BREAKERS CLUB

PRO: Shy Fox
Town Field House,
High Wycombe,
Bucks.

BEACHCOMBERS BREAKERS ASSOCIATION

Secretary: A Naughton
c/o 3 Thursby Road,
Highcliffe,
Christchurch,
Dorset BH3 5PA.

BLACK HOLE BREAKERS CLUB

Secretary: Pete Dyson
24 Abbeyfield Road,
Dunscroft,
Doncaster,
S. Yorks.

BREAD AND LARD ORIGINAL BREAKERS (BLOB)

PR: Heavy Spanner
Test Match Hotel,
Gordon Square,
West Bridgeford,
Nottingham.

BORDER BREAKERS CLUB

PR: Heathcote
c/o Cathedral Garage,
Weybread,
Harleston,
Norfolk.

BOURNE END BREAKERS ASSOCIATION

PR: Sly Fox
The Firefly,
Bourne End,
Bucks.

BREWERY TOWN BREAKERS

Secretary: Mrs S Holliday
Flat 5,
50 High Street,
Wern,
Shropshire.

BRIDGETOWN BREAKERS

PR: Desperate Dan
c/o Phoenix Social Club,
Hessle Road,
Hull,
N. Humberside.

BSA CLUB

Chairman: Ziggy Stardust
c/o 23 Henry Road,
Yardley,
Birmingham B25 8AH.

CAMPAIGN FOR 27 MHz AM CBRC

PR: The Ambassador
10 Lochnell Road,
Dunbeg,
Connell,
Argyll PA37 1QJ.

CANYON BRAKERS

Chairman: Iceberg
25 Newchruch Street,
Rantenstall,
Rossendale BBA 7QX.

CATHEDRAL BREAKERS CLUB

Secretary: Jim Curry
60 Middlebrook Road,
Lincoln LN6 7JU.

CHINA TOWN BREAKERS CLUB

1 Meadowside Avenue,
Stoke-On-Trent,
Staffs.

CITIZENS RADIO ASSOCIATED BREAKERS

PR: Sly Fox
Town Field House,
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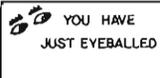
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AD INDEX

Acorn Trading Co	15
Ahlars Elektronika	2
Alpina Funk und Elektronik	18
Autocar Marine & Diesel	23
B. Bamber Electronics	44
Big Ears	33
Breaker One Four	64
Breaker 1-9	40 & 41
Breakers Discount Warehouse	28
Bridair Audio Promotions	19
CB City	52
The CB Scene	64
CB Services	61
Cee Bee Unlimited	58
Central Broadcasting Supplies	46
Chelmer CB Accessories	51
Chelsee CB Centre	22
Connexions	29
Custom Equipe	67
Etching Transfer Co	33
Fairfield Brokers	55
Feelgood Designs	19
Globe Communications	26 & 27
Gt. British T-Shirt Co	52
The Hira Company	47
J&D Promotions	16
Kennedy Cable Carriers	33
Karnow Audio & Sound	61
Knight Security	10 & 11
Kona Publications	64
Lowe Electronics	4
M.G.F. Electronics	65 & 68
Mura Electronics	5
NIC Models	39
Northern Communications	16 & 61
OCT Ltd.	34 & 35
021 Radio & Electrical	47
Sheffield Wholesale	58
Shellpost Ltd.	19
S.M. Electronics	55 & 61
Smile Recording Studios	64
Sprint Sports & Leisure	16
SSE	39 & 51
Telecomms	8
Tempus	44
Tritel CB	39
Wintjoy	68
Michael Wroot Enterprises	15

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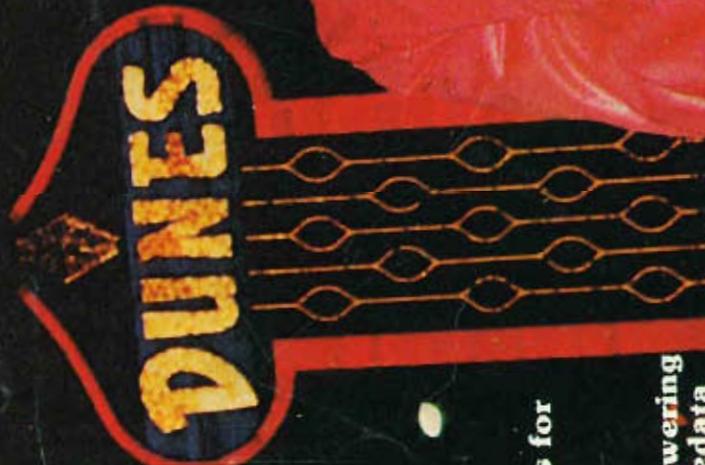
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