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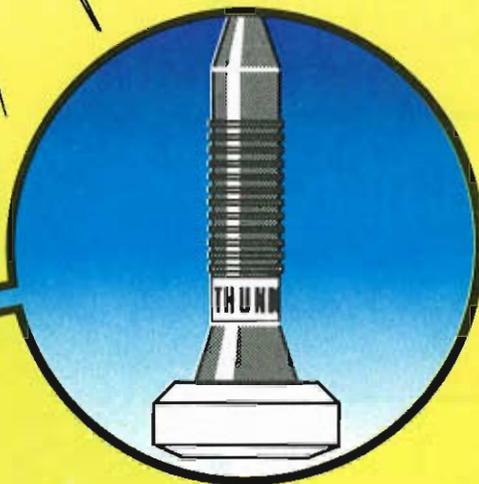
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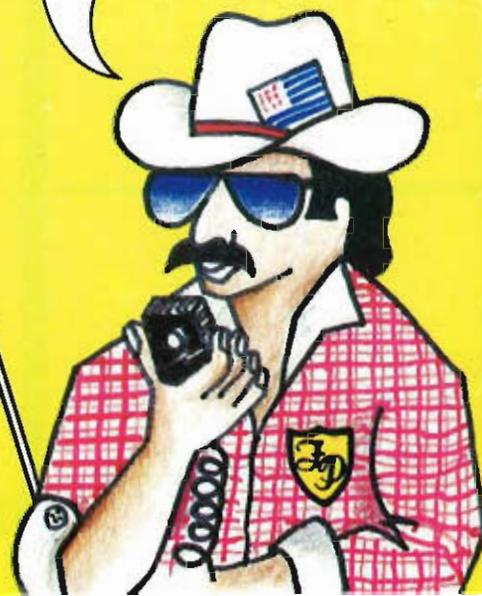
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Citizens' Band

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Cover This Month

On the front cover this month is the new Maxcom 30E — it's also put through it's paces in Rig Review.

Mr. and Mrs. Moggs decided to go to Spain for two weeks holiday.

Far from enjoying their holiday, it was a misery to them. The weather was too hot, the locals were too rude and the food inedible to their British tastebuds. Mum Moggs was soon in a bad way.

'If only' she said, 'I could have something proper to eat, like a nice boiled egg with toast soldiers'. Dad Moggs racked his brains and said 'I'm sure we can get some toast from room service and I've seen some hens at the bottom of the hotel garden. They look like good English hens, I'll get an egg from them.'

Down through the garden he went, passing everyone else fast asleep for the siesta. He found the hens, who immediately set up squawking and fleeing from the thief amongst them. Dad Moggs, determined to get an egg, chased after them.

One local looked up as the noise woke him and said to his friend... 'It's true what they say — ONLY DAD MOGGS AND ENGLISH HENS GO OUT IN THE NOONDAY SUN!'

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UPDATE

NEWS FROM THE WORLD OF CB NEWS FROM THE WORLD OF CB NEWS FROM THE WORLD

Who's Problem?

One of the most frustrating experiences for a legal CBER is a complaint of television interference from an outraged neighbour or even-less-polite relative who's evening viewing has been disturbed.

Of course, this isn't something that only legal CBERs suffer from. In fact, quite the opposite. Those using extra-efficient aerials, high power or AM equipment can expect to cause more interference because of the very nature of their equipment. However, because of this, illegal users usually try to run particularly clean stations and accept T.V.I. and possibly detection as an 'occupational hazard'.

For the operator who runs a legal rig, a legal antenna mounted correctly and follows the licence conditions, it's especially frustrating to receive complaints when he's gone by the book. It's often made worse by the upset neighbour claiming that his TV (or video or hi-fi . . .) was perfectly alright until the CBER started.

So what's the answer? The neighbour feels that no responsibility lies with him as his television has always functioned perfectly well. The breaker is equally entitled to say that his station is legal and it's not his problem either. The licence says 'The apparatus shall be so designed, constructed, maintained and used that its use does not cause any interference to wireless telegraphy' and if our mythical breaker's equipment conforms to this, you can understand him thinking "Why worry?".

For the sake of good community relations, most breakers show more concern than that and usually go to great efforts to resolve the problem.

Much of today's technology is centred on the 'chip' and microprocessor circuits. These are very

sensitive — unfortunately, sometimes too sensitive. This interference is likely to increase as more public communications facilities become available and these circuits are used in more — and more things.

To a certain extent, electrical goods are fitted with suppression equipment when they are manufactured, and some equipment standards insist on RF filters. These standards were set before the introduction of Citizens Band radio and before the increased use of the radio spectrum.

As I pointed out earlier, most breakers are responsible enough to try and reach an amicable solution with their complainants. I think it's time, though, we started putting pressure on the electronics industry to put it's own house in order. In the majority of cases, the fault and cure lies with the receiving unit rather than in the CB station, so television or audio equipment could be designed to be less sensitive to everyday radio transmissions and more effective filters should be

fitted as standard.

CBERs need to convince the world at large that the fault isn't always theirs. A breaker is a convenient scapegoat — particularly for an industry that is quick to claim that their sets meet particular standards without committing themselves to what those standards are. With co-operation on obstinate interference problems, the problem could then be eradicated on further equipment by design modifications. This is surely not beyond companies that hotly compete with each other to market the most sophisticated and advanced sets.

If you run a legal station, you have rights too.

As you will see from the contents page, Citizens' Band, plus all our 'sister' publications, has moved to a new address. The bookish delights of Charing Cross Road are being replaced by the peace and quiet (or as quiet and peaceful as it ever gets in Central London!) of a rather elegant square a half mile or so from our old address. All correspondence should now be sent to the new address listed.

Sue Sharp

OCTane Power

Company news from OCT International who are reorganising their sales department to offer a quicker and more direct service to retailers.

The company were concerned that, with the demise of many local retailers and their wholesalers, the OCT range of products, which include Thorobred and Pro-Tel, were not reaching the customer's attention.

To counteract this they have set up a telesales scheme, based on computers and a team of people who concentrate on getting to know individual areas and retailers. Once orders are received they are processed very quickly and

are delivered to the retailer within 3-4 working days by Atlas Express. For panic items, this time scale can be reduced even further. In this way, shops can replenish stock quickly and can obtain specially ordered items for individual customers without delay.

This has been working very well and has been a welcome replacement of the old 'van' system which had an increasingly depleted stock as the day wore on. OCT staff can now get to know their retail customers more personally and back them up with brochures and information on individual products.

New under the 'Thorobred' banner is a power supply which we should have on test shortly.

Motorway Heroes

When the car in front of them aquaplaned out of control and smashed into the crash barrier, Supertrooper (John Devonshire) pulled over to the hard shoulder whilst Porky (Mark Porter) sent out a 10.33. Dashing across the three lanes of fast moving traffic which as swerving to avoid the wrecked car, the two breakers then helped the shaken and shocked driver.

The accident happened on the south bound carriageway of the M23 near Gatwick Airport. Weather conditions were appalling, with gale force winds getting up to 70 miles per hour, accompanied by torrential rain that flooded the motorway with surface water — making driving extremely hazardous.

Three cars in front of John's Escort suddenly 'disappeared' one after another in a sheet of water, the drivers zig zagging as they fought to control their vehicles. Unfortunately the last car, driven by Robert Hope, a photographer from Peacehaven, East Sussex, went completely out of control, aquaplaning from one lane to another and finally slewing across the fast lane crashing into the central barrier.

Within five minutes of Porky's 10.33 being picked up by Base Station 33 in Crawley, two ambulances and a police patrol car arrived on the scene, by which time John and Mark had halted the traffic and manhandled the wrecked car across the motorway to the safety of the hard shoulder.

The two breakers then loaded all of Mr. Hope's camera equipment into their Escort and gave him a lift home to Peacehaven. Both breakers came from Slough and belong to the Mars Town Breakers Club.

British Citizens Band Council

Clubs, associations and formal or informal groups of breakers have been the backbone of CB from the very early days, when illegal breakers felt there was some security in numbers. These clubs have had a range of responsibilities and priorities, from a good night out to serious campaigning for the introduction of a legal system and licence improvements.

Without these clubs, I doubt that we would have a CB service in this country and many charities would be very much worse off. They work well on a local level but a widely accepted national group has been noticeably missing.

The CBA and Natcolcibar have both made great contributions to the CB cause but neither have been able to take up the mantle of the R.S.G.B. (Radio Society of Great Britain) for Citizens Band.

The need for an organisation such as this has been felt for some time and more than one reader of this magazine has written in suggesting the formation of an organisation that could look after the interests of all CB users.

Several ex-officers of both Natcolcibar and the CBA have taken up the challenge and started the British Citizens Band Council. This is in particular response to the criticism of the actions of a small minority of irresponsible users and in recognition of the fact that the organisations formed to campaign for the legislation of CB are not the best equipped to represent CB users now that CB is legal. The BCBC hope to focus the interests of responsible CBers and to present these interests to the authorities and the media.

They intend to represent all CB operators, including users on AM and SSB.

The published objectives of the Council are

1. To represent all UK Citizens' Band radio enthusiasts and users to both national and international Government authorities.
2. To campaign for improvements in the CB service (including the use of other modes than FM, protection of the emergency channel, a common European service, the detection and prosecution of deliberate abusers of CB and more rational equipment regulations).
3. To represent CB users to the media and to provide a source of reliable information.
4. To organise services and functions (QSL, insurance, rallies, repeaters — when legal on CB) for CB users.
5. To publish a regular newsletter.
6. Generally to act in all other ways as the governing body of CB radio in the UK.

Of course, all of this is 'pie-in-the-sky' if people don't join. Membership is open to individuals at £4 annually, but this is reduced to £2.50 for an introductory period. Clubs wishing to affiliate could do so by enrolling all their members and a discount for this is being discussed.

The BCBC is urging all members to hold a valid CB licence, even if they use illegal equipment. This will appear to be an unpopular move for some prospective members but the Council is quick to point out the current thinking within the R.R.D. Officers in the Department have said to both this magazine and BCBC founders that they can only consider changes if the numbers of users are high enough — and the only figures for users they can accept are those of licence holders.

More information and details of membership can be obtained from the BCBC, 26 Greenway, Kenton, Harrow, Middlesex.

Station ON4CLM

In November's issue of Citizens' Band we had an item in Update on the special station, ON4CLM, operating in Belgium at the end of October. Short wave listener Tony Bevis, who has also been known to modulate as Flashlight, sent the following letter.

"I received the special event station award that you referred to in the magazine and had the 6" x 9" multicoloured certificate less than three weeks after sending my report. The station was heard on 3.705MHz. (SSB) at 12.10 GMT on 29th October with ON6AAJ under very heavy QRM, and under better conditions at 16.55 in QSO with G4KLV.

"My receiver is a Yaesu FR101 and the antenna a Datong AD370 Active Dipole.

"I believe the special event was to commemorate the liberation of the town of Knokke by Canadian forces during the last war."

Tony is a member of the International Short Wave League.

Maxon Magic

The distributors of this month's Rig Review subject is offering an even better deal for new customers.

Maxon have extended the warranty period for the Maxcom 7E, 20E and 30E to two years, twice as long as is usual with consumer electronic goods.

There have been a range of promotions for Maxcom goods involving the retailer and customer, including a £10 voucher with Maxcom rigs which can be spent on a Maxcom cordless phone.

No sign yet of the Maxcon legal cordless 'phone, though. Ian Coaten of Maxcon Europe says it is now in the lap of the authorities, awaiting approval. Since bureaucratic wheels turn very slowly, this is turning out to be a very lengthy process!

The Wonder of Woody's

Many thanks to all the readers who drew our attention to the Woodpecker 'killer' featured in television's Tomorrow's World and advertised in amateur radio magazines. Smart Alec is too busy answering letters to watch television but missing RadComm is unlike him.

Anyway for those of you plagued by the infernal 'woodpecker' (and they are dying out a bit now) Datong have come up with a cure. The SRB2 Automatic Woodpecker Blanker cuts out interference pulses at both RF and AF on high frequency bands and operates completely automatically.

This is done by circuitry that analyses the Woodpecker signal and tailors the width, number and position of the blanking signal to match. It can even remove more than one woodpecker at a time. It acts by stopping the woodpecker signal from reaching the receiver's antenna input while the AF



blanker removes any remaining clicks from the loudspeaker. The SRB2 connects in series with the antenna and loudspeaker terminals and internal

modifications are not required.

Like all good ideas, it doesn't come cheap. The price of £86.25 includes VAT and the Automatic

Woodpecker Blanker is available from Datong stockists or from Datong themselves at Spence Mills, Mill Lane, Bramley, Leeds. LS13 3HE.

Westward Ho

A small follow up on the Westward PT2 that was featured in the November issue of CB. Some details were omitted as the handbook was not available at the time of his test. Here goes —

First the weight. The 'all-up' weight of the rig is 4.7Kg. or approx 10lb. The sealed lead acid battery pack doubles the capacity to 2.6A/hours from the figure that would be possible with ni-cad batteries. Charging time is 5 hours and expected life between charges can be up to three working days of eight hours, depending on transmission time. The battery pack is maintenance free and has a year's guarantee, with an anticipated life of five years.

There is also a range of accessories available too.

These are a stainless steel whip which fits to the rig directly and to the mag. mount which is also available. The mag. mount will also accept the 'rubber duck'. With the whip antenna, the range compares with that of a mobile. Distances of up to 100 miles have been worked.

Selective calling can also be fitted internally to the Westward and gives confirmation callback. This can be used to extend the system to switch external circuits and one user, with the set in standby mode so it is not affected by mains failure, triggers a remote alarm operated by the main burglar alarm system at his home.

The instruction leaflet will be supplemented by a handbook which is now in

production. It includes installation and use of the set, a section on battery care and a fault finding guide.

More information is available from Westward Electronics, The Mill House, Tuckenhay, Totnes, Devon. TQ9 7EL.

Next Month . . .

The March edition of Citizens' Band is chock full of goodies for the discerning breaker.

Under review is the Datong Tone Squelch, a Commtel antenna and hopefully, the new Thorobred Power Supply. There could be a cordless 'phone sneaking in too.

Keith Townsend continued his look at T.V.I. and it's causes and cures. For fans of D.I.Y., our

sister publication 'Hobby Electronics' opens it's archives to let us have a CB squelch project. This is a separate unit that is operated independently of the rig.

Mack should have got over his winter blues and all the familiar names and faces will be adding their distinctive contributions.

See you next month! The articles mentioned are in an advanced stage of preparation but circumstances may affect final contents.

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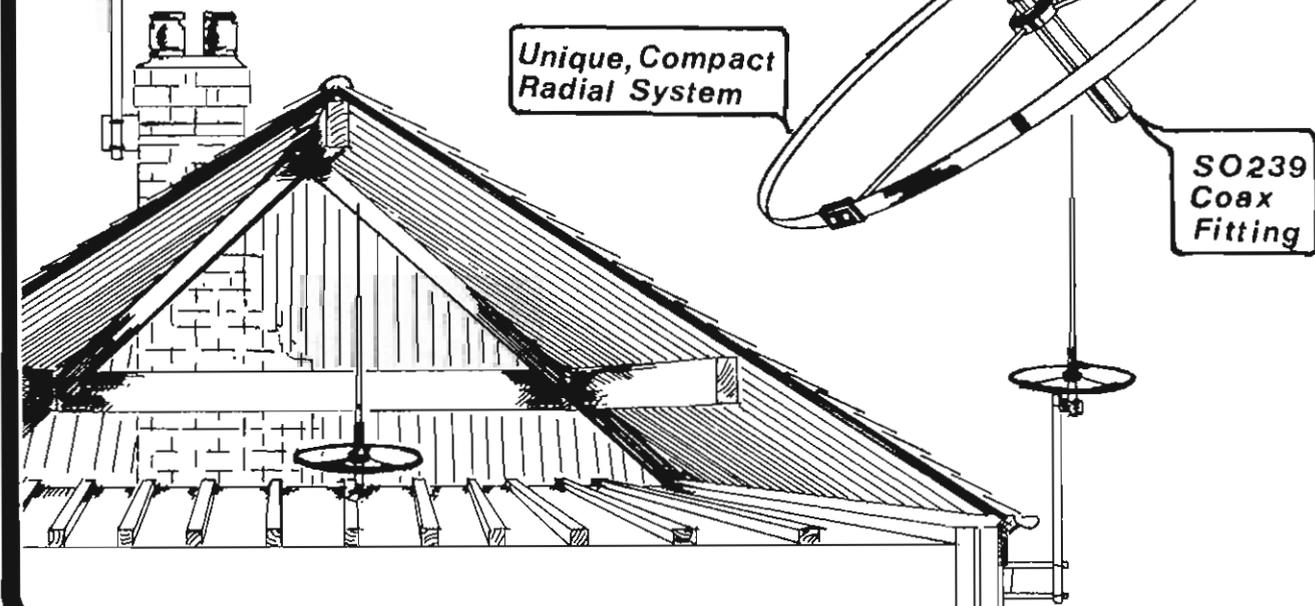
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Interference



As anyone who regularly reads Q & A will know, among the most common queries are those relating to interference, with particular emphasis on TVI. Keith Townsend explains the most common causes and effects in the hope of either preventing or curing the trouble.

If your transmissions are breaking through onto a neighbour's TV set, radio or stereo equipment the most sensible thing to do is get together and cooperate in finding the cure, before tempers begin to fray. Constantly causing TVI is about the best way I know of falling out with your neighbours and it is important to handle matters diplomatically. It may be that the real cause of the problem is a deficiency in the affected TV set, though this can sometimes be hard to prove, especially if your neighbour has little or no idea how his TV works. After all, it was okay until you brought your rig so, to many viewers, you must be to blame.

This understandable misconception can easily be overcome. All you need do is to prove that your own TV or radio is completely unaffected by your transmissions. After all, it will not help you very much if an irate neighbour finds a ally among members of your own household.

When considering how to introduce a legal CB system to this country, the Government's choice of FM was dictated by the fact that it is far less prone to cause certain types of interference than either AM or SSB. Unlike FM, both alternative modes of transmission vary in modulation depth it is precisely these variations which give rise to audio frequency (AF) interference, in which the audio output of the transmitter may be heard coming from the speaker of an affected TV or radio. Hi-fi equipment, with its high overall gain and output in the region of 15W per channel, is particularly prone to this form of interference. In essence the unwanted signal is picked up by one of the interconnecting leads between tape deck, record player, FM and AM tuners, amplifier and speakers. It then goes through all subsequent amplification stages, along with the wanted sound, until it reaches the speakers. Let me tell you that the final effect of an amplitude modulated signal at 15W per channel is most impressive, especially over the top of a quiet orchestral piece.

In the unlikely event that AF interference accompanies an FM transmission it is most likely to result from FM to AM conversion within a very selective receiver and the only

remedy lies with the owner of the receiver, who must identify which lead, or leads, within his equipment are acting as an aerial and then prevent the signal from entering the set, usually by fitting small ferrite beads at either end of the lead.

Although FM transmissions can not be held responsible for an AF interference they must share responsibility with all other modes of transmission for a wide variety of other types of interference and this should be borne in mind when first establishing a CB station. It is just as easy to prevent interference as to cure it and it often leads to a more peaceful life.

Although TVI comes in a number of forms and it will help to remember that more than one form may be present at a time, we can best prevent it by describing each type separately, starting with the most common form.

Overload

Just like a CB antenna, the TV antenna is designed to resonate at specific frequencies and to reject those outside its band. However, it is only capable of so much rejection and this level can easily be exceeded by the radio frequency (RF) field of a nearby transmitting antenna on any frequency. Where RF is concerned the old saying, 'double the distance, halve the strength', while not strictly true, is a good maxim to follow and if care is taken to site the CB antenna as far from surrounding TV antennae as possible the likelihood of sheer overload will be greatly reduced.

Remember that the relative height of the antenna will also affect the likelihood of interference. Set your CB antenna at the same height above ground as your TV antenna and you are asking for trouble. Although the CB antenna radiates in all directions, by far the greatest proportion of the signal at 27MHz. goes skywards and the amount of radiation below the antenna is reduced by the ground plane. Since the next strongest part of the field is at right angles to the antenna, care should be taken, wherever possible, to place the CB antenna higher than those for surrounding TV sets, even if this means going above the 7 metre point,

INTERFERENCE KILLS

INTERFERENCE OR CURE

at which the regulations call for the use of a 10dB attenuator.

The condition of the various antennae is also a significant factor in this form of interference. It is not enough to install a legal CB antenna, in the hope that because it is legal it can't cause interference. In general base loaded antennae are no better and no worse in this respect than many readily available but, as yet, unapproved types and even the best antenna imaginable will cause interference if it is incorrectly set up, badly located, or poorly maintained. This is also true of the TV antenna. Like any other mechanical or electrical device an aerial deteriorates with age and, although it might continue to receive a perfectly adequate signal on the required frequency its ability to reject unwanted signals will be dramatically reduced by the effects of corrosion, either of the antenna itself, or of the coaxial cable which feeds it. Just think for a moment. When was your own TV antenna installed and how long has it been since it was last

checked out? It is all too easy to put up an antenna and to assume that it will work efficiently for ever and a day and I am afraid that breakers and TV viewers alike are guilty in this respect.

Fitting a high-pass filter to the coaxial feeder of the TV set may prevent a strong unwanted signal from reaching the set via the antenna, since its purpose is to prevent the passage of signals on frequencies below the response band of the TV receiver, but this is really only masking the problem rather than preventing it.

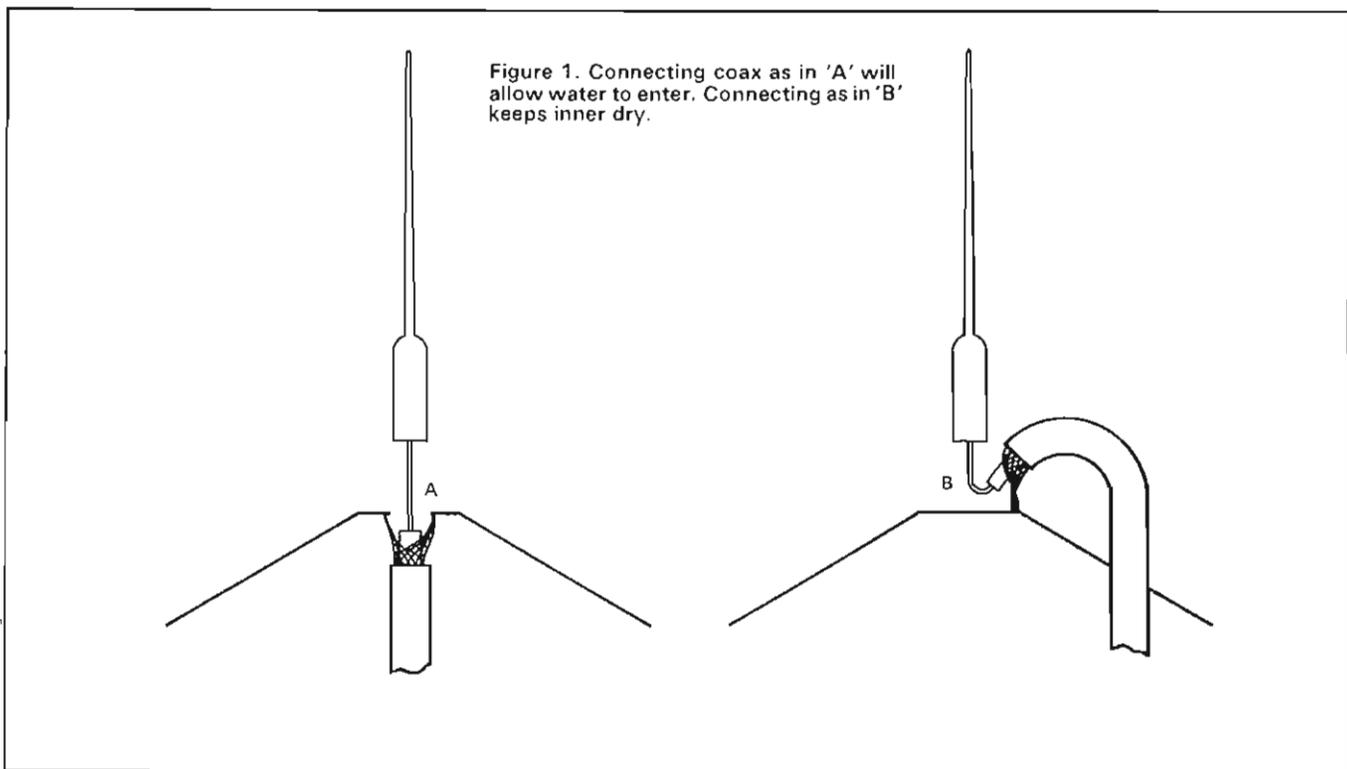
Living in high rise blocks brings its own problems. In many such cases the TV sets are fed from a common antenna and the multiplicity of coax lengths and connections makes it almost a racing certainty that the presence of a CB set will mean interference somewhere. In such cases your only choice of solution may rest between fitting high-pass filters to the affected TV sets, reducing your transmitted power, or a combination of both.

Set-top TV antennas create a

number of interference problems, since their gain at unwanted frequencies is relatively low. This causes weaker reception of the desired programme, with the result that it will be 'swamped' by a much weaker unwanted signal than would be possible with an external TV antenna.

Another point worth bearing in mind is the fact that receiving antennae are far more susceptible to interference from a transmitting antenna set in the same plane. For example a horizontally polarised CB antenna will create far more problems than one which is vertically polarised in an area where TV reception is by means of horizontal polarisation, whilst the reverse is true in those areas where TV sets use vertical antennae.

In many circumstances the coaxial feeder cables to either the CB rig or the TV receiver can contribute to the interference. Correctly resonated coaxial cable has current flowing along the outside of the inner conductor and returning along the inner surface of the outer braid. In the case of some of the cheaper types of coax this outer braid is not thick enough to prevent current from leaking through to its outer surface. Opening the end of the feeder and fixing it to the centre of, for example, a dipole will allow the received energy to flow along both surfaces of the braid, at the same time collecting local interference which will be conducted via the antenna to the inside surface. Current present on the outer surface of the braid during transmission can be radiated, leading to changes in the CB antenna's polar characteristics and resulting in excessive voltages on nearby TV antennae. Since water is a



magnificent conductor the same effect will occur, even in good quality coax, if damp has been allowed to permeate it. To prevent this from happening it is advisable to join the cable to the antenna in such a way as to prevent water flowing from the antenna getting inside it. See Figure 1.

In a large number of cases TVI directly attributable to CB transmissions, the TV receiver coax has been found to be the direct cause of the breakthrough. TV antenna feeder in many houses is between 10 and 11 metres long and provides a near perfect receiving antenna at 27MHz. Altering the feeder length so that it does not resonate at 27MHz. is the easiest way to cure the problem. Alternatively winding each end of the cable through a ferrite ring as in Figure 2 should help.

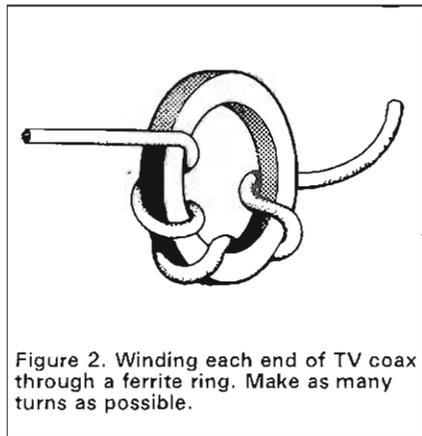


Figure 2. Winding each end of TV coax through a ferrite ring. Make as many turns as possible.

The foregoing points should be remembered when choosing the path which the coax will take from your rig to your antenna. Never route it alongside the feeder to your own TV and take care to ensure that it is separated from that of your neighbour's TV by more than just the thickness of a dividing wall.

A common method of preventing an unwanted signal from entering the TV set is the inclusion of a Faraday loop (Fig. 3), designed to 'bleed off' any current present on the outer surface of the coaxial braid to the TV set. This type of filter consists of two sections of coaxial cable. Cut away a small amount of the outer sheath close to one end of each section and solder the other end of the inner conductor to the outer braid at this point, forming a loop. Repeat the procedure with the outer piece of cable then adequately insulate both joints. Now tape both loops together so that the free ends face in opposite directions, making sure that there can be no electrical contact between the sections. Coaxial plugs should now be fitted to the open ends of the assembly, which is then installed between the TV set and its feeder. Some trimming may be necessary to achieve optimum performance, owing to standing waves on the feeder. The main drawback with this form of filter is that it will attenuate the wanted signal and is, therefore, of use only in strong reception areas.

Another common way to filter

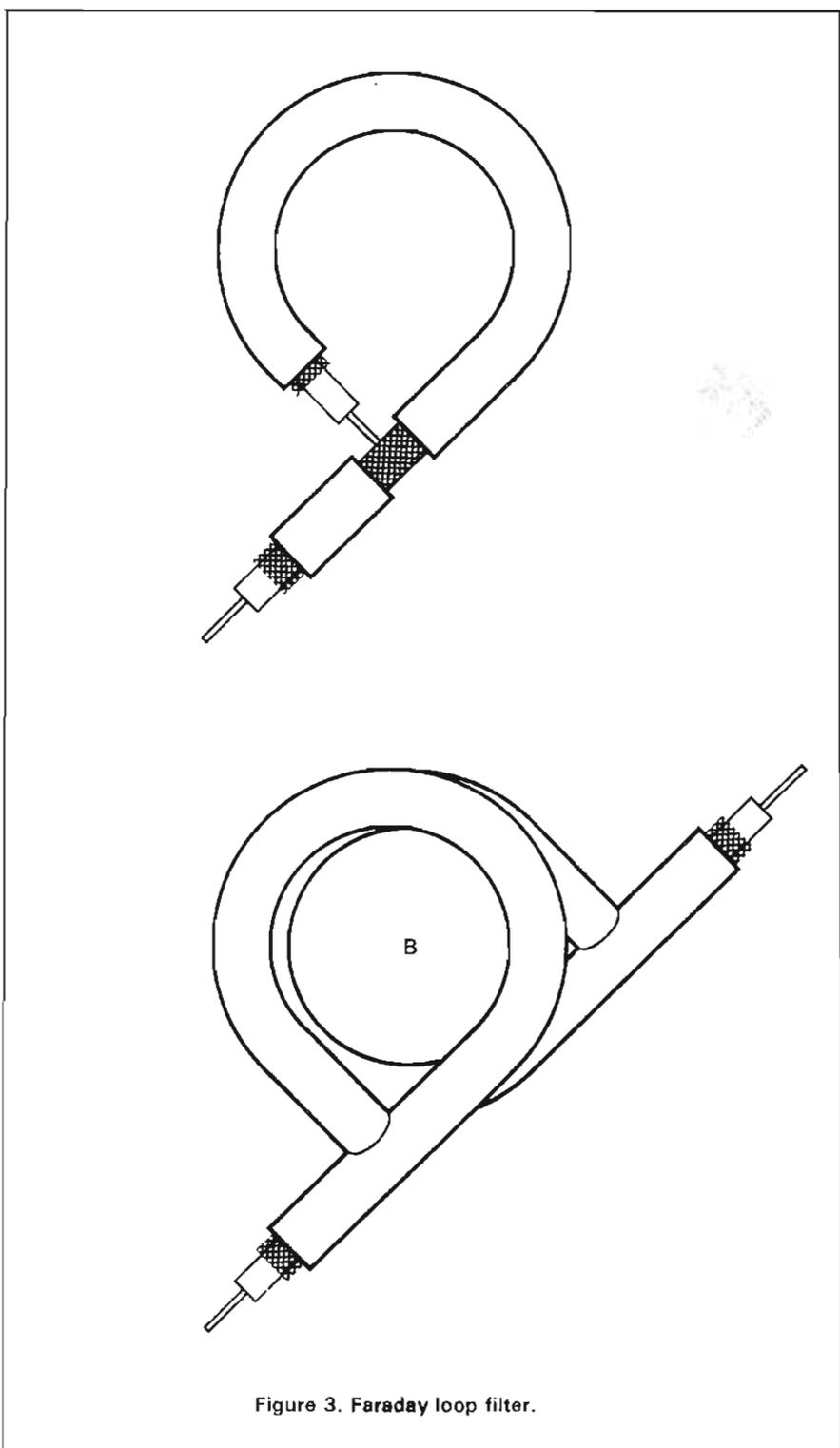


Figure 3. Faraday loop filter.

unwanted signals from TV feeders is to place an open circuit stub across the feeder at a quarter wave of the interfering frequency, thus short circuiting the unwanted signal. Since such a stub for 27MHz. would need to be about 9ft long it may be somewhat impractical but, if undertaken, the stub should be made slightly longer than necessary and then trimmed for maximum attenuation. This can be done with the TV set switched on.

Just to make life more complicated it should be remembered that curing one form of TVI might easily cause another. For instance, moving the TV antenna out of the direct field of the CB

antenna might prevent direct overload but the required change in feeder length might cause the feeder to be more susceptible to interference. Using a low gain TV antenna in an area of poor reception makes interference easier but, conversely, using a strong antenna in a very good reception area may cause overload at the receiver, making it more susceptible to interference.

Interference and its causes and cures is such a complex subject that it is only possible to discuss one small area at a time. Next month we will move on from antennae and examine what might happen once we add a rig.

TWONG

LOOKIT OUR HERO, THE GODLING TWONG! HE WHO FELL FROM HEAVEN! HE WHO PATRONISES C.B. RADIO! HE WHO LOOKIN' FOR DRUGS IN THE EMPTY NEWCASTLE BROWN ALE CHNS! HE WHO HEE-HEE!



HAA! ME NEED SUP OF MORTALS NEWCASTLE NECTAR! MEBBE MY FAITHFUL AN' WONDERFUL FAN, RAG DOLL, WILL LEND TWONG SOME QUIDS, HUH? WULLYA? HUH?



HOKAY! TWONG KNOWS WHO HIS FRIENDS ARE! TWONG WILL SEND MESSAGE TO BILLIONS OF C.B. FANS FOR SOME QUIDS!

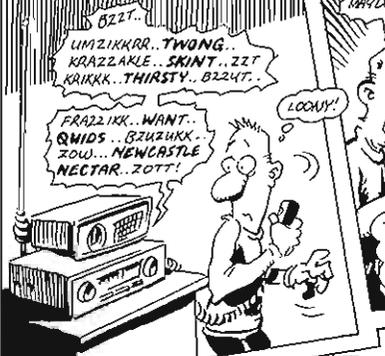


AND SO OUR HERO PUTS OUT ON ALL WAVELENGTHS, WITH ALL THE POWER OF HIS GODLY MIND...



... AND SURE ENOUGH HIS PLEA IS HEARD... AS FAR AWAY...

... AS THE NEXT STREET!



... BUT THE MESSAGE IS PASSED ON!



WELL HE'S NOT GETTING A DRINK OUT OF ME 'COS THIS LAST TIME HE PEED ON MY PRIZE ROSES!

I THOUGHT THAT WAS GOOD FOR ROSES!

NOT FROM 3,000 FEET IN A BOTTLE!



AND TWONG GETS HIS REPLY...



'Y SEE!! FOLKS KNOW YOU'RE A LOONY! SO NO ONE'S GONNA BUY YOU BOOZE!

RUBBISH! TWONG IS BELIEVED BY ALL MORTALS! RAG DOLL JUS' JEALOUS 'COS ME SO HANSOML!

ALSO, ME IS PLENTY DEVIOUS AN' TRICKY!



ME WILL USE GODLY SKILL AN' LURE NECTAR CHARIOT INTO TRAP!



ATTENTION, DRIVERS OF NEWCASTLE NECTAR CHARIOTS! THIS IS YOUR HEADQUARTERS SPEAKING!



IN ORDER TO AVOID THE CLEVER AN' HANDSOME LOONY, YOU WILL USE THIS NEW ROUTE! (SMUGGER)

THE EXTREMELY DEBONAIR LOONY NEVER GOES THIS WAY SO TURN LEFT...



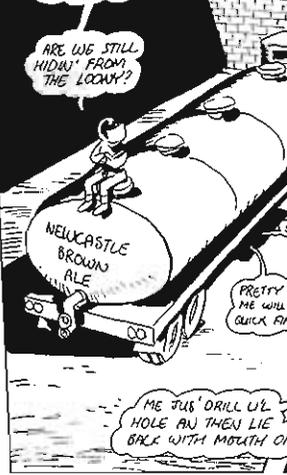
HAA! DRIVER OF NECTAR CHARIOT PLENTY THICK! CHARIOT FOLLOWER! MY INSTRUCTIONS REAL GOOD!



NOW ALL ME HAVE TO DO IS WAIT IN FAT, AN' WHEN CHARIOT STOPS ME HAVE ALL THE NECTAR ME CAN DRINK!



HOO, FRED! HOW COME WE STOPPED IN THIS HERE BALK ALLEY?



'GUESS SO' D'YOU FANCY A QUICK ONE WHILE WE WAIT?



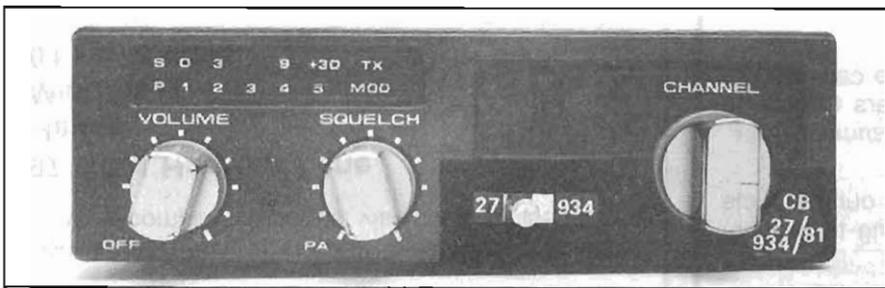
THIS WAS A GOOD IDEA OF YOURS, FRED! GOODNESS KNOWS WHEN WE'D HAVE HAD TIME FOR A QUICK ONE WITH THAT LOONY RUNNING ABOUT!



YEAH! S'JUICE HERE, INNIT?

IT'S TIMES LIKE THIS WHEN YOU FIND OUT WHO YOUR REAL FRIENDS ARE!





The Citizens' Band 27MHz/934MHz. Microvox. April Fool . . .

Two for One?

Trevor Boulton starts off on the right foot and begins his letter with 'Sir Smart Alec' . . .

Q Could you tell me if it would be alright to put a 934MHz. board into my normal 27MHz. rig. Would it still be legal and would it cause any damage to my rig? Could I use a Thunderpole with the 934MHz. part of my rig or would I have to have an antenna that had been designed for 934MHz.

A Oh dear, there's rather a lot of misunderstanding at the root of this letter. To go through your letter by the questions you raise Trevor;

there isn't as yet a board available to put in, and even if there was, the circuitry would make it much bigger than, say a roger beep circuit. All the necessary bits and pieces would make it as big as the board for the 27MHz. —and I doubt that there would be the room to spare.

it would be legal as long as the specifications for each frequency were met,

as the board just isn't available, the question of damage to your 27MHz. rig doesn't really apply,

NO. The Thunderpole, good as it is, wouldn't work for 934MHz. The wavelength at that frequency is quite different to the 27MHz. wavelength and the Thunderpole is matched to 27MHz. You would cause great damage to the 934MHz. set by using unsuitable aerial, and all 27MHz. aerials are unsuitable.

At the moment the technology for UHF CB just isn't developed enough to permit this type of 27/934MHz. combination and it may well prove impractical in the long run to attempt it. Is this a case for a Citizen's Band Microvox?

SA

Down Under

A letter from the Flying Kangaroo with a question on AM CB . . .

Q I have recently arrived from Australia and my rig is on it's way over by boat.

It's a 23 channel AM rig and operates from 26.9 to 27.5MHz.

What I would like to know is will it work and if so, will it be legal and licencable. If not, can it be converted in any way?

A Your set will work, of course, if connected up to a suitable power supply, but that isn't going to be your problem. Firstly you might not even get it into the country, as it operates on

frequencies that are not licenceable for British use and the Customs and Excise dept. may confiscate the set on entry. As you can guess from this, your set would not be legal to operate and you would not be able to licence it.

People do still use the FCC CB system in this country so you would have some people to talk to. If you used the set though, you would be risking prosecution if you were caught.

Information on the British CB system is available through books or Government publications (and by reading this magazine!) but in essence, slightly higher frequencies are used, with forty channels and using FM only.

SA

Turn it up

Tim Willets in the West Midlands is suffering from badly received signals . . .

Q The position of my aerial means that I need sixty feet of co-ax to connect to to my Midland 2001. The quality of my received signals is very poor. I have attached an extension speaker but this has made no difference. Would a pre-amp be any good and if so, could I run both pre-amp and rig off the same power pack?

A The short answer Tim is yes and yes.

A pre-amp should help a lot with improving the signal reception. Ideally, it should be located at the antenna end of the system. Obviously that's not practical in your case, unless your antenna is situated in the loft, but it won't make too much difference if it near the set. The power consumption of a pre-amp is very low and can be run from the same power supply as the CB set.

SA



The Midland 2001

Domestic Hiss

From Prudhoe in Northumberland, comes a letter from S. Smith with a high pitched noise on channel . . .

Q I have a Grandstand Hawk CB and everytime I talk to my friends where I live there is a high pitched noise which prevents me from hearing my friends on the rig. Can you please tell me what could be causing this, and is there anything I can do about it?

A I think that some kind of interference is at the root of this. The most likely thing to give this type of constant noise is a domestic appliance that is always switched on, or fluorescent lights or a light dimmer. Unless you can find or identify the culprit and directly deal with it I suggest that you use the rig in another room and see if the noise persists.

The other, outside, chance is that the CB aerial is picking up interference from the television aerial. Try re-locating your CB antenna away from the TV aerial.

SA

Ups and Downs

Brian Jolly has got a problem with his CB in his Dad's car and has 'automatically' turned to us. . .

Q Please can you tell me why, when I put my CB in my Dad's car and SWR it in, the automatic car radio aerial pops up when I press the mike key and goes back down when I release the key.

A It would seem that the transmit button is generating an electrical field around the CB set which is affecting the electrical systems in the car and activating the aerial.

The cure depends on your Dad's abilities with a soldering iron and the resources of his wallet. The easiest answer is to try another set and see if the problem persists. If not, then it is your particular type of CB that causes the problem and the most effortless way out would be to replace the CB. This is also the most expensive solution.

The most permanent cure is to do a small soldering job. A 0.1 microfarad capacitor across the switched live and earth that goes to the car radio aerial should fix it. This should be as near the aerial as possible. If your Dad is not sure how to do this, he should get someone qualified to do it for him.

SA

Problems should be sent to
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G.A.P. RingoPlane	£T.B.A.

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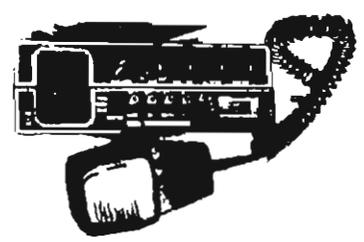
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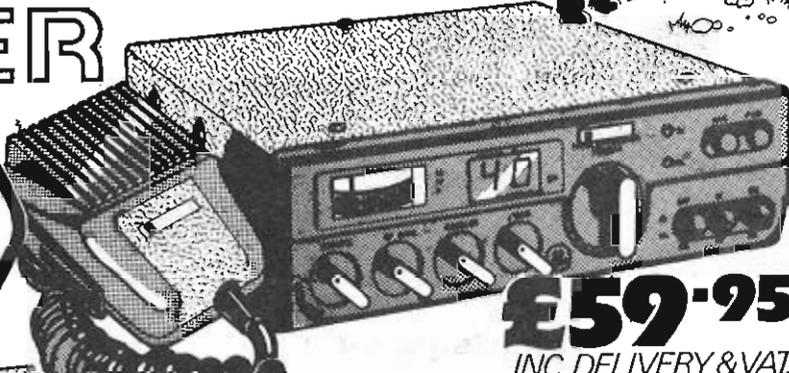


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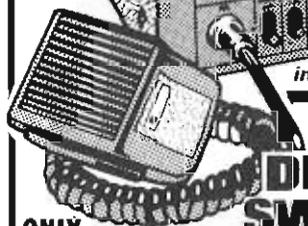
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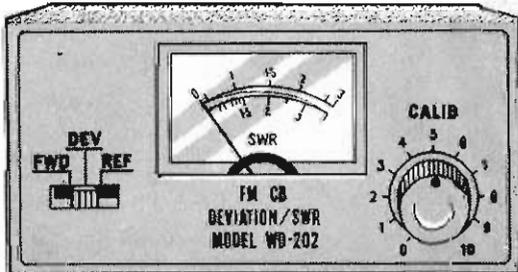
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4. POWER: 13.5V/DC ±10%
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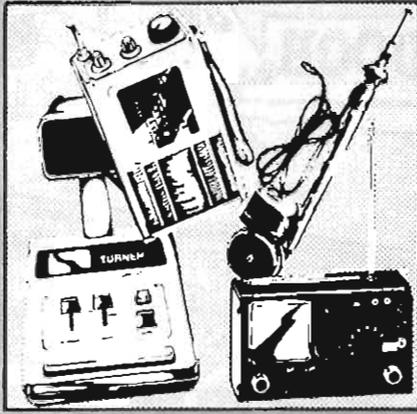
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Equipment Review



Has a cordless phone got any strings attached? Chris Sheldon tests the A-Phone TP125 and finds out.

TAKE THE A-PHONE





ne of the great things about cordless phones is watching how your friends react the first time they are confronted by them. Everyone I know

leaps upon them like a new toy, dials the first number that comes into their head, and when their call is answered, they get up, walk round the house and give a running commentary at the same time. For example: 'Hello — hello, mum? Yes it's me. I'm calling you on a cordless phone so I can walk about. I'm going down the stairs now. Yes? Yes. I'm outside the front door now, and I'm crossing the road. Can you hear me above the traffic. Yes it's very busy out here I . . . waaargh! (Screech of brakes and dull thud)'

Well alright — so perhaps it isn't always quite like that, but you'd be

surprised how many people get itchy feet with one of these phones, and when it's as functional and efficient as the TP-125, you can understand why.

Operating on a base to remote frequency of 1.6 to 1.8 MHz, and remote to base around 49.8 to 49.9 MHz, the two pieces look well made, with that solid, chunky feel about them. The base unit plugs straight into the mains system, and has it's own telescopic aerial, which only really has to be extended when you're using the handset out of the house and down the garden. The unit also has two tell-tale lights, one to show that it is in operation, and the other to indicate that the handset is being charged.

The handset itself is laid out like any other receiver/dialler, has a nicely weighted feel to it, and a ribbed back that helps it to stay in your palm, not on your feet, no matter how sweaty your hands are! It has it's own telescopic aerial, touch-pad dialling layout with re-dial facility and a speak/standby switch. Depressing this last switch will clear the line for you, which is quite handy. Again, there are just two idiot lights on it, one to tell you that the handset batteries are running low, and another to tell you that the 'speak' switch is in the 'speak' position. On the side of the handset are two smaller switches, the main on/off switch, and a volume switch with hi/lo positions which controls the volume of the earpiece. The battery charge contacts are two small metal strips set into the bottom of the handset.

Powered by rechargeable nickel cadmium batteries, the handset is charged automatically when it is left in the base unit, and the main switch is in the on position. When it arrives, the unit is in an uncharged state, so you should really leave it plugged in for around ten hours before you start to use it. Once you've done that, you're ready for a new kind of freedom.

In use, the warbling ringing tone that accompanies an incoming call is plenty loud enough to attract your attention, whether you've left the handset with the base unit, or taken it down the garden. One useful facility is that the TP-125 has a call button on the base unit that produces a warbling tone in the handset (quite different from the one heard when there is an incoming phone call) which can be very useful. It saves time if you want to call someone down the garden back to the house, or if you've answered the phone call on the extension, to attract the attention of the handset user.

Anyone used to a push button phone will soon find their way round the TP-125's handset. The numbers are arranged in the usual way, with the 'redial' button next to the zero in the bottom right hand corner. The small 'asterisk' button on the left of the zero is for use with an integrated telephone system fed through a separate switchboard, so for most domestic users (you and me) it does nothing at all and can be forgotten about.

The handset weighs in at a meaty 350 grammes, which isn't heavy, but

which certainly let's you know you've got hold of something, unlike many other of the 'toy' cordless phones. The range is quoted at 'up to 700ft' with both aerials fully extended, but, of course, if the surrounding conditions are right, you'll probably be able to better that. I certainly did. You'll know when you're reaching the edge of the useful range as the static gradually begins to get louder.

If you're using the set-up in your home, and you've already got a rotary dialler phone fitted, when you dial out on the TP-125, you'll get a high pitched tone from the earpiece that lasts only for as long as it takes the base unit to complete the dialling. It's just that push button phones and rotary aren't compatible in this way, but it won't bother you very much.

I loved every minute of my time with the TP-125, and got to like the chunky rounded lines of the machine. I kept making phone calls just so I could use it a bit more (er . . . Sue? Can I claim my phone bill back from the mag? You will make sure this doesn't get printed won't you?), and even when the novelty wore off a bit, I found it so much handier to use than a normal phone. Just keeping it with you while you move about the house can save you time, and once or twice I even nipped down the road to my corner shop with the handset, still making a call!

At the price it has to be value for money, and the design and construction make it definitely worth considering. The TP-125 has a locked-out system that claims to keep other signals from other cordless phones operating your base unit — which is a good idea though I never really found out how effective it was, as no-one else in my area has got one of these. Even so, a lot of thought has gone into the design, and it has definitely paid off. It's so good, I can only wish it was legal, which it would be in any properly organised country!

CORDLESS PHONE REVIEW DATA PANEL

Model TP-125
Distributor
Typical Price £79.95

Features	Yes	No
Rechargeable Batteries	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IN USE Lamp	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Intercom Facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Auto Redial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Privacy Button	<input type="checkbox"/>	<input checked="" type="checkbox"/>
External Antenna Facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Security Code	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hand Free Operation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Range	700ft	

FREQUENCIES

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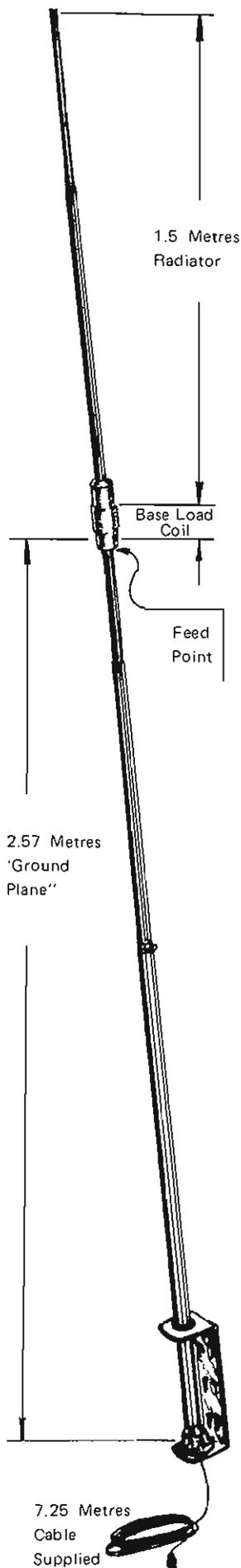
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It's surprising what some people will do for fun — how about 6½ hours on a raft in a cold river?

MESSING ABOUT ON RIVER

Each year in early October, the Totnes Round Table organises a raft race to raise money for charity, held on the River Dart between Buckfast and Totnes. The scenery is beautiful and this, with the varied river conditions, is leading to the competition becoming nationally known and attracting competitors from all over the country. In 1983 it attracted the attention of T.V. and this exciting and picturesque event became the subject of a television documentary.

The local CB monitoring service, Station Delta, Totnes, joins in each year and creates a network of communications to cope with general information and to assist with any emergency that may arise. This involves co-operation with the police, ambulance service and the Round Table.

In 1983, this sponsored 'struggle' as it has become known, had nearly 2000 competitors and over 300 rafts, so it was a busy time for Station Delta, Totnes — but is also had it's lighter moments as we shall see.

To give some idea of the problems involved, the struggle is held over a 10 mile stretch of river in hilly and wooded country and communications were needed at ten checkpoints. Some of these checkpoints were inaccessible by road and Westward PT's were used where mobiles could not reach. Instant telephone access was required so a co-ordinator, Daffodil, was installed next to a home base rig high on the hill above Totnes where she could stay in contact with all the checkpoints.

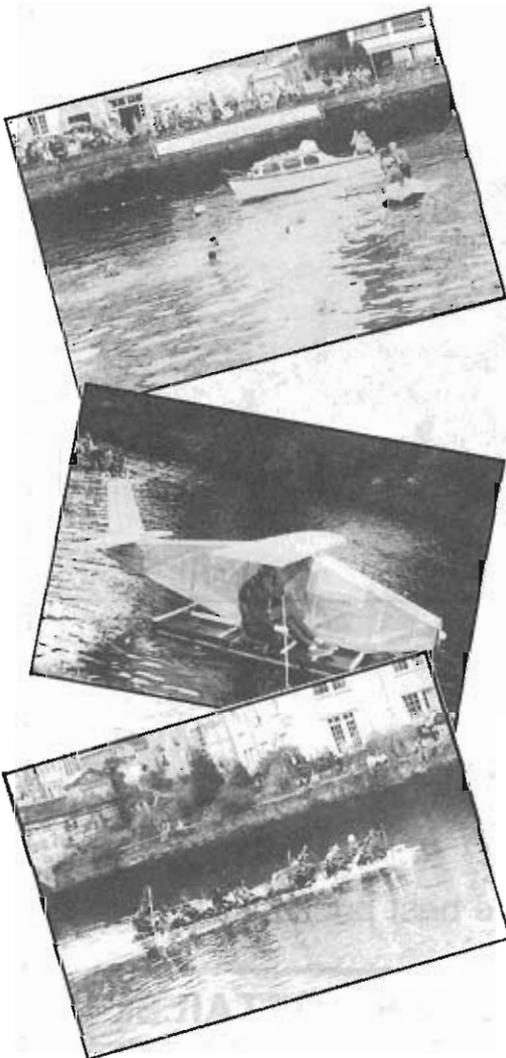
For two weeks prior to the race it was broadcast on Station Delta's news bulletins that the raft race communications would be on channel 30. This was to enable the two channel hand-helds used by the Red Cross to remain in contact with Station Delta. The response from local breakers was magnificent and apart from one exception there was a clear channel all day.

Mike Sierra, or Mervyn Stanley of Westward, takes over from here with his diary for the day.

7.30 am. An unheard of time for most of us, apart from Postman Pat, who is ... a postman! We assembled in the centre of Totnes and dispersed to our various points. Tin Tin was at the start, B.J. and Avenger were at Salmons Leap Weir, Birdman and Copycat left for an isolated spot called Davey's Pit where no radio operator had ever ventured before — because on previous years we had been unable to find it! Tinman was at Hood Weir, Hedgehog and Solitaire were to go to Staverton Bridge and Postman Pat and Saucy Nancy were off to Steverton Weir with their CB equipped motorbike — but they fell off right in front of us as they turned around. Of course, showing real concern, we all laughed like drains. Woodville Pumping Station was manned by Florence Nightingale, J.B.1. was at Totnes Weir and myself, I was at the finish, whilst Polecat, Tentpeg and Pink Panther were at the raft compound and ambulance parking area.

8.30 am. Polecat and myself, after struggling with an unruly antenna, were visited by a T.V. crew. We did a rig check from all points to the finish to demonstrate to the viewing public the usefulness of CB and happily all stations came in nicely to me and Daffodil.

10.00 am. The first raft had left but J.B.1 and Florence Nightingale were still touring South Devon trying to get to their respective positions. J.B.1 was totally lost and putting out plaintive cries for help whilst Florence Nightingale was engaged in removing a South Water Authority gate because she had been given the wrong key. Her notorious green Capri was stuck across the Dart Valley Railway line and she was hoping and praying that 60 tons of preserved steam locomotive did not decide to thunder down on it. Meanwhile Birdman and Copycat had endured a hair raising ride across a field in a farmer's Land Rover to get to



THE

Davey's Pit. Tinman was trying to persuade another farmer that he was an official radio car and not the first of a swarm of spectators and eventually won the day. B.J., acting as a despatch rider, had been chased by the police, blowing their whistles, as he sped over the field. I was having trouble hearing the transmissions coming in due to the enthusiasm of the Totnes Brass Band and their repertoire of Souza. Chaos!

11.00 am. Things had settled in nicely and the first rafts were well on the way. Everyone was in position and fully operational, so all the chaos seemed to have been worthwhile. We had a mobile operator on the river in the form of Pipebender and his boat — he was patrolling the stretch between Totnes Weir and the raft compound.

12.00 noon. We had our first emergency, a serious accident at Davey's Pit. Birdman called the police helicopter which was in constant patrol over the river and they landed. They were able to take the injured man in a helicopter and the unfortunate casualty (who had a severe concussion) had to endure a long and bumpy ride in the back of a Land Rover to the nearest ambulance one and half miles away.

12.30 pm. The fastest raft had finished the course although the slowest were not due in at the finish until 6.30 that evening (that is, the ones that were still afloat!).

1.00 pm. Hedgehog found that his Westward gave a good copy from the saloon bar of the Sea Trout Inn, having left Solitaire in charge. It was found that two people were needed at each position so that the operators could have a break now and then. Daffodil coped on her own, but vows that next year she will have a relief operator on hand. B.J. sent in yet another message that he was hungry!

2.30 pm. And an emergency in the rapids at the back of beyond, above Hood Weir. We were attempting to get the exact location of the incident to direct the ambulance when we suffered our one and only setback... a mike keyer 30+ of carrier on top of the Tinman every time he tried to give the correct position. We even tried channel 9 but the keyer followed us down. This was the only incident like this that we suffered during the day, but we did have a prime suspect and a word in our friendly Police Inspector's

ear resulted in a swift call to a certain house. The suspect denied it, but we had no more trouble that day. If the culprit reads this, he will be pleased to learn that he held up the ambulance by thirty minutes, causing some distress to a young lady with a broken ankle. Meanwhile B.J. (still hungry!) and Avenger were moving on foot looking for the incident and both of them fell down a thirty foot bank into the water. Luckily no damage was done to either themselves or the rig.

3.30 pm. Florence Nightingale helped pull a crew of three from the river at Woodville. They were suffering from hypothermia after the raft had sunk. She took them at hair raising speed (in the green Capri!) to meet the ambulance on the main road. They were extremely grateful to her and showed their appreciation by donating a large quantity of the River Dart to her car!

4.00 pm. The slowest and most interesting rafts were coming through now. These were in the novelty class — one of my favourites was powered by a dinosaur. One raft (actually the winner of the novelty class) 'Plane Sailing' had somehow travelled the whole course without going through any checkpoint and was reported missing. Coupled with that, because of an error in reporting the number of another raft whose crew had been taken off to hospital, distraught relatives of the Plane Sailing crew went off to look in the local hospitals for them. Five minutes later, Plane Sailing came under the bridge in perfect shape. This was the only mix-

up of the day and our apologies to all. At times there were groups of rafts coming through together and getting each raft's number was tricky at times. A typical conversation with Postman Pat went like this as a crew of four nubile young ladies floated past, 'What's your number, please?' 'Torbay 267...' He should be so lucky!

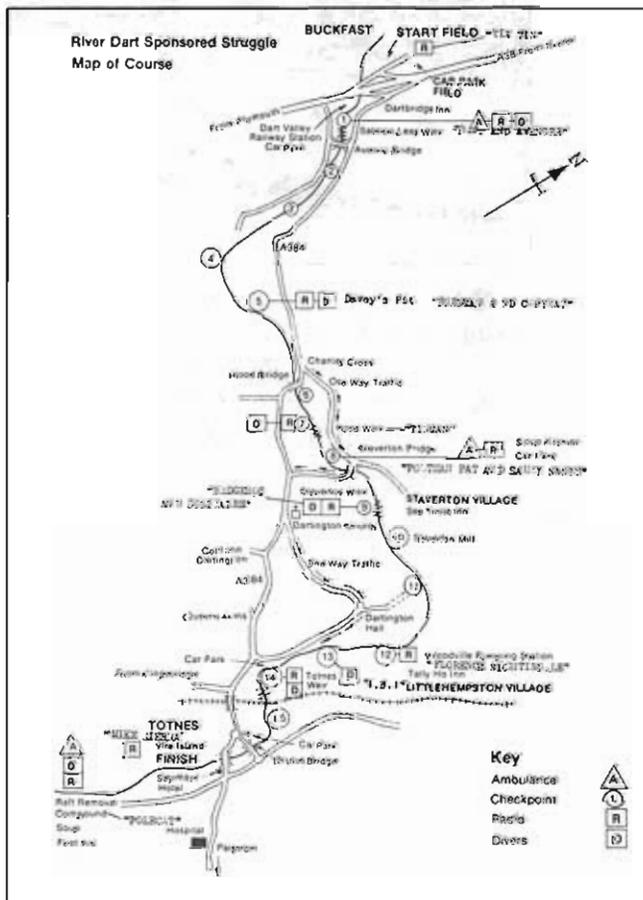
At the end of the 'struggle' it was amazing to see all the people who at Totnes Weir had groaned with pain and trepidation at the thought of another mile arrive at the finish cheering and in high spirits (if more than a little wet). Most of the CB operators gathered at the finish to be issued with a free pint and hot pastie for their efforts during the day. The only one to miss out was B.J. — perhaps he had dashed off to raid his own larder!

At a later meeting of Station Delta we all swapped experiences and agreed that a thoroughly enjoyable time was had by all. I think that we proved that CB could be a useful facility as well as an enjoyable one. Even our local Police Inspector said he was impressed with our performance. Praise indeed! Next year there will be a direct link up with the police radio network, we hope.

As a last footnote many thanks are due to all the operators and sincere thanks to all the local breakers who kept channels free for us. The Totnes Round Table estimate that the raft race will have raised £20,000 for charity and we look forward to another 'struggle' next year.

CB

The route of the "struggle" on the River Dart from Buckfast to Totnes



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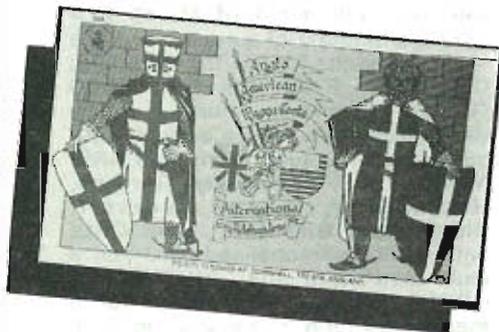


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Threats abound as Mike tries to fit in all the names and cards in the QSL postbag.



COMMUNICATION THE QSL WAY

As I put pen to paper I just read the DECEMBER issue of CITIZENS' BAND MAGAZINE, and was quite upset at the near-demise of fellow columnist MACK THE HACK, due solely to the low-IQ types that pollute the CB airwaves. As many of you know, I was one of those like Mack who spent literally hundreds of hours (and pounds) writing letters and campaigning for legal CB, as well as travelling to any respectable pro-CB demonstration we could find, and I, as Mack sometimes get downhearted at the CB situation in and around the London area. Fortunately I do have to travel about on business and REACT meetings around the country, and I get my re-assurance from seeing CB actually work in other parts of the country. I sometimes ask myself is some of the problem caused in urban areas by bloody-mindedness or just sheer ignorance? A couple of evenings ago I was having a quiet modulation with some super breakers, SUPERMUM and BLUE DAWN not too far distant from my own home 20 when we were interrupted by two juvenile CB users (note I do not refer to them as breakers — you have to earn that title) who just came up on the channel we were using and started a QSO right on top of us, with the usual abuse when they were kindly asked to either re-channel or wait. There are two lessons to be learnt here, the first is somehow we must educate ALL users of CB on HOW TO USE IT CORRECTLY — as I couldn't continue with the only decent QSO I had in weeks, and subsequent monitoring of the offending pair of juveniles revealed that they lived in the next road from me, both had rooftop aerials — and guess what? they actually lived next door to each other — all on 4 watts — is that or is that not stupid?

The second lesson? — oh yes! — of course — there still are some super breakers to be found on the air, just like SUPERMUM and BLUE DAWN I was having that QSO with — I received

some super QSLs from them, they both restored my faith in CB. If you want to QSL some great ladies you can contact them, SUPERMUM, Pam hales from 22, Central Road, Morden, Surrey SM4 5RT, and BLUE DAWN, Laura from 80, Mount Road, Mitcham, Surrey, great QSO's — great QSL's, thanks ladies!

You noticed didn't you? — I slipped up last month, my regular report from Mick Marks of ANGLO AMERICAN MAGNA CARTA INTERNATIONAL SIDEBANDERS got itself a little buried. The big news from Mick is the enrolment of the 1000th member of the club, a real milestone in any club's history. This honour goes to Peter Latter of 35, St Mary's Estate, London, SE16 4HY, and an extremely kind offer from Mick of membership to the ANGLO AMERICAN for any other club's 1000th paid member. What an excellent way to promote QSLing. If you want details of the great ANGLO AMERICAN or details of the good range of QSLing rubber stamps a SAE to Mick at P.O. Box 13, Newquay TR7 2PA, will bring the desired results. Incidentally Mick and the AA have one of the largest range of club and personalised QSLs in the country, so a swap is always worthwhile too! Mick also suggests a page of club rubber stamps — great idea, have to persuade our lovely editor Sue to reserve us an extra page for these.

Some very interesting news in from our old friend Steve Flux, President of the SAXON SKIPPERS INTERNATIONAL CB-QSL CLUB of 9, Sunningdale Road, Portchester, Fareham, Hampshire PO16 9PD. Seems the club is developing very well, with some new items recently added, such as colour QSLs, keyrings and logo stickers. Steve sent us a sheet of mixed logo stickers, 24 on a sheet, all different clubs, worldwide — a great and attractive promotional idea, and a super collectors item. With membership currently just over 600 Steve would appreciate an SAE with all enquiries, thanks Steve, those logo stickers are really ace!

A thank you letter in from Russell Campbell of the HOLLOW MOUNTAIN DX-QSL CLUB of Inverlorn, Taynuilt, Argyll, Scotland for the mention in the September and November CITIZENS BAND MAGAZINE, lots of new members to the club. If you want details an SAE would help.

Had another impromptu visit the other day from Knut Mittelstadt, effervescent President of the highly-recommended BERLINER BEAR-BRAVO AM/FM DX GROUP of Postbox 2923, D-6750 Kaiserslautern, West Germany. Lots of news from the club including new two-tier membership geared to cost, large membership pack of £8, smaller club pack for £5 — plus lots of very interesting extras, including log books, embroidered club patches, two designs of Rubber Stamp, and the announcement of their INTERNATIONAL QSL CARDS CONTEST — WORLDWIDE — open to allcomers! There are three entry classes, Class 1 — the most beautiful colour QSL card, Class 2 — the most beautiful coloured (by hand) QSL card, and Class 3 — the most beautiful single-colour card (ie black & white). The competition is open to everyone with a personalised QSL card as the great prizes include a Club Membership plus 50 DX club cards, Club T shirts, records, pens — in fact 50 prizes in each section — what a knockout competition. All entries to the Club address clearly marked 'QSL Contest' by the end of April, all prizes being despatched by the end of May. A list of winners will be available from the club upon receipt of an International Reply Coupon (obtainable from all Post Offices) by 15th May.

Another pack in from West Germany, from Uwe, Club President of the EUROPEAN RADIO GROUP of P.O. Box 1212, D 5810, Witten, West Germany, another well-established club (now over two years old) with a very respectable club package for just £4 sterling which comes highly recommended by many older QSLers including our old chestnut (only joking!) John Thoroughgood JUMBO JET of 11, Scotts Terrace, Hetton Le Hole, Tyne & Wear DH5 9HZ. Incidentally ladies, Uwe is a good looking blonde, 21 years old, and sends out photos of himself if you ask nicely!

Up to Denmark now for mention of a pack we received from the President, G. Hjort Christiansen of the WORLD GLOBETROTTER TIMING DX-QSL Club of Hassellunden 91, 6705, Esbjerg O, Denmark. First time I have come across this one, and the pack only contained a small portion of what was on offer, so we are not in a position to fairly judge this one. However you are invited to make enquiries for membership of the club, if you do decide to join let me know how you get on so we can all share it.

Back home now for a letter from ANGEL OF MERCY, Anne founder of the new B.O.B. (BRAVO OSCAR BREAKRS) QSL SWAP CLUB of 2, Elrington Gardens, Fenham,



Newcastle Upon Tyne NE5 2HP. Lots of goodies for six or more of your signed QSL cards plus £1 towards postage or just send an SAE for details.

It always has to happen doesn't it — here we are going along quite nicely then we get a QSL from a right pair of jokers. HORSE TRADER and SKY WARRIOR alias Kernal Ruzgar and Graham Peters respectively, writes from 29, Padstow Walk, Bewbush, Crawley RH11 8RZ — no less than 20 different good quality QSLs, apparently part of an exclusive club known as the 295 DX GROUP. Who they are or what they do they don't tell us except that they monitor Channel 19 and BBC 2 — they sound game for a laugh! QSL them and see if you can make sense of them, I can't incidentally SKY WARRIOR has a D Currie card.

Heard again from Gordon, DISCO THREE, President and Founder of the huge ZULU WHISKEY INTERNATIONAL CLUB, of P.O. Box 14, Brighouse, West Yorkshire HD6 2SE. Gordon has lots to say, not the least telling us of his problems with applicants for the club. It is a free club, and all that is asked is a LARGE envelope, must be STAMPED — at least 17p and at least 9" x 6" — many of his prospective members only send small envelopes without a stamp — and that causes Gordon big problems. Gordon would also like a mention for an overseas club in the Costa Brava region of Spain, the ZODIAC QSL CLUB, run by Luis of P.O. Box 168, Sant Feliu de Guixols, Gerona, Spain. Apparently a very good club package based on our FREE club idea, but being overseas asks £2 towards the high cover of postage. From TOMCAT, Dean, President of the ZULU ECHO UK DX & QSL CLUB of P.O. Box 31, Saffron Walden, Essex comes a sample of their No 2 Rubber Stamp, and thanks for a recent mention in these columns. The new rubber stamp is available to existing members for an inclusive price of £2.50 each.

The old eyeballs aren't what they used to be especially after prising open an envelope with some QSL's received from Jacqui and John of 27, Tenderden Road, Addiscombe, Croydon CR0 6NQ. Seems they got

an excellent response to a previous mention in these columns, but a few QSLers forgot to enclose their addresses so they couldn't reply to them! However this QSL is for the gents only — and only those with a strong heart had better QSL! Another lady QSLer — SIERRA DELTA 25 — Susan of 20, Janes Brook Road, Southport, Merseyside. Sue also recently had a visit from Knut Mittelstadt. She joined the BERLINER BEAR there and then, and received a QSL card album. Sue has some great QSLs and highly endorses the ANGLO AMERICAN and FISTRAL BAY clubs, and tells us she is currently going to start a small club up there in Stockport, which she plans to turn into an international postal club. I am very pleased to hear that Sue had to give up smoking because she was bitten by the QSL bug and could not afford both, so we've done some good! Also an endorsement of the BERLINER BEAR from LANCER — Tom Usher of 3, Brattle Estate, Woodchurch, Nr Ashford, Kent TN26 3SW. He reckons the club do a smashing rubber stamp — although it doesn't tickle his XYLs sense of humour!

Some nice QSLers in from STARGAZER Pat Falcid of 31 Park Hill, Ampthill, Bedford MK45 2LP who is a member of quite a few clubs — including the MERMAID DX & QSL Club from P.O. Box 77, 8500 Grenaa, Denmark — one club we mentioned a few issues back. A right telling off received from BACARDI MAN of 42, Greenway Gardens, Hawkesley, Kings Norton, Birmingham B38 9RY, who QSLs with a nice personalised card and a club card from the PHOENIX DX GROUP. Seems he wrote in for a mention six months ago and I ignored him. We do our best to include everyone, but there is always a few who have to be disappointed just through sheer lack of space, anyway, you've now got your name in print, lets hope those QSLs will start arriving. Great letter in from Steve Carpenter SOLDIER BLUE of 40, Oakeyfield Road, Thurston, Bury St Edmunds, Suffolk IP31 3RX. He writes, "This is to thank you for giving me a mention in CITIZENS' BAND MAGAZINE. Could



you please thank everyone out there for sending all those QSLs. I am in the process of replying but it takes a little time. Could you please say a big thank you to the NEW RIVER CB CLUB in London, as I was invited to the club, and must say it is a really spot on club. I would also like to say a big thank you to the two REACT members who came to

tell us all about the organisation. I have been monitoring since the naughty-forty days, and I will be joining REACT as it is an obviously well run organisation. I have enclosed a photograph of shack, hope you like it". Many thanks Steve, if you send any more photos PLEASE DO NOT FOLD THEM!

Next letter out of the bag is from a right pair of crawlers — NORA BATTY and CHALKY, no personal names mentioned but they QSL with some attractive personalised QSLs from Rhianon House, 25, Sinderberry Drive, Arlington Gardens, Northway, Tewkesbury, Glos. They say they have been avid readers of our magazine for the last two years and find it's getting better and better — great, we love to hear it, and please tell your fellow breakers — we need all the sales we can get! Like the posh matching notepaper as well!

Some QSLs in from Nick Lima **Whiskey 07B**, P.O. Box 62, Waltham Cross, Herts EN3 7RX, who sent in cards of the FOUR ACES BREAKERS CLUB. Nice to hear again from Alex, THE WIZARD of P.O. Box 4, North East PDO, Manchester M9 2GN. Nick, if you recall, produces some fine up-market glossy QSLs under the WIZARD label, and says that the response to his previous mention was great, over 100 letters and still coming. Can't be bad — if you would like details of these excellent cards a 5" x 7" will bring prices and samples. Nick tells us he brought ten of the October issue to hand round to his friends — I buy (yes buy with real money) five myself to send to CB friends around the world it's a real cheap way of building the friendship bond! Just to illustrate this point a

letter and QSLs received from BARMAN Michael Lacey of Ferns Post Office, Co. Wexford, Republic of Ireland tells us he cannot get our magazine in the shops, and it is regularly sent by a friend in England. Mike QSLs with a club card or the MAC-MORROUGH CB DX CLUB and always sends pictures postcards of his beautiful country and lots of bits and pieces of interest to make up a very good QSL package — well worth a swap — nice to hear from you again Mike and I will pop in for that drink sometime! A quick trip north over the border into Northern Ireland for a QSL from Billy Smylie of P.O. Box 35, Ballymena BT42 4RN who QSLs with a club card of their NORTH STAR FM CLUB who do a lot of good work for senior citizens, disabled and Dr Barnado's Homes — well done Billy, keep up the excellent charity work. Billy promises to QSL all letters received.

A beautiful ENSIGN QSL in from STARBIRD — Dave of 12 Chirbury Gate, Montgomery, Powys SY15 6RL, Wales. From Leslie Corringham of 28, Abbey Road, Bardney, Near

Lincoln, LN3 5XA comes a nice pile of QSLs and he tells me he is a senile old 67 year old scrounger who loves QSLing, will QSL everyone, and he promised to chop off my ears if he did not get a mention! Put that way Leslie how can I ignore you — and just how did you arrive at the handle BLACK SHADOW — I can't condone (I said condone) that. SPARK PLUG — Mark Slater of 93, Coppicewood Avenue, Yeadon, Leeds, West Yorkshire LS19 7LQ sends in some nice CURRIE QSLs plus some full colour 'floaters' — for those of you who are new to the game 'floaters' are the spare swap cards for other CBers. Last domestic QSLs this month are ENSIGN QSLs in from SNOWFLAKE and PANASONIC, Ethel and Frank of 7, Luttrell Crescent, Leeds LS16 6LU, they both have individual QSLs, and are expecting a new ENSIGN joint card. Just afore we go, must just impart a couple of good overseas cards received this month from Hiroshi 'Hack' Tanaka, President of JAPAN ASIA INTERNATIONAL DX GROUP from P.O. Box 140, Toshima 170,91., Japan, and Jack Giralico, President of PENNSYLVANIA BIG DUMMY QSLers P.O. Box 14, Midland, PA 15059, USA.

Well, that's all we've got time for, keep those QSLs coming in, and all you club Presidents out there — if you have any news or views share it with us, we are always pleased to hear from you. You can write direct to me — THE MEDICMAN at 124, Hillcross Avenue, Morden, Surrey SM4 4EG and we will do our best to include you. Until next month DIA DHUIT — that's Gaelic for 'be seeing you'.



Citizens' Band Magazine List of QSL Contacts

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DEBBIE HOVER

PUPPY LOVE

BOB MARSHALL
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Grasmannsdorfer Str 38, 8602
Burgebrach, West Germany.





Shock horror revelations in the Daily Express and suddenly, the whole country wants to know about CB. Sue Sharp investigates.

THE EXCLUSIVE THAT WASN'T

Well, well, well what a hornet's nest the Daily Express turned up with their 'burner swindle' at the tail end of October. The rush of Christmas copy dates has prevented us from commenting on it earlier, but the effect is still being felt now, a couple of months later. CB radio enjoyed (if that is the right word) another brief spell in the limelight and, as usual, came off the worse for wear as the Daily Express published a series of articles on CB linear amplifiers being used to cheat petrol pumps and to obtain petrol at 40p a gallon.

The first inkling that something was amiss was when Daily Express reporter Tony Dawes rang me, asking for the names and addresses of CB clubs in Essex. This isn't an unusual type of call for me to get and after going through the files, I came up with a few names and addresses. Before I could make my standard offer of help or enquire what he wanted the information for, he was gone.

After spotting the cover photo and story on the front of the Express the following morning, I bought the paper on my way past the news stand. I barely had time to read a word before the phone started ringing and a queue of aggrieved breakers, contributors and members of the media wanting

opinions lined up to break the news to me.

The Daily Express got plenty of mileage out of it, with the story featuring on two front pages and running in other editions. For those of you who didn't read it, the story was based on linear amps being used in conjunction with CB sets to interfere with the pulsed electronic measuring devices in petrol pumps. The induced currents are causing false readings, usually in the customers favour, and are 'clocking up' less petrol than has been delivered on the cashier's console.

The paper particularly stressed that this isn't happening as an accident, that drivers are deliberately defrauding petrol companies regularly. The Express spoke to some petrol companies who immediately came back with the comment that they knew they had been losing money in mysterious circumstances — and now they know how!

Over the next few days the gist of the articles changed slightly to concentrate on what a scandal it was that these pieces of equipment were sold and that they should be illegal. Norman Tebbit, the Trade Secretary, was apparently so appalled that he is introducing immediate legislation to combat this 'black box fiddling'.

All very well as far as it goes, but, unfortunately, in some cases they don't



go far enough and in others they go much too far!

Rather belatedly, reporter Alun Rees and his team warned of the dangers of using a burner in a garage forecourt — not so much to the poor petrol companies profits but the risk of taking the garage, petrol tanks (and, incidentally, Express reporters who don't know any better) sky high in an explosion that would really make the news. The reporting team were using a rig and burner to test the 'fiddle' without being aware of the dangers of corona discharge — a spark being generated by the set and going to earth down the pump nozzle.

In the interests of public safety, the Express didn't give exact instructions on how to perpetrate this swindle — although the text coupled with the very clear photo of a mic. with the PTT switch taped down didn't leave a lot of mystery to it!

However, now with tongue firmly out of cheek, there are several points that arise from this Daily Express 'major investigation' and 'famous victory' (in getting Norman Tebbit to act).

Firstly, the CBer is once again, by implication, lambasted as the villain of the piece. Although the Express refers to mini-cab drivers taking particular advantage of the burner, CBers are tarred with the same brush — no mention is made of shifty radio amateurs getting that magical 40p a gallon, or emergency service radios being used to send pumps haywire. Presumably these people are far too responsible to do this sort of thing and I'm not disputing this. But it would seem that the poor old CBer isn't.

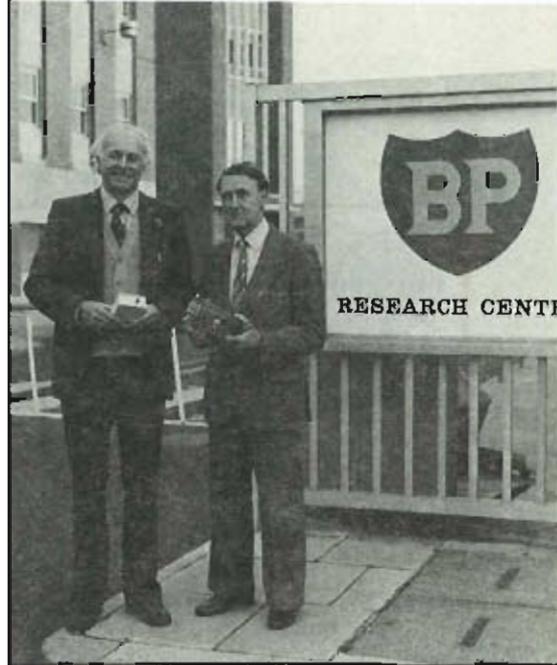
From my own investigations this really isn't the case. I realise that few people are likely to confess to this swindle to anyone who seems vaguely

like a reporter but I, CB users in my area and contributors to the magazine cannot find any other breaker who has used a burner for this purpose — or who knows someone that has. The exploitation of this particular Achilles heel is being carried out by groups of people who have learnt the 'dodge' and are buying CB equipment to do it rather than there being a vast conspiracy of breakers.

Secondly, I can't believe that petrol companies were unaware of the possibility. The Express story has it seems, shaken petrol company executives who needed a practical demonstration before being convinced. This may be the case with marketing men or senior executives who are not involved in the technical aspects of petrol metering but I should think that every petrol research and development place in the country has been aware of the possibility of RF interference since the development of the circuitry involved.

This leads on to the next point. The majority of CBers are well aware of the problem. I did an article myself explaining the dangers over two years ago in another CB magazine. The CB Code of Practice refers to the harm that could be caused by sparks in an explosive atmosphere. Radio amateurs and the radio operators in emergency vehicles are well aware of the consequences of RF interference and explosion. Any text book will mention it. But suddenly it's a 'racket', 'swindle', 'fiddle'. And, incidentally, an 'exclusive'. Well, as I said, I wrote about it two years ago with the cooperation of one of the leading petrol pump manufacturers, Gilbarco of Basildon.

The Express also mounted an intense campaign to have burners 'outlawed'. I'm a bit confused by this



Researchers at BP with a CB detector and a burner

and, going by their article, so are they. They did report that it is not illegal to sell or buy a linear amplifier, but it is to use it with CB equipment. Their campaign was calling for the selling and buying to also be an offence — something that was already underway with the Telecommunications Bill, which will make it illegal to sell and possess unlicencable equipment. Of course, this won't make any difference to amplifiers that are intended for use with amateur radio equipment — on frequencies are not a million miles from CB and which is widely available.

Something that didn't get quite so much space is the fact that the effects of this interference can work the other way — and people could be faced with petrol bills many times that of the value they have pumped. Quite a shock if you were expecting to get it at a quarter of the price!

Petrol companies are now putting their efforts into beating this disruption. Heron were quick off the mark with a 'device' in their garages within days of the Daily Express stories and other companies are working on a 'detector' that will be activated by a powerful CB signal. My enquiries are meeting with a strange lack of information though. After sending a press release announcing the development of a CB detector, BP then became very reticent about what it is and how it works. Their reason is that if it were to become public knowledge, CBers would be able to 'get round it' but it doesn't require a research scientist to guess that it is a broadband, insensitive receiver which will pick up local, powerful signals in the same way that a field strength meter will and that it activates an alarm rather than a visual meter. Hardly a technological revolution.

Anyway, it's all over now, bar the shouting and there's been plenty of that. The Department of Trade released a circular telling us what we already knew and everything will be back to normal — except that, once again, the CB user is firmly embedded in the public mind as a crook and possibly dangerous.





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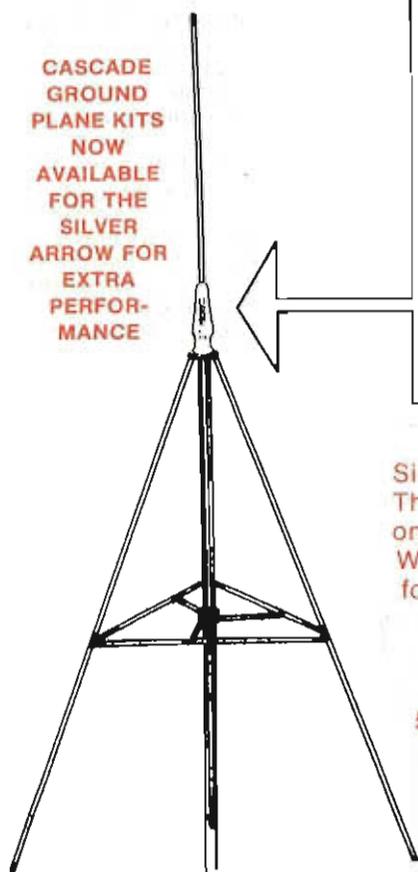
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STARTERS ORDERS



A beginners special for all new breakers who are confused by CB. Pull out these pages and keep them.

There will be a lot of you reading this magazine that are new to both the magazine and CB. You may have had a rig for Christmas or dashed out with your Christmas money to buy one as soon as the shops have opened after the holiday. Either way, you could well be a bit confused. You've probably discovered by now that installing it isn't just putting a plug on the end of a wire and that it's not the toy that you may have been lead to believe. So, here's the Citizens' Band guide to getting on channel.

Basic Bits

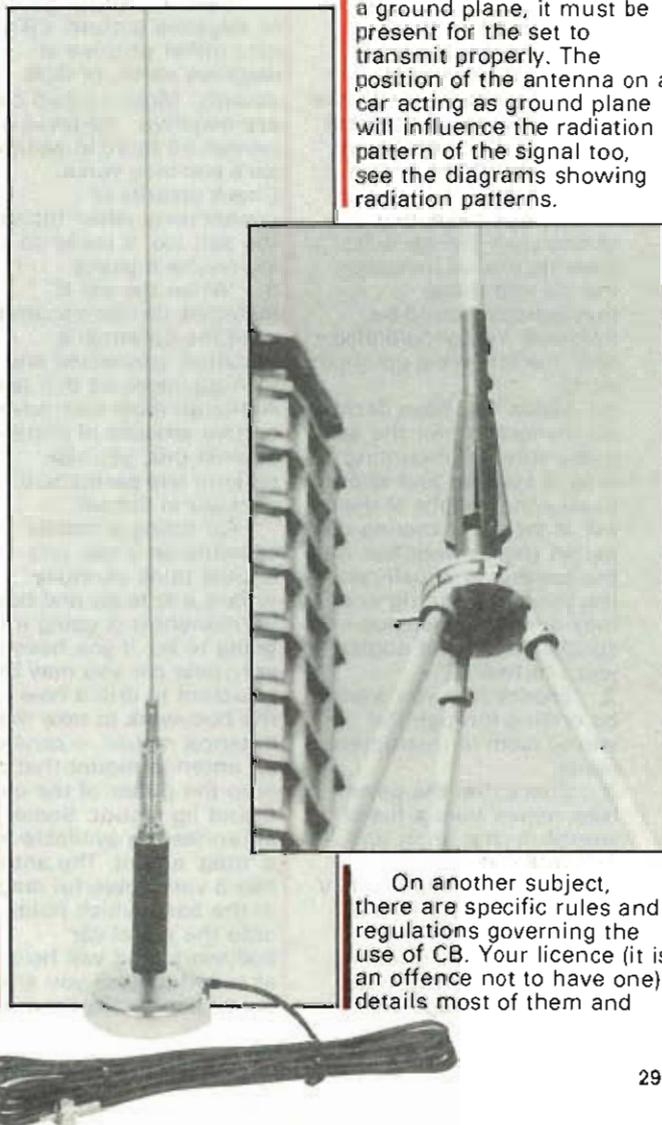
Skip this bit if you aren't a real newcomer — we are going to run through the very basic things that not everyone appreciates.

A CB radio is a transceiver; that is, it both receives and transmits on a given range of frequencies in the 27MHz. or 934MHz. band. For receiving, in common with most broadcast receivers, a long piece of wire would do to pick up strongish signals but this is not the case for transmitting. Without exploring the principles of antenna design and confusing you even more, the antenna has to be the correct electrical length and matched to the frequency being transmitted on — any old length of wire will not do. The antenna you use must be designed for 27MHz. or 934MHz. and beware, they are not interchangeable — you cannot use a 27MHz. CB antenna for 934MHz. or vice versa.

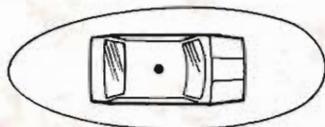
If you intend to run a completely legal station, the type of antenna that you can choose is limited to a basic design. This

restriction was decided on by the Government in an attempt to limit the potential interference from CB systems to other services. Within this limitation there are a variety of brands to choose from but at 27MHz. they will all be similar in principle to those shown in the photograph — a single wire rod or element with a fatter 'loading coil' at the bottom or base for a mobile antenna or a similar design with a 'ground plane' arrangement for a base station antenna.

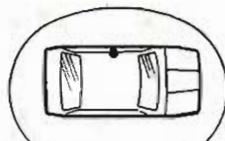
Whilst avoiding complicated explanations, a few words on ground plane may be useful. A ground plane is a metallic 'reflector' which the antenna is connected to and helps radiate the transmitted signal. For mobile CBers this is usually the car the set is connected into. As base station operators don't have this convenient ground plane, most base station antennas have legs that serve the same purpose. Unless the antenna is designed to operate without a ground plane, it must be present for the set to transmit properly. The position of the antenna on a car acting as ground plane will influence the radiation pattern of the signal too, see the diagrams showing radiation patterns.



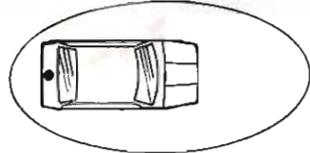
On another subject, there are specific rules and regulations governing the use of CB. Your licence (it is an offence not to have one) details most of them and



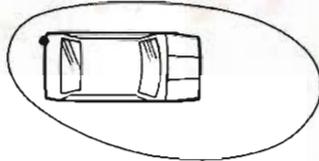
Top mount



Rain gutter mount



Boot mount



Rear bumper mount

there is also a leaflet, a CB Code of Practice which is available from post offices. You should read these carefully as we will only be referring to individual points as they arise.

Fitting Your Rig

Most sets that are installed in cars are situated in the dashboard area. The set should be conveniently to hand without the driver having to take his attention from the road. The microphone cord shouldn't interfere with the steering wheel or the gear lever and the controls on the set should be within easy reach.

The handbook that comes with the set will have details on installing the CB and these instructions should be followed. You should also bear the following points in mind.

1. When you have decided on the location for the set make sure the mounting area is suitable and strong to take the weight of the set. If the set is resting on a parcel shelf, remember that the speaker is usually on the bottom of the rig and may need an extension speaker or the set angled so you can hear.

2. Ensure that you won't be drilling through the wiring loom or instrument panel.

3. Check that the power lead comes from a fused source or that an in-line fuse is fitted.

4. Don't try putting a 12V rig in a 24V lorry or a 6V car!

5. Connections direct to the battery ensures that there is no voltage drop

and will help eliminate engine noise. You can run the feed from an ignition switched accessory terminal on the fuse box.

6. Make sure that there is provision for the power feed and antenna cable in the bulk heads that you pass through or that there is free space for a hole. If you do have to drill holes, then it's a good idea to edge the hole with a rubber grommet to prevent wear on the cable or metal corrosion.

7. Cars are either positive or negative ground. CB's are also either positive or negative earth, or dual polarity. Most modern cars are negative. Negative sets cannot be fitted in positive cars and vice versa. Check polarity of connections when fitting the set, too. It could be an expensive mistake.

8. When the set is installed, do not transmit until the antenna is installed, connected and SWRed (more on this later). Although most sets have a certain amount of protection against this, you risk serious and permanent damage to the set.

For fitting a mobile antenna on a car, you should think carefully where it is to go and how permanent it is going to be. If you have a very new car you may be reluctant to drill a hole in the bodywork to take the antenna mount — consider an antenna mount that clips onto the gutter of the car, or a boot lip mount. Some antennas are available with a 'mag' mount. The antenna has a very powerful magnet in the base which holds it onto the metal car bodywork, and will hold on at speed (unless you are prone to blasting down the

M1 at 120mph).

As I mentioned earlier, where the antenna is situated will effect the way the transmitted signal is radiated. On top of the roof gives the best results — the signal is radiated equally to the front and back (which is what you want when travelling) and the antenna has height, which is a priority. This is not always practical though and most people compromise with a rear wing or boot location.

As with installing the rig there are some general points to remember:

1. The antenna should ideally be mounted as high as possible. The higher the percentage of the antenna above the roof of the vehicle the better the performance — the signal is less influenced by the bulk of the car and more signal will be radiated out.

2. Run the cable away from noise sources that could interfere — ignition systems, pumps, motors etc. Cable can pick up signals too, and it won't discriminate between wanted ones and unwanted ones.

3. The antenna should be mounted with a good metal-to-metal ground. Paint, grease, rust or mud should be removed. (This applies to antennas that are being permanently connected).

4. If the length of cable supplied with the antenna is not long enough, then the correct type of cable should be used to lengthen or replace it. This is RG58 or RG8 cable with 50 ohm impedance. TV cable or a piece lying around the garage won't do.

5. The cable must be laid so that no damage will be done to it. It shouldn't be squashed as it passes through windows or doors with gutter or mag mounts and it shouldn't rub against anything that will split or break it. This is important, as the majority of the cable is out of sight and you will not be able to see if it is damaged — you could carry on transmitting and cause damage to the set itself.

6. Before drilling holes for the antenna or for passing cables through, check that you are not drilling into the petrol tank or exhaust system and that there is enough space to take the mount.

7. Make sure that the cable will run to the set without stretching, kinking

or working against anything. Don't wind surplus cable into a tight coil. You could inadvertently alter the electrical characteristics of the antenna.

8. There are special connectors for antenna cables, PL259's. These must be used and fitted properly. When connecting into a socket, all connections must be firm and done up tightly, a bad connection is almost as unsafe as no connection. Don't leave cable and connections hanging or lying where they can be kicked, pulled and damaged.

9. Don't transmit until you have checked the installation and measured the SWR.

This is a magical and mysterious term within the CB fraternity. The initials are for Standing Wave Ratio (sometimes preceded by a V for voltage). The SWR is measured with an SWR meter and is an indication of how well the antenna is tuned to the frequency. In practice it shows how much of the transmitted signal that leaves the set is being radiated by the antenna and how much is being reflected back into the set. The reflected power which goes back into the set doesn't necessarily wreck the output stage if it is unacceptably high, the damage is usually done by the transmitter meeting a reactive rather than a resistive load.

Explanations aside, you can see that it is important to get a good match between the antenna and the set. The figure is expressed as a ratio i.e. 2:1, 4:1 or 1.5:1 and is measured on an SWR meter. Many CBers spend hours trying to get a 1:1 match. This is very rarely possible, not necessarily desirable and in any case, not really measurable on the majority of popular SWR meters. Anything under 2:1 is acceptable.

How To SWR

To do this check you are going to need an SWR meter (of course), a patch lead (a short length of co-ax cable with a PL259 at each end) and a helpful friend if you are checking a car installation (not essential, just handy).

CB antennas are usually pre-tuned to a certain extent and hopefully you are

SWR	PERCENTAGE POWER INTO ANTENNA
1:1	100%
1.05:1	99.93%
1.1:1	99.78%
1.2:1	99%
1.5:1	96%
2:1	88%
2.5:1	82%
3:1	75%

just fine tuning if the reading is a bit too high. The SWR meter should have instructions with it but beware, they could be in Far Eastern English!

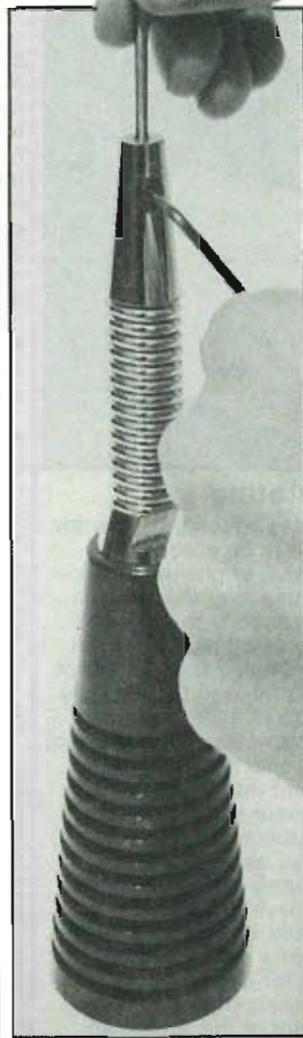
1. If possible park the car in a relatively open space, away from large areas of metal, lamp-posts, trees or buildings. (On the whole, these initial instructions are for purists. The system won't be blighted if you car is parked outside the house, but not in a garage or carport).
2. Make sure the bonnet, car doors and boot are closed.
3. With the rig switched off, disconnect the antenna co-ax and connect it to the meter terminal marked 'ANT'.
4. Using the patch lead, connect the meter terminal marked 'CB' or 'TX' to the rig antenna socket.
5. Switch on the set and turn it to channel 20. Switch the SWR meter to Forward. Press the transmit button. The needle on the dial will move. Adjust the knob (may be marked Set or Calibrate) on the meter until the needle swings over to the full scale reading.

6. Now switch the meter to Reflected and key the transmit button again. The needle will drop back and give a reading along the marked scale. If this is below 2:1 you needn't worry, but if you want to get it lower then follow on.
7. Take a SWR reading on channels 1 and 40. If the reading is higher on 40 than on 1 then the antenna needs shortening, if lower on 40 than on 1, the antenna needs lengthening.
8. All antennas have a provision for making this kind of fine tuning. On some, the whip element will slide up and down when the Allen key is used to release it. If you actually need to shorten the whip by trimming it, use a fine hacksaw and trim by minute amounts. This is where the friend comes in handy. He/she can stay in the car and give readings whilst you stay by the antenna, making the adjustments. Be very careful — better to trim a millimetre or two at a time than to cut off 5mm and discover that you have gone too far.

Home Base

If you have bought or been given a base station set, then life is, in some ways, easier. You only need to put a three pin plug on the lead and plug it in to a convenient socket and switch on (when it's connected to an aerial.)

If you want to use your mobile rig at home, you can buy a power transformer that step mains voltages down to the nominal 12V needed for a mobile set. The red and black leads power leads of the set are attached to the appropriate terminals on the power supply, and the power supply plugged into the mains.



The antenna becomes a whole new problem. There are two main alternatives. You can buy a purpose-built home base antenna (and there are lots of them about) or you use a mobile antenna, suitably adapted.

To use a mobile antenna, it will need the ground plane adding that we talked about earlier.

Experimentation will help here. A water tank in the loft might do, as will a sheet of metal. This is hit and miss though, and several wire radials 108 inches long would be better.

The base antenna would be best mounted outside the house and as high as possible. It can be located in a loft or on the side of the house, but this will cut down efficiency slightly.

It is almost impossible to avoid long runs of cable with fitting a base antenna, as the distance from living room to roof just can't be shortened. However if you use RG8U cable, the 'losses' from the signal leaking away from the cable will be reduced.

Base station installations should also have the SWR checked, in a similar way to mobile systems.

Interference

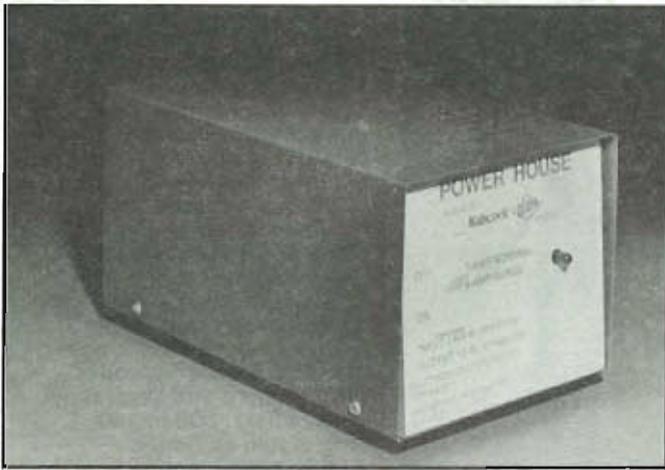
Using a CB indoors will increase the chance of interference to broadcast equipment and hi-fi, as will using more than the permitted amount of power. It is the CB operators duty to run his/her station without causing interference and it is very important that they do so. It makes for coexistence with the neighbours and shows a responsible attitude that can only enhance the reputation of CB.

Interference and it's causes and cures is a separate subject. Read Keith Townsend's article this month (and next) or read up on it in a CB book and co-operate in trying to prevent it.

At one time there were some distinctly dodgy power supplies on the market, not to say lethal. If shopping for a power supply, it makes sense, if you can afford it, to buy the best you can and look out for a supply that is earthed, has a fuse of sufficient value that is not accessible to the hands in operation. It should be current sensed and voltage regulated, and ideally be able to deliver twice the current needed for the radio, which will prevent overheating. Look for a B.S.415 number. That means that the supply unit meets the British Standard for safety in consumer electronics.



The SWR meter is fitted between the rig and antenna with a patch lead



The Law And You

You must have a licence to operate your CB. This costs £10 a year for up to three sets. The operating conditions are listed on the licence.

One of these conditions is that your set meets the British CB specification. If a set does meet that spec. it will have a conformity mark on it: CB 27/81 in a circle, or CB 934/81 in a circle.

Most people know that American CB equipment is available in this country and whilst there are a lot of people using it and campaigning for it's legalisation, it is not legal to use.

The regulations also call for the transmitted signal of a CB to be attenuated (i.e. reduced in strength) if the antenna used for transmitting it is over 7 metres from the ground. Many sets have this switch fitted as standard. The transmitter power is reduced to 0.4W from 4W.

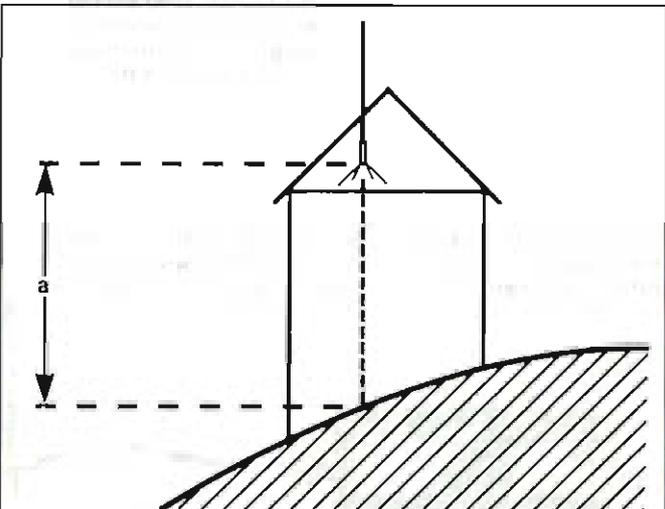
Operating

It is also against the law for people to be obscene, offensive or play music or advertise over the air. Unfortunately this doesn't stop a small minority from doing exactly that. It cannot be emphasized too strongly that CB is a communications system, not a personal plaything or a toy, and that this sort of behaviour brings CB into great disrepute.

That aside, there is absolutely nothing wrong with having fun with your CB. Just remember that someone else might be using for a serious matter, so respect their needs too.

A lot of the American slang or sayings that were popular in the early days of CB has died out. There are still some traditions, but they become obvious within a few minutes of listening in.

Where To Go For More



A 10dB ATTENUATOR MUST BE USED IF THE DISTANCE 'a' EXCEEDS 7 METRES

There are two major CB organisations in the country. These are Natcolibar and the British CB Council. Natcolibar was formed in 1979 to campaign for the introduction of a legal service and is largely responsible, with similar organisations for the fact that we have a CB system in this country. Their efforts are still concentrated on campaigning for further frequency allocations and different transmitting modes.

The British CB Council has been formed by ex-officers of the C.B.A. (Citizen's Band Association) and ex-officers of Natcolibar. They hope to act as a national CB organisation in a similar way to that of the Radio Society of Great Britain and the radio amateur fraternity.

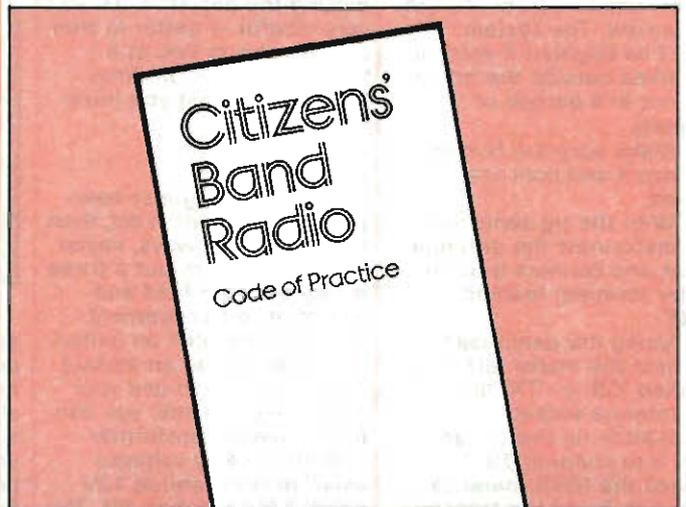
There are also two major groups that volunteer their time to act as emergency

monitors on channel 9 on CB. They listen for accident reports and offer travel assistance. T.H.A.M.E.S. and REACT are not yet able to offer a 24 hour nationwide service but will be glad to give details of their service and to accept new members.

Many areas also have their own local CB clubs that offer a range of activities from a social night out to talks and lectures on CB subjects. Clubs are listed in Citizens' Band magazine and other breakers on channel in your area will also be able to let you know of clubs in the vicinity.

If you are in difficulties with installing your rig or have a technical problem, there are a good number of CB books on the market that can help. Don't be afraid to ask for help, either, as CBers are very friendly people!

CB



Addresses

Natcolibar, 430 Westwood, Windmill Hill, Runcorn, Cheshire WA7 6LL.

British C.B. Council, The Treasurer, 26 Greenway, Kenton, Harrow, Middlesex. T.H.A.M.E.S. (Traffic Help and Monitoring Service), 39 Mount Pleasant Road, Lewisham, London SE13 6RD.

REACT (Radio Emergency Associated Citizens Team), 142 Luttreworth Road, Nuneaton, Warks. CV11 6PE.

The British CB Book by Peter Chippendale, published by Kona Publications. £2.95. The Big Dummies Guide To British CB, also from Kona Publications.

Servicing UK CB Radio by

M. H. Tooley. Published by Newnes Technical Books price £14.95.

There is also a selection of American based books available at many CB shops.

NOTE: Virtually all of this **Beginners Special** is based on 27MHz. CB. 934MHz. is still in it's infancy and the theory of UHF radio and propagation is very dissimilar to it's 27MHz. counterpart. 934MHz. equipment is supplied by two major companies at the moment and a small network of distributors, all of whom offer a good back up for customers. For these reasons I have largely left 934 MHz. to the experts.

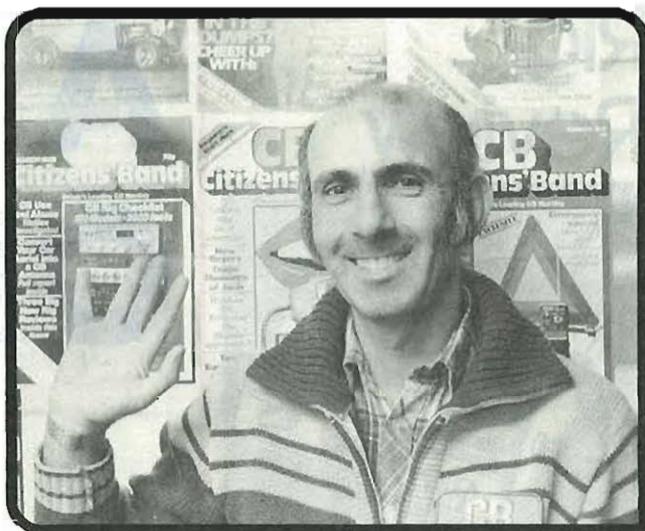
Mack Chat

Mack's got some thoughts on the O.M.'s in amateur radio circles.

Many, many, many CBers are now licenced amateurs as I am sure you well know. Many of the old breakers of the last few years I now meet on the amateur bands. Of course the efficiency of the frequencies and the equipment is far superior than 27 or 934 MHz, but in most cases it also is more expensive. At times there is friction between some of the older licenced stations and the new comers. In fact many of the newly licenced stations would be referred to as 'Jumped up CBers'. But what makes me angry is when some of these people that I used to waffle with on CB now discredit 27 meg frequency and are ashamed to admit, or they even deny, that they were ever CBers — as if CB was some sort of contagious disease and one could catch it even over the RF.

What gets up some of the older fellow's noses is the fact that the amateur radio frequency is supposed to be 'as part of the self-training of the licensee in communication by wireless telegraphy' so the licence states. What that means for some is that you are supposed to build and operate the equipment that you use before you can call yourself a real amateur. But now one can now walk into the local examination hall for the RAE, make a few marks in the right boxes of the multiple choice questions, then when the licence arrives through the letter box (or before if you wish) walk into your local amateur emporium armed with plastic card, and shortly emerge with the equipment of your choice all ready to plug in and use. Some of the early licence holders who had to take the much harder written exam and had little choice in equipment as most built their own, now say it's all too easy. But is the real reason because, like CB, the frequencies are becoming more crowded? Once, when there were just a few thousand of licenced holders, they had the pick of the frequency of their choice. But now at times one has to search around for a clear spot.

I'll tell you a couple of true stories of how things have changed on the amateur bands. Sunday morning is a very busy time on the bands as you could imagine. One such morning a group of newish licenced stations were having a waffle on a frequency that was clear when they started, so they had every right to be there. During their QSO up pops another station with the customarily 'Break-break' and being gentlemanly as some amateurs are, allowed the breaker to QRZ and proceed with his message. 'Do you know that this is the weekly net frequency of the Blah blah radio club and we use this channel on most Sunday mornings?' 'Ah' replied one of the earlier stations 'We didn't and this frequency was clear when we started'. 'Well you should QSY to another frequency as we might want to use it' announced the operator. Now, yours truly, or rather one of the other stations, was not having any of this. If he had asked nicely instead of ordering we might of obliged, so the reply was 'Yes, we'll QSY is you want to try and find us a clear frequency O.M.' (old man). As I said before, some amateurs are polite and they call each other O.M. 'But'



the station continued 'I've got a rock bound rig with only these channels' (naming the frequencies) 'and they are all in use'. So of course a discussion started (you might call it an argument but amateurs never argue) but the outcome was the breakers stayed put until their QSO was finished. You see so many of the old established amateurs had their favourite spots where they would monitor day in, day out, and if any intruder dared to venture onto the frequency a call would be heard 'this frequency is in use' when really it was not. But it's the wind of change, O.M.

Another story is that I have a regular frequency that I and other amateurs use each morning on the way to work. On some mornings interference could be heard from an adjacent channel. I and the others that could hear it were not really bothered as we were over the top of it most times, but one day one of the O.M.s from that frequency (and I should point out that there were three real old boys that used the adjacent channel for an occasional waffle some mornings, and nice old fellows they turned out to be) spoke up. Well this O.M. came up to tell us that one of their number was getting interfered with (never touched him). We also complained that we in turn were getting 'bleedover'. It turned out that the other O.M. in question had home built equipment that was rock bound (crystal controlled channels). They were aware that the rig was not very stable, apologised for any interference that was being caused and they were going to obtain another crystal for the old fellow so that our morning QSOs did not clash. A few weeks later the interference ceased, so it shows that some of the old amateurs are learning to live with the times.

Whilst on the subject of old time radio, I am sure you remember Ian Able G3ZMI (that's an old call sign). He has written to me with more news of the Novice Licence campaign. It seems that he has had a letter from DTI (carrying on from the Home Office), asking for the views of the ARNLC on what type of novice licence we would like to see. And as Ian says 'this shows that the DTI are now about to actively consider the issue'. Ian also goes on to state that the DTI are not convinced that there is enough interest in a novice licence so it's up to you people out there who could be interested to write to the DTI or even send a letter to Ian Abel, 52 Hollytree Avenue, Maltby, Rotherham, Yorkshire, and he will forward them to the DTI (Dept. of Trade and Industry). How about getting up a petition in your club and send it to Ian? The proposals that ARNLC make are CW (morse code to you) at 5 words per minute (slow) on 3.5, 7, 21, and 28 MHz bands. This would mean world wide communication with other novices and real QSL cards for real QSOs. Morse code is, I feel, a nostalgic form of communication and nowadays you don't even have to use a morse key as there are many programs that will adapt most home micro computers for the sending and receiving of CW signals. Just imagine communicating with the world legally!

CB

Rig Review



The Maxcom 30E has joined the Maxon stable — we put it through it's pace.

A TOUCH OF CLASS



Of all the companies that have been involved in CB since legalisation, Maxon has been one of the few to consistently come up with new sets and ideas — the Maxcom range of CB rigs, the emergency unit and the Speak Easy, plus their range of cordless phones, often in the face of other pundits claiming doom and despair for the CB market. Fortunately for us, Maxcom have not subscribed to this view and have continued to service the market from their corner of Hertfordshire.

The new Maxcom 'baby' isn't a baby at all. One of the biggest that Maxcom have released onto the market, it is also the most sophisticated, with features that have not previously appeared all on one Maxcom set. Although Maxcom styling has always been good, the 30E takes this a step further by having some classic good looks. I've always preferred a matt black fascia to lots of chrome and the white detail line on the 30E stops it looking merely drab and adds a touch of class. From a purely practical viewpoint, the moonlight or street lighting won't glint on it quite so attractively — an appealing sight for

our light-fingered friends that have different views on property and ownership, especially with cars and their contents.

Looks aside, what has the Maxcom 30E got to distinguish it from it's cheaper brethren? Working from left to right, bottom row, we have: a combined off/on and volume control, the rotary channel change knob, squelch, RF gain, mic. gain and a *right hand front* microphone socket. Top left there is a TX indicator light and antenna warning light, channel display, CB/PA switch, a filter switch, lo/dx switch, attenuator switch and finally the S/RF power meter.



Some of these controls need or deserve a little more explanation. I particularly like a green LED channel display — I find it more readable than the red type and easier to see in bright light. The antenna warning light is a great idea. I had an old set that had a AWI and it saved my rig on more than one occasion. It works by lighting up, for example, when there a bad mismatch (SWR) or if the antenna or cable is badly connected. This is invaluable if you don't keep an SWR meter in line and stops you gaily chatting away whilst the inside of your rig is quietly melting down.

In the past I've not always been convinced of the need or effectiveness of RF and mic. gain controls — particularly in a mobile rig where taking your eyes off the road to fiddle with controls is not recommended. Now I've played with the 30E for some time I'm modifying my opinion.

Decreasing RF gain in urban areas isn't such a bad idea — if you want to talk to someone reasonably close without every other breaker in the area having to hear, and the mic. gain is useful for, say, noisy cars, as it will improve the clarity of your voice.

The S/RF meter has a light green background which is a bit sickly to look at, but comes into it's own for visibility.

The filter switch acts as a tone control for received signals and the local/dx switch alters the reception sensitivity and doubles up the RF gain control.

The back panel has extension speaker and PA connections, an antenna socket and the power lead connector.

The rotary switches are a matt 'chrome' and have a nice positive feel, although they are shaped rather than knurled. The 'flick' switches are tight enough for them not to be accidentally switched on or off.

I used the set as both a mobile and a home base for a few days and found that one of the accepted Maxcom problems, bleedover, didn't seem to be as bad as some of their earlier rigs. It's difficult to get an accurate impression of this where I live, though, as there are so many breakers in a very small area, I've yet to find a rig that can adequately deal with it. Suffice to say that this is one detail that Maxcom have improved.

Because of the breaker population, it was difficult to get reliable rig checks when working base, but out mobile I was getting good signal reports from seven miles away and mic. gain came

into it's own. The mic. incidentally, was nice to use, if a little short. It had a good, chunky feel, sat comfortably in the hand and actually looked as if it had been designed, rather than a standard unit specified.

I felt that the Maxcom 30E fell down on audio quality, which disappointed me, as I had been pleased up to now. Even with very good signal reception, it sounded tinny and an extension speaker didn't help. I doubt if it would be that noticeable in a car, but it irritated me when I used the set at home.

One thing that puzzled me earlier was cleared up when I used the set. The RF gain rotary control only works when the flick switch for local/dx is in the local position. This would make sense but isn't explained anywhere in the handbook.

The handbook that comes with the 30E is comprehensive and includes specification, installation details and a section on radio procedure and '10' codes. Of particular value are the very clear sections on the controls and their functions, operating instructions, alignment instructions and the parts layout, block diagram and schematic circuit diagram. The inclusion of the last features should be greatly appreciated by breakers and particularly repair men, who are often faced with nothing but their own past experience to guide them around a p.c. board.

In common with many other rigs manufactured in the Far East, the handbook has it's fair share of printers and translators errors — I was enthralled at the possibility of 'bleedover' and 'equalch' control, but that's nit picking an otherwise good manual.

One thing that it doesn't have in common with it's oriental fellows is the bird's nest of wires and poor construction that can be found in some sets. Quality control has always been good with Maxcom equipment.

In conclusion, I was pleased with this rig. It looks nice, is well styled and has some extra features for the more discerning user. To be honest, I felt the performance was on a par with other better sets, but the old Maxcom problem of bleedover has been much improved by the addition of the 10.695MHz. crystal filter and selectivity has been improved. I am still a bit confused by the RF gain control and the local/dx switch. I have a sneaking suspicion that options for both were available on the chassis used and Maxcom used them both. In justification the flick switch is safer to use in a car but I've never believed in buttons for the sake of them.

However, £65 for a rig of this calibre is value for money and I am pleased to see that Maxcom have taken note of comments made about past sets. With the addition of the two year warranty that Maxcom are now offering, it's a good buy.

RIG REVIEW DATA PANEL

Model Maxcom 30E

Distributor Maxon

Typical Price £65

Features	Yes	No
PA Facility	<input checked="" type="checkbox"/>	<input type="checkbox"/>
External Speaker Jack	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TX Indicator Light	<input type="checkbox"/>	<input checked="" type="checkbox"/>
RX Indicator Light	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PA Indicator Light	<input type="checkbox"/>	<input checked="" type="checkbox"/>
S/RF Meter LEDs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hi/Lo Power Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ANL/NB Switch	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CH9 Switch	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Variable RF Gain	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mike Gain	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Delta Tune	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tone Control	<input checked="" type="checkbox"/>	<input type="checkbox"/>
LED Channel Readout	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Facilities

	Superb	Good	Fair	Poor
Ease Of Controls	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Built In Speaker	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microphone Location	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cabinet Construction	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality Of Control Switches	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Channel Indicator Readability	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mounting Bracket	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hand Book/Instructions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Specifications

Modes Of Operation	FM Only
No. Of Channels	40
Weight	4.4lbs
Dimensions	166x180x56mm
Supply Voltage	13.2V nom
RF Output Power	Spec
Frequency Stability	Spec
Swamping	Spec
Sensitivity (RX)	Spec
Spurious Emissions	Spec

CB VERDICT

Range	XXXX
Clarity of TX	XXXX
Clarity of RX	XXX
Ease Of Controls	XXXX
Ease Of Installation	XXXX
Performance	XXXX

We rate our samples on a scale of one to five. Five stars is the highest rating, three and four stars are good to average and one and two stars mean it's not doing so well.

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ROS 110

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ROS 06

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ROS 28

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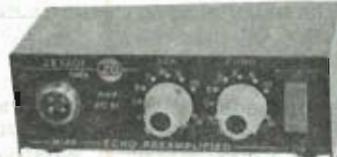
CHATTERBOX

Here we are again, then, folks. By now you should all have recovered from the excesses of a Merry Crimble and a Happy New Wotsit enough to start thinking about the serious business of CBing once again, so what can we find for you that is new and interesting?

Ah, yes. Zetagi — you know, the name that everyone has difficulty pronouncing — have sent us a whole batch of Echo units. Small and neat, they feature strong microphone preamplification to throw your voice further than you would imagine possible, particularly when you add that cutting reverb edge. The price isn't too big either — just £39.95.

Ever tried to get — or for that matter give — an accurate signal reading? If so, you will appreciate how difficult it is with CB equipment, mainly because some of the S-meters used are not up to scratch or just have not been calibrated to any degree of accuracy.

Now SSE, whose products we are distributing exclusively, have come up with the answer in an add-on Signal meter, which is so sensitive that Revco have even recommended it for use with their



meter which illuminates, and with a selling price of £13.80 is an inexpensive, but worthwhile addition to any set-up.

Another SEE innovation is the introduction of an Overvoltage Switch. I could have done with one of those myself a few months ago, when my Power Pack went crazy and delivered 26 volts straight into my rig. Resultant bang and

934 MHz rigs. It works on any frequency you are ever likely to use, has a large

Not so new, but still going as strong as ever, the AKD Vampire and Signal Booster, at £14.87 each, are handy gadgets to have in your antenna line. One re-duces bleedover considerably, and the Signal Booster is a low-noise Pre-Amp, which owes its design to AKD's involvement with Amateur Radio.

And finally, how about a new GPA half wave antenna? You've already got one? Fair enough; but if you decide to change it or if you haven't already got one, why not consider being really different. How about a GOLD CPA, available in



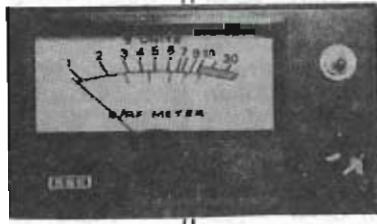
much smoke dented the wallet somewhat. With one of these new gizmos in line no more than 14 volts can get through. At £10.50 it is definitely cheaper than a new rig.

five-eighths wave as well (£14.95 and £15.95). All right, it's not real gold, or I'd be in the Bahamas now, but they do look smart, and are easy to erect and use as the old type were. And they perform well, too!

Anyway, enough for this month, except to remind you that our new catalogue for 1984 is available. If you are already one of the thousands who have sent for the old catalogue, just tear off the top corner of the front cover and send it in with only 50p for the 1984 edition (a HUGE saving of 50p). And don't forget to watch this space each month, for all the latest from the people who first brought reliable Mail Order shopping to the CB scene.

Also available is a version which you can fit inside your rig itself. (£7.50).

Before we leave the SSE scene, just a final word. Lots of Breakers have been chasing a box for feeding two micro-phones into in input. The SSE Microphone Switch does just that. Cost? £8.95.



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Filly is courted by the press, but won't tell them what they want to hear. Is CB full of boring do-gooders?

LADY BREAKERS

I've been hearing complaints recently about the way Citizens Band is portrayed in the press, particularly in the national newspapers. Of course, CB has traditionally received a bad press, dating back to the old illegal days and the strange assumption made by many people that CB in Britain would be no different from CB in the States, with all that implied.

Citizens Band is the plaything of oddballs and drop-outs, they used to say, drawing aside their skirts. A craze, peculiar to thuggish lorry drivers and tearaways. They would cite the weird jargon as indisputable proof of CB's thoroughly undesirable nature, although of course anyone who actually listened would have realized that English is the leading language of the airwaves — at least since I've been a breaker.

The change has come about, it seems, almost without anybody noticing. When I sit down and consider the breakers I commonly talk to, I can think of two vicars, one MP, several local councillors, a doctor, a solicitor, several teachers and even a professor, along with one or two thuggish lorry drivers and perhaps the odd tearaway Pillar of the community types.

I'm not saying that everyone's experience will be the same — just because I choose to bury myself in an unusually law-abiding and peaceful part of the country for much of the time doesn't mean I don't know what goes on in towns. But the local media around here has caught on to the change — to an extent where we are faced with an altogether different kind of 'bad press'.

This was brought home to me recently when I was interviewed over the phone by one of the local freesheets — you know, those free weekly papers that appear with monotonous regularity through the door, whether you want them or not. And quite a shock it was, when I found out what the journalist was driving at.

"Hi, is that, er, Philadelphia Judd?" he asked, cautiously, as though I might bite, when I picked up the phone. He explained he was from the *Freebie Focus*, or something like that, and went on to ask if he could put to me a few questions about Citizens Band for a feature he was writing.

Now, I'm quite used to this sort of thing — after all (coughs modestly) I am pretty well known around here. As you know, I hesitate to put myself forward, but, well, it seemed rather a shame to pass up the chance of getting our views heard for a change in the press, so I agreed to talk to him.

"That's great, er, Filly", he said (I got the distinct impression he disapproved of handles). "Now, the first thing I'd like to know is — why is Citizens Band going downhill so fast?"

Obviously the tactful sort.

"What do you mean — downhill?" I asked, somewhat taken aback. He retreated slightly.

"Well, perhaps not downhill, as such", he said, "but why do people say the fun has gone out of it?"

"The fun has not gone out of it", I said, stiffly. "I suppose you do know what you're talking about. Have you ever used a CB radio? Listened to CB radio?" (That's got him, I thought).

"Yes", he said.

"Er — oh. I see." (Typical journalist trick, I thought indignantly).

"The point is", he said apologetically, "I did listen and it was, well, boring. I mean, it's okay for a chat with your mates now and then, great if you're stuck at home, maybe useful if you're out on the road in a place you don't know, but —"

"At least you admit", I said coldly, "that it serves some purpose".

"Oh, of course", he said. "But wasn't there a bit more excitement involved in the — well, the old days?" And of course, I saw immediately what he wanted me to say.

"What you means is," I said, "that something is only fun when it is illegal. Is that it? Well let me tell you, sonny, our only concern in 'the old days' was to get CB legalised. Got that?"

There was a pause; he was obviously at a loss, but just as I was congratulating myself that I'd seen him off, he hit me with: "Well, let me put it to you that Citizens Band has become a respectable middle class hobby, a cosy club for trendies who think they're up with the times, do-gooding and well meaning but very, very dull". Which, I have to admit, shut me up straight. I mean, that's not how it is, not at all. Is it? But for the life of me, I couldn't think up a good response. Well, I did think of one. I put the phone down.

Nothing appeared in the *Freebie Focus*, nasty little rag, that week, nor the next, but I've been watching the other local papers with some interest to see just how they view CB now. And I begin to see how this new image has been created. Such articles on Citizens Band as they do carry are mostly contributed by some well intentioned Cber concerned to promote some service offered by local breakers, like giving a couple of rigs to a home for blind children, for example. Nothing wrong with that, of course, but maybe it does present a one-sided view.

Maybe one of these days I'll contribute to the *Freebie Focus* myself, something that will blow their socks off as far as CB is concerned. No fun, indeed. But in the meantime, I will continue to make use of those hard won airwaves, and what's more, I will enjoy myself. So there.

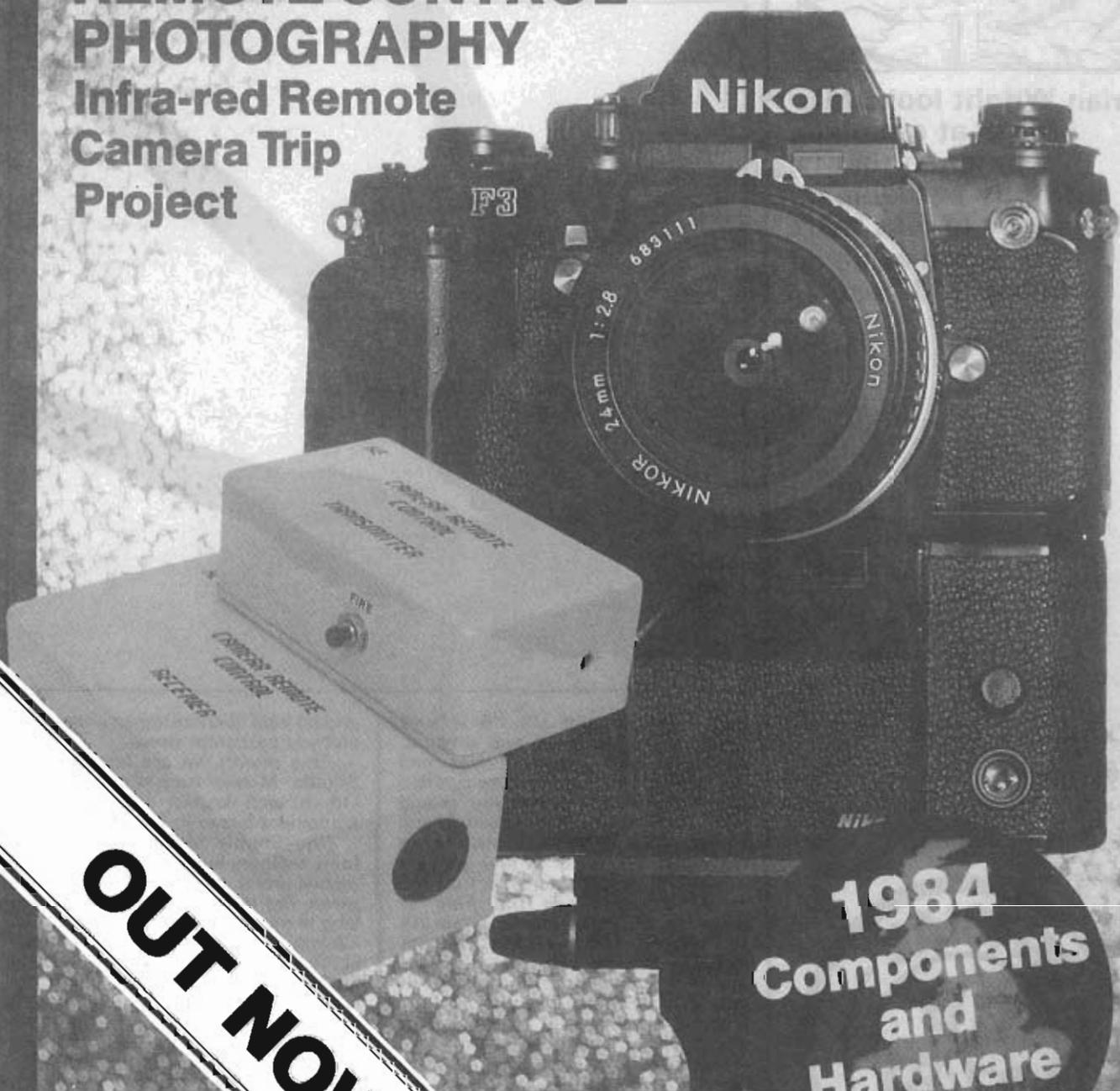
CB

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REMOTE CONTROL PHOTOGRAPHY Infra-red Remote Camera Trip Project

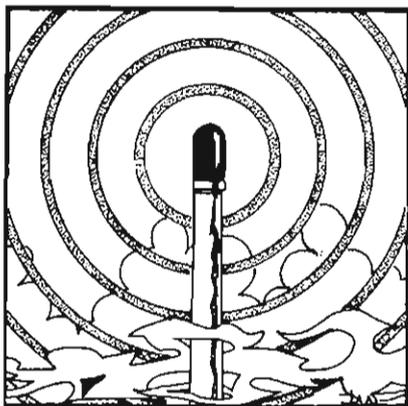


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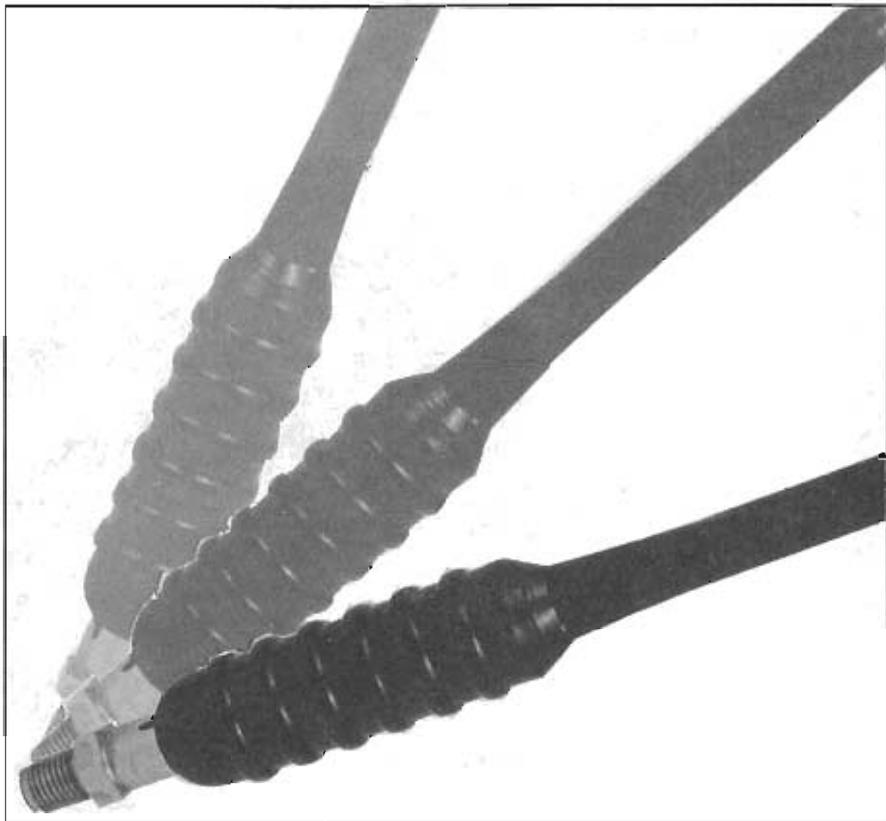
Antenna Review



Brian Wright looks this month at a mobile antenna that is currently available in CB shops at less than £5. Good value or cheap and nasty?



SPACE FOR A Shuttle



Now that UK CB is well established and presumably, sales of rigs and antennas have settled to a steady level, you would expect that the variety and choice of CB equipment would have narrowed down to a few popular makes. This appears to be far from the truth, especially in the field of antennas as many of older types are still popular and new ones become available almost every month. This seems to indicate that the market in antennas is still quite lively. In fact, probably more so with antennas than any other item, as breakers like to try many different antennas in their search for better and better performance. In order to assist you in that quest, we at Citizens Band Magazine test an antenna each month under the same conditions with the same rigs, cars etc. This gives a good comparison in performance etc. and

should help in choosing an antenna to suit your particular needs.

This month we are featuring the Shuttle Mobile from Commtel U.K. Ltd, a well known supplier of CB equipment based in Peterborough.

The Shuttle Mobile Antenna is a fairly ordinary but quite stylish looking mobile aerial, made completely in one piece. The whip which is 1.43 metres long is moulded directly into the base loading coil housing. The appearance of the whip is quite smart and pleasing to the eye, as it is constructed from what seems to be grey fibreglass with a copper conductor through the centre. The base of the whip starts off at about 6mm diameter and tapers to around 4mm diameter at the tip which is terminated with a black plastic cap. The advantage of this type of whip is that the antenna can be copper, as described above, instead of the usual stainless steel, which of course is not such a good conductor of electricity. In

fact many of the military antennas that we have seen, whilst being made of steel for strength, are copper plated, presumably to obtain optimum performance.

The loading coil on the Shuttle is housed inside a one piece black plastic moulding into which the base mounting stud and fibreglass whip are moulded. The coil moulding consists of a 70mm long X 20mm diameter section which has six raised rings evenly spaced up its length. Above the 20mm diameter section is an 80mm long thinner tapered section which is part of the coil housing mouldings and acts as the fixing and supports for the whip.

The mounting stud which protrudes from the base of the coil housing, has a hexagonal section to fit a spanner when tightening the antenna into a mounting base. It is advisable to use a spanner on the above nut rather than twisting the coil housing too severely by hand. Whilst the mounting stud seems to be securely moulded into the coil housing, excessive twisting could possibly loosen it and damage the antenna.

Tuning The Shuttle

When it comes to tuning the Shuttle, it is only possible to shorten the whip by cutting a very small piece off of the whip at a time and then checking the SWR. The test sample had an SWR of around 1.9:1 on the worst channel and indicated that it was too long. After careful surgery on the whip we lowered the SWR to 1.5:1 on the worst channel and settled for that.

On test, the Shuttle Mobile Antenna performed very well and contact was maintained throughout the test route, despite attempts, by a couple of frustrated disc jockeys to wipe us out. This did necessitate getting overtop of the so-called music and continually changing channels, but despite this we found each other on the new channels very quickly — this is always a good test for an antenna. One spot on our test route is a good indicator of performance as here the lesser antennas drop out and lose contact completely and the very best give an S2-3 signal. The Shuttle gave a signal varying between S1 and S2.

Construction of the Shuttle is very good and should give good service under normal use.

Some local CB shops have had this antenna for sale for just under £5 — £4.95 more exactly. This is extremely cheap and given the performance of the antenna represents very good value for money. For someone starting out in CB or not wanting to spend a lot of money the Shuttle Mobile should be considered. One point against it is that it arrived without instructions so newcomers might need a bit of advise on fitting.

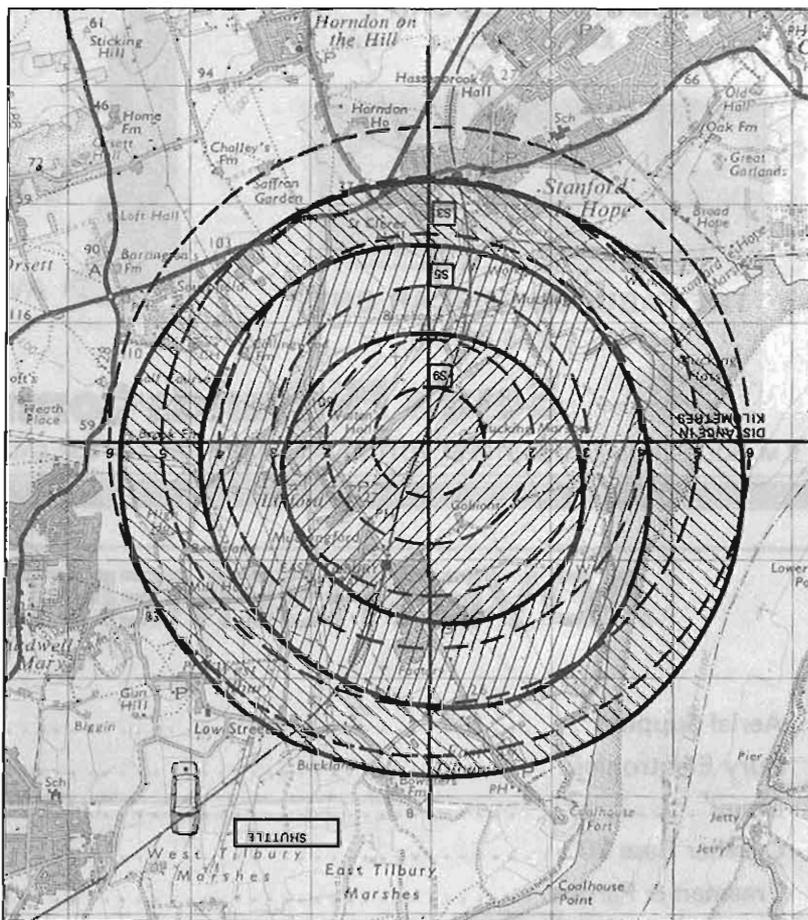
Our thanks to Lucky Numbers of Hayes for supplying the test sample.

ANTENNA REVIEW DATA PANEL

SPECIFICATIONS

Model SHUTTLE

Type Mobile
 Length 1.5 metres overall
 Frequency Range 27MHz
 Max Power Handling —
 Impedance 50 ohm
 Cable Supplied None
 Mounting Details 3/8 UNF stud
 Supplier Commtel U.K.
 Typical Price £4.95



REVIEW VERDICT

Performance XXXX
 SWR Adjustment XXX
 Construction XXX

Installation XXX
 Instructions —
 Value XXXX

We rate our samples on a scale of one to five. Five stars is the highest rating, three and four stars are average to good and one and two stars mean it's not doing so well.

The Tests

We have used our standard test procedure to assess the efficiency of this antenna. Just to bring new readers up to date this involves two tests; one static and one mobile. Our test sample is 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 vehicle. A standard rig and antenna is used in all the tests. With the results obtained we are able to draw up the radiation pattern shown here. This is simplified to make the results more easily understood. The antenna is also subjected to a series of 'lab' tests to assess their durability, quality and construction, etc and finally we hand it over to a panel of CBers for comment.

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Another appeal for help from a bereft reader in search of 'Which Rig' and the usual collection of compliments and flattery that modest person I am, I have had to edit out. Keep 'em coming!

Fox Hunt

Ian Gerrard, alias the Fox, needs help quickly and signs himself 'a sad breaker'...

I wonder if you can help me? I have lost my copy of 'Which Rig' Summer '82. Shame innit? Does anyone have a copy of this magazine lying about? Do you know where I can beg, borrow, steal or even buy (and this from a Scotsman) a copy?

As you know, this book had everything about rigs twigs and a whole lot more. It was of great interest to me until I lost the blasted thing!

Of course, you realise that if you cannot help me I shall never, ever buy your great magazine again. How's that for a threat, eh? So, now go and look in all your drawers and cupboards and don't dare come back to me and say that you can't find me a copy. So there.

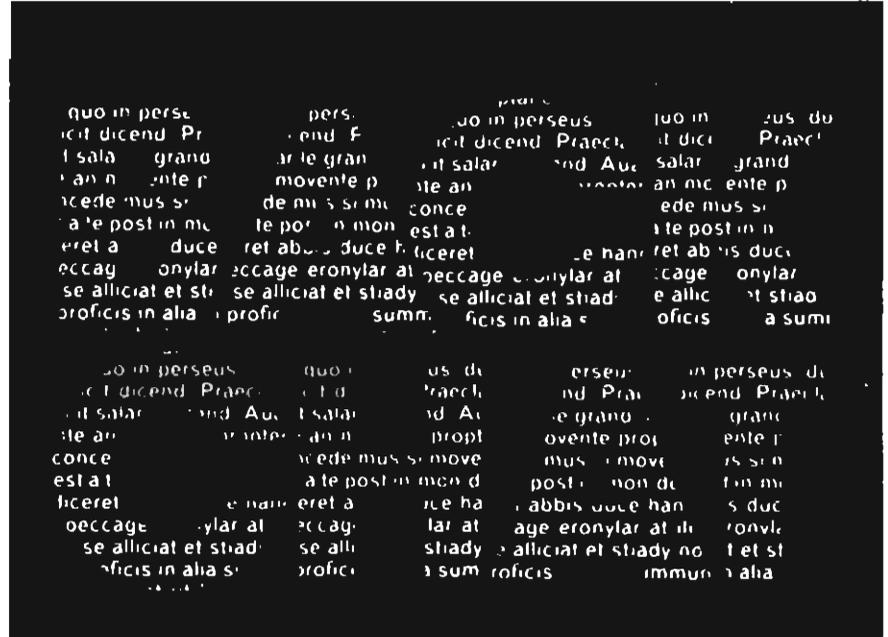
Well, how's that for threats! Honestly Ian, I don't even have one myself. So after going through the cupboards in the hope of finding two, I have to report failure. Can anybody else come up with the goods before we lose an otherwise loyal reader? Send it in to our address and I will hand it on to Ian.

Nostalgia Rules

116 WW 55 has eventually got round to writing, after years of reading everyone else's comments...

I have read your magazine for a few years now and I've read other readers comments with interest, so now I've decided to put pen to paper.

The AM days for myself, and many others, were the best, and many of the diehards have stayed in there and frequent both AM/SSB and UK FM. During the AM days, most of us were very cautious in the use of CB, and the selling. We would, for example, only sell a second hand rig to someone we knew, or a friend of a friend. Everyone



got to know everyone else in a round-about way, whereas with FM anyone with the right money can go on the air. Don't get me wrong, there are some really good copies to be had on FM, but the better breakers seem to monitor more than they copy!

Maybe the Government should have taken a longer, harder look at what they were going to set up when they introduced FM. They took time out to study AM and FM tests and the antenna restrictions — possibly they should have consulted other governments, for example New Zealand. In New Zealand there are twelve channels with 4 Watts on 26MHz., the twelfth channel being reserved for Government use. The call signs are very easy; Wellington — WN01 upward, Napier — NP01 upwards, Masterton — MN01 upwards etc. so why not use this sort of system here? They still use handles as well.

The only other subject I would like to mention is the 4W/0.5W switch. It would be more convenient to have a variable control rather than a switchable one. If an operator were causing T.V.I., a reduction rather than a drastic cut could solve the problem and still allow the operator good copies.

The subject of call signs comes up regularly, particularly from people wanting to see a tighter control on the CB system. But is there any guarantee that offenders would use their own, or even any, call sign? What do other readers think about the variable power output?

Quality but not quantity

Another letter on the virtues of UHF CB from an enthusiastic user...

In reply to your request for views on 934, I am writing this letter mainly for those sceptics who believe that three hundred pounds is too much to pay for an alternative legal CB system.

As one of the first to buy 934 in my



area (Hawkhurst, Kent) I believe it is money well spent.

Having been introduced to the system by Sandy, Unit 192 of East Sutton, near Maidstone, I started out with great enthusiasm as he did and hoping to hear at least one breaker on the side. However this was not to be, but Sandy being a true Scot persevered and was contacting new stations with great success by going mobile. He was getting copies into Essex and once, whilst square wheeled in Maidstone, contacted Lowestoft — a distance of 80 miles.

I realised that I was going to have to go mobile in order to track down the other elusive 934 breakers. Armed with my new quarter plus half wave antenna, I drove to the top of Brightling Hill in Sussex and contacted two stations in Essex at Althorn and Leigh-on-Sea, 50 miles away.

We have now been joined by Cyril, Unit 568 and Mike (Unit 555) with Sandy and I on our home bases. Over the last seven months I have found the 934 system extremely rewarding, although still sparsely populated at the moment. I am sure that as a system with no skip or sideband interference, no wallies, no music players and no T.V.I. problems it should attract many more serious CB enthusiasts in the future.

GS01 Field Station

Thanks from Brian, Colin, Howard, Danny and Tessa, all members of SEEBA (South East Essex Breakers Association), P.O. Box 83, Leigh-on-Sea, Essex. . .

A real big thank you to everyone who contacted the field station at St. Osyth on 17/18 September. We contacted somewhere in the region of 250 people on upper sideband, some as far away from Lebanon. Some QSL's have not yet been received, so do we do not know the final amount of money raised for the Richard Day Cancer Fund, but we hope it to be in the region of £300.

Sadly, as some of you know, the

yellow budgie landed on us, brought the station to an abrupt end and flew off again with £600 worth of equipment. We did manage 23 hours and thanks to Mick (RCB 022) and Fred (FE 13) for working the frequency in our final hour.

Good luck, 73s and 51s to you all.

Wally Winner

Lady S, otherwise known as S. McGuick, of Alton in Hampshire writes. . .

I've heard of some wallies on the CB channels, but I think this one beats the lot.

One of the local taxi services was using CB between base and their cars. The chosen channel? - 9.

I must admit that he was very soon requested to move to another channel, which they did.

I have heard so many views on the use of CB for businesses. I wouldn't want my name and address given out over the channels as you never know who is listening.

Also I thought that one of the clauses of the CB licence was that it could not be used for profit or gain?

The licence actually states that 'the apparatus shall not be used for the purpose of advertising or soliciting goods or services of any kind' — which boils down to you can use CB in the course of your business, but not for advertising it. Therefore it's alright to say 'Joe Bloggs to car three, come back to base please' but not to say 'Joe Bloggs is the best for electrical goods and servicing'. Quite a lot of businesses use CB in one way or another, especially small ones, and cause no trouble at all to other users.

Hear, Hear

Alan Dale, or King Crimson, in Hunstanton in Norfolk has some comments on 'Listen Who Dares'. . .

I've just read your November issue with great interest, particularly Medic Man's QSL feature and 'Listen Who Dares'.

The laws concerning SWLing are very grey, to say the least. The 1949 Wireless Telegraphy Act gives no clear definition of an 'authorised' band or station. It just states 'if any message . . . is unintentionally received, no person shall make known its contents, origin, destination or existence, or any fact of its receipt to any person . . . and shall not reproduce in writing, copy, or make use of such a message . . . or allow it to be reproduced. . .'. The news on Radio 1 or the Voice of America news could be classed as a message (although I suppose it depends if they are 'unintentionally received. Ed).

Any case brought to court involving a receiving station would have to be under the Wireless Telegraphy Act and might have to prove that the equipment was intended for 'Wireless Telegraphy' as a licence is no longer required for the reception of signals other than television signals.

An amendment of the Act stops magistrates confiscating receiving equipment, so once all the case is gone through you can still go home and 'unintentionally' listen to whatever you like!

I think this is one of the cases where the authorities would expect to judge cases on their merit without using the full force of the law. But this sort of thing needs clearing up, with communications gaining increasing use in today's society and the growth of the transmission of sensitive data.

KING CRIMSON

1 PB 548

7 Willow Road, Hunstanton
Norfolk, PE36 6DE, England, U.K.

SKIP SWAP DIRECT EYE-BALL

TO STATION: C17 2EAS 3743

S: A

DATE: TIME

CHANNEL: MODE

REMARKS: ALL THE VERY BEST

BT

An appealing letter

F.C. Jupp is asking you all to dip into your pockets for a very good cause. . .

I am writing to you to ask for your help with an appeal I have started to raise money for a kidney machine for Guys Hospital in London.

I would like this to be a nationwide effort on the behalf of breakers, as Guys take in patients from all over the country.

I was invited to visit the wards and to attend a committee meeting. I saw for myself the plight of these children and heard from the committee the need there is for such a machine. Could you please through your magazine ask for donations to this worthwhile appeal.

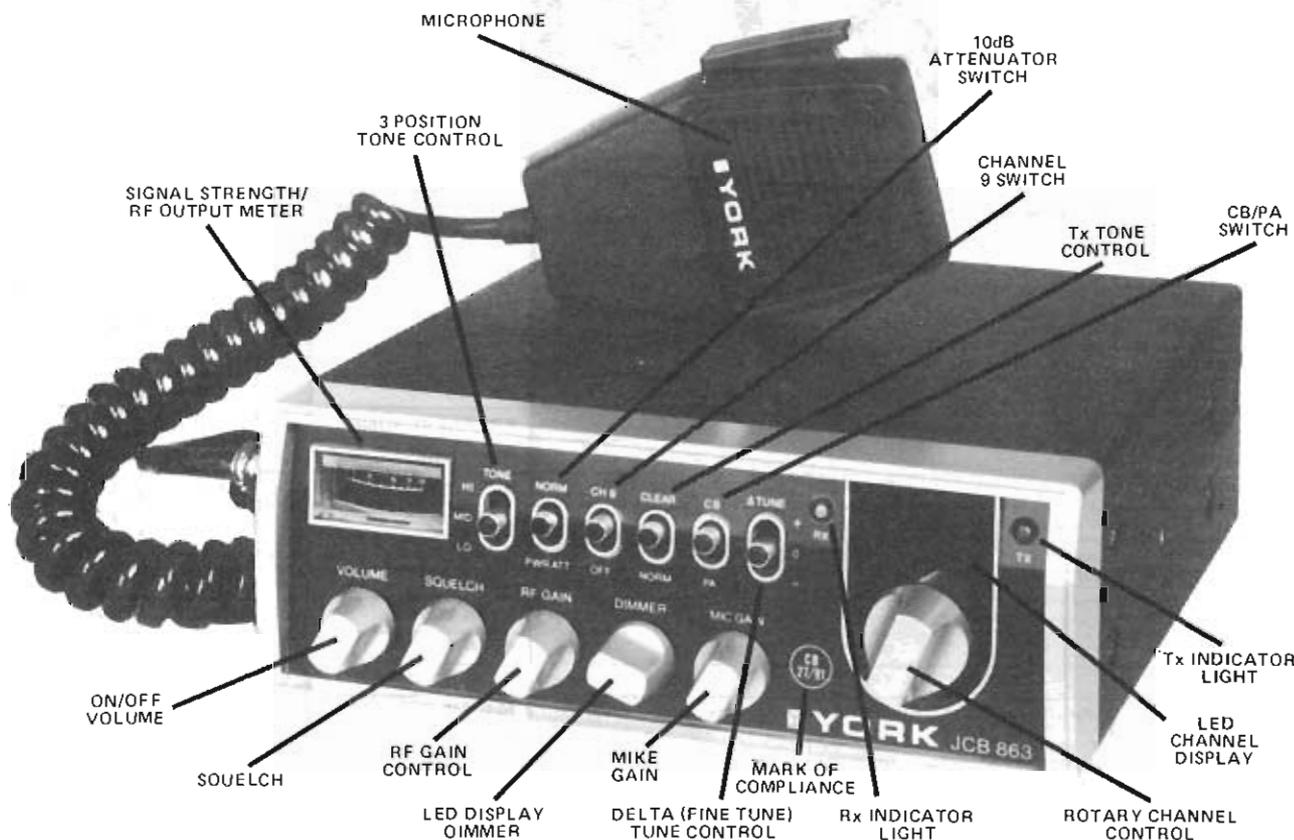
The bank to send monies to is:

Trustee Savings Bank,
4-6 Monson Road,
Tunbridge Wells,
Kent.

Account No. 77/63/16.
01502096

Citizens' Band

REFERENCE SECTION



SQUELCH

For anyone who has never used a rig before, this is probably the control that is the most difficult to understand. It exists to remove the background noise, that hissing sound that you can hear when there isn't a signal present. Nothing happens when the squelch knob is turned slowly clockwise, until it reaches a point just above the level of the background noise. Then, suddenly, the noise will totally disappear and you will hear nothing at all until a signal that is stronger than the background noise is received. This signal will cause the squelch to *open* and you will hear it, but as soon as it disappears, the squelch will *close* again and no sound will come from the rig. Care should be taken when adjusting this control because the higher it is set, the stronger the incoming signal has to be in order to open it. For the best results, the control should be left at the position just past the point where the background noise vanished. It will then let through any signal that is stronger than the background noise but not the noise itself.

RF GAIN

This is a variable attenuator that cuts down the amplification which is given to incoming signals and the more it is turned, the less the gain of your rig. This helps to prevent overloading when you are talking to someone who is very close by.

SIGNAL STRENGTH/RF METER

This is a dual function device that shows the relative strength of the signal you are receiving and of the signal you are transmitting. The S-Meter is usually calibrated 1-9 and the nearer to the 9 the needle is when you are receiving a

signal, the stronger that signal is. If someone asks you for a signal report, all you need to do is quote the number that is indicated on your S-Meter. This will give them a good idea of how well you are receiving them but you should remember that this is a *relative* indication and another rig under exactly the same circumstances could well give a reading that is 2 or 3 points different.

The same applies to the RF Meter. It also gives a *relative* indication of the power, you are putting out and it doesn't give a reading in watts. When you have properly tuned your antenna, you should note the position of the needle when you transmit, it should be around the 8 mark. If it suddenly moves from this position when you are transmitting, you should immediately re-check your antenna as there will almost certainly be something wrong with it.

NOISE BLANKER

These two functions are often combined on one switch and although they operate differently, they both exist to cut down interference. Most ANL systems work reasonably well but an NB is a far more efficient device that will remove almost all of the crackles and pops that are caused by interference.

LEDS (RX TX)

The appropriate one of these light emitting diodes lights to show if you are transmitting or receiving.

PA/CB

This switch turns your rig into a low power public address amplifier when it is set to the PA position. There is a socket on the back for an exten-

sion horn type speaker to be plugged into and anything you say into the microphone will be amplified and broadcast through the speaker.

MIC. GAIN.

This control alters the amount of audio from the microphone used to modulate the outgoing signal. When it is set to minimum, you are transmitting a blank carrier regardless of whether you speak into the microphone or not but when it's set to maximum, your signal is at almost 100% modulation.

HI/LO

This switch cuts down the output power of your rig so that you can conform to the rule on the back of your licence that says that you must reduce your power by 10 dB if your base station antenna is more than 7 metres above ground level.

CHANNEL SELECTOR

This is the knob that you use to change channels.

CHANNEL INDICATOR

This window displays the number of the channel in use. Most sets use LEDs for this display but some manufacturers prefer to use liquid crystal or fluorescent type displays. Displays will normally be bright red, orange or green and visible in all but the most direct sunlight.

CH 9 PRIORITY

This switch allows you to go immediately to channel 9 without having to use the channel selector.

FM RIG CHECKLIST

MOBILES

NAME	ADDRESSES	MODEL	MOBILES		
			NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
AMSTRAD	Amstrad Consumer Electronics, 1-7 Garman Road, London N17	CB901	40	13.8VDC	£40
AUDIO LINE	Telecomms, 189 London Road, North End, Portsmouth	341	40	13.8VDC	£60
AUDIO LINE		340	40	13.8VDC	£40
AUDIO LINE		342	40	13.8VDC	£115
BARRACUDA	Halfords Motor Accessory Shops	GT 868	40	13.8VDC	£70
BARRACUDA		HP 940	40	13.8VDC	£85
BINATONE	Binatone House, Beresford Av., Wembley, Middx.	BREAKERPHONE	40	13.8VDC	£99
BINATONE		ROUTE 66	40	13.8VDC	£79.95
BINATONE		5-STAR	40	13.8VDC	£100
COLT	K B & Co Ltd, 202 Cheetham Hill Rd, Manchester	295	40	13.8VDC	£49.99
COMMTRON	Roger D, 831 Mansfield Rd, Notts	CB40F	40	13.8VDC	£70
COMMTRON		CXX	40	13.8VDC	£69.95
CYBERNET	Goodmans Loudspeakers Ltd, Downley Road, Havant, Hants PO9 2NL	BETA 1000	40	13.8VDC	£70
CYBERNET		BETA 2000	40	13.8VDC	£85
CYBERNET		BETA 3000	40	13.8VDC	£100
DNT	Radiotechnics Ltd, Grove Way Bel Royal, St Lawrence, Jersey CI	M40FM SPECIAL	40	13.8VDC	£100
FIDELITY	Fidelity Radio Ltd, Victoria Rd, London NW10	CB 1000M	40	13.8VDC	£70
FIDELITY		CB 2000M	40	13.8VDC	£90
FIDELITY		20001 FM	40	13.8VDC	£70
GRANDSTAND	Bee-Ware Ltd, Ripon Way, Harrogate, N. Yorks	BLUEBIRO	40	13.8VDC	£50
GRANDSTAND		HAWK	40	13.8VDC	£30
GRANDSTAND		GEMINI	40	13.8VDC	£60
HARRIER	Dixons Photographic Ltd	CB MOBILE	40	13.8VDC	£49
HARRIER		C8 X	40	13.8VDC	£89.99
HARVARD	Harris Overseas Ltd, Harvard House, 14-16 Thames Rd, Barking, Essex	400M	40	13.8VDC	£80
HARVARD		402 MPA	40	13.8VDC	£69.95
HARVARD		H403 GODD BUDDY	40	13.8VDC	£50
HARVARD		420M	40	13.8VDC	£100
INTERCEPTOR	Telecomms, 189 London Road, North End, Portsmouth	INTERCEPTOR	40	13.8VDC	£80
INTERCEPTOR		TC400	40	13.8VDC	£95
INTERCEPTOR		ONE HANDER	40	13.8VDC	£100
JOHNSON	Star Warehouse, Chalk Farm Rd, London	JOHNSON	40	13.8VDC	£50
KAISER	Kaiser Electronics Nevrottsstrasse 21-25, Waldorf Baden, W. Germany	UK 40	40	13.8VDC	£TBA
LADYLINE	Market Drayton, Salop	QUASAR	40	13.8VDC	£80
LAKE	Roger D, 831 Mansfield Rd, Nottingham NG5 3GF	MANXMAN 850	40	13.8VDC	£32.50
LAKE		MANXMAN 950	40	13.8VDC	£37.50
LOWE	Lowe Electronics, Matlock, Derbyshire	TX 40	40	13.8VDC	£50
MAGPIE	Maggie Electronics, PO Box 35, Aridover, Hants SP10 2LG	AUTOSCAN 5000	40	13.8VDC	£120
MAXCOM	A.M. Telecommunications, AM House, 17 Shepherds Way	4E	40	13.8VDC	£50
MAXCOM	Rickmansworth, Herts	6E	40	13.8VDC	£48
MAXCOM		20E	40	13.8VDC	£50
MAXCOM		21E	40	13.8VDC	£50
MAXCOM		16E	40	13.8VDC	£40

Remember — Shop around as prices can vary

REFERENCE

On the following pages you will find listed just about all of the CB rigs available for use on UKFM CB. We have split the reference section into three parts; mobile base and portable to make individual rigs easier to find.



SQUELCH	NB SWITCH	ANL SWITCH	MIKE GAIN	RF GAIN	STONE CONTROL	S/RF LED R/O	HI/LO OUTPUT	PA FACILITY	EX. SPEAKER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS	
•			•	•	•	•	•	•	•	•	•	•	SL	Report Feb '82	AMSTRAD
•			•	•	•	•	•	•	•	•	•	•	SL		AUDIOLINE
•			•	•	•	•	•	•	•	•	•	•		Report Feb '82	AUDIOLINE
•													—		AUDIOLINE
•			•	•	•	•	•	•	•	•	•	•	FL	Great GT868 chassis	BARRACUDA
•			•	•	•	•	•	•	•	•	•	•	FL	Cybernet chassis	BARRACUDA
•													—	Report Feb '82	BINATONE
•			•	•	•	•	•	•	•	•	•	•	FL	Report Dec '81	BINATONE
•			•	•	•	•	•	•	•	•	•	•	SL		BINATONE
•													FL		COLT
•													FL		COMMTRON
•													FL		COMMTRON
•						•	•	•	•	•	•	•	SL	Ultra compact performer	CYBERNET
•			•	•	•	•	•	•	•	•	•	•	FL	Report May '83	CYBERNET
•			•	•	•	•	•	•	•	•	•	•	FL	Report September '83	CYBERNET
•			•	•	•	•	•	•	•	•	•	•	FL	Report July '82	DNT
•													SL	Report December '81	FIDELITY
•			•	•	•	•	•	•	•	•	•	•	FL	Report March '82	FIDELITY
•			•	•	•	•	•	•	•	•	•	•		Report September '82	FIDELITY
•													SL		GRANDSTAND
•													SL		GRANDSTAND
•	•		•	•	•	•	•	•	•	•	•	•	SL		GRANDSTAND
•													SL	Report Feb '82	HARRIER
•			•	•	•	•	•	•	•	•	•	•	SL		HARRIER
•													FL		HARVARD
•													FL		HARVARD
•			•	•	•	•	•	•	•	•	•	•	SL	Report December '82	HARVARD
•			•	•	•	•	•	•	•	•	•	•	SL		HARVARD
•													SL		INTERCEPTOR
•	•	•	•	•	•	•	•	•	•	•	•	•	FL		INTERCEPTOR
•			•	•	•	•	•	•	•	•	•	•	FL		INTERCEPTOR
•			•	•	•	•	•	•	•	•	•	•	FL	Great GT868 chassis	JOHNSON
•													FL		KAISER
•			•	•	•	•	•	•	•	•	•	•	FL	First marine rig	LADYLINE
•													SL		LAKE
•			•	•	•	•	•	•	•	•	•	•	SL		LAKE
•			•	•	•	•	•	•	•	•	•	•	FL		LOWE
•			•	•	•	•	•	•	•	•	•	•	FR	Report April '83	MAGPIE
•													FL	Report March '83	MAXCOM
•			•	•	•	•	•	•	•	•	•	•	FL	Report November '82	MAXCOM
•													FL		MAXCOM
•													FL		MAXCOM
•													FL		MAXCOM
•													FL		MAXCOM

considerably from CB shop to CB shop!

REFERENCE

MOBILES

NAME	ADDRESSES	MODEL	NO OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
MICROLINK	Warman-Freed Ltd, 82 Golders Gr. Rd, NW11	CB401	40	13.8VDC	£115
MIDLAND	Plustronics Ltd, Hempstalls Ln, Newcastle-under-Lyne, Staffs	2001	40	13.8VDC	£70
MIDLAND		3001	40	13.8VDC	£80
MIDLAND		4001	40	13.8VDC	£90
MIDLAND		2001T	40	13.8VDC	£100
MERCURY	EMS Communications, Grove Street, Wantage, Oxon, IX21 7AD	10 40	40	13.8VDC	N/A
MUSTANG	KB & Co. Ltd, 202 Cheetham Hill Rd, M/cr	CB1000	40	13.8VDC	£49.95
MUSTANG		CB3000	40	13.8VDC	£59.99
NATO	Roger D, 831 Mansfield Rd, Nottingham NG5 3GF	40M	40	13.8VDC	£69.95
NATO		2000	40	13.8VDC	£189.95
OSCAR	S.M.C. Runbridge Street, Totton, Hants SO4 4OP	OSCAR 1	40	13.8VDC	£85
OSCAR		OSCAR II	40	13.8VDC	£49
RADIDMOBILE	Goodwood Wks, North Circular Rd, London NW2 7JS	201	40	13.8VDC	£80.90
RADIOMOBILE		202	40	13.8VDC	£120
REFTEC	RF Technology, Leyton Avenue Ind. Est, Mildenhall, Suffolk	934	20	13.8VDC	£200
ROTEL	Rotel Hi Fi, 2-4 Erica Rd, Stacey Bushes, Milton Keynes	RVC 220	40	13.8VDC	£50
ROTEL		RVC 230	40	13.8VDC	£70
ROTEL		RVC 240	40	13.8VDC	£90
SHOGUN	Colliers Fm, Fretth, Henley-on-Thames, Oxon, RG6 6NR	SHOGUN	40	13.8VDC	£100
SIRTEL	24 Alfric Sq, Off Maxwell Rd, Woodston Ind. Est, Peterborough	SEARCHER	40	13.8VDC	£40
STEEPLETONE	Park End Works, Croughton, Nr Brackley, Northants	SCB1FM	40	13.8VDC	£103
TANDY	Tame Way, Tower Bridge St, Walsall, Staffs	TRC2001	40	13.8VDC	£80
TANDY		TRC2002	40	13.8VDC	£70
TANDY		TRC2000	40	13.8VDC	£100
TANDY		TRC1004	40	12VDC	£79
TANDY		TRC2003	40	13.8VDC	£130
UNIDEN	Cravenminster Ltd, Unit 8, Industrial Estate, Llandudno Junction, Gwynedd	UNI ACE 100	40	13.8VDC	£69.95
UNIDEN		UNI ACE 200	40	13.8VDC	£89.95
VIPER	Radio 88, Barking, Essex	VIPER 88	40	13.8VDC	£29
WAGNER	Knight Communications Ltd, Unit 19 Britanna Est, Leagrave Rd, Luton	9000	40	13.8VDC	£59.95
WAGNER		COMPACT 40	40	13.8VDC	£25
WESTERN	Western Electronics, Fairfield Estate, Louth, Notts	COMPACT 40	40	13.8VDC	£34.50
YORK	Sulkin (UK) Ltd, 73 Grosvenor Street, London W1X 9DD	JCB 861	40	13.8VDC	£69
YORK		JCB 863	40	13.8VDC	£89





SQUELCH	NB SWITCH	ANL SWITCH	MIKE GAIN	RF GAIN	TONE CONTROL	S/RF METER	S/RF LED R/O	HI/LO OUTPUT	PA FACILITY	EX. SPEAKER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS	
•				•		•		•	•	•	•			FL		MICROLINK
•						•		•	•	•	•			FL	Report August '82	MIDLAND
•						•		•	•	•	•			FL		MIDLAND
•			•	•		•		•	•	•	•			FL		MIDLAND
•						•		•	•	•	•			FL	The talking rig	MIDLAND
•				•		•		•	•	•	•			FR	Report July '83	MERCURY
•						•		•	•	•	•			FL		MUSTANG
•				•	•	•		•	•	•	•	•		FL		MUSTANG
•	•	•		•	•	•		•	•	•	•			SL		NATO
•				•	•	•		•	•	•	•			SL	Report January '83	NATO
•						•		•	•	•	•		•	FL	Cybernet 134 chassis Report April '82	OSCAR
•						•		•	•	•	•			FL	Report October '83	OSCAR
•						•	•	•	•	•	•			FL	Cybernet chassis Report October '82	RADIOMOBILE
•			•	•		•		•	•	•	•	•		FR	Report September '81	RADIOMOBILE
•						•		•	•	•	•			FL		REFTEC
•				•	•	•		•	•	•	•			FL	Cybernet chassis	ROTEL
•				•	•	•		•	•	•	•			SL	Cybernet chassis	ROTEL
•			•	•	•	•		•	•	•	•	•		SL	Cybernet chassis	ROTEL
•				•	•	•	•	•	•	•	•			SL	Up market elegance Report June '82	SHOGUN
•						•		•	•	•	•			FL		SIRTEL
•						•		•	•	•	•			SL		STEEPLETONE
•						•		•	•	•	•			SL		TANDY
•						•		•	•	•	•			SL		TANDY
•			•	•		•		•	•	•	•			SL		TANDY
•						•		•	•	•	•			SL		TANDY
•						•		•	•	•	•			SL	Report November '82	TANDY
•						•		•	•	•	•			SL	Report September '82	UNIDEN
•			•	•	•	•	○	•	•	•	•	•		SL	Report February '83	UNIDEN
•				•		•		•	•	•	•			FL		VIPER
•				•		•	•	•	•	•	•			FL		WAGNER
•						•		•	•	•	•			FL		WAGNER
•						•		•	•	•	•			SL		WESTERN
•				•	•	•		•	•	•	•			SL	Report October '81	YORK
•			•	•	•	•		•	•	•	•	•			Cybernet 134 chassis	YORK



REFERENCE

BASE STATIONS

BASES



NAME	ADDRESS	MODEL	NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
AUDIOLINE	Telecomms, 189 London Road, North End, Portsmouth, Hants.	345	40	240VAC	£139.95
DNT	Radiotechnics Ltd, Grove Way, Bel Royal, St Lawrence, Jersey CI	B40	40	240VAC	£TBA
DNT		B2740	40	240VAC	£TBA
DNT			40	240VAC	£TBA
FIOELITY	Fidelity Radio Ltd, Victoria Rd, London NW10	CB 3000M	40	240VAC	£125
GRANDSTAND	Bee-Ware Ltd, Ripon Way, Haregate, N Yorks	BASE	40	240VAC	£220
HAM INT.	Telecomms, 189 London Road, North End, Portsmouth, Hants.	JUMBO	40	240VAC	£254
HAM INT		CONCORDE II	40	240VAC	£164
HARRIER	Dixons Photographic Ltd	CB HQ	40	240VAC	£130
HAVARD	Harris Overseas Ltd, Harvard House, 14-16 Thames Rd, Barking, Essex	H407	40	240VAC	£125
HARVARD		H401	40	240VAC	£149.95
JOHNSON	Star Warehouse, Chalk Farm Rd, London	XK 2000	40	240VAC	£99
MIDLAND	Plustronix Ltd, Hempstalls Ln, Newcastle-under-Lyme, Staffs	76-200	40	240VAC	£150
UNIDEN	Cravenminster Ltd, Unit 8, Industrial Estate, Llandudno Junction, Gwynedd	UNIACE 300	40	240VAC	£149.95
WAGNER	Knight Communications Ltd, Unit 19 Britannia Estate, Leagrave Rd, Luton LU3 1RJ	BASE	40	240VAC	£150

PORTABLES

NAME	ADDRESSES	MODEL	NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
BEAR	Air Bear (UK) Ltd, Wortley, Sheffield	RBH 35	3		£44
BINATONE	Binatone House, Beresford Avenue, Wembley, Middlesex	LONGRANGER	40	BATTERIES	£59.95
DNT	Radiotechnics Ltd, Grove Way, Bel Royal, St Lawrence, Jersey CI	HF 12/3	3	BATTERIES	£47.55
HARRIER	Dixons Photographic Ltd	WT1	2	BATTERIES	£25
HARRIER		WT2	40	BATTERIES	£59.99
HARVARD	Harris Overseas Ltd, Harvard House, 14-16 Thames Rd, Barking, Essex	0-2-0	2	BATTERY	£20
HARVARD		410T	40	6xAA cells	£69.95
HARVARD		10-4 CONVOY	2	BATTERY	£19.95
HARVARD		H6	2	BATTERY	£29.95
KAISER	Solid State Electronics (UK), 41 Twyford Ave, Shirley, Southampton (Tel: 0703 7803 35)	CBX40	40	BATTERY	£80
MAXCOM	A.T.M., AM House, 9a Olds Approach, Tolpits Lane, Watford, Herts	7E	40	BATTERY	£49.95
MIDLAND	Plustronix Ltd, Hempstalls Ln, Newcastle-under-Lyme, Staffs	75-720	40	12VDC	£59.95
TANDY	Fame Way Tower Bridge St, Walsall	TRC1001		BATTERY	£115

HAND HELDS



It's much more fun breaking from home when the car's too cold to start - and it saves petrol!



SQUELCH	NB SWITCH	ANL SWITCH	MIKE GAIN	RF GAIN	STONE CONTROL	S/RF METER	S/RF LED R/O	HI/LO OUTPUT	PA FACILITY	EX. SPEAKER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS
•			•	•	•		•	•		•					AUDIOLINE
•					•		•	•		•				FL	Review May '82
•					•		•	•		•				FL	The most expensive base!
•			•	•	•		•	•		•		•		FR	Report May '82
•			•	•	•		•	•	•	•		•		SR	Report May '82
•			•	•	•		•	•	•	•	•			FL	FIDELITY
•			•	•	•		•	•	•	•				FL	GRANDSTAND
•	•	•	•	•	•		•	•	•	•				FL	HAM INTERNATIONAL
•	•	•	•	•	•		•	•	•	•				SL	HAM INTERNATIONAL
•			•	•	•		•	•	•	•	•	•		FL	HARRIER
•			•	•	•		•	•	•	•	•	•		FL	HARVARD
•			•	•	•		•	•	•	•	•	•		FL	HARVARD
•			•	•	•		•	•	•	•				FL	JOHNSON
•			•	•	•		•	•	•	•				FL	MIDLAND
•			•	•	•		•	•	•	•	•			FL	Reviewed August '83
•	•		•	•	•		•	•	•	•				FL	UNIDEN
•			•	•	•		•	•	•	•				FL	WAGNER

Why not get out and about with a portable rig? Not only is it fun, there's fresh air too.



SQUELCH	NB SWITCH	ANL SWITCH	MIKE GAIN	RF GAIN	STONE CONTROL	S/RF METER	S/RF LED R/O	HI/LO OUTPUT	PA FACILITY	EX. SPEAKER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS
•										•				-	BEAR
•							•		•	•	•			-	Report July '82
•														-	BINATONE
•														-	DNT
•					•		•		•	•	•			-	HARRIER
•					•		•		•	•	•			-	HARRIER
•					•		•		•	•	•			-	HARVARD
•					•		•		•	•	•			-	Report April '82
•					•		•		•	•	•			-	HARVARD
•					•		•		•	•	•			-	HARVARD
•					•		•		•	•	•			-	HARVARD
•					•		•		•	•	•			-	Report August
•					•		•		•	•	•			-	KAISER
•					•		•		•	•	•			-	MAXCOM
•					•		•		•	•	•			-	MIDLAND
•					•		•		•	•	•			-	TANDY

REFERENCE

ANTENNA CHECKLIST

Here's a brief intro

Name
All antennas have a number or name. Or both. Here we tell you what it is.

Construction
Most mobile antennas are made of stainless steel and most home based ones are made of aluminium. This is not always the case though. There are fibre glass mobiles

The Home Office specs for CB antennas are lean and bordering on the mean. Still within that basic framework manufacturers have come up with some good designs. This newly laid out antenna checklist should help you

CONSTRUCTION	LENGTH	MAX POWER	TYPE	MOUNT	PRICE RANGE
AL AL	1.5 1.5	100 500	B B	Pole Pole	0 0
SS	-	-	-	Various	C
SS SS SS SS SS	0.9 1.5 1.2 1.5 1.14	150 150	M M M M M	Mag Mag Mag Mag Mag	D D D D D
SS SS SS SS SS SS SS SS SS SS	1.14 1.2 1.2 1.2 1.5 1.2 1M 1M 1M 1	150 100 150 200 150 150	M M M M M M M M M M	gutter mag mag mag mag mag mag mag mag spring-based mag trunk	D D D D D D D D D D
SS SS SS SS	1% 1% 1% 1%	-	M M M M	roof gutter mirror mag	D D D D
SS	0.5	50	M	snap	D
SS SS SS SS SS SS SS SS	1.05 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000	M M M M M M M M	surface surface with spring brail lip brail lip with spring magnetic magnetic with spring side side & fold over & quick disconnect brail lip illuminate	F F F G G G G G
SS SS SS SS	1.22 1.22 1.22 1.22	-	M M M M	rod trunk mag super mag	D D D D
SS	1.22	-	-	mag	G
SS SS SS SS SS SS SS SS SS SS	1.42 0.61 1.22 1.42 1.42 1.22 1.42 1.22 1.42 1.22 1.42	-	M M M M M M M M M M M	mag mag mag mirror drill-thru drill-thru various various various various	G F F F F D D D D D D
AL SS	1.5 1.5	500 25	B M	pole	G C
SS	0.91	-	M	mag	C
R SS SS SS SS SS SS	0.3 0.61 0.61 1.22 1.22 1.22 1.27	-	M M M M M M M	- - - - - - -	C C C C C C C
SS	1.5	-	M	various	D

NAME	ADDRESSES	MODEL
AERIAL SUPPLIES	Aerial Supplies, 9 Widney House, Bromsgrove Rd, Redditch, Wores. (Tel 0527 82620)	Silver Star Silver Arrow
		CBA 1500
ANTENNA INC.		12510 Telecomm Super Persuader MR511 M710 AS M125 AS M 128
ANTENNA SPECIALISTS	Antiferance Ltd, Aylesbury Bucks HP19 3BJ	AS M131 AS MR440 AS MT178 AS M510 AS M2000 AS 9512 IC 85 IC 80 IC 15
ANTLER	Snake sports, Performance Antennas, Bolton Rd, Market Drayton, Salop	IC 20 IC 30 IC 40 IC 80
ARCHER	Tandy Corp, Tamin Way, Tower Bridge St, Walsall, W. Mid	21-904
ARMSTRONG	Stateside Trailing Ltd, Audley Ave, Newport, Shropshire	SAM 10 SAM 20 TAK 10 TAK 20 MAG 10 MAG 20 BDY 20 PEC 20 TAK 101
AVANTI	CB Radio Centre Ltd, 337 Kewton Rd, Harrow	AV 241 (Moonraker) AV241 T AV241 M AV241 MM
BADLAND	Badland, Roeten Ind. Est, Providence St, Lye, Stowebridge	B10
BANDIT	Telecomms Ltd, 189 London Road, North End, Portsmouth, Hants	B10 B15 B15 B20 S30 B30 B40 B40 B50 B50
C. BRIT	C Brit, Unit 7, 5 East Lane, Wembley, Middx	Singray Whiplash
CT INTERNATIONAL	CT International C/Te (UK) Ltd, Unit 3, Mitcham Ind. Est, 85 Sreatkam Rd, Mitcham, Surrey	MG27
DIAL-A-MATCH	WYA Electronics Ltd, 111 Cromer Rd, Halesden, Norwich (Tel 0606 47894)	Rubber Duck - 630 (Cherokee) 631 HBF 631 SMF 640 641 HBF 641 SMF 620 (Halfbreed)
OIGITEK UK LTD	1, 79-181 Sheppham Rd, Nitcham, Surrey	Falcon 27

duction to the world of antennas and what we tell you in our checklist.

and stainless steel home based antennas.

Length

The longer the better is always my motto. As long as it's not over 1.5 m. Otherwise it's illegal. We tell you the exact length.

Maximum power

This is given as a guide only. The law allows for a maximum

two watts. However, the higher the maximum power figure given the sturdier the antenna will be.

Type

It's no use buying a home base antenna if you want to use your rig from the car. We tell you which are which Mobile or Base. At the moment the number of mobile

antennas far outweigh the number of home based ones. But there are more and more home base antennas coming onto the market.

Mount

The majority of mobile antennas are held in place by a magnet — these are called mag mounts. Others are attached by means of a clamp

to the boot or edge of the roof. Some are drill-through antennas which are just the same as normal car radio aerials.

Home based antennas are poles, tripods or gutter mounts. Tripods are free standing and gutter mounts are attached in a way similar to trunk or bootmounts.

Key:	C: £10 - £14.99	G: £30 - £39.99	AL - Aluminium	B - Base
Price Bands	D: £15 - £19.99	H: £40 Plus	FG - Fibreglass	
A: £1 - £4.99	E: £20 - £24.99	Construction	Application	Note: Prices are given as a guide only
B: £6 - £9.99	F: £25 - £29.99	SS - Stainless Steel	M - Mobile	

NAME	ADDRESSES	MODEL	CONSTRUCTION					
			LENGTH	MAX POWER	TYPE	MOUNT	PRICE RANGE	
OIXONS	Dixons Photographic	Harrier	SS	0.9	—	M	Mag	D
HOT ROD 200	Hot Rod 200, Stateside Trading Ltd, Audley Ave, Newport, Shropshire	FM UK	SS	1.27	—	M	1/2ths	B
FREEMAN & PARLOW	Freeman & Parlow, Tything Rd, Aiden Forest Ind. Est, Alcester, Warwick	The Invader The Thunderpole	AL AL	1.5 1.5	250 500	B B	pole pole	B B
CB SERVICES	57, Crab Lane, Harrogate, N. Yorks HG1 3BD	Bullwhip Knuckleduster	SS AL	1.6 1.5	—	M B	various —	C D
MIOWEST		Dial-a-tune Dial-a-tune	SS SS	0.61 1.22	500 2	M M	various various	C O
MODULATORS	Les Wallen Manufacturing, Penbrooke Works, Sandwich Rd, Sandwich, Kent	MOBILE LC MOBILE SC MOX LC MDX SC 334 BASE 334 MOBILE VHF MOBILE VHF BASE 27 L/C BASE 27 DX BASE	SS SS SS SS FG FG SS SS AL AL	1.3 1.3 1.5 1.5 1.6 1.3 1.3 1.6 1.5 1.5	1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000 1,000	M M M M B M M B B B	1/2 1/2 1/2 1/2 Pole Gutter 1/2 Pole Wall Pole	C C C C C C C C C D D
MOTOROLA	Motorola, Taylor Rd, Stifford, Hitchin, Herts	EC106M	—	—	—	M	—	F
OCT.	Unit 1, Earlsfield Lane Ind. Estate, Grantham, Leics	K40 Z27	SS SS	1.4 1.45	600 200	M M	various various	G B
PANORAMA	Panorama, 73 Wadham Rd, London SW15 2LS	CB27	SS	1.22	—	M	mag	B
PRIDOW		KT40	—	1.5	—	M	trunk	C
REVCO	Telecomms, 189 London Road, North End, Portsmouth, Hants	Revco	SS	1	100	M	various	B
SHIRA		SYS 206M SYS 203C MA 62	SS FG M	1 0.75 0.91	— — —	M M M	mag trunk —	C C C
SIRTEL	Sirtel, 214 Altrich Sq, ON Mansell Rd, Wurdston Ind. Est, Peterborough	GP Messenger GP Signal Keeper	SS SS	1.5 1.5	— —	B B	clamp tripod	E F
SMC	S.M.C., Runkelidge Street, Totter, Hants SO4 4QP	Oscar Base CBA 11GP Oscar Base IIVIIS Oscar IICM Oscar NICE Oscar IINE Oscar IISE Oscar TMCAS	SS SS SS SS SS SS	1.5 1.5 1.2 1.5 1.5 1.5	— — — — — —	B B M M M M	— mag foldover base "pull-up" locking collar foldover base trunk	F F D B C C B
SPYDER		Spyder	AL	1.6	—	B	pole	B
TAGRA	CB Radio Centre Ltd, 337 Kenton Rd, Harlow	T40	SS	1.4	500	M	various	E
THOROBRED	OCT, Unit 1, Earlsfield Lane, Grantham	261 Z27 Locktune	SS SS SS	1.5 1.5 1.6	— — —	M M M	various 1/2 various	C B C
WITCHSTICK	CJM Motor Factors, Hill Farm, Ave, Leaswater, Watford, Herts GU273 746AS	Witchstick homebase	AL	1.5	—	B	—	E
WTA ELECTRONICS	111 Cromer Rd, Holesden, Norwich, Norfolk	Wot Pole Wot Mag	AL SS	1.5 1.6	— —	B M	pole mag	
VAN OROT	Van Orot, Knight CB Specialist, 204 Dunstable Rd, Luton, Beds	Audio King AKO-100	SS	1.5	2,000	M	1/2	G

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We are always pleased to receive letters from readers, but at times it is impossible to answer them all. We do try to eventually get round to answering letters with an S.A.E. but this may take some time.

It is assumed that letters we receive are intended for publication unless they say otherwise. Letters for particular features like Back Chat, Q & A and Club News should have that marked on the envelope and the correspondent's full name and address, although this will not be published if requested. Readers who are hoping for publicity for events, competitions and 'other happenings' should bear in mind that the magazine goes to press at least two weeks before the magazine appears in the shops, and editorial copy dates are usually a month before the 'press' date. Please remember this when sending any information in.

Writing for CB

We welcome readers contributions, especially if they cover a new aspect of CB or are D.I.Y. projects. Unless you are experienced in contributing to magazines you may not be aware of how work should be presented — if in doubt write for advice!

Telephoning

It is very difficult to deal with telephone queries, especially technical ones, as most of our energy has to go into putting the magazine together. If you can deal with it by letter, please do.

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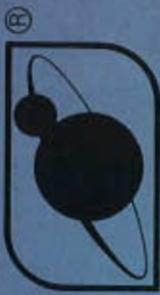
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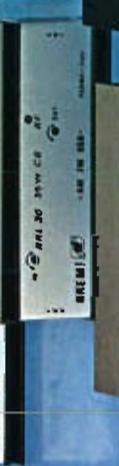
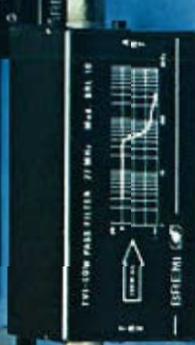
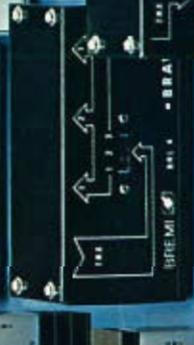
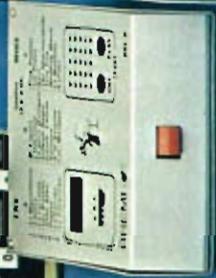
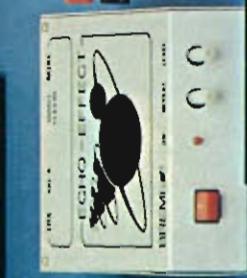
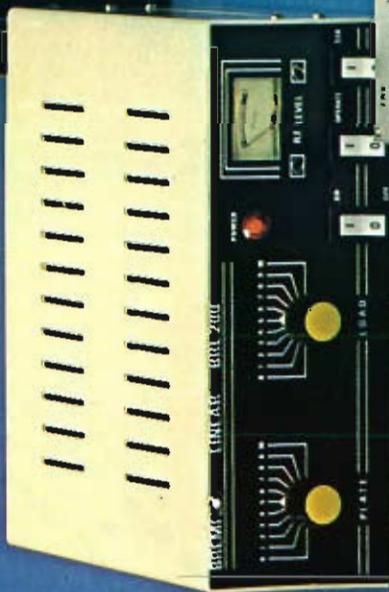
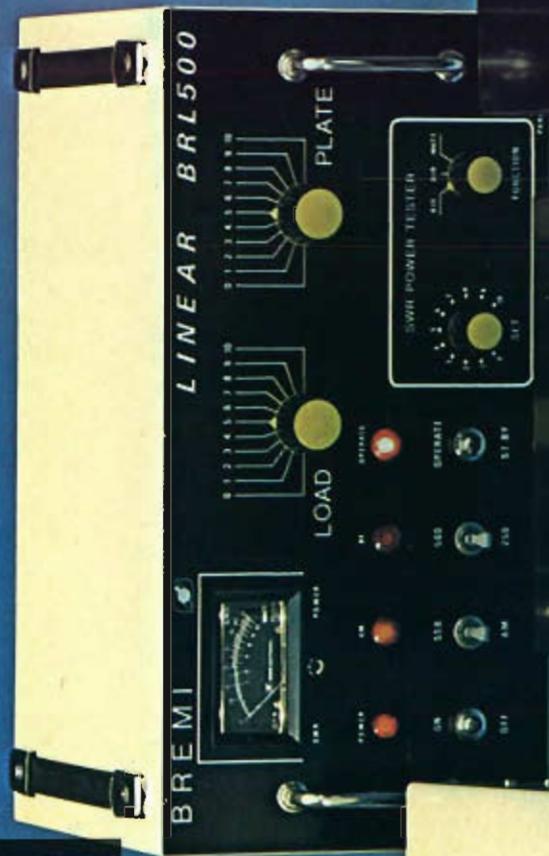
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