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Citizens' Band

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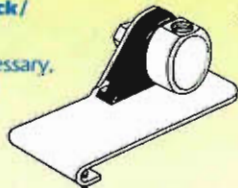
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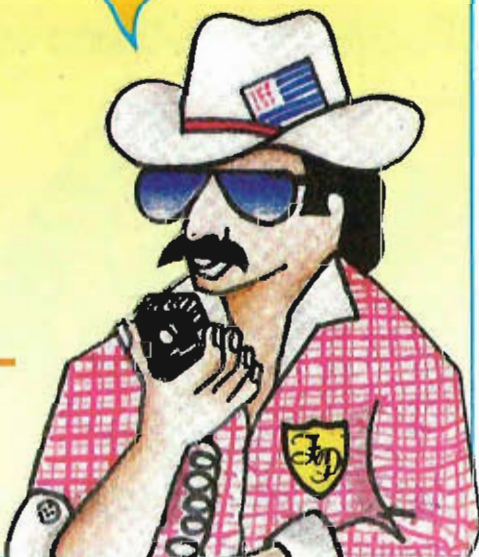


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CB Citizens' Band



Inside this month

Trevor Butler looks at the growth of 934MHz

Editor Eamonn Percival
Group Editor Sue Sharp
Ad Manager Tom Connor
Designer Footprint
Managing Editor Wendy Palmer
Editorial Director..... Ron Moulton

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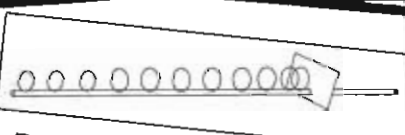
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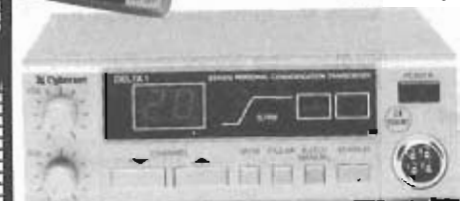


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THE 1985 CATALOGUES


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**NEWS
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UPDATE

Editorial

There really are a lot of weirdos about. A reader from Avon recently sent us a copy of a chain letter, asking us to get rid of it and to warn other CBers about them. You've probably seen them before. This particular one instructed the recipient to make 20 copies and mail them off to others, and also gave examples of people who broke the chain losing their jobs, money and, in one case, their life!

What has this to do with CB, you ask. Well, it appears that this particular one was sent via the reader's PO Box and was probably culled from our QSL address section. It follows, then, that other QSLers or CBers may have

received copies.

If you receive one, just tear it up and forget about it, which is what I did. If you are intimidated by its contents, then please feel free to send it to me at the magazine address where I will be only too pleased to dispose of it. They are all complete rubbish but, unfortunately, they can cause some people a lot of worry. The cases they quote about people who break the chain are entirely fictional or, at most, coincidental.

Well now, onto things a little more pleasant. The festive season approaches and, with this in mind, we have included a Christmas gift guide to solve those present-buying problems. Also, in response to the many requests we have

received, Keith Townsend takes an imaginary trip across Europe to see what frequencies other countries have been allocated. We would like to thank the DTI for their very informative information sheet on the subject, which helped us to compile the article.

We would also like to thank Telecomms of Portsmouth who allowed us to use part of their premises for our cover photograph. Finally, I would like to thank our Advertising Manager, Tom Connor, for entering into the spirit of things and who, when he's not doing Elvis impersonations, is not averse to dressing up as Santa Claus, as you can see from the cover!

Eamonn Percival

CB Rescue Team

We recently heard from a Nottingham CB Rescue Team requesting a well-deserved mention. Essentially a group of mobile breakers, they often go out searching for missing children and cooperate fully with the emergency services. In fact, they recently found six missing children in just two hours, returning them either to the police or to their parents.

They tell us that, whilst they have had a lot of publicity from local radio and local newspapers, they would like us to inform the rest of the UK that they would like to see other towns and cities with their own CB rescue teams, linking up with theirs and run on the same lines.

They charge a £5 life membership fee (pensioners and disabled free) and also require two small photographs. Rescue members on channel are classified as 'affiliated', whilst non-CBers are 'associate members'. If anyone is interested in their idea, they can contact the chairman, Mr M. Kenworthy, at: CB Rescue Team HQ, Red Lion Community Centre, Coventry Road, Bulwell, Nottingham.



Toyota Sound

Toyota recently announced the introduction of four new radio/cassette units, chosen for their compatibility with the current Toyota passenger-car range. They enable the audio system of virtually any Toyota to be upgraded in versatility and/or sound quality.

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Happy Birthday to Us

I was a bit (even more than a bit!) surprised when your editor came into my office and said "Did you know it's the fifth birthday of the magazine in December?"

After fighting my way into the cellar, over the bleached skeletons of discarded editorial staff, ancient and dusty filing cabinets and the mouldy remains of uneaten sandwiches, I got to the *Citizens' Band* file and, what do you know, it's our fifth birthday.

So, as one-time editor and now group editor of this distinguished publication, it has been pointed out that it behoves me to say a few words in celebration of this event. And, as long-time readers will know, I am never lost for words!

It's probably been said in these columns before that there were 11 CB publications at one time — now there's just us. And for five years we have been reporting on, campaigning for and contributing to the introduction, growth and continued well-being of

citizens band radio. The magazine was started in the early days of CB in this country, when users had illegal equipment. As publishers of a magazine called *Hobby Electronics*, we kept getting all these letters asking us about CB. What was it, where could it be obtained, where could you get more details? Rather than have to say "we don't know", Rick Maybury became self-appointed CB correspondent and discovered the weird and wonderful world of early CB. Rick went on to be editor of the infant *Citizens' Band* magazine and his stately figure became a regular if not-always-welcome sight at rallies and meetings up and down the country, as he and the magazine joined the campaign for legal CB.

When CB was made legal four years ago, the magazine came into its own. At the time, I worked for one of the 'opposition' and staff from the various magazines would meet at various CB events, swap insults, stories and lies — in good spirit, I must say. There may have been opposition, but it was usually good-natured. Mind you, there was the time when

Rick . . . I'll leave that for another time!

But we're still here even if the others didn't make it and whilst five years may not stack up against that bastion of genteel publishing, *The Lady* (celebrating its centenary this year), I think it's an occasion that deserves some comment.

In amongst the praise, it has been said that it hasn't always been great. For CBers like myself, who believed in the concept of public radio and who fought for its introduction, there have been times when I could have thrown in the towel with frustration; at government; at the Civil Service; at so called CBers themselves for their abuse and disregard for the service. I'm not the only one to have felt that way — even our own Mack the Hack once threatened to pack in writing his column when it all got a bit too much for him and I have lost track of many good people that I have lost touch with when they have 'gone down' for ever.

But, as I suspect I have said before (stop me if I'm repeating myself), the introduction of citizens band

radio in the face of an unsympathetic government and actively hostile Civil Service has been the only time I have seen the democratic process in action — positive proof that if enough people want something badly enough, it can be achieved.

And it's been in action for four of our five years, and it has made a great deal of difference to a lot of lives. Sure, we all have fun with CB and most of us find it useful (I'd still be driving round Basingstoke now if it wasn't for the kind person with a base station and a road map) but most satisfying of all are the letters that we get that say "CB helped save my life in an accident", "CB means that I have some normal life although I'm blind", "As an OAP, CB means that I can have company and peace of mind". Those letters far outweigh those that decry CB and those that feel, like I have at times that the battle for CB was a wasted one.

So, five years on. A lot of water under the bridge. And a lot of thanks. To Rick Maybury for getting the magazine off the ground. To the contributors that have written for the magazine over the years (and cheerfully accepted our lousy rates). To the companies that have supported us with advertising. But most of all, thanks to you for buying the magazine, for continuing to read it and for the encouragement you have given us. And on that sentimental note, I'll finish because we're all going down the pub . . .

Sue Sharp

Hot Line to the Pentagon

A Northampton man was recently fined a total of £540 for installing an illegal transceiver and broadcasting on the same frequency as the Pentagon.

A Department of Trade and Industry radio

investigation officer, having traced the calls, found the user with a Yaesu ham unit which had been converted to operate between 6.4 and 6.9MHz.

"That particular band", said the officer concerned, "has been allocated to the Civil Aviation Authority and certain military aircraft,

American aircraft units and helicopter air rescue services."

Tony Brown (52) had borrowed the unit for his 15 year-old son who, having been a keen CBER for three years, was soon due to sit the amateur radio exam. As the DTI has since confiscated the unit. Mr Brown has

been forced to fork out £600 for it.

How often have you heard quotes similar to the one following from Mr Brown?

"I suppose we knew it was illegal really, but it was one of those things, and I was willing to take the chance."



More thoughts and opinions from readers

Business CB

Worzel, from Nottingham, has some advice...

Stuart Foster's complaint about CB being used for business can be simply stopped. Just quote Clause 9 of the CB licence ("The apparatus shall not be used for the purpose of advertising or soliciting goods or services of any kind") to the offending breaker, also quoting the penalties of Section 1 of the Wireless and Telegraphy Act of 1949.

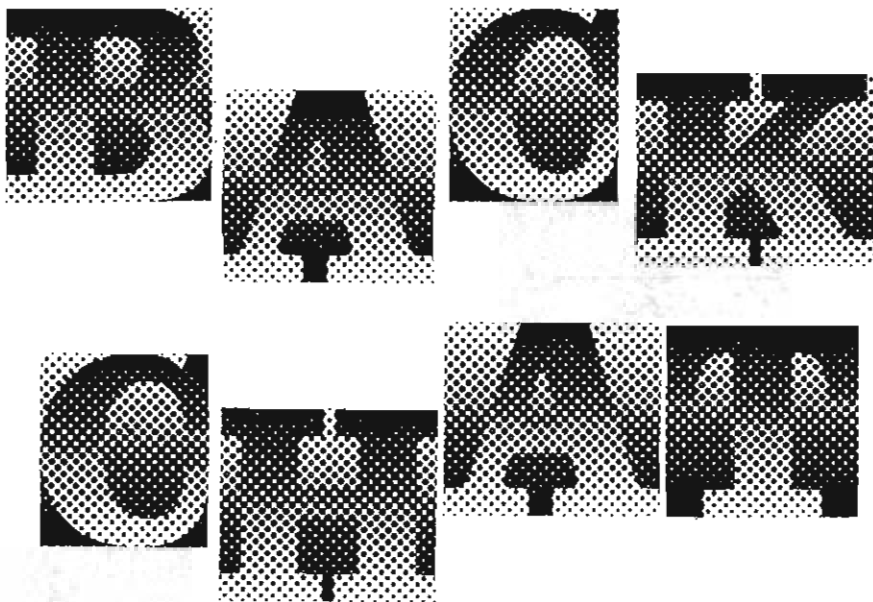
If the offender persists, take a tape recording of the illegal transmissions, along with a written statement, time, date and channel that the offence is committed. Forward this information to your local DTI RIS department and they should then investigate, usually to find that breakers playing music, keying out or swearing either possess illegal equipment or have no licence.

Good Glasgow Breakers

Bunny, a Glaswegian, wants a word with Big T, our trucking correspondent...

Hi, Big T. I read your recent article on Glasgow wallies and, yes, I agree that we have a lot of wallies, but we have more good breakers than wallies. Try getting directions from any channel other than 9, 14 and 19 by QSKing into the channel. I'm sure they will oblige in most cases.

Yes, we have contacted the RIS but it has got us absolutely nowhere. They do nothing for Scottish breakers or their clubs. They say they're undermanned and cannot trace the music players, mike keyers etc. So, we just plod on and trace them ourselves and report all information to them but they seem completely uninterested. Next time you come up the M74, try calling



for Teajenny or Compo in Motherwell. They'll help you with directions, and have a flick round the other channels, they're not all blocked. Take heart.

Channel Abuse

Ironsides writes from Hull bemoaning abuse on 27MHz...

First of all, let me tell you that I am a disabled breaker and was introduced to CB about six years ago. Yes, it was illegal at the time but I am sure there was not the abuse of the channels that there is today. Even late at night, you get them arranging B&B and a bit of the other thrown in! So, what is our £10 for? Certainly not monitoring the channels. I see also that it costs £21 to call anyone out. I thought the licence fee covered that. Isn't it time that someone got their finger out and did something?

To get back to my original point, I have been off the air for just over three months having had three small heart attacks in just three weeks. My doctor stopped me using my rig so I wouldn't get excited and bring another attack on. In the meantime, I joined two QSL clubs. Now, fellow wheelchair breakers, it was the best thing I could have done. I have made friends all over the British Isles, and even Belgium, Spain and Australia just by swapping QSL cards. What I wanted to know was are there any CB firms who could supply a 934 rig on HP terms suitable for people like me on low incomes — not having to pay twice the price of a rig bought for cash. I would be obliged if anyone could set me right so that we could get rid of the wallies, DJs, mike keyers, not to mention the abuse we have to take just because we want to converse with others of our kind.

Last, but not least, I already miss Grey Beard's Gleanings.

The Eyeball That Wasn't

Two opposing points of view about the same event — first, Big Beaver writes from Manchester...

Last weekend (27th-30th September),

I and many other ardent CB enthusiasts went to an eyeball meet at 'Dennis's South Bay Caravan Camp' at Gristhorpe, near Filey, North Yorkshire. This was billed as a — wait for it — Giant Eyeball and was organised and laid on by the Country CB Club, but where were they? The only members of this club I and my friends saw were two breakers in the sentry box at the site entrance. They told us they were as much in the dark as we were as there was no itinerary of events.

We were allocated a caravan — not the one I had paid for when I booked. I was told there had been a mix-up. It was supposed to be a "deluxe" caravan. Pish, I say. Never have I been in such a caravan in 20 years of caravanning. It took my good lady over an hour to clean it up enough for it to be habitable for our short stay.

There was supposed to be a profusion of trade and club stands, entertainments, events and the like, and naturally one expects the organisers to mingle and make sure that everyone has a good time. Well I must give a great thank-you to the only club who put up a club stand, these being the Sierra Charlie DX Group. We all felt for them, for after going to a lot of trouble and expense to enable breakers to join their very good club, no-one other than members of this club were there, or so it seemed to me.

I must take my hat off to Main-spring's wife Edith who made endless cups of tea for the breakers throughout the weekend. Yours truly, Edith, Main-spring and Gipsy Angelo seemed to be the main focal point and this old reprobate had the great pleasure to meet lots of other super CBers throughout the weekend. But what of the promised free entertainments? There were no stands apart from the SC Club, only some stupid car boot sales of old clothes and plants. To add insult to injury, the boys with Gipsy Angelo had to pay for the hire of a play bike — monstrous, but typical of the disorganisation of the absent Country CB Club breakers. In fact, many breakers were so dissatisfied, they packed up and went home.

Let's face it, there is nothing nicer

after a distance QSO-QSL than to eyeball the breaker behind the voice — but I cachinate at the puny efforts of the Country CB Club.

Now, another point of view from Canary Red from Horsham . . .

I would like to thank the Country CB Club of Scarborough for the weekend of 27th-29th September through your pages. My family and myself plus my brother's family travelled 300 miles for the giant eyeball at Denis's caravan park. We really enjoyed ourselves in the short time we were there and are now anxiously waiting for the next time.

We think that The Duke and Marmaduke from Hornsea deserve a special thank-you for staying on channel with us on the way back to Kingston-upon-Hull and giving us directions. Thanks also to the A-Team who got us to the Humber Bridge safely. These people are a good team and we hope to catch them again next year.

Our call signs are Canary Red (personal Roy) and Flying Monk (personal Len). Our families are all members of the Sun Oak DX Group of Horsham, of which a total of 36 members attended the said eyeball.

Antennas and Interference

Martin Wright, of High Wycombe, disagrees with John Butcher MP . . .

The 'interview' with John Butcher MP by Keith Townsend raised many issues. However, on this occasion I shall confine comment to the subject of antennas and their relationship to the potential to induce interference.

To begin with, one must first define two basic facts. Firstly, vertical single-element antennas display a radiation pattern that at best has the plane of maximum radiation horizontal, though generally it occurs in an upwards direction of some ten to twenty degrees above horizontal. Secondly, there is the fundamental law of electricity as defined by Kirchoff that states that for maximum power transfer the impedance of the generator must equal that of the load it supplies.

As far as the danger of interference to other radio or television reception by direct RF breakthrough is concerned, the present regulations actually present the greatest potential. Direct breakthrough is a function of firstly the susceptibility of the victim equipment, and secondly to the RF field strength of the CB transmissions, the latter being measured in watts per metre squared.

With regard to the radiation pattern of vertical antennas, permitting full output power from ground level up to 7 metres presents the *most* potential for such interference. Is it not questionable that radio hams are advised to mount their antennas as high as possible to avoid such interference?

Rightly so, Mr Butcher shows concern for harmonic interference to other services, and particularly those of the police and ambulance. To claim that



John Butcher MP (see last letter)

the coil loaded designs of antenna are to minimise this risk is totally false. All CB rigs are made to an output impedance of 50 ohms. It is fact that to realise an antenna of equal impedance it must be a quarter wavelength over an infinite ground plane; the classical Marconi antenna. However all quarter wave antennas present an impedance of near enough 50 ohms when provided with three or more $\frac{1}{4}$ wavelength ground plane elements.

As the element length exceeds $\frac{1}{4}$ wavelength its effective impedance rises, until at full wavelength it is some 300 ohms. Such an impedance mismatch results in severe loss of radiation, the power being consumed as heat in the element of the antenna, or more generally as reducing the output of the CB rig.

Harmonics are multiples of the wanted frequency, occurring in the regions of 54, 108 and 162MHz in particular. These harmonics have wavelengths of 6.5m, 2.77m, and 1.85m respectively. For 'optimum' impedance matching, *maximum* radiation antenna elements of a quarter of these lengths is required. Thus the critical lengths become 1.375m (54"), 0.69m (27 $\frac{1}{4}$ "), and 0.462m (18 $\frac{1}{4}$ "). These lengths are remarkably familiar to the whip or rod sections of loaded antennas. The latter being almost the 'standard length' for the semi-rigid section supporting a 'centre' loading coil. Under such circumstances the coil section cannot in any way act as an attenuator to the harmonic, rather it is more probable to act as a 'trap' so causing the 18" section to radiate with even greater efficiency!

No, Mr Butcher, your antenna regulations are first and foremost intended to restrict the range of CB (so to hide the gross overcrowding that a mere 40 channels incur). Secondly they serve to 'prove' the false claims made by the Government that CB causes interference to vital services. Thirdly, they give an 'excuse' for not accepting the generally used American specifications for CB rigs in respect of harmonic emissions: emissions that have *never* been identified as being significantly responsible for endangering civil or military aircraft navigation systems. A proven fact in over sixty other countries that permit AM CB, including France. Fourthly, that they would continue to cause interference to domestic broadcast reception, and so perpetuate

the assertion that CB is an 'undesirable' freedom, and that any 'free' usage of radio transmitters by the non-technical public will inevitably result in unacceptable levels of interference.

No, Mr Butcher, if you had any real constructive concern for a responsible CB service you would be concerned to spend the licence revenue on a dedicated CB Monitoring Unit. You would be concerned to realise a 200 channel service backed up with formal band-planning and proper call signs. You would be eager to introduce AM and SSB together with FM to realise the full potentials of a Public Radio Communications Service. You would demand the use of full size antennas with their inherent inbuilt attenuation to unwanted harmonics. You would demand that such antennas be mounted at a *minimum* height if full power is to be used. All you seem to be concerned with is to give full licence to the 'bucketmouths' and 'DJs' who delight in abusing the meagre 'service' we are permitted.

I should add that Mr Butcher has refused to discuss, in private, the technical substantiations of the above comments concerning antennas, despite having been provided with a *full technical report* on the subject.

As for the CEPT *proposals* for a Euro CB Standard, the harmonic limits are the *upper* ones of MPT 1320, the more stringent specific ones being dismissed as impractical and unwarranted. FM, it is to be noted is the *basis* for the proposal, it is not to be an *exclusively* FM standard. Under EEC Law it is still a legal obligation to permit free access to the UK of any AM/SSB equipment, to bring in any regulations that discriminate against UK residents in respect of the possession or installation of such sets is in direct breach of EEC law.

Thank you once again for an informative publication, I really liked the bits on the 934 CB band, beams — pre-amps — rotators etc. Is this really CB? Seems more like 'Ham' radio to me. And the price of all this gear, its cheaper to take the ticket and go on 2 metres, at least you have all modes, 2MHz of band, and a network of repeaters there to play with along with several tens of thousands of other 'CBers' now residing there (bucketmouths and all). What's more, SSB on 2m is every bit as good as 27MHz at causing TVI! Here's the bonus: if it's not due to harmonics, any TVI you cause is down to the RIS to fix, you can't be held responsible, and 99% of the time they can't fix it because it's direct breakthrough. So much for the assurance of the Ham ticket. At least 27MHz stands a chance of being filtered out when TVI etc is caused.

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

to the window frame and this works quite well in most directions but I do not get out well in a southerly direction because the aerial is on the north side of the building.

I have considered co-phasing two Avanti Moonrakers and wonder whether this would help. If not, please can you suggest an alternative solution?

A *David, your main problem seems to be the fact that your signal is, for various reasons, highly directional and co-phasing will only make the problem more acute. Co-phased antennae deliver the majority of radiated energy in a fore and aft configuration, with a significant reduction in the amount of signal being transmitted to either side. They are also, of course, way outside the terms of your licence.*

Another factor which you should bear in mind is that many blocks of flats such as you describe have communal television aerials and the increase in effective radiated power which would result from a more efficient antenna system might well cause TVI to everyone sharing the TV aerial. Even where individual TV aerials are in use, high gain CB antenna systems can lead to considerable problems.

In short, there is no easy answer to your problem, as many others have discovered, unless you can find a suitable structure to which you can attach an antenna somewhere on the roof of the building. For example, a safety rail, or waterspout. Only by getting above the line of the building will you achieve optimum all-round radiation.

TX/RX Problems

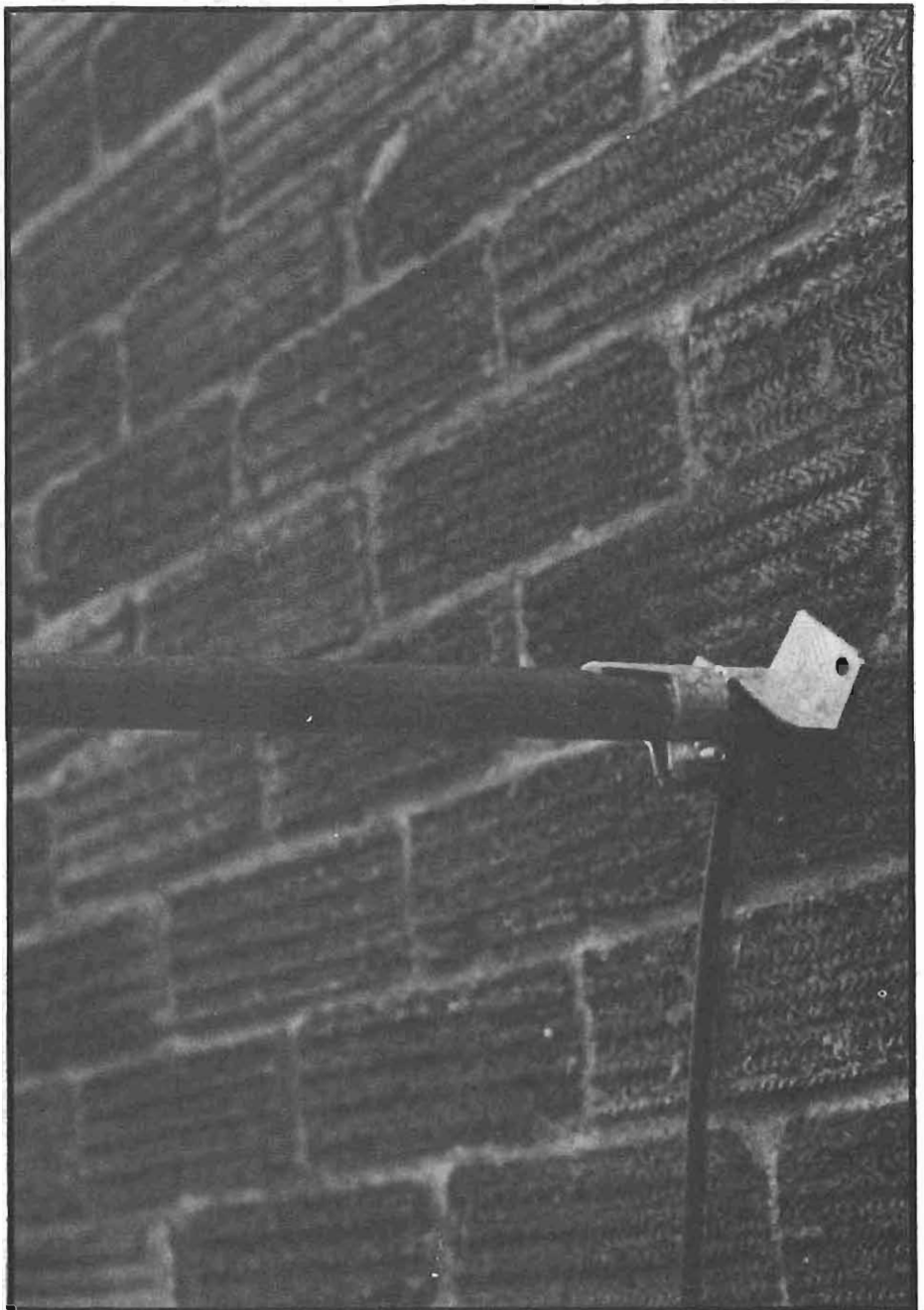
In an amazingly long, but fascinating letter, from Dyfed, Mr D. Prince asks a number of pertinent questions . . .

Q Why should FM transmissions cover such short distance? Do they not get reflected from the ionosphere, as do AM signals when both transmitting and prospective receiving stations are in daylight?

In the thirties, when I first became interested in radio, many devices came onto the market claiming to work wonders for reception and I see that little has changed. Reading *Citizens' Band*, I see adverts for expansion boards offering up to 120 channels and "midnight boards", whatever those are? Please can you tell me whether these devices repay their investment?

Thirdly, I have mounted a Thunderpole antenna by lashing it directly to the cast iron sewer vent pipe of my home and, although the SWR readings are well within reason, I am unsure whether the pipe, which is well painted, is creating any induction with the antenna. Please can you say whether this arrangement is suitable?

A *The present reduction in effective range of 11 metre transmissions has much more to do with the present state of the sunspot cycle than with the differences between AM and FM.*



Taurus is not allowed to drill holes for his antenna

During a period of low sunspot activity such as we are now experiencing, the 11 metre band becomes most unreliable for DX work and even frequencies as low as 20 metres become erratic. Only an increase in sunspot activity, due to occur in about another four to five years, will restore DX to what it was in the heyday of AM CB and, by then, FM should prove just as effective as long as you have a clear channel. The "capture effect" of FM ensures that only the strongest available signal can be heard, so that there will be little chance of DX on a channel already occupied by a less distant station.

The term "midnight board" is only another name for an expansion board, designed to increase the working bandwidth of the radio and, quite frankly, I am inclined to have serious doubts about the efficiency of such devices. The various tuned circuits within the average transceiver are

designed to give of their best over a specific range of frequencies and their efficiency factor, or "Q" is such that any significant alteration in the working range demanded of them must cause a large deterioration in performance. You cannot turn a Mini into an E type Jag.

As regards your antenna, Mr. Prince, the VSWR values which you quote are perfectly acceptable, which suggests that, for the moment, the paint on the mounting pipe is sufficient insulation to prevent any induction between the two. I would still feel inclined to provide a more reliable means of insulation, however, since any deterioration in the paintwork might well lead to an unacceptably high VSWR at a later date. Subject to this minor modification I can find no fault whatever with the installation you describe.

Finally, my own thanks for the very interesting information on "wireless" in days gone by.

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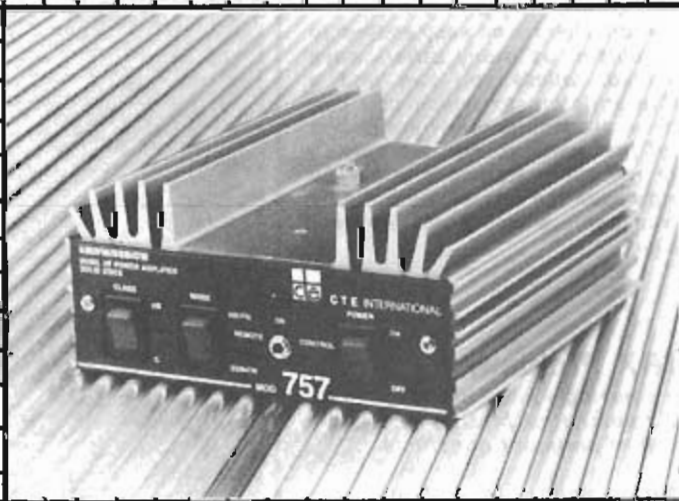


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Mack Chat

Mack the Hack is being bothered by cellular radio on 934Mhz



There is no denying that Fred Judd certainly knows his onions when it comes to radio and antennas, and one can rarely fault his articles which are often published in this and other magazines and books. His recent article on repeaters for 934MHz brought many comments from the 934 users that I have since made contact with. Although there were 'ifs' at the beginning of the article some people got the idea that it is only a matter of time before repeaters on 934 become a reality. I do not believe that we will ever see these repeaters on 934 and I will also go so far to say that I do not believe that we will ever get any more channels. You may ask why I make these claims. As Fred Judd points out in his article, we need a lot more frequency space than we have now. The cellular radio system has its frequencies above and below our own 934 so that rules out another repeater system around this bit of the spectrum. As for the extra channels, when I spoke some time ago to someone who knows of these things who works not too far from Waterloo Bridge, I asked, amongst other things, about the question of extra channels on 934 and would we, as we all expect, be allocated them in the spacing between the present channels, the reply was negative in that it is believed that 'they' do not believe that we need extra channels and 'they' have other plans for those spaces. But, take note that 'they' have been known to change their minds.

Back to repeaters; do we want them on this mode? My view is that we do not and over the last few weeks most of those people that I have discussed this subject with seem to agree with me. Repeater are abused by people who take pleasure in jamming, squeaking, music playing and other pointless escapades. The idea of repeaters is for the use of mobile and portable stations to be able to converse with other such stations. But you will find that most of the present amateur repeaters are 'hogged' by home base stations and, in many cases, stations that are based within spitting distance of the repeaters.

Of course this practice starts the arguments and it's the weaker mobile and portable stations that lose out unless they sit in their mobiles under the repeater antennas.

One might believe that the use of repeaters for DX could be an asset, but not so, as many amateurs feel that with the power and antennas available repeaters should not be used for DX as it is sort of cheating. I would be one of the first to admit that, at times, repeaters can be very useful. The present equipment that we now own for 934 would almost become obsolete as although it could be converted for repeater use it would be difficult and expensive and I feel sure that not many people would relish the idea of having to fork out another few hundred pounds for new equipment.

934 CB is still relatively new and I feel that there are still many other avenues open for experimentation especially with antenna design. Almost daily we are learning new ways of improving our stations' performances, such as using better coax cables for less power loss.

The greatest battle at the present time is finding ways of preventing the cellular radio interfering with our communications. Not so long ago we 934 users were congratulating ourselves that we have had two years of trouble-free radio. No wallies or other such abuse and all the users acting fairly responsible although I have heard of a few disagreements between users. But suddenly there was the Vodaphone. Those that first picked up this interference soon realised what it was and complaints were made to the authorities and the Vodaphone people who in turn visited the stations that were receiving the interference but not a lot was said or done. Of course many theories were presented of the cause of the interference and at one time I was wondering if it was our own 934 rigs that were poorly filtered. But I was assured that it was not so.

Why, then, do we suffer this interference? Perhaps I should quote part of an article from The 934 Club UK magazine: "From the time of the initial reports of interference in the London area, many tests have taken place to

establish the reason for the problem and a possible cure. I have been in continuous discussions both with the DTI and Racal Vodaphone to try to alleviate the problems on behalf of the UK users. The interference has various causes, the basic reason being the close proximity of the cellular radio base station frequencies 935MHz to 960MHz and the high power levels used by them. This causes what is called an intermod problem between the two systems giving us the interference."

Michael Machin (U.K.O4), the author of this article, then went on to tell that Racal engineers have asked the DTI for re-allocation of the frequency, but unfortunately, due to pressure of work by the DTI, they say it may be some time before any changes are made. So meanwhile we users have to suffer. As I told you last month, I intended to change my antennas to the horizontal mode in an attempt to reduce this interference. I have now done this and once more my equipment is usable with only the occasional interference breaking through.

It is very difficult to convince other 934 users that the horizontal mode is far superior than vertical. Most serious radio amateurs working VHF or UHF use flatside antennas. Even when working sidebands on the high frequencies they use this mode, and what about TV? The BBC and commercial stations transmit horizontal don't they? Even most commercial radio stations favour this mode of propagation, so why don't we 934 CB types do the same? It seems to cure the cellular radio interference so I have no other choice and I definitely am getting better range. Just one example; one Thursday morning before going to work I switched on the rig and I heard a station squared-wheeled in Shaftesbury, Dorset. We made contact with an S9 copy over a distance of 115 miles. My best so far on 934 and I was horizontal. Those of you who are not suffering this cellular interference at present may not be concerned but you should, for as more and more repeater switching stations are installed around the country you will soon realise how inconvenient it can be.

934 ~ THE ST

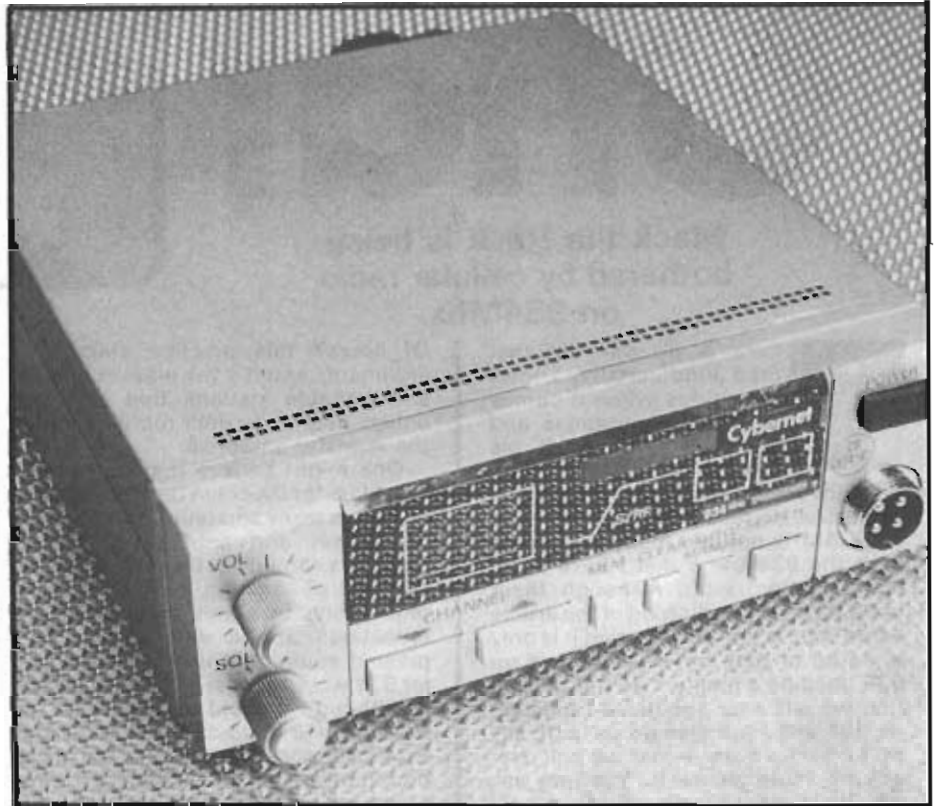
Trevor Butler looks at the history and recent growth of 934MHz — UHF Citizens' Band

For the £10 UK Citizens' Band Licence, the popular 27MHz band is available, as too is the relatively under-used 934MHz allocation of 934.025 to 934.975. The limitations imposed by the licence are a maximum carrier power of 8 watts, with a 10dB attenuation if the antenna is above 10m agl, and a maximum of four elements to the antenna, none to exceed 17cm in length. The full specification is listed as HMSO publication MPT 1321.

Whilst this article is not intended to be a user guide to the band, nor a complete review of equipment available, it is hoped that it will give an insight into CB as can't be found on 27MHz. It has been called the "gentleman's band" and "the band for radio enthusiasts", certainly a world apart from the far more popular world of 11 metres. Whilst sales of the UHF band don't reach anywhere near that of its counterpart, the last couple of years has seen a dramatic expansion of the market with a wider range of equipment becoming available and a higher quality of manufacture on rigs with a host of facilities to aid operation.

This development of 934MHz has been a slow and painful one, with far more problems than foreseen by even early pessimists of the hobby and, at time, the frequency seemed doomed to disappear altogether. A major stumbling block in the early days lay with the construction of equipment for this microwave frequency. Components were expensive, and often in short supply. British manufacturers were lacking, slightly, in the knowledge needed to make equipment at a competitive price and often were beaten hands-down by the high standard of technology in Japan and the available labour.

It is not surprising that Japan led the way, for they were producing equipment for their frequency allocation of 903MHz and, with well over 700,000 sets sold so far, it was left to a few enterprising pioneers to struggle on. The early sets were handbuilt in this country, adding to the cost, in an attempt to fill the gap from within the



Cybernet Delta One

UK. Soon a Catch 22 situation arose where further research and development would be expensive unless there were more users to buy the equipment, but until products improved and prices fell it was unlikely that the market would be expanded by new users.

Sensitivity

On UHF frequencies — and 934MHz is in the top segment of UHF — it is difficult to achieve good receiver sensitivity and a transmitter which will remain stable in its output level and in its operating frequency. Also, it is hard to design an efficient transmitter, a great deal of heat is generated and, unless dissipated successfully, this can cause further problems in operation, not least component failure. It is essential to employ only components of the highest standard, whereas at lower frequencies this is ideal but not essential.

Cable, connectors and antenna quality are also very important for, whereas on 27MHz a slight mis-match will result in a few miles being knocked off the range, on 934MHz there will be no range worth talking about, this is one reason why early enthusiasts in

934MHz were disillusioned and encountered pitfalls.

The early sets coming off the production lines found mainly two customers: the business user and the serious radio enthusiast, with little interest from those who were giving the growing 27MHz market a bad name. 934MHz has appeal in that it doesn't encounter certain inherent problems common to 27MHz. There is no ionospheric propagation to cause interference from other countries, no interference is caused to television or commercial radio, adjacent channel interference is non-existent and antennae need be only a few feet long due to the nature of the frequency chosen.

Let's take a closer look at some of the types of equipment available for use on 934MHz. Rigs are generally built to a higher standard than on 27MHz and this is reflected in their price. Over the last year we have seen a number of new rigs entering the market.

The Cybernet Delta 1 is available from Telecomms of Portsmouth, and hosts many facilities including channel scanning, memories, LED signal meter and high reliability. Stated specifications are good and, at a cost of £355, it is

ORY SO FAR



The recently introduced Uniace 400

certainly not a cheap toy but a piece of developed engineering.

A recent addition to the range of rigs filling the shelves in our emporiums is the Uniace 934; unlike the Cybernet rival it is not a modified Japanese rig, but is designed and manufactured by Uniace in North Wales. It is similar in appearance to some 27MHz versions and, whilst not sporting many of the frills available on other models, it is certainly suitable, and has excellent front end filtering.

The Commtel 934 at around £400 is noted for good receiver response, some 5-6 watts output, memories, channel scanning, memory scanning, both at slow and fast rates. The Kestrel is being marketed although this is a version of the Commtel.

Unfortunately, the Reftec is out of production, although it can be found on the second-hand market. It produces between 4 and 8 watts depending upon its mood, has a very good receiver and a VFO which allows for tuning of signals slightly off frequency. With a pre-amp, a good buy and it is a shame that the rigs are no longer made, perhaps due to a lack of initial publicity.

One rig which did attract a huge amount of publicity, in both the technical and specialist press, was the

Warlock. Heavily advertised but never seen; never off the drawing board, some people have said.

Handhelds have yet to enter the market in force, just one available at the moment, from Gem Industries; although only operating on a single channel, it comes with rechargeable batteries, a charger and case for somewhere in the region of £200, so to cover the whole band quite an outlay and a large area would be needed for storage!

Illegal

The trade is now waiting for the Uniace 401, in its final stages, with a VFO on receive to allow signals to be tuned-in by some 5kHz plus or minus, away from the transmit frequency; to have VFO on transmit is illegal.

Transverters have also appeared on the scene, to use the 27MHz rig as an iF to transmit and receive on the 934MHz band. A sound idea but I'm not a fan of transverters; it is always difficult to prevent the original frequency (27MHz) being radiated and the whole system is only as good as the weakest link which must be the "cheap" 27MHz transceiver.

Antennae are an important con-

sideration on UHF; you can't simply load up a long piece of wire and use it as an aerial. Many different types are available from a simple mobile whip to a little beam although, being directional, the latter will require a rotator which will add to the installation cost. For general communication, a vertically polarised omni-directional antenna will be the most suitable, particularly for base station to mobile use. The options here will be for a quarter-wave, or other odd fraction ground-plane, a single end-fed vertical half-wave or, thirdly, a stacked or phased co-linear. Fractional wavelength single-element ground-planes have no gain and are inefficient, as too is a half-wave dipole, so the only real option is a co-linear consisting of two or more half-wave elements driven in phase.

For base station to base station use, advantage can be taken of the fact that the horizontal polarisation is an improvement over vertical and, whereas to operate a horizontal antenna from the car is unpractical, from a fixed location this should prevent no real problem. A gain of some 7dB over a dipole should be possible with a legal four-element simple design yagi beam. Being uni-directional they must be rotated so that maximum radiation is

in the desired direction. While electric rotators are available from about £30, a simple and effective method is that of "Armstrong rotation" using hand rotation and a simple bearing.

A variation on the theme of the yagi is to have several of the elements driven — an active antenna. Garex Electronics of Tring sell the Revco 3dB and 5dB whips; Les Wallen manufacture a base co-linear consisting of eight half-waves and a quarter-wave in their range which also includes various mobile mounts.

Telecomms of Portsmouth offer three 934MHz antennas from the Nevada range . . . A 7.14dbi base co-linear, mobile mag mount and whip. From Kestrel comes a pre-set (SWR-wise) design with a shock absorbing spring 7.5dbi aerial. From Sandpiper, an impressive range of mounts are available to add to their range of antennas. Several fibreglass co-linears, as well as helical and yagi beams are available.

Helical yagi designs are interesting, although whether they come within the Department of Trade specification is a moot point. As, too, is the relatively new 934 cellular twig. Just 76mm long to top, it consists of two loops at right angles, a stated bandwidth of 800—999MHz, and is made from stainless steel and brass. An interesting conception which, in field trials, has proved satisfactory, if seeming a little odd in appearance.

It didn't take long for operators to realise that extra receive sensitivity was needed, and whilst the easiest way would have been to increase the size of the receiving antenna, to use an enlarged one on transmit would be illegal. The solution was a masthead pre-amp. The main factor to consider is noise. Units should state a noise figure of less than 1dB for some 12 to 15dB gain, otherwise the effect is not noticed. The pre-amp will require power, so an extra cable will need to be added to carry the DC to the top of the pole.

With the introduction of a power splitter, two antennae may be combined to allow for increased gain, and these have found their way into the shops, although their value is debatable in the world of CB where there are many restrictions.

What is not in discussion is the

necessity to use high quality cable and connectors throughout the installation. As the frequency increases, so does the dielectric loss of the cable and connectors, and the power produced by the rig is lost without reaching the aerial, and the ether. At least a cable reaching the specification of RG67 should be employed, although losses will be more dramatic than if H100 type cable is used. Based on the professional heliax, but at reduced cost, it is a little difficult to work with but highly advisable in all but the shortest cable runs. The same is true of connectors — whereas at 27MHz a connector such as the PL259 can be employed, this is of non-constant impedance and only really suitable for frequencies up to 200MHz. At higher frequencies BNC plugs and sockets are recommended, and where larger diameter cables are used then the 'N' type connector is really the most suitable.

Installed

Having installed the system to match your purse, you will soon be active on the airwaves. Operation is quite different to the recognised 27MHz. The national calling channel is 20 and all operators use call signs instead of 'handles'. These are allocated by the 934MHz club, to members, while non-members create their own. The club is run by Vic and Glynis, PO Box 424, Althorne, Chelmsford CM3 6UR, and most retailers will include an application form when you buy a rig.

A list of members, and a call book, is produced and regular on-air nets established. I was privileged to be invited to a regular meet near Cobham in Surrey where 934 operators from all around the Home Counties and London meet socially and discuss informally various matters relating to the hobby — plus, of course exchange QSL cards to confirm contacts.

Whereas, a couple of years ago, a quick scan through the allocated frequencies would have resulted in silence, today things are really quite busy in most parts of the country; the band is certainly alive and well. Many folk are dissuaded from joining the 934 fraternity after hearing myths that the only contacts possible are line-of-

sight. UHF propagation is considered to be "line-of-sight" but the actual possible range is greater because very high frequencies follow the curvature of the earth before becoming too attenuated to be receivable. Actual working distances will, of course, depend upon the terrain, the presence of high buildings, hills, etc, all of which can actually reflect as well as attenuate signals.

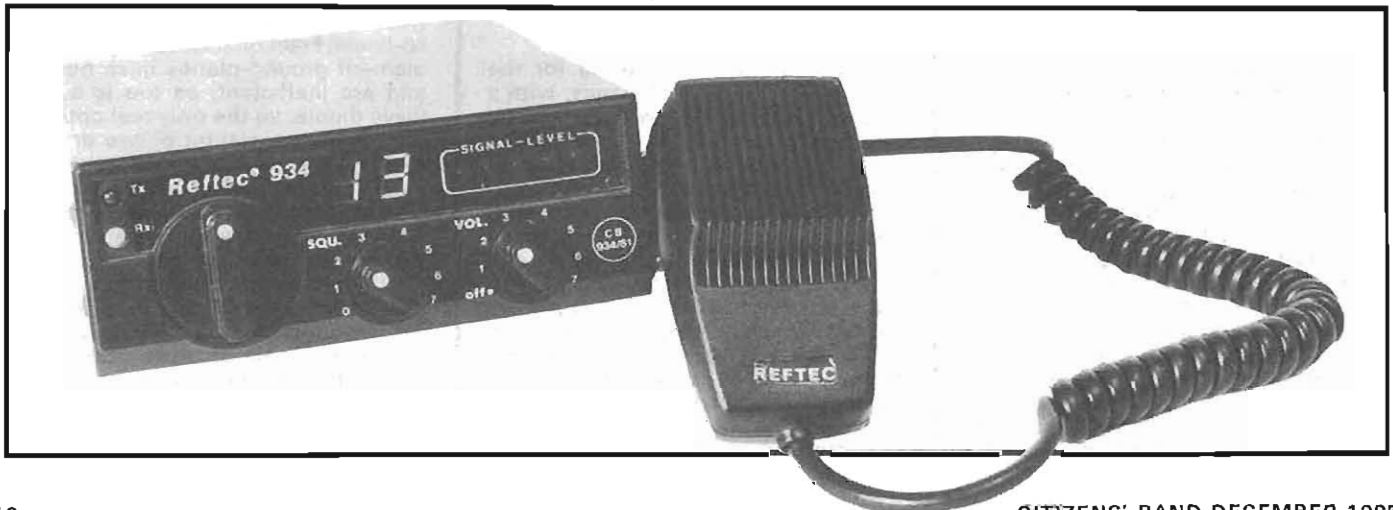
An average of 30km with good modulation received both ways can be achieved from base to mobile; while the local geography does have varying effects on the range, this can be considered a good average. From base to base, in excess of 75km is common, and the introduction of pre-amps improved reception of detected signals. Under "lift" conditions many surprising contacts are made with good distances being up to 450km. Real DX can be achieved with band opening and tropospheric propagation willing, although inter-continent contact is not promising because the band hasn't been allocated to other countries for CB use.

There are, then, many advantages in operating on 934MHz and it is surprising that the band is not more active than it is; let's hope that the situation improves. The band provides for easily available, reliable communications, ideal for businessmen at a far cheaper price than professional PMR equipment, and without the licencing and frequency allocation problems. Certainly less crowded than 27MHz, it is really a better choice of frequency for UK personal radio than the HF selection. There are radio enthusiasts on the band and people keen to build their own antennas.

The resulting decision on the future planning of the band is still awaited; 1MHz was allocated for UHF CB and this would allow 40 channels with 25kHz spacing; however, only an initial 20 channels were allocated with 50kHz spacing . . . unlike the 10kHz spacing decided upon for 27MHz.

Ideas are afoot to introduce a repeater network on 934MHz, and if the system gets off the ground the popularity, especially among mobile users, must increase; in the meanwhile the band is still left in the peace and quiet of the elite few, while comments are still heard to the effect that "that 934 stuff's illegal you know"!

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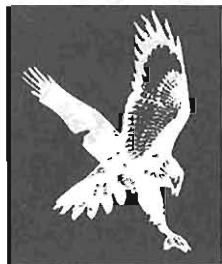
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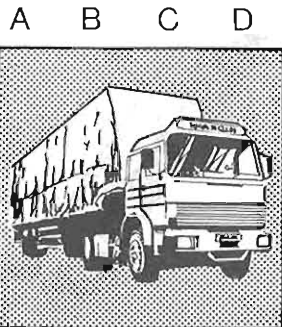
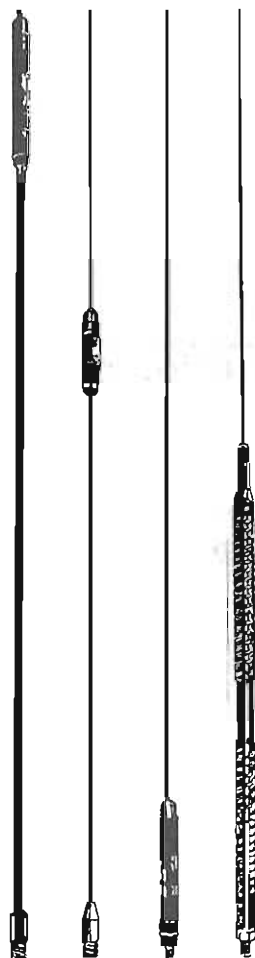
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David Shepherdson with more news about QSL clubs and QSLers

COMMUNICATION THE QSL WAY

I had better start off this month with a correction of a printer's error from a month or two back. Somehow, David's (Welshman) PO Box got changed to 1982, and it should have been PO Box 96, Sheffield. Sorry for any inconvenience, but it wasn't my fault, honest. I've had a letter from Arthur (The Marshall) of Ely who asks if Andy, formerly of PO Box 82 in Norwich, would like to let Arthur have his new address, as Arthur will be happy to send it to you. A tremendous bundle in from Andy and Tracey (Fozzy Bear and Hotpoint) of Birmingham. There's personal cards, club cards, eyeball and view cards thrown in, well worth sending them a good QSL for.

Can I just put a reminder in here that if you do *not* put your return address on your cards, personal or club, then you cannot expect too many replies! *Always* ensure that your address is on each of your cards, please. I suggest you also put it on the envelope too. This way if there are any problems in delivery, you stand a better chance of getting the pack back intact. Having said that, I've had a couple of cards sent to me from Norway which had no address on at all, and a pair of club cards without name or address from a New York sorting office which the staff there had found loose. And that's just *this* month. The cards, by the way, were from English QSLers, so think on . . .

But while on about UK QSLers, let's not forget these vicious Post Office post code readers, I've had several letters chewed up by these things, but one recently contained only a couple of sheets of paper, not enough to snarl up the machinery you would think, but only 75% of the letter and envelope arrived! Wrap up well, for your QSL's sake!

A message from Bill (Ironsides) of Hull who is confined to a wheelchair and enjoys QSLing, but who recently suffered several heart attacks, asks for anyone who has been waiting for a reply to bear with him please. All the

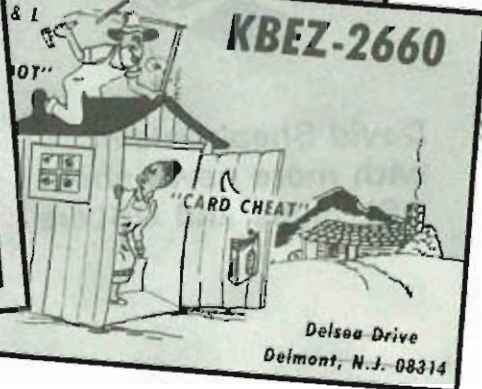
best Bill, look after yourself. From Mike (Zodiac) comes a letter and the cards saying thanks to everyone who QSLed to him earlier in the year and asking me to pass on the address of some friends of his in the States. They are Mark and Betty Weaver (Sugarfoot and Card Cheat) who have moved from New Jersey to West Virginia.

Okay, a round of some Club News now and, this month, I'll concentrate on a couple of overseas clubs which have been in touch recently. First up is the Wicked Men International DX Club of Suomi-Finland, or WMS to be brief! For only £3 and as many of your cards as you wish to send, 10 upwards, you get a very good package from, as far as I know, the only Finnish Club. The WMS pack consists of your WMS No, certificate, (XYL free), prefix list, DX info, exchange cards and invites, tourist info on the area (Kuhava) and information on Club Knives. Various other items are also available and details and prices are sent on joining.

Now, I've a long letter of details of the '11 Q 11' SWL Club of South Australia. This Club *has* to be considered in a class of its own! To join this club you have to send 10 post cards of your town, a small photo of yourself, your date of birth, a list of your hobbies and if possible, a cassette tape. No, no money is required *unless* you want the package sending airmail, in which case the club asks for 21 IRCs (from your local Post Office). The only rules are that it is *one* package per *family*, and that you must have an interest in SWL or CB Radio, and if you're reading this, I think you will have. The contents of the parcel defy description but thanks to the help of the South Australian Tourist Board, there are maps, stickers and all sorts of extras promised. From the value of the package mentioned, I do ask you to stick to the one per family ruling; it is only fair to the other 11,000 plus members worldwide! The cassette will be used to keep you up to date (it says 'ere) and a newsletter will be sent out every second month. For info only,

please drop the President (Ian, 11 Q 11 Unit 4) a line, and put a couple of IRCs in if you want a quick reply. Please do note I do not have one of these fantastic parcels, as they are for members only, but I am going from reports of them, so for details or info on how to join, do follow the above info and when writing to the club, please do mention that you read about it in CB Mag, TNX.

A while ago, I asked if anyone had heard of a couple of clubs, one being the Lima Mike of Chinnor. Well, thanks to Brian (Witch King) and friends who have confirmed that this club has, in fact, called it a day. I had also received a few requests for info on the Toucan Club of Venezuela. The last contact I had with this club was way back in November 1984, and President Jorgen had been planning to visit the UK and Europe during 1985. Many people had made arrangements for him to visit with them and one European Club even went to the airport to meet him and his wife. Of course, all of this was to no avail as they didn't arrive, nor did any reason or letter. Anyway, I asked you if anyone had any details to pass on, and John (Quadman) got in touch with the info that he had sent off \$20 on the 22nd January 1985 to join, and had followed this up with letters during May and July. No replies to any of these. Then, a day later, I received a bundle of forms, with a message stamped on the back, "Sorry for delay, due to illness, please confirm receipt". So, I wrote back confirming receipt and wishing Jorgen well, and also asking about John's package. A couple of days after this, I get another letter from John saying that he has received his Toucan Membership package with an identical message on the back. Anyway, here's hoping that Jorgen is



feeling much better now and that he has caught up with the post that will have been piling up. All the best, mate, perhaps you will manage to visit during 1986. Membership of the Toucan Club, for anyone interested, costs \$15 plus 10 personal cards. The \$15 includes airmail, but because of exchange problems, the Club will only accept cash but does accept all foreign currencies

so please do check with your bank for the current exchange rates.

When sending cash through the post, either abroad or even within the UK, please be safe, secure it well between some cards, and wrap it up well. For overseas especially, most clubs do recommend the use of Registered Post. It costs a little more, I know (£1.10 at time of writing), but it is safer and you do have chance of getting something back in case of problems. Your local Post Office should have various leaflets available on how to wrap and send money; check it out.

Okay, a few more names, addresses and messages now, starting with one from Roger (Catfish) who asks if anyone can help him with the wiring of a Dense DM 307 PA mike. If anyone can help, please get in touch with Roger direct please. From the States write Jim and Vi Layman (1st Marine Raider and Polish Rose) who always send a nice set of cards out, while a set of cards come from Cyril (Squid) of Horsham and from Dave (The Black Shadow) of Sunderland comes an envelope bulging with cards, invites and all sorts of leaflets. Final set of cards for this month come in from Rolf (15 CF 01) of Switzerland. Rolf writes pretty good English and swops 1-4-1 100%.

News in from the Sea Dragon DX QSL Club of Norfolk. This club is free to join, requiring just 5-10 cards and return postage. Anyway, the news is about the 1986 All Countries DX Contest and runs from 1st January to 31st December on legal UK FM. The contest is open to all Sea Dragon members and the winner is in line to receive an engraved trophy and 500 personalised SD QSL cards which will show your

QSLER ADDRESSES:-

David (Welshman)

Arthur (The Marshall)
Andy and Tracey
(Fozzy Bear and Hotpoint)

Bill (Ironsides)

Mike (Zodiac)

Mark and Betty Weaver

Roger (Catfish)

John (Quadman)

Jim and Vi
(1st Marine Raider and
Polish Rose)

Cyril (Squid)

Dave (The Black Shadow)

Rolf (15 CF 01)

Brian (Witch King)

PO Box 96, Sheffield, West York-
shire.

4 Cambridgeshire Close, Ely, Cambs.

9 Drews Lane, Ward End, Birming-
ham.

"Cherry Trees", Camberton, Thorn-
ham, Hull.

49 Westmoreland House, Preston,
Lancs.

PO Box 490, Falling Waters, West
Virginia 25419-0490, USA.

21 Booth Crescent, Waterfoot,
Rossendale, Lancs.

20 Causeway Road, Seaton, Wor-
kington, Cumbria.

RR# 2, Box 50, Carlisle, Ind
47838, USA.

PO Box 55, Horsham, Sussex.
7 Thorne Square, Thorney Close,
Sunderland.

PO Box 95, 4512 Bellach, Switzer-
land.

BT 160, PO Box 123, Reading,
Berkshire.

Sea Dragon No etc and state "Winner 1986 Contest" and so on! And, it's free to enter! So, for details, rules and entry forms send a SASE (Self Addressed Stamped Envelope) to the Sea Dragon and ask for details.

As for the Forthcoming Events, as it's almost the end of the year, I do not have any details on any Christmas events but just on a couple of next year's. If you are thinking of organising any eyeballs, meetings or fund-raising activities that would benefit from a mention here, or that would be of interest to many of the readers, drop me a line *in good time please* and I'll do my best to include it. The first 1986 meeting I know about is the 2nd Cutty Sark POMA meet to be held on the 5th and 6th of April at the Falcon Hotel, Cliftonville. If you can only come for one day, the Cutty Sark Club recommends the Saturday and the entry fee is 50p. For those who went to this year's meet (1985) and enjoyed it so much that next year's is a must, the full weekend fee is £15. This includes entry fee for both days, evening meal, disco, accommodation and Sunday breakfast. At the time of writing this, there are already 100 European visitors/POMA collectors booked for it so if you fancy going to this year's do, your £5 non-refundable deposit (per person) should be sent to Dave Bradshaw, 16 Bradenham Avenue, Welling, Kent, DA16 2JG as soon as possible. This meeting, although billed as a POMA Card meet, is of course open to anyone interested in QSLing, although the bulk of the cards there will be of the Full Colour POMA Series. For details of these very collectable cards, drop a line, with SASE, to the UK Rep, Ray (RSE), PO Box 106, Canterbury, Kent.

The other meeting is to be held on May 10th at the Floral Hall, Southport and is a mass eyeball and evening of entertainment in aid of the Baby Unit at the Christina Hartley Maternity Hospital. This is organised by the Tango Papa Group at Southport in the hope that they can raise sufficient funds to buy vital equipment needed. Contact address is the Tango Papa Group (Eyeball '86), PO Box 13, Southport, PR9 0AA. The eyeball and meeting is to round off a full year's fundraising in the hopes that they will have been able to raise several thousand pounds. The club hopes to have a local celebrity

QSLER CLUB ADDRESSES:-

11 Q 11 Unit SWL Club PO Box 35, Woodville, South Australia 5011.

Cutty Sark QSL Club 16 Alanthus' Close, Lee Green, London

Sea Dragon DX QSL PO Box 2, Sheringham, Norfolk.

Tango Papa (Eyeball) PO Box 13, Southport, UK.

Toucan QSL Club PO Box 1500, Caracas 1010-A, Venezuela

Wakefield DX Club PO Box 71, Wakefield, West Yorkshire.

Wicked Men PO Box 45, SF-62200 Kauhava, Finland.

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 FREQUENCY.....
 CHANNEL.....
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 BASE MOBILE BOAT
 RIG.....
 ANT.....
 MIKE.....
 AMP.....
 YOUR QTH.....
 MY QTH.....
 QSL.....

or a famous personality hand over the cheque in the evening.

Now, over the last couple of months I've mentioned that I have the multi-coloured "Currie-Style" Dragonrider Christmas QSLs available to members (£2.50 per 100, UK, and £3 per 100, Europe). Well, I've just received information that the Wakefield DX Club have some others on offer. These are printed by CB Printers of Bradford and are available from the WDC at PO Box 71, Wakefield, West Yorkshire at 5p each and they come in four different designs. If you only want one or two, then postage is extra of course. The designs include a postman on his rounds, the Home Office holding up a stagecoach, and a Father Christmas one too. All, of course, have a CB Radio

theme! Incidentally, whilst mentioning printers, we have received one or two communications regarding non-arrival of goods ordered from D'Zine of Preston. At the time of going to press, we have not been able to contact the firm. Could anyone enlighten us, please?

Well, I think I have just enough room left to explain how you can go about getting a mention in these pages. First of all, please don't write demanding a mention in the very next issue. This is totally impossible for several reasons. Also, don't tear a scrap of paper from a notebook with a message like "I QSL 100%, give me a mention". Without one or two of your cards, these are usually ignored as most people who write do include a card or three. These requests, or in fact any letters or praise, complaint or queries can be sent either direct to me c/o the Dragonrider Club (address in the club listing) or via the magazine but, whichever you choose, please try to give me full details but without going into several pages of writing. Follow these few tips and you will probably see your name and address in here sooner or later. I usually manage to include about 95% of all requests I receive in the end although, for clubs, it's not as good as that so drop me another line if you haven't been mentioned; I don't make things up and can only go on what I receive. Anyway, I'm out of room again, so I'm going to look out for that Comet! All the best 'til the next time.

Dragonrider One

EYEBALL/MEETING CONTACT ADDRESSES:-

Cutty Sark (poma Meet) Dave Bradshaw, 16 Bradenham Ave, Welling, Kent.

Tango Papa (Eyeball) PO Box 13, Southport, UK.

QSL SERVICES (As mentioned)

Currie Printers 89 Derwent St, Blackhill, Consett, Co Durham.

Ray (POMA UK Rep) PO Box 106, Canterbury, Kent, UK.

BANDS ACROSS

Keith Townsend discovers what modes, bands and power are allowed across the rest of Europe

Is it by design, or just mere chance, that CB radio has become the 20th Century Tower of Babel? Or is it part of some vast international plot to make transcontinental trucking the most frustrating occupation known to man? If you want to know what I mean, then join me in a fantasy tour of Europe and I will do my best to explain.

Most European countries will accept the temporary importation of a British CB rig, provided that it is permanently installed in a vehicle but handhelds are, for the most part, strictly forbidden and, since we might still encounter a few problems, let us leave our own rigs at home and follow the example of our hosts as we journey through 15 countries.

Our first stop, Norway, is reached after a short ferry trip across the North Sea and here we should meet up with a lot of very old American sets. The current Norwegian standard is precisely that permitted in the States prior to 1977. FM, AM, and SSB can be heard on 23 channels, from 26.96 to 27.23MHz, with a permitted output of 4 watts. I guess some of the rigs here today would be viewed with nostalgia by pre-legislation British breakers.

The first signs that our trip will not be as simple as we might have hoped come as we cross the border into Sweden, where although we are still allowed the use of all three modes, we are obliged to reduce the power output to 3.5 watts, though a couple of extra channels will extend our frequency range to 27.26MHz and up to 15 watts p.e.p. is allowed on SSB.

Leaving Sweden and its beautiful ladies, we cross into Finland. Once again we are faced with a change in standard. Gone are the two extra channels, as we revert to the old FCC allocation, this time, however, without the use of SSB.

It is far too cold up here for me, so let's make a quick trip back through Sweden and take the short boat ride to Denmark. Here, we are still allowed only 23 channels but again without the benefit of SSB and, to further complicate matters, we must reduce the power output to a mere 500mW, though this need not concern us for too long, since we will soon be entering West Germany.

Here the position really becomes complicated, as the Germans have a number of options. Germany has already adopted the CEPT recommendation for a 40-channel, 4 watt, FM-based allocation, using frequencies between 26.96 and 27.41MHz, but still allows the use of its old standard for the time

being. Due to be phased out in 1991, this offers all three modes of transmission, though the permitted 4 watt output must be reduced to 1 watt if AM is selected and, in any case, e.r.p. must not exceed 2 watts.

Our next stop along the road is Switzerland, where CB is restricted to 22 channels between 26.96 and 27.23MHz and here is an extra complication, as this is exactly the bandwidth normally used for 23 channels. So which one is not allowed? Power output is restricted to 500mW, though we have full choice of AM, FM, or SSB. Switzerland has expressed interest in the CEPT proposals for a common service but, as yet, has made no commitment to adopt it.

From Switzerland we head east, into Austria. Again we are faced with a 500mW power restriction and only 22 channels, though here the band ends 10kHz below that of Switzerland, which means that the allocation is more nearly continuous. No SSB is allowed here and, to make matters a little more confusing, FM may be used on all channels, whilst the use of AM may only take place between channels 4 and 15. Not to worry. All our troubles will soon be over as we cross the Alps into Italy.

Now everyone knows about Italian CB. Never have I met a more blatant example of the Devil take the hindmost and it is easy to understand why Italian signals can be heard all over Europe when we discover that there seems to be no legal restriction on the amount of transmitter output and, since they do not even list the permitted modes of transmission, I am tempted to wonder whether they have discovered some new mode, of which the rest of us are, as yet, unaware. It did come as quite a surprise, however to discover the fact that only the 23 channels between 26.96 and 27.28MHz were legally available to Italian breakers. Especially since rigs with a 2MHz bandwidth are openly available in the shops.

Passing from Italy into France, we must not forget to visit tiny Monaco, where, if we can tear ourselves away from the casinos for a while, we will find the same 23 channels in use but only on FM and with power output limited to 2 watts. France, itself, now permits the full FCC specification. FM, AM and SSB are available on 40 channels, from 26.96 to 27.41MHz, with a full 4 watt output. This was not always the case. France's first attempt to legalise CB saw a much more restrictive service, with power severely restricted and it was almost two years

later that the full specification was adopted.

Next we cross the Pyrenees, into Spain. Not usually noted for the speed with which it adopts new ideas, Spain was one of the last European countries to legalise CB and, as a consequence, matters are almost as bad as in Italy. The specification has recently been revised to take account of recent CEPT recommendations, with the result that, of all the different systems in use, the only truly legal one permits 4 watts FM between 26.96 and 27.41MHz, giving a full 40-channel allocation.

Portugal, our next port of call, has a somewhat different system, as we revert yet again to something closely resembling the full FCC specification, with the minor modification that here we are allowed a little more output, at 5 watts, with 15 watts p.e.p. for single sideband.

Leaving the Iberian peninsula involves us in a long trip north, through France once again, remembering, of course, to revert to FCC type rigs, before we reach the Belgian border. Although it has adopted the CEPT recommended specification already, Belgium shows no signs as yet of withdrawing its original specification which, with power restricted to 500mW on 22 channels, bore the marks of a number of other European allocations. Like Switzerland, it had one unusable channel in its frequency range, whilst it also emulated the Swiss system, in permitting low powered SSB transmissions.

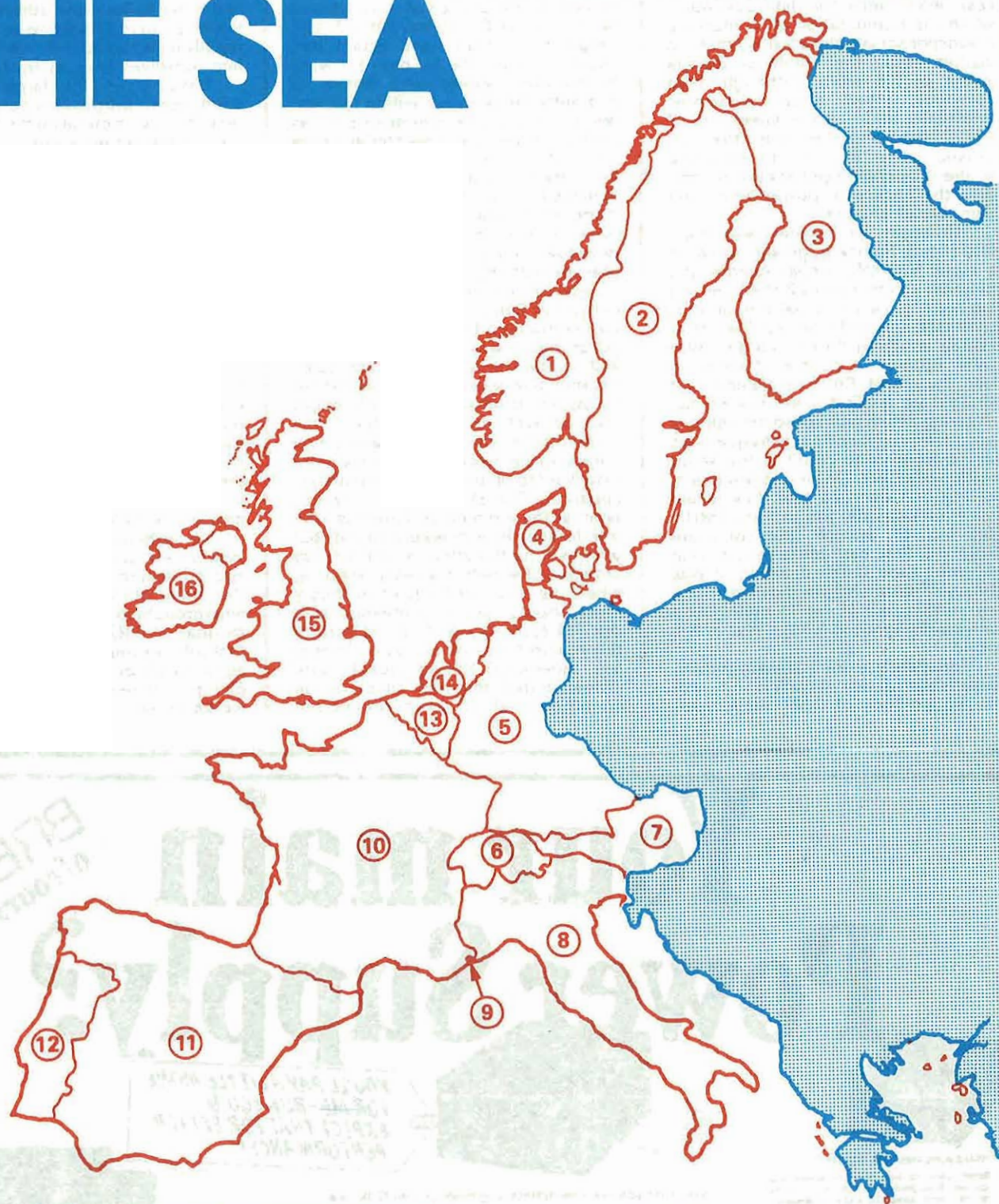
Our last stop before home, the Netherlands, has a system which could be easily modified to take account of CEPT proposals, since it already permits the use of the appropriate 40 channels, with transmission mode restricted to FM. The only alteration necessary would be to increase the permitted power output level from 2 to 4 watts.

We can complete our grand tour with a trip across the Irish Sea to the emerald isle, where we find that the Irish Republic was ahead of CEPT, having introduced the 4 watt, 40-channel, FM system in the lower half of the band before the recommendations were even published. Could it be that the Irish are showing us all how it should be done?

From our wanderings, two basic facts have become apparent. The first is that nowhere else in Europe do they use the peculiar band of frequencies adopted here in Britain and the second is that they virtually all agree to dis-

(continued 2nd page following)

THE SEA



A guide to European CB allocations

1. Norway: 23 channels. 26.96 to 27.23MHz. 4 Watts. All modes
2. Sweden: 25 channels. 26.96 to 27.26MHz. 3.5 Watts. All modes.
3. Finland: 23 channels 26.96 to 27.23MHz. 4 Watts. AM/FM.
4. Denmark: 23 channels. 26.96 to 27.23MHz. 500mW. AM/FM.
5. Germany: 40 channels. 26.96 to 27.41MHz. 4 Watts. FM only.
6. Switzerland: 22 channels. 26.96 to 27.23MHz. 500mW. All modes.
7. Austria: 22 channels 26.96 to 27.22MHz. 500mW. FM on all channels, AM on 4 to 15.
8. Italy: 23 channels. 26.96 to 27.28MHz. No power restriction. All modes.
9. Monaco: 23 channels. 26.96 to 27.28MHz. 2 Watts. FM only.
10. France: 40 channels. 26.96 to 27.41MHz. 2 Watts. All modes.
11. Spain: 40 channels. 26.96 to 27.41MHz. 4 Watts. FM only.
12. Portugal: 40 channels. 26.96 to 27.41MHz. 5 Watts. All modes.
13. Belgium: 40 channels. 26.96 to 27.41MHz. 4 Watts. FM only.
14. Netherlands: 40 channels. 26.96 to 27.41MHz. 2 Watts. FM only.
15. UK: 40 channels. 27.60 to 27.99MHz. 4 Watts FM only.
16. Eire: 40 channels. 26.96 to 27.41MHz. 4 Watts. FM only.

agree on standards. This has been the case ever since the late seventies, when the combination of an increase in sunspot activity and a failing American market made the whole of Europe aware of CB radio. Although most countries, albeit often reluctantly, eventually adopted the lower half of the 27MHz band, there was little consensus when it came to choosing modes of operation and positive anarchy over the choice of power limits and numbers of channels.

Although its regime was soon liberalised, France originally opted for a mere 500mW, whilst Austria and Belgium allowed only 22 channels and the Italians, despite legalising only 23 channels, seemed to accept the use of almost anything they could get away with. Britain, of course, decided to lead the world. But from behind, and straight up a blind alley. The official dithering which preceded the ultimate adoption of a unique set of frequencies would have done credit to the script writers of a Carry On film, as Ministers, having first decreed that they would not even consider the use of 27MHz, decided to ensure our complete isolation. Few can doubt that, having reversed their initial decision, it was an act of pure chagrin that led to the use of that part of the 11 metre band universally ignored by the rest of the world.

Fortunately, in the intervening years, wiser counsel has prevailed and, with the appearance of CEPT recommen-

dation TR20-02 it now seems that there is a real chance of international harmonisation. Of is there? For, although Belgium, Germany and Spain had already adopted the FM based, 4 watt, 40-channel system and Britain is committed to doing so within the next two to three years, countries such as Austria, Denmark and Switzerland have done little more than hint that they are interested in standardisation, whilst Finland, France, Italy and Monaco have made no statement and, since TR20-02 is a recommendation and not a directive, may yet opt to retain their present systems.

French breakers, among the most militant in Europe, will not lightly give up the multimode system which their government was unwilling to grant and, as the Germans have been quick to recognise, existing facilities cannot be switched off overnight. We might also do well to consider for a few moments the possibility that a common European CB service might have more disadvantages than are immediately apparent. The skip is at a very low point at the moment and there is little interference from overseas signals but what will be the effect on our already crowded channels in a few years time, when the skip rises again? In theory there should be few problems, with the FM capture effect taking care of the multiple use of a single channel but experience during recent years demonstrated that not all European countries seek to exert the proper

degree of control over their CB services and if the Italians and others continue to pump out massive power levels into rapidly rising conditions we might well find ourselves back at square one.

It is one thing for a large number of countries to introduce a common system. It is a completely different matter once each administration begins to place its own interpretation on the basic specification. For example, TR20-02 makes no recommendation as to antenna specification, leaving each country to devise its own standard. On the face of it, this is not a problem but what are we to do when restricted to a 1.65 metre single radiator, if we find that our European neighbours are legally using directional multi-element beams.

Neither will standardisation occur overnight. Just as our Government needs to re-locate those services currently occupying the CEPT band of frequencies, so do some other administrations require time to increase their frequency allocation to CB with, in many cases, large vested interests needing to be mollified first.

Nevertheless, we cannot continue indefinitely with international chaos and confusion and the best hope for the future of CB, both in this country and throughout Europe, is CEPT recommendation TR20-02. We must hope that all European countries ultimately agree to adopt it and, having done so, give proper regard to ensuring that it works to everyone's advantage.

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LADY BREAKERS



Filly plumbs the depths and decides to give up CB

It's no good, I've had enough. I quit. No, not life, just the local CB scene — no, why do things by halves? I quit Citizens' Band Radio altogether! There, that's a much grander gesture. I'll just sit for a while listening to some Saturday night conversations as a sort of nostalgic farewell, then I'm going to go out and give my two rigs to the first person I see. And I wish them the best of British.

What, you may ask, has brought about such a comprehensive disillusionment with the world of CB? The world I joined with such tentative enthusiasm almost four years ago?

It's simple, really. I have discovered that normal, decent breakers in our area are now in the minority, and quite a shock it was, let me tell you. A few veterans had been warning for months that we were being taken over by the wallies, the bucketmouths, the button pushers, the loonies, the religious nuts, but we didn't listen. That sort of thing happens in places like London and Glasgow — towns and cities, not in the peaceful sanity of the countryside (we said). Some people just aren't happy if they're not prophesying doom and gloom (we said).

So what finally opened my eyes? A new band of drug-crazed middle-aged hippies camping out on the common? A new influx of wallies operating from some sinister attic in a deserted farmhouse? The establishment of a local vice ring using the airwaves as a means of advertising their services?

No, it was the plumbers. The plumbers were the last straw. I never want to see another plumber again, let the leaking tap washer do its worst.

Plumbers

It's not that I have anything against plumbers *per se*, you understand, although I can't claim that any of my best friends are plumbers. Nor can I claim that plumbers as a race are foul-mouthed or obsessive mike keyers. What I object to is the way a local firm of plumbers has taken over my favourite channels as a handy form of communication.

"See you on channel 15 tonight", I might say to someone, and what happens when I tune to channel 15? "Bob, Bob, do you copy? Burst pipe at number nine, Orchard Avenue. Do you copy? Over". (They think CB is Houston Mission Control.) Or it might be "Overflowing bog at Little Beeches House. Ballcock gone. Can you get over there, Harry?" The occupants of Little Beeches House must have been delighted to have the sordid details broadcast for miles around, and when I'm sitting by the fire having a cosy pizza I really don't want to hear about toilets.

I know it's not just us, other areas have it worse. Some are plagued by

taxi firms, others by electrical contractors. Five miles away it's window cleaners — on a clear night we might by lucky enough to hear what Dave saw through the window of number fourteen Common Way.

Advertise

None of these companies advertise their services on the air, as such, and when challenged they say, hurt, that they pay their licences same as everyone else and have a right to use the airwaves, same as everyone else. But when you add them to the number of undesirables already wasting precious air time, the chances of a reasonable conversation are greatly reduced. And I've had enough. If I was big-headed, I would say that CB no longer deserves me, but I'm not, so I won't.

Well, that's got a lot off my chest. I've been listening for half an hour to the chat, and no-one seems to have noticed my absence yet. Not that I made an announcement, or anything. But still you'd think, after all these years, someone would say: "Where's Filly tonight? Not the same without old Filly is it?"

Ballcocks

Come to think of it, I haven't actually heard much from the plumbers, Not that they do much business on a Saturday night, but they operate a 24-hour service and ballcocks are no resisters of time or day. But listen, what's this?

"Hear about those plumbers? You know, the lot that installed rigs in all their vans? They're gone."

"What do you mean, gone? They were doing a roaring trade. Never off the air. Always going on about leaking radiators and dripping taps..."

"That's the point. They talked too much. No one will use them any more because no one wants their intimate plumbing arrangements discussed all over the county. They've moved on."

Gone! Common sense has prevailed! It's almost enough to restore your faith in mankind and CB Radio. Perhaps I'll only give one rig away, keeping one just to listen to on these long winter evenings...

Perhaps I'll call up someone now, before they notice I'm missing...

Is that the dratted tap is leaking in the kitchen again?

CHRISTMAS GIFT GUIDE

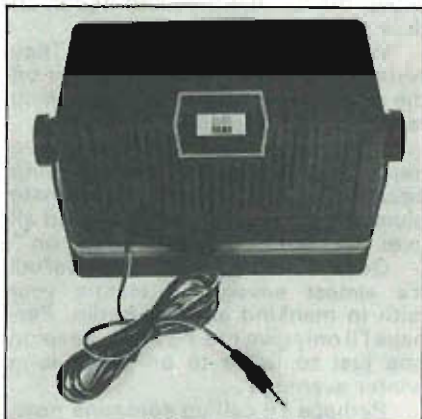


Christmas comes but once a year... but when it does, it costs us dear! Well, does it really have to? Are any of your loved ones also keen breakers? If so, then read on, as we take a look at some CB-related items which would make ideal presents for breakers while still not costing the earth.

The Berol Detective Kit can be found at most branches of W H Smith. The kit is designed to assist in the return of stolen goods which have been recovered by the police and comprises a fine-tipped pen and a broad-tipped marker, together with warning stickers and a property check list. The pen and marker contain transparent ink which can be used on most surfaces including metal and plastic. The mark made is visible when first applied but, when dry, can only be seen under ultra-violet light. So, if your rig — or even your car — is suitably marked and subsequently stolen, the rightful owner can prove the rig or car is his. The kit costs just £1.60, the pen alone costs 70p and the marker is also available separately at 70p.

A new miniature soldering iron has been developed by a company called Gardner Precision Engineering of North Road, Woking, Surrey. Retailing at £17.25, the lightweight iron is designed for one-handed operation — so the

It's the season to be jolly again and to search the shops for that perfect present. We lend a helping hand.

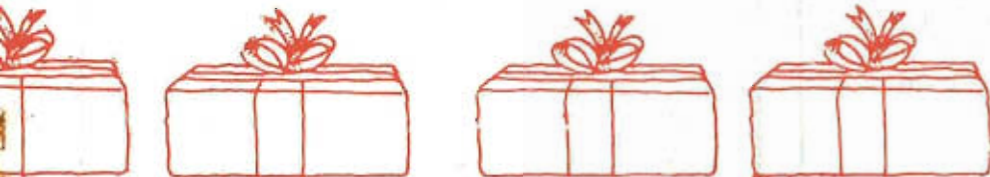
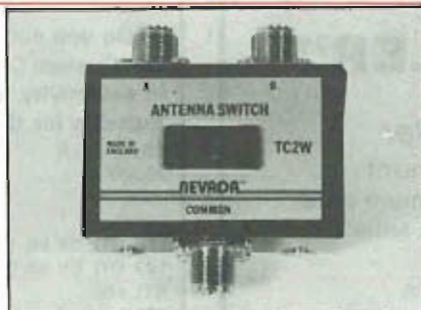


The Rama extension speaker

The Berol Detective kit

benefits to disabled people are obvious. The flux-cored solder is housed in its transparent handle and fed through a stainless steel tube to the bit. The solder is applied directly to the joint by turning the serrated wheel located on the handle with the index finger of the hand holding the iron. A handy tool to have around for running repairs or modifications.

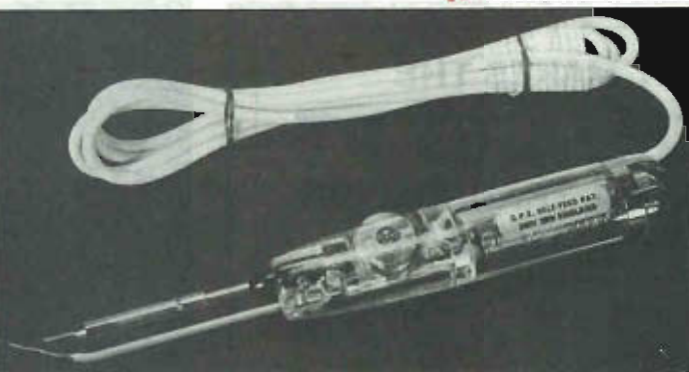
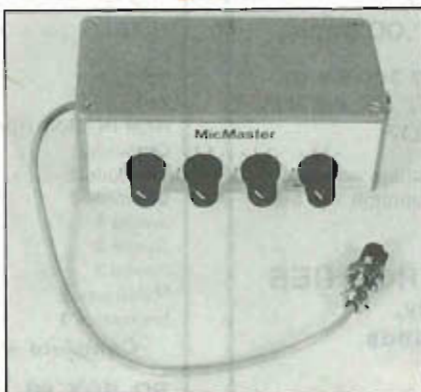
Extension speakers can be handy and they needn't cost too much. Take, for instance, the Rama MS-40CB. At £7.95, it represents real value for



money. It's basically a 4" speaker housed in a black plastic casing with a mounting bracket. The unit can be rotated vertically on the bracket (to obtain the required position) by simply slackening two knobs and it is prevented from vibrating out of position by ratchet-type teeth, either side of the housing. There is also a tone switch on the front which filters out high-pitched signals. It will handle a maximum of 5 watts.

It's not uncommon for breakers to 'mix and match' equipment, particularly rigs and microphones. With this in mind, a rather clever little unit was introduced last summer. The BBTronics Micmaster is a switchbox adaptor for matching any four-pin microphone to any rig with a four-pin socket. Also, you can tell from the settings of the switches which wires need to be changed — and where to if the user wishes to rewire the plug permanently. From the position of the switch, it is possible to tell which microphone pin is connected to which output or rig pin. If you simply need to borrow a mike for a short period, then the Micmaster can be left in line. The Micmaster costs just £11.95 and is available from BBTronics, 48 Arlington Drive, Leigh, Lancashire.

Telecomms' range of Nevada products include the TC2W Antenna Switch, which sells for just £6.50. As the name suggests, it is an interface between the rig itself and two separate antennas. It has one SO259 socket (marked 'common') for the antenna coax from the rig and two more on the other side of the unit (marked 'A' and 'B') for connection to two separate antennas. There is also the switch itself for bringing either antenna into operation. Breakers who live in crowded areas often suffer bleedover problems and the advantage of using two antennas (one high performance and one low) plus the Antenna Switch means that they can switch to the low performance one if suffering from bleedover, thereby receiving only 'local' copies, or switch to the high performance antenna for longer distance work when the channels are less busy. As it is simply a switching unit, it could also be used to connect alternative rigs to the same antenna.



(Top) The Nevada Antenna Switch; (middle) the Micmaster from BBTronics; (c) the miniature self-feed soldering iron from Garner Precision Engineering

One of the antennas we tested during the past year which got very good reviews was the Mister Stick from Marksman Products (see elsewhere in this issue for a review of their new Ambassador homebase twig). This centre-loaded mobile antenna has an impedance of 50 ohms, works within the frequency range 26 to 28MHz, and handles power well above the legal limit. A good buy, we feel, for £17.50.

The Manchester-based company Pama & Co, whose address can usually be found amongst our classified ad pages, market the Techtronics scanner. Rigs which feature a scanning facility can rarely be found for under £100 but, at just £24.95, the Techtronics unit is well worth considering. Connection is simple, only nine wires need to be soldered and you're ready to go. The unit scans through all 40 channels until it finds a busy one, which it locks onto until the channel is clear. After a

delay of four seconds, it then begins scanning again. It features a six-channel memory, six LEDs, Memory In/Out switch, Scan Hold, Programme and Off switch. All in all, an ideal add-on unit, particularly useful in "quiet" CB areas.

Does the recipient of your Christmas gift QSL? Perhaps he or she even runs a club. There are many companies around who specialise in QSL cards, eyeball cards, certificates, newsletters — even rubber stamps. Unfortunately, it would take up more space than we have to list them all, along with their various prices, but many of them advertise in this magazine and you can usually find one or two 'plugs' in David Shepherdson's QSL section each month.

Want to buy something for a handyman — or even a 'dabbler'? You could do worse than think about CB books and service manuals. Most good CB shops will have a stock of books such as the *Big Dummy's Guide to CB*, *CBer's Bible* and *CB Made Easy*, usually priced at between £1.25 and £3. Service manuals tend to cost around £6 each but, to people who need them, they're a Godsend. Again, keep an eye on the advertisements in this magazine to see where they can be found. In fact, Truck King of Garston recently announced the arrival of two much sought-after publications, written by our sometime-contributor (that is, when we can drag him away from writing the books in the first place!), Lou Franklin. Lou's *PLL Data Book* and *The Screwdriver Expert's Guide* are both excellent books, invaluable to rig doctors. The PLL book focuses on the

Phase Locked Loop or PLL frequency synthesizer, while the *Screwdriver Expert's Guide* is a kind of "Big Dummy's" guide to diagnosing and curing common (and rare) faults. They are priced at £6.50 each, but why not go the whole hog and take advantage of Truck King's current special offer of £12 for the two?

Last but not least, while on the subject of CB reading matter, what about a year's subscription to *this* magazine? Instead of getting up early and racing to your newsagent on the third Friday of every month, you can have it sent to you direct. Details can be found on the Reader Services page every month. What do you mean, "They're giving themselves a free plug"? Well, OK. But it *is* Christmas, isn't it?



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Concorde 2	6001	PTBM 131
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Multimode 2	McKinley	<i>Please state chassis</i>
Multimode 3	Grent	<i>number required.</i>

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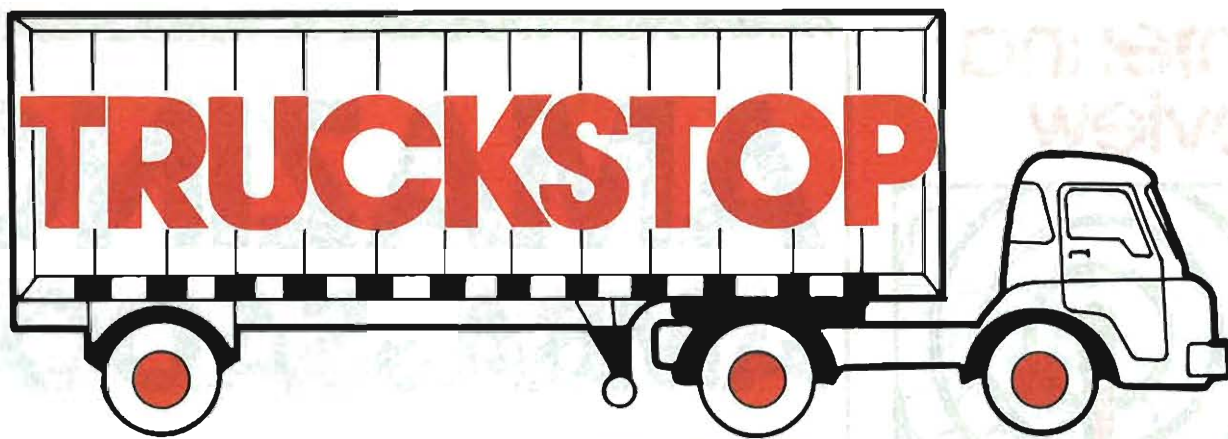
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Big T with more tales of his tortuous travels

Well here we go again. By the time this is printed we shall be just a few weeks from Christmas with all those lovely cold dark mornings, snow, fog, icy road, wind-screens frozen solid, impassable roads, no nice warm factories or offices. I must be mad because I would not change places with anyone; trucking's the life for me. What could be better after a hard day's work than to arrive home, sit yourself down surrounded by your loved ones and get on the CB to have a natter with your friends to find out what has been happening whilst you have been away. Someone always seems to be trying out a new mike or a new twig and, like most of the breakers in the Telford area, we are always looking to improve our stations.

Caravans

What a hornets' nest I seem to have stirred up with my remarks about caravans with no rear view mirrors. On my travels around the country, lots of breakers have come up with the argument that these mirrors cost so much, but if it is going to save their own life or one of their family, I should think it is a small price to pay. So, come on lads, please get them fitted.

Whilst on this subject, what about all the farm tractors pulling trailers with no lights, no rear mudguards or no indicators? Most do not even have number plates. I often wonder how far I would get if I drove my car or my lorry in the same condition. This time of year, I meet one or two of them every day and it would be interesting to know other mobile breakers' views on this subject.

Squeakies

Where have all the 'squeakies' gone? Some of these were superb and I used to enjoy listening to them on my travels up and down the motorways. They are certainly more entertaining than the 'bucketmouths'. These days, the 'squeakies' seem to be replaced by the 'gay' breakers like Naughty Norman,

Gay Lord and the rest. Most of them seem to enjoy themselves and I must say, if anyone comes in with a 10.33 or 10.13, the lads always go quiet to let these through.

Some of my fellow truckers really bite with some choice remarks but most of us take it as a bit of fun, as it is meant to be, and it can very often shorten a long, boring journey. I would like to mention especially, the Exeter Gay Breakers club. They have even made me a honorary member of their club. Thanks Jerrycan and Silverfish, I shall remember that!

London Orbital

By the time you read this, the latest section of the London Orbital (M25) will be open from near Heathrow to Reigate. This will save myself and many of my fellow truckers a great deal of time as the old route is, or was, very prone to long hold-ups. How annoying to see in the national press and on the TV that the new section of motorway is already having to be repaired without ever being used. I can understand the first motorways we built years ago having problems — it was all new in those far-off days, but with 20 years' experience plus modern technology to help, surely we should be able to expect them to get it right first time? Why all these problems of cracks and bad joints? Is someone cutting corners or using inferior materials? It would be nice to know.

Whilst on the subject of new roads, I must admit I was pleasantly surprised on my last trip up to Chesterfield to find the new A61 by-pass was open and, instead of the usual 20 minutes to clear the town, I found myself doing it in two to three minutes. Well done, Chesterfield County Council or whoever is responsible.

Cafe of the Month

This month I have chosen, as cafe of the month, Nell's Cafe which is situated on the A2 about 10 miles south of the Dartford Tunnel. The food is always first-class, the service is a little slow but the reason for that is the food is freshly cooked and red hot. The cafe is very busy and parking a little restricting unless you get there reasonably early and, as yet, I have not had to pay. The

meals are rather on the large size and, up to the time of writing, I have never yet been able to manage a pudding!

Last week I had one of my rare trips up to Humberside. On my way into Hull I called at my usual paper shop and was pleasantly surprised to find that the shop next door is now a CB shop. The shop is called the Hessele Communications Centre and, needless to say, I was in there like a flash to meet the proprietor, Tony McManus. I had a good look around and was very impressed with the wide range of CB (27MHz and 934MHz, the latter to order) and Tony tells me he also supplies amateur radio equipment, although truckers make up 70% of his customers. Thanks, Tony, for your time and you certainly have not seen the last of me! Anybody interested should telephone (0482 648602).

Telford Control

This month I would like to give a well-deserved mention to the three ladies who make up Telford Control: Joyce (Cat Lady), Rosie Rosie and Paddy Wick. All three ladies are very good friends of mine and can be found on the 19 Monday to Friday 6 am to 5 pm, and Telford with its miles and miles of new road plus several large industrial estates is a good test for them. So any of you lads or ladies finding yourselves in the Telford area please give them a shout, they will be only too willing to help you. Keep up the good work girls. Strangers to Telford, however, beware of Misty Lady trying to give away her home-made cake. Do not be tempted, just find the quickest exit out of the town!

Eyeball

As I mentioned in the November issue of our magazine, I would love to have a national eyeball somewhere in the Midlands so, please, if you are interested, write to our Editor. The response I have had from fellow breakers on the rig has been fantastic. Let's not just talk about it, let's get on and do it. I would like to finish this month's article by wishing all my many, many friends all over the country a very merry Christmas and the best New Year ever, so, until next year, good health and good luck.

Big T

Antenna Review



Gordon Blackwell tests a new homebase unit from the company who brought you the famous Mister Stick

AMAZING AMBASSADOR

If you've got a general purpose A-frame home base antenna, the chances are you've got a problem that you didn't even know you had. Despite the fact that you may be extremely happy with your antenna's performance, by the very nature of its design, your antenna is probably not operating at its optimum level. That's because, as with most antennas of this type, your top radiating element is connected directly onto a metal mast. Consequently, this acts as a ground plane and much of the magnetic flux, which should be used to great advantage by the antenna, is lost down the mast. The performance of your antenna, although quite acceptable, is therefore not as good as it could be, and unfortunately there's not much, legally, that you can do about it.

However, before you start pulling your hair out and kicking down your mast, read on. A young and enterprising British company by the name of Marksman Products has come up with a brilliantly simple yet effective idea that overcomes the problem of insulating the radiating element from the mast, and, by clever engineering and a bit of electronic wizardry, claims to give a considerable signal increase over other aerials of the A-frame type.

The company, which is already making a name for itself with its Mister Stick mobile aerial (see March 85 issue), has developed and produced a special A-frame antenna conversion kit comprising a unique A-frame insulator, an unusual top element, and a nylon washer. A strange combination perhaps, but how is it going to improve the performance of an antenna, you might ask, and even if it does, will the improvement be significant enough to warrant discarding what, to all intents and purposes, is a perfectly good antenna and purchasing this replacement? Well, only you can decide, but perhaps this review will help you in this decision.

First of all, let's take a look at the kit as a whole, which, by the way, has been named Ambassador. I was a little confused about this because the antenna has actually got Mister Stick printed on it. That's because, I was informed, the Ambassador is one of a series of antennas from the Mister Stick range. Got it? Anyway, by the

time this review is published the Ambassador conversion kit should be very distinctly displayed in you shops in a see-through plastic tube, so there'll be no mistaking what it is.

When I received the kit, the first thing I picked up was a nylon tube approximately 80mm in length. One end of the tube had an outside diameter of 32mm for a length of 30mm. The rest of the tube had been turned down to 29mm. This is the mast insulator, a simple yet extremely effective device which slips into the top of the mast and then fits snugly into the underneath of the A-frame support, isolating the support from the mast and thereby

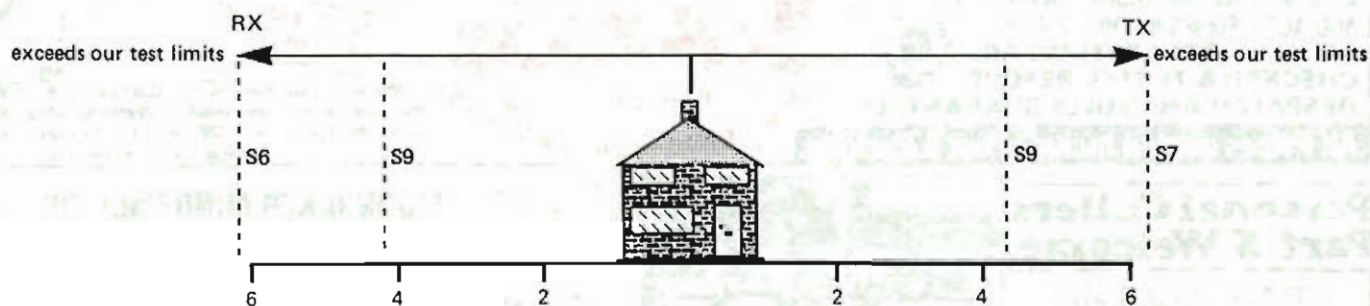
**"... quite frankly,
fitting the Ambassador
is so simple, even a
monkey could do it!"**

eliminating any voltage loss. Why hasn't anybody thought of it before?

The next thing that caught my eye was the striking base-loaded radiating element. Measuring 1.63m, the element incorporates a sturdy 19mm diameter stainless steel base connected to a 14mm diameter aluminium rod topped with a black plastic cap. The coil measures a mere 15mm in length (smaller than the average thumb nail) and is protected by a bright blue plastic shrink-wrap. Incidentally, there are no rivetted or soldered joints on the element, again eliminating any unnecessary voltage loss and ensuring maximum continuity of signal.

The only fitting instructions you get with the Ambassador are a line diagram indicating where each bit goes and a few sketchy notes about the kit. This is not a criticism, because that's all you need and quite frankly, fitting the Ambassador is so simple, even a monkey could do it! This is what you do. First, unscrew and remove your old aerial — this makes later handling of the A-frame a little easier.

ANTENNA REVIEW DATA PANEL



SPECIFICATIONS

Model AMBASSADOR
Type BASE LOADED HOME BASE
Length 1.63 METRES
Frequency Range 26-29MHz
Max Power Handling IN EXCESS OF LEGAL LIMIT
Impedance 50 OHM
Cable Supplied N/A
Mounting Details A-FRAME
Supplier MARKSMAN PRODUCTS
Typical Price £12

REVIEW VERDICT

Performance XXXXX
SWR adjustment —
Construction XXXX

Installation XXXX
Instructions XXX
Value XXXX

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

THE TESTS

We have used our standard test procedure to assess the efficiency of this antenna. To bring new readers up to date, this is what we do: in the case of a mobile antenna, we perform a static and a mobile test. 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 then repeated with the test antenna on the mobile test vehicle and the signals are sent and received between a stationary vehicle. In the case of a homebase antenna, obviously only one vehicle is used. A standard rig and antenna are used in all tests. The antenna is also subjected to a series of 'lab' tests to assess their durability, quality and construction, and finally we hand it over to a panel of Cbers for comment.

Marksman suggest that you throw the aerial away but with a little ingenuity, you could turn it into a very nice lampstand! Pull the A-frame support off the mast and disconnect the coax. Thread the coax through the nylon mast insulator, which is then placed into the mast, re-connect the coax and plonk the support block onto the protruding piece of insulator. Finally, place the nylon washer over the thread and screw on the Ambassador aerial. It couldn't be simpler. The purpose of the nylon washer should be fairly obvious (answers, please, on a post-card).

Marksman claim that the Ambassador is pre-SWR'd and should be down to 1-1.3:1. There is no facility for SWR adjustment, so we kept our fingers crossed when we checked the SWR and happily found that it was a reasonable 1.3:1, remaining fairly stable over all channels.

Ideally we would have liked to carry out a straight comparative test on the Ambassador but unfortunately our home base antenna is a $\frac{1}{2}$ wave G.P. However, independent tests of this nature have been carried out and have reported a startling increase of three-and-a-half S points over the original antenna design!

Positioned at the legal height, the Ambassador performed very well in-

“Notably our best copy was with another homebase breaker 13km away (over twice the distance of our normal test) who was receiving us at S5 Radio 5.”

deed on our test, signals only once falling below S5 over our entire test route, and that was in a notorious low spot. Generally our RX signal equalled our TX signal, only occasionally dropping one point below. These results are quite interesting when you appreciate that the area in which we live is rather hilly and consequently full of low spots. Notably our best copy was with another home-base breaker 13km away (over twice the distance of our normal test) who was receiving us at S5 Radio 5. We in turn were pulling him in at S4

Radio 4.

Claims have been made about the Ambassador transmitting and receiving over distances in excess of 30 miles. We did in fact receive signals from that sort of distance but were unable to make contact. Whether that was because they had their squelches turned up or because they were pushing out more than the legal limit, we don't know. In any event, our tests indicate that, in the right circumstances, the Ambassador should be capable of this kind of performance.

The Ambassador A-frame conversion kit at £12 inclusive of VAT is, I think, excellent value for money. It most certainly improves the performance of A-frame antennas but whether this is enough to make existing owners buy it is debatable. Perhaps they should consider marketing it complete with its own A-frame, who knows? Anyway, having spoken to Marksman Products, they've still got a lot of exciting innovations up their sleeves, so watch out for more from them. You can get more information about the Ambassador from Marksman Products at PO Box 40, Milton Keynes, telephone 0908-668916. Finally, I would like to thank my good friend Jungle Bunny for his technical expertise and assistance with these tests.

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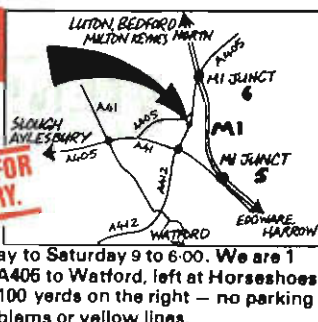
Off Junction 6 M1, 867 St. Albans Road, Garston, Watford, Herts. WD2 6JG

THE TRUCKERS SHOP

Tel: (0923) 661673

ORDER EARLY FOR XMAS DELIVERY.

We are open Monday to Saturday 9 to 6.00. We are 1 min. Junc 6 M1. Take A406 to Watford, left at Horseshoes crossroads and we're 100 yards on the right - no parking problems or yellow lines.



Personal Callers Part-X Welcome.

BETA 3000 - BACK IN STOCK

£82.00

Back in stock again, our special purchase this month is the well-known Cybernet top of the range unit with a host of features. Volume, squelch, tone control, RF gain, speech booster, PA facility, LED dimmer and Channel 9. A well proven, top quality unit.

CB RADIOS

over 90 different units in stock both new and secondhand.

New! MOONRAKER MINOR/MAJOR TWO BRAND NEW RADIOS NOW IN STOCK

It's not very often we get a chance to offer a radio that's new to the UK market, rarer still to have two. When they look and sound as good as this pair from Moonraker it's unique! We are pleased to introduce the Moonraker Minor and Major. Two very special units, at special introductory prices.

MOONRAKER MINOR
Compact unit, matt black finish, features volume, squelch, Hi-Low power and PA facility. A high quality unit, which K40 sold under their brand name in Europe.

MOONRAKER MAJOR
High quality unit which has every facility possible, smart matt black finish, 4 pin mike socket, volume, squelch, mike and RF gain, delta tune, built in SWR meter, Channel 9/19 switch, Hi-Low power, PA facility, noise blanker and tone control.

£59.95 **£79.95**

MORE UNITS FROM OUR RANGE OF CURRENT STOCK

MAXCOM 20E

£45.00

Just back in stock this compact unit is the smallest available for the UK market, 4 1/4" wide 1 1/2" high and just 6" deep. Ideal where space is limited. Features volume, squelch, Hi-Low power and Ch. 9.

MAXCOM 30E

£69.95

This top of the range radio features crystal filtering, RF & mike gain, PA facility, DX switch, tone switch and high SWR indicator. (This radio is featured in 'Citizens Band' reference section). Excellent value and performance. **Maxcom 30E**
40Ch £69.95 160Ch £118.00

AUDIOLINE 340

£52.00

This compact mobile Uniden Boarded Unit quite rightly enjoys a first class reputation. Features Volume, Squelch, Hi-Low Tone Control and variable power switch. Generally accepted as being one of the finest, most reliable units on the market with superior bleedover rejection the 340 has to be top of the list when choosing a mobile. **Audioline 340**
40Ch £52.00 160Ch £100.00

ONE HANDER AUDILINE 342

£66.00

The greatest security CB ever - you just unplug it and take it with you! Slim calculator-style hand unit has all the control features - LED Display, Up/Down Scan, Volume, Squelch, Hi-Low Power, Channel Lock-on Switch, Tone Control and Internal Speaker plus of course the usual excellent Uniden Circuitry which gives crisp, clear copies. The compact power box which feeds the hand unit stows away out of sight under your seat or in the glove or dash. Beat the car thieves and still enjoy excellent CB performance. **Audioline 342**
40Ch £66.00 160Ch £126.00

UNIACE 200

£89.95

Specifications as for the Uniace 100 but this unit has in addition variable mike and RF gain, bass/treble tone control and a dimmer facility. The Uniace brand is unsurpassed for quality and performance. **Uniace 200**
40Ch £89.95 160Ch £138.00

UNIACE 300 BASE STATION

£169.00

Without a doubt the finest Base Station made for the UK market it features Volume, Squelch, Tone Control, PA facility 240 or 13.8 volt power feed, variable power and mike gain, but the crunch is in its excellent circuitry and filtering which kills bleedover and cross-mod without being deaf. **Uniace 300**
40Ch £169.00 160Ch £217.00

REALISTIC TRC-2000

£67.50

A Uniace 200 for £67.50? Yes, the 2000 is made in the same Uniden factory using the identical board, like the 200 it features volume, squelch, mike & RF gain, Hi-Low power and PA facility. It differs only in its 5 pin lock on mike socket and, of course its much lower price!

DNT B40FM 40 CHANNEL BASE STATION

£75.00

A good quality mains powered base station at a very low price. Crystal filtered with good performance characteristics. Very good value. **DNT B40FM**
40Ch £75.00 160Ch £123.00

OTHER CB RADIOS FROM STOCK

MAXCOM 8E.....	£42.50
LOWE TX40.....	£45.00
MIDLAND 3001.....	£52.50
SAPHIRE X4000.....	£68.95
FIDELITY 2001.....	£52.50
OSCAR ONE.....	£62.50
HARVARD H-407.....	£98.00
MAXCOM 7E.....	£85.00

CB RADIOS

We can offer a 160 channel conversion on any new radio we supply. This gives low-mid-high band FCC plus the legal 40. If you want your own radio converted just post the unit to us and send £48.00 to cover conversion and return postage. **WE CAN ALSO FIT 40 FCC MIO BAND CHANNELS TO GIVE 80 CHANNELS ONLY IF REQUIRED.**

SECOND HAND RADIOS

We don't publish lists for our large range of serviced second hand radios as the turnaround is so rapid on these units. As a general guideline a basic unit costs around £20, mid range £25-30 and top range units from £35-55. These are general price guides and in recent weeks we've had Rotels, Yorks, Harriers, Grandstand Bases, Jumbo, Belcom, Realistic H/Helds, 148's and many other assorted 'one-offs'. Please phone for your requirements, we always price and describe fairly and offer at least a one month warranty with most units. Remember, we also buy in or part exchange most radios.

HOME BASE ANTENNAS

GUARANTEED LOW SWR OVER 2MHz

SIRTEL 5/8

Made from highest quality heavy gauge aluminium, this is one of the best grade Antennas ever! Excellent DX performance, and a unique AM/FM preset mark makes this easy to tune home base one of the best value on the market.

£38.00

New!

SIRTEL S2000

A superb new 3/4 wave from Sirtel, described as 'the best antenna we've ever used' by several local DX crows. Heavy gauge telescopic sections make this ideal for DX'ing on the hills. Eight mini radials give stronger signal and radiation pattern plus static top hat fitting for cleaner, interference free reception. Wide band width ensures low SWR over 3MHz and super-heavy coil loading will handle over 2Kw! We believe this will out perform any omni-directional at present made.

£79.95

AVANTI SIGMA 2—AV170

Finest construction, original and genuine USA made, we were able to recently obtain some old stock of these (Avanti ceased production 4 years ago) and it is without a doubt the best omnidirectional we've ever used. The USA's No 1 best seller in its time will outperform anything you're using now.

£53.00

TAGRA BT-101

3/4 Wave Astroplane type 2Kw rating, 4.5 dbi gain, 6.5 metres high.

£39.00

A.S. JAVELIN IC

Similar in construction to the Thunderpole the A.S. Javelin IC has additional radial supports and a hefty centre load coil. We recommend this as the best of its type.

£29.00

LEGAL

ORDER EARLY FOR XMAS!

BLUEROD GP 1/2 WAVE

SPECIAL OFFER

With special blue anodised coating to prevent corrosion and give cleaner signals longer.

SPECIAL INTRODUCTORY PRICE £14.95

LEMM MINI GP

The perfect indoor antenna for flats, lofts etc. If you can't fit an outdoor twig this is the right alternative. 3 short loaded radials, helically wound top loaded whip. Quality 1/2 wave performance and it stands below 6' high overall. Excellent for outside use. Also if a discreet antenna is required (comes with stand off bracket for wall/mast mounting). One of the top performers!

LEGAL

£19.95

5.14 dB GAIN

TOP QUALITY PERFORMANCE

5/8 WAVE COLINEAR

TAGRA BT-104

3/4 Wave 6.5 dbi gain, 2Kw rating, 8.2 metres high. AVANTI SIGMA 4 type.

£79.00

MOBILE ANTENNAS

SUPER MODULATOR 2

Popular with truckers and DXers, high power rated centre load, not recommended for magmounts!

£14.50

AV-241M

We were able to obtain limited stocks of these recently and of course the original Avanti Moonraker needs no description to the CB enthusiast. This is the 4' model with mag mount. Please phone to reserve your order — we will hold for 48 hours.

£42.00

TAGRA K120

The unfortunate dollar exchange rate means that K40 imported now would be over £40 to buy. This European made lookalike comes from an excellent manufacturer (Tagra make most Avanti copies today based on the original specifications). The K120 gives comparable performance and is easy to tune with a good band width.

£29.95

ROAD BOSS

SWR's easily for both FM and SSB. Top quality high performance mobile.

£11.50

OSCAR 11SE

Superior quality base load with a big reputation, has whip fold over facility for garaging, car parks etc. Manufactured in Japan to very high standards, this is one of the top antennas.

With body mount M-type lead and connectors with complete gutter mount assembly.

£34.00

CENTRE LOAD MAGMOUNT

Centre-load magmount. Complete mini centre load. If you change vehicles frequently this one is ideal.

£10.95

CENTRE LOAD GUTTER MOUNT

Centre load gutter mount. Similar to the mini mag this short centre load is handy for occasional mobile use.

£9.95

OVER 60 DIFFERENT ANTENNAS IN STOCK

RF LIGHT

£1.25

Fits on tip of antenna. Grub screw fixing. Amber colour.

HALO LOOP

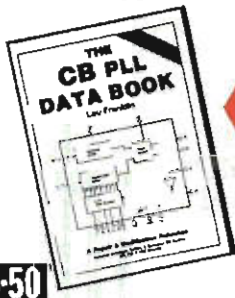
Improves antenna signal by making radiator pattern more parallel to the ground.

£4.50

Turn over for more 

from Lou Franklins CB City Company in the USA four invaluable handbooks for Technicians and Rig Doctors.

PLL DATA BOOK



£6.50

SCREWDRIVERS GUIDE



£6.50

Buy BOTH these two for £12

A COMPLETE, SIMPLIFIED GUIDE TO PLL CIRCUIT OPERATION!

Author Lou Franklin (THE 'SCREWDRIVER EXPERT'S' GUIDE) unravels more mysteries of CB Radio electronics — this time focusing on the Phase-Locked Loop or PLL Frequency Synthesizer. This is the heart of every modern CB circuit, and one area which until now has given headaches to beginner and expert alike.

- In simple, non-technical language, you'll quickly learn to understand the workings of PLL synthesizer circuits. Whether you're a professional CB repairman or a casual hobbyist, there's something in these pages just for you.
- FEATURES**
- How they work, in detailed, easy-to-understand terms.
 - How to modify them for many more channels.
 - How the PLL circuit is used to generate FM transmission and the SSB "side" shift.
 - How they provide the required signals for CB transceiver operation. Most common circuits illustrated in very simple block diagram form.
 - Pin by pin function description of nearly every PLL device ever used. Over 50 specific ICs including manufacturers' cross-references.
 - Specific tests of every known CB model using a particular PLL circuit.

This big new International Edition covers all the most popular, classic PLL circuits. Plus all the latest state-of-the-art devices used for CB synthesizers throughout the world. Required reading for every serious CB operator.

FINALLY, A "BIG DUMMY'S" MANUAL OF CB RADIO REPAIR!

Written in layman's terms, this unusual book teaches the average person how to recognize and repair many of the most common CB radio problems, and how to get the best performance from his rig. No special electronic knowledge or expensive test equipment is usually required. Using only common sense, logic, and some everyday tools and accessories, the reader is quickly guided to the problem area by simple illustrated instructions. Emphasized throughout is the fact that a person doesn't have to know how complicated electronic equipment works to be able to fix it. Many of the greatest CB mysteries, such as antennas, are simply explained using everyday terms and analogies that anybody can understand.

- This latest edition also contains new sections to help the more advanced CB hobbyist modify his equipment for greater performance capabilities.
- HIGHLIGHTS:**
- How to diagnose and repair the most common antenna/SWR problems.
 - How to wire any mike to any radio. Includes many common mike problems.
 - How to peak out transmitters and receivers for greatest range.
 - How to recognize the most common faulty parts, find an inexpensive substitute part, and replace it yourself.
 - Unusual tricks and methods for curing TVI and ignition noise problems.
 - How to add extra channels to both crystal and PLL rigs.
 - How to make SSB Classifiers slide on TRANSMIT too.
 - Simple AM-to-FM conversions.
 - Specific power/modulation adjustments for most popular models.
 - Unique Troubleshooting Chart to quickly isolate a problem.

UNIDEN SERVICE MANUAL £6

26-page book includes PB610 chassis (COBRA 148GT1-DX, SUPERSTAR 360), PC959 (GRANT), and PBDA1 (LANCELOT) in one complete book. Also applicable to Stator 9FDX export, and American A9-144 type chassis. Written by Lou Franklin, this is the only service manual in existence. Complete specs, voltage measurements, stage gain measurements, theory including detailed PLL description, complete alignment instructions and layouts, block diagram. Special addition describes modifications and improvements for each chassis. Large 11" x 17" schematics for each chassis.

CYBERNET SERVICE MANUAL £6

24-page book includes PCMA001S, PTBM125A4X/PTBM131A4X, PTBM133A4X, PTBM14121D4X. Models: Cobra GTL150, 148GT1-DX (lake), Colt 320FM, 320DX, 1200DX, 1600DX, 2000DX, 2400, Excalibur, Falcon, 2600, Hism International Concordo II, Concordo III, Jumbo III, Multitone III, Hi-Cam 2785, 2795DX, 6795 (V), Intek 1200FM, Lafayette 1800, 2400, HBB70AF5, Midland 7001 export, Mongoose 2000, Nato 2000, Pacific 160, Palomar 2400, 5000, Starfire DX, Superstar 2000, 2200, Thunder 2000, Tristar 747, 777, 797. Written by Lou Franklin, this is the only service manual available for these radios. Complete specs, voltage measurements, theory, PLL charts, alignment instructions and layout, block diagram. Large 11" x 17" schematics of each chassis.

Buy all FOUR of these for £20 SAVE £5

BUY BOTH these two for £11

BIG DUMMYS GUIDE TO BRITISH CB

157 pages, good basic starter book includes all you need to know about getting on the air, DXing, basic repairs and lingo £2.25

CB SLANG LANGUAGE

Features more USA CB lingo than you'll ever need to know! Updated with UK information plus 10, 13 and Q codes, 257 pages £1.50

CB MADE EASY

Good UK introductory handbook on using and fitting CB, codes and language, basic trouble-shooting, Home Office regs., 64 pages £1.25

CBers HANDY MANUAL OF SSB

Good guide to SSB use, how it works, how to operate, USA edition, 80 pages £1.75

CBers BIBLE

Excellent UK publication covers CB history, rig selection, antennas, mikes, TVI, soldering, Morse, 10 and Q codes, reading schematics CB club section and SSB, 330 pages, good value £2.50

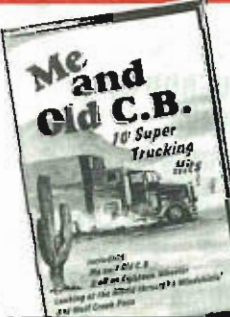


CB AND TRUCKING MUSIC ON CASSETTE



- Side 1
- Convoy
 - The Silverton
 - Classified
 - Mean Bear
 - Truck Driving Queen

- Side 2
- There won't be no Country Music
 - Crispy Critters
 - Truckin' Man Type Motel
 - Old Home Filler Up and Keep On Truckin' Cafe
 - Rubber Duck



- Side 1
- Me and Old C.B.
 - Looking at the World through a Windshield
 - C.B. Savage
 - That's Truck Driving
 - Roll on 18 Wheeler

- Side 2
- Wolf Creek Pass
 - Girl on the Billboard
 - Gimme 40 Acres
 - Eighteen Wheels
 - Ode to 10-13

£2.50 each



- Side 1
- Teddy Bear
 - Freightliner Fever
 - Truck Drivin Son of a Gun
 - Phantom 309
 - Truck Driving Man

- Side 2
- Gladdy Up Go
 - Truck Driver's Prayer
 - Six Days on the Road
 - Moving On
 - Little Joe

MULTI TESTER

£7.95

Basic Multi Meter to read AC/DC volts, DC current and resistance, complete with probes.



SOLDERING TOOLS AND ACCESSORIES

Mains Soldering Iron

Long life elements, 1.7m lead, cord grip & cable protector. £4.50

Mobile Soldering Iron

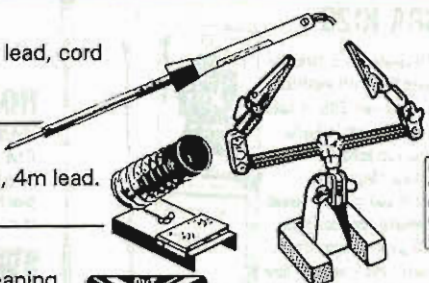
12 volt, 15w, mobile iron, 4m lead. £4.95

Soldering Iron Stand

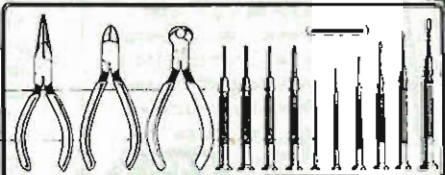
Black metal base and cleaning sponge. £3.50

Solder Card

3 core resin 60% tin, 40% lead, 1.84m length. 75p



Helping Hands Heavy base with croc clips on variable rods. Useful soldering aid. £3.50

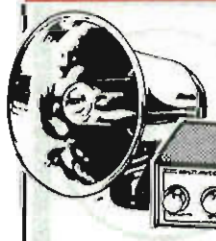


13 PIECE TOOL KIT £8.95

1 x 5" Snip Nose Pliers with side cutters, 1 x 4 1/2" side cutters, 1 x 4 1/2" end cutters, 2" Allen Key Drivers 2/2.5mm, 2 x Phillips Drivers No. 0 and 1.6. Screwdrivers from 1 to 3.5mm. Plus Tommy Bar. Invaluable for wiring.

MUSIC HORN

ELECTRONIC MUSIC HORN (12 VOLT) £24.00



Plays 24 tunes with fast/slow play selector. Also allows individual or continuous selection of songs complete with power-control unit, fixing brackets and 5 watt PA Horn (unit works independently of CB radio.)

COMBINED PA AND 5 NOTE SIREN

SIREN-AMPLIFIER (12 VOLT) £26.00



Combined PA and Siren supplied complete with PA Horn. 5 watt amp has built in mike and provision for plug-in mike. Five speed siren plays five different sounds.



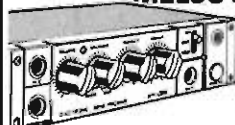
£3.50

12 volt Xmas Trees

WITH SPARE BULBS

ECHO UNITS

MELOS DE 1 ECHO CHAMBER



£79.00

The famous MeLOS box has all the controls for a complete range of sound effects. Features BBD echo system, mike volume, echo repeat, delay time, direct/delay balance. 240v powered comes complete with microphone adaptor lead.



ES-880 ECHO BOX
£46.00

The most powerful echo unit available! Top quality Japanese unit features include LED level indicator for maximum performance, earpiece so you can check your speech quality. If you want to upgrade your 'talk power' don't miss the ultimate DX unit! Supplied ready wired (Please quote your CB make and model when ordering).

MIKES

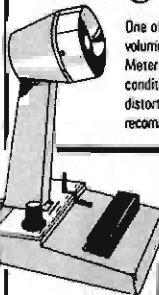
TURNER EXPANDER 500

£62.00



One of the great base mikes! Featuring volume and tone controls on a slider scale. Meter gives audio reading and battery condition. Special limiter circuit prevents distortion and overload. Especially recommended for AM-SSB (USA made)

AL4200 DESK MIKE
£42.50



The famous 4200 type desk mike is ideal for both FM and SSB use and is specially designed for high modulation capability. Features include rugged die cast body, built in speech compression amplifier, variable amplifier gain control and lock on PTT facility - Supplied ready wired. Supplied with 9v battery.

MOBILE MICROPHONES

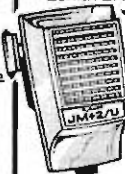
HAM INTERNATIONAL RELAX! A very popular mid price, quality power mike from this well known manufacturer.



£26.50

AO1 Replacement £7.50
Altai Echo-Power £26.00
Densei CB 2002 Echo Power £27.00
DM313P with Bleep £14.00
Zenith ZX4 Safety £23.50

TURNER JM+2/U £36.00



One of the top quality CB power mikes, its 2 stage amplifier gives high gain and output level, suitable for both FM and SSB. Wiring and 7 volt battery included.

ALTAI ECHO POWER MIKE £26.00



Densei based - similar to Sirel CB-2002 but improved design and layout - this top quality hand mike features a slider power control and internal echo control. Supplied ready wired for your CB complete with 9v battery.

New!

ROAD BOSS CO-LINEAR

£10.50

Twin stacked loading coils give added punch to your signal. Specially designed heavy duty stainless steel whip for durability.

MAIL ORDER To: TRUCK KING, Dept. CB.12.

867 ST. ALBANS ROAD, GARSTON, WATFORD, HERTS.

Enquiries/VISA/ACCESS orders phone 0923-661673.

All prices quoted include post & packing. Overseas orders add 20%. (£ Sterling only please)

QTY	ITEM	£

Name _____ I enclose Cheque/PO. for £ _____ payable to Truck King

Address _____

PLEASE USE A SEPARATE SHEET OF PAPER IF YOU NEED MORE ROOM OR DO NOT WISH TO CUT YOUR MAGAZINE.

I wish to pay by ACCESS VISA AMEX (Tick) Card No. _____

ACCESS/VISA orders phone 0923 661673

END OF YEAR THREE DAY SALE



Just to remind you our famous End of Year Sale is not so far away! Hundreds of breakers from all over the UK were amazed by our low prices last year and this year we've got something special. We are currently negotiating two large parcels of bankrupt stock which will allow some massive reductions on many top name lines.

This means we'll be able to discount several brand name radios with savings of up to £25 off regular prices, we also hope to bring you a name radio retailing at £30-£35. We'll be offering a range of antennas and accessories too, some at ¼ and ½ of normal cost. Remember these prices are for three days only, available to personal callers only and will not be repeated. More details next month in this magazine.

SALE

POWER SUPPLIES



3-5 Amp Moonraker £17.00
5-7 Amp Moonraker £24.00
Tarren Heavy Duty £18.00
5-7 Amp Bremi £25.00
7-8 Amp CB Master £39.00
10 Amp Moonraker £62.00
12 Amp Moonraker £72.00
25 Amp Zetagi £115.00

WALKIE-TALKIE ACCESSORIES

RUBBER DUCK £7.50



SCREW ON TYPE FITS ALBA, DNT, HARVARD, MAXCOM, REALISTIC ETC.

CHARGER £7.50



Nicad charger plugs direct between mains and hand held, suitable for Alba, Harvard, Maxcom etc. State make and model when ordering.

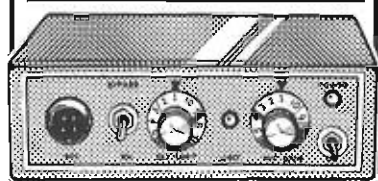
RECHARGABLE NICADS

1.25 volts AA size £1.25 each

MAXCOM 7E SPARES

TELESCOPIC ANTENNA £6.25
MAGMOUNT FOR ANTENNAS £11.90
BATTERY CASE COMPLETE £13.50

SPEECH PROCESSOR



REPRO SP-101 £38.00

It's always nice to offer a British made CB product and it's even better when the unit works as well on FM as this does. Specially designed for the UK market by Repra. Its 'Speech Power' is devastating. With the continued absence of Zenith from the British market this is really the one to go for and we reckon it's every bit as good. Please state radio make and model when ordering.

ACCESSORIES

AUTO-SQUELCH

Cuts out all FM 'White Noise', fitted easily by competent technicians, complete with full wiring instructions. State CB make & model when ordering. £12.95

SIDE SCREWS

Replacement side screws to fit most radios. State CB make and model £1.25 per pair



HAM MASTER EXTENSION SPEAKER

£11.50



Despite its price we sell more of this high quality speaker than any of the others. Features a noise suppressor switch, fully rotatable mounting and a high clarity loudspeaker with strong magnet, complete with plug and cable. Hearing is believing!

MAKE SURE OF YOUR COPY SEND £1.00

OUR NEW 1986 CB AND TRUCKING CATALOGUE FEATURES AND ILLUSTRATES 300 CB ITEMS. THE UK'S MOST COMPREHENSIVE EVER LISTING. ALL REGULAR STOCK LINES PLUS OUR FULL RANGE OF TRUCKING STOCK - DISCOUNT VOUCHERS WORTH UPTO £10.00 INCLUDED. TO GET YOUR COPY NOW SEND £1.00 CHEQUE/PO. - DON'T MISS OUT



"AGRIMOTORS"

(J. W. C. HUNT)

MERTON "CB" RADIO CENTRE
MERTON, OKEHAMPTON, DEVON. EX20 3DZ

Tel: BEAFORD (08053) 200

27 M/hz

We carry large stocks of 27 M/hz equipment including most makes of:- C.B.27 M/hz Transceivers, Antennas both Home Base and Mobile, V.S.W.R. and frequency counting equipment, Watt meters, etc. etc. Power Supply Units from 3 to 12 AMPS, 13.5V, regulated. Masts, Poles, Chimney Lashing Kits, Co-axial Cables, R G.68 to H100 types always in stock, plugs and fittings of all descriptions, Reverberators, Mikes — H/Base, H/Held, Power, Echo, etc. Bury's Auto-Squelch stocked and fitted.

934 M/hz

We have in stock and are dealers for:-
"Reftec", Comtel "Kestrel", "Cybernet Delta One",
and "Uniace 400".

All types of 934 M/hz Antennas, Mobile Collnears, Gutter mounts, Roof Mag Mounts, Roof through fittings etc. Home Base Professional Collnears, Yagi Beams, Helical Coil (Circular Polarisation) and quads. RG213UBX and H100 Coax. Cables, all "N" and "BNC" type fittings, S.W.R. meters, combined V.S.W.R. and Watt meters, Masthead or rear of "Rig" Pre-amplifiers (20 D.B. gain) by Crestbyte, Rotators by Kopec and Hirschmann. Antennas by "Reftec", Les Wallen, Tagra and T.A.P. Ltd.

LATEST NEWS: We now stock:-

For 27 M/hz COMMUNICATIONS

The Radio Technic Ltd, Model RT.852 T/ciever. A superb set for Commerce, The Home, and Commercial Transport priced £69.95 (VAT included).

For 934 M/hz COMMUNICATIONS

The Uniace Tele Communications Ltd Model, Uniace 400 Mobile 8 WATTS out-put transceiver, Crestbyte Ltd. Model AP206, Masthead 8 WATT linear amp., preamp double switching for co-linear and beam antennas.

Hours: 9am-1 pm. 2pm-6pm. Mondays to
Saturdays (Inclusive) Sundays - by appointment

AUTO-SQUELCH

AUTO-SQUELCH

AUTO-SQUELCH

- * Fits neatly inside rig.
 - * Size approx. 30 x 20 x 15mm.
 - * Cuts out FM fizz and SSB signals between transmissions
 - * Works independently of signal strength or noise levels - so requires no adjustment
 - * Does not effect weak signals.
 - * Can be overridden by normal sq control if desired
- Suitable for most popular FM CB rigs and multi-mode rigs (FM section). Full fitting instructions etc. and technical back up available.

Now available from good CB shops

Bury Electronics

Home Farm House

Lower Bralles

Banbury, Oxon

OX15 5HZ

TEL: Bralles 432



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This guarantee covers only advance payment sent in direct response to an advertisement in this magazine (not, for example, payment made in response to catalogues etc. received as a result of answering such advertisements). Classified advertisements are excluded.

BOURNEMOUTH OPEN CHANNEL FREE

A copy of our antenna and antenna accessories brochure with full details of our exclusive *NEW* product range. We use high quality (high strength materials produced to our own specifications). All our products are designed and engineered to give high performance both electrically and mechanically. Also available *FREE* on request lists of:- CB rigs and accessories, circuit diagrams/service manuals and components.

N.B. Please send 9" X 5" stamped addressed envelope with all enquiries and requests.

All equipment is fully tested before despatch and is fully guaranteed for 12 months. Post and packing *FREE* on most items. Credit facilities available, instant for callers only (STS). Payments may be made by Access, Barclaycard, American Express, Diners Club, P.O., Cheque, Draft or cash.

Bournemouth Open Channel
335/7 Charminster Road
Bournemouth
Dorset BH8 9QR
Tel: 0202-521903

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Telex 946240 CWEASY G Ref 19013120

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seven days a week

FOR YOUR COMPLETE CLUB REQUIREMENTS including:

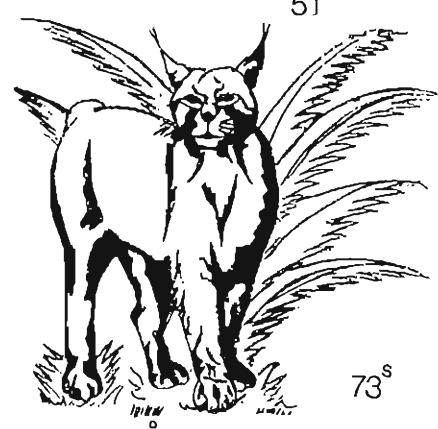
- QSL CARDS RAINBOW
ASSORTMENT
200 CARDS ONLY £10.00
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- EYEBALL CARDS
- MEMBERSHIP CARDS
- CLUB INVITATIONS AND CERTIFICATES
- ROSTERS: RUBBER STAMPS:
- NEWSLETTERS PRICES AVAILABLE FOR CLUBS
S.A.E. PLEASE

GLOBETROTTER 'TONY' Qsl 100%



P.R.
(S.E. England) "Trailblaz
saxon

Bobcat Bob
QSL 100% 51^s



73^s

H.C. 130

P/O BOX 75, HASTINGS,
EAST SUSSEX TN34 1RS, U.K.
saxon

EARLYBIRD DESIGNS ARE AVAILABLE. WE WILL PRINT YOUR OWN
ARTWORK OR IF YOU PREFER WILL SUPPLY TO YOUR REQUIREMENTS

**NEW!! "SAX" FULL COLOUR COLLECTORS' SERIES INDIVIDUALLY NUMBERED CARDS.
PLEASE CONTACT OR PHONE. £45 PER 1000**

CB Citizens' Band

READER SERVICES

Back Issues

The following issues of Citizens' Band are still available as back numbers. The cost of each magazine is £1.50. This includes packing and posting. Please allow 28 days for delivery.

Issue	Major feature
November 1984	CTE antennas
December 1984	Panoramic CB scanner
January 1985	SWR survey and Breaker's Basic
February 1985	Understanding CB specs.
March 1985	Commtel 934
April 1985	QSL History
May 1985	Jungle CB
June 1985	Catcall rig
July 1985	Amateur Radio
August 1985	Uniace 934
September 1985	John Butcher interview
October 1985	Plugs and cables guide
November 1985	Radiotechnic RT852

Binders

To keep your copies of Citizen's Band neat and tidy, binders are available to hold 12 copies of the magazine. Each binder costs £5.00 and this price includes packing and postage.

Subscriptions

Citizens' Band is available on subscription at the following prices:

UK and BFPO	£16.90
Overseas (excluding U.S.A.)	£22.00
Accelerated Surface Post	
U.S.A.	\$28.00
Accelerated Surface Post	
Airmail	£48.50

Each subscription lasts for twelve issues of the magazine.

Infonet Ltd, Times House, 179 The Marlowes, Hemel Hempstead, Herts. HP1 1BB. Tel: 0442 48435.

- Please send the following back numbers of Citizens' Band, price £1.50 inclusive.

.....

- Please send Citizens' Band Binders price £5 each inclusive.

- Please start my annual subscription to Citizens' Band with the (month) issue I enclose for a year's subscription.

All cheques payable to A.S.P. Ltd.

Total cost of Order £.....

Please allow 28 days for delivery

I enclose my cheque/postal order for above amount payable to A.S.P. Ltd.

Please debit my Access/Barclaycard (delete as necessary)

Card

No.

Name

Address

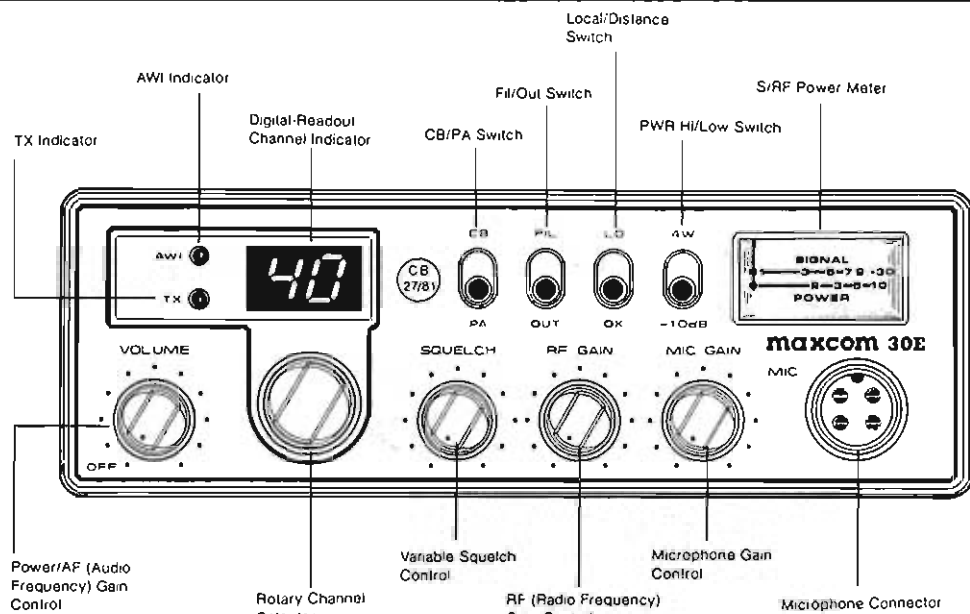
.....

Post Code Date

Signature

Citizens' Band

REFERENCE SECTION



A CB SET AND ITS CONTROLS

VOLUME
Sometimes called *Audio Frequency Gain* control. Usually combined with the 'power on' switch. The volume control will only increase or decrease the loudness of the incoming signal — it won't alter the strength of it or affect the transmitted signal.

CHANNEL SELECTION
For choosing the channel you transmit and receive on.

CHANNEL INDICATOR
Displays, usually by LEDs, the channel you have selected. Some channel displays are of liquid crystal or fluorescent. The digits are normally bright red, green, orange or blue and visible in all but the most direct sunlight.

SQUELCH
The squelch control is used for quieting background hiss or the babble of distant signals. The control is turned slowly, usually to the right, until the background noise disappears. The squelch circuit will then only open to let through a stronger signal than those you have quieted out. As soon as the stronger signal goes, the circuit closes. Care must be taken not to turn the squelch control up too far, as then only a very strong signal will open it.

SIGNAL/R/F METER
On most sets this is of the 'moving needle' type against an analogue background. Some sets do have a bar of LEDs that light up to show the strength of either the received signal or the transmission. It shows the *relative* strength, not a reading in dB or Watts. These meters cannot be 100% accurate and different rigs will give slightly different readings for signals of the same strength.

RF GAIN
This controls the reception sensitivity of the set. When decreased the set is less sensitive, and when increased the set is more sensitive to weaker signals. Reducing the gain helps prevent overloading when talking to someone who is very close.

Some sets, instead of having a suitable rotary control, have a flick two position switch marked *local* and *distance*. Full sensitivity is the distant position.

MIC. GAIN
Adjusts the sensitivity of the microphone amplifier circuit and controls the audio from the microphone that is used to modulate the signal.

CB/PA SWITCH
This switch turns your CB set into a low public address amplifier, when an external speaker is fitted into the socket on the back of the rig. Anything said into the microphone is amplified and broadcast through the speaker and not transmitted from the antenna.

TONE OR FILTER CONTROL
This can either be a rotary or flick switch. It controls the tonal quality of received signals in accordance with the users preference.

POWER ANTENNA
Reduces the transmitter power from 4Watts to 0.4Watts. The attenuator should be used if your antenna is mounted more than 7 metres above the ground.

RX/TX INDICATORS
These light emitting diodes light up to show if you are receiving (RX) or transmitting (TX).

ANTENNA WARNING INDICATOR
This a warning indicator which is activated by trouble in the antenna system e.g. a bad mismatch or damage to the antenna or cable. You should stop transmitting if this lights up, and correct the problem.

Your set may also have the following controls . . .

CHANNEL 9 SWITCH
This is an 'over-ride' switch that will immediately select channel 9 without using the channel selector to find it. It is fitted to save time in an emergency.

DELTA TUNE
This is not a common feature on British sets, where frequency and stability are closely specified. It is a fine tuning device for tuning in stations that are operating slightly off frequency.

DIMMER
Works on the same principle as a domestic light dimmer, and reduces the amount of illumination on displays and dials on the CB set. A few sets have an automatic dimmer built in, which measures the lighting level through a photo-electric cell and adjusts the illumination accordingly.

ANL/NOISE BLANKER
The Automatic Noise Limiter or Noise Blanker is designed to reduce interference from a car's ignition system by desensitising the receiver slightly. If the ignition circuit is already adequately suppressed it will not make any difference.

CHANNEL BUSY/FREE INDICATOR
This is usually a LED that illuminates when a particular channel is in use or is free. This is gauged by the amount of 'traffic' on the channel which has to be at a certain level before the indicator is activated. Sets have either a 'free' or 'busy' indicator, not both.

FM RIG CHECKLIST



NAME	MODEL	RETAIL PRICE	NO OF CHANNELS	SUPPLY VOLTAGE	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
AUDIO LINE	341	£60	40	13.8VDC	•			•	•	•	•	•	•	•	•
AUDIO LINE	340	£40	40	13.8VDC	•			•	•	•	•	•	•	•	•
AUDIO LINE	342	£115	40	13.8VDC	•			•	•	•	•	•	•	•	•
COLT	295	£49.99	40	13.8VDC	•			•	•	•	•	•	•	•	•
COMMTEL	GT858	£30	40	13.8VDC	•			•	•	•	•	•	•	•	•
COMMTEL	GT688	£35	40	13.8VDC	•			•	•	•	•	•	•	•	•
COMMTRON	CB40F	£70	40	13.8VDC	•			•	•	•	•	•	•	•	•
COMMTRON	CXX	£69.95	40	13.8VDC	•			•	•	•	•	•	•	•	•
COMMUNICATORS	NI-440DX	£50	40	13.8VDC	•			•	•	•	•	•	•	•	•
CYBERNET	BETA 1000	£70	40	13.8VDC	•			•	•	•	•	•	•	•	•
CYBERNET	BETA 2000	£85	40	13.8VDC	•			•	•	•	•	•	•	•	•
CYBERNET	BETA 3000	£169	40	13.8VDC	•			•	•	•	•	•	•	•	•
INTERCEPTOR	INTERCEPTOR	£80	40	13.8VDC	•			•	•	•	•	•	•	•	•
INTERCEPTOR	TC400	£95	40	13.8VDC	•	•		•	•	•	•	•	•	•	•
INTERCEPTOR	ONE HANDER	£100	40	13.8VDC	•			•	•	•	•	•	•	•	•
JOHNSON	JOHNSON	£60	40	13.8VDC	•			•	•	•	•	•	•	•	•
LAKE	MANXMAN 850	£32.50	40	13.8VDC	•			•	•	•	•	•	•	•	•
LAKE	MANXMAN 950	£37.50	40	13.8VDC	•			•	•	•	•	•	•	•	•
LOWE	TX 40	£50	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAGPIE	AUTOSCAN 5000	£120	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	4E	£50	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	6E	£48	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	20E	£60	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	21E	£50	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	16E	£40	40	13.8VDC	•			•	•	•	•	•	•	•	•
MAXCOM	30E	£65	40	13.8VDC	•			•	•	•	•	•	•	•	•



This listing includes most of the rigs available for FM CB. Some rigs are still not on the market, but may be picked up second-hand or may be found in old stock at some shops. The prices quoted are recommended retail prices or typical price — they may vary considerably from shop to shop and area to area.

MOBILES

					ADDRESS	NAME
●	●		SL		Telecomms, 189 London Rd, North End, Portsmouth	AUDIOLINE
●				Report Feb '82		AUDIOLINE
●	●					AUDIO LINE
●			FL		K B & Co Ltd, 202 Cheetham Hill Rd, Manchester	COLT
●			SL		Globe, 168 Brooker Road, Waltham Abbey, Essex	COMMTEL
●			SL	Dimmer Switch Features		COMMTEL
●	●		FL		Roger D, 831 Mansfield Rd, Notts	COMMTRON
●			FL			COMMTRON
●	●	●	FL	Roger Beep Feature		
●			SL		Telecomms, 198 London Rd, North End, Portsmouth	CYBERNET
●	●		FL	Report May '83		CYBERNET
●	●	●	FL	Report September '83		CYBERNET
●	●		SL			INTERCEPTOR
●	●		FL			INTERCEPTOR
●	●		FL			INTERCEPTOR
●			FL	Great GT868 chassis	Star Warehouse, Chalk Farm Rd, London	JOHNSON
●			FL		Roger D, 831 Mansfield Rd., Nottingham NG5 3GF	LAKE
●			FR	Report April '83		LAKE
●	●		FL	Report March '83	Lowe Electronics, Matlock, Derbyshire	LOWE
●	●	●	FL	Report November '82	Magpie Electronics, PO Box 35, Andover, Hants SP10 2LG	MAGPIE
●			FL		AM House, 9A Old's Approach, Tolpits Ln, Watford, Herts	MAXCOM
●	●		FL			MAXCOM
●	●		FL			MAXCOM
●	●		FL			MAXCOM
●	●		FL			MAXCOM
●			FL	Report Jan '84		MAXCOM



REFERENCE



NAME	MODEL	FEATURES													
		RETAIL PRICE	NO OF CHANNELS	SUPPLY VOLTAGE	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. SPEAK
MERCURY	10 40	N/A	40	13.8VDC	•			•		•		•	•	•	
MUSTANG	CB1000	£49.95	40	13.8VDC	•					•			•	•	
MUSTANG	CB3000	£59.99	40	13.8VDC	•			•	•	•			•	•	
NATO	40M	£69.95	40	13.8VDC	•			•	•	•			•	•	
NATO	2000	£189.95	40	13.8VDC	•	•	•		•	•			•	•	
OSCAR	OSCAR I	£85	40	13.8VDC	•					•			•	•	
OSCAR	OSCAR II	£49	40	13.8VDC	•					•			•	•	
RADIOTECHNIC	SUPERTUNED M40	£59.95	40	13.8VDC	•					•			•	•	
RADIOTECHNIC	RT 852	£69.95	40	13.8VDC	•					•			•	•	
ROTEL	RVC 220	£60	40	13.8VDC	•					•			•	•	
ROTEL	RVC 230	£70	40	13.8VDC	•				•	•			•	•	
ROTEL	RVC 240	£90	40	13.8VDC	•			•	•	•			•	•	
SIRTEL	SEARCHER	£40	40	13.8VDC	•					•			•	•	
TANDY	TRC2001	£80	40	13.8VDC	•					•			•	•	
TANDY	TRC2002	£70	40	13.8VDC	•					•			•	•	
TANDY	TRC2000	£100	40	13.8VDC	•			•	•	•			•	•	
TANDY	TRC1004	£79	40	12VDC	•					•			•	•	
TANDY	TRC2003	£130	40	13.8VDC	•					•			•	•	
UNIDEN	UNIACE 100	£69.95	40	13.8VDC	•					•			•	•	
UNIDEN	UNIACE 200	£89.95	40	13.8VDC	•			•	•	•			•	•	
WESTERN	COMPACT 40	£34.50	40	13.8VDC	•					•			•	•	
WESTWARD	P.T.2	£159.95	40	13.8VDC 240V	•					•			•	•	



NAME	MODEL	FEATURES													
		RETAIL PRICE	NO OF CHANNELS	SUPPLY VOLTAGE	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. SPEAK
AUDIOLINE	345	£139.95	40	240VAC	•			•	•	•			•	•	
COMMTEL		£65	40	240/12V	•					•			•	•	
HAM INT.	JUMBO	£254	40	240VAC	•		•	•	•				•	•	
HARVARD	H401	£149.95	40	240VAC	•			•	•	•			•	•	
HARVARD	WT44		40	BATTERIES	•								•	•	
KAISER	CBX40	£80	40	BATTERY	•					•			•	•	
MAXCOM	7E	£49.95	40	BATTERY	•					•			•	•	
TANDY	TRC1001	£119		BATTERY	•					•			•	•	
UNIDEN	UNIACE 300	£149.95	40	240VAC	•			•	•	•			•	•	
WESTWARD	P.T.2	£159.95	40	240V/12V	•					•			•	•	

MOBILES

POWER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS	ADDRESSES	NAME
•	•			FR	Report July '83	E.M.S. Communications, Grove St, Wantage, Oxon LX21 7AD	MERCURY
•	•			FL		K.B. & Co Ltd, 202 Cheetham Hill Rd, M/cr.	MUSTANG
•	•	•		FL			MUSTANG
•				FL		Roger D, 831 Mansfield Rd, Nottingham NG5 3GF	NATO
•				SL	Report January '83		NATO
		•		FL	Cybernet 134 chassis rep. April '82	S.M.C. Runbridge St, Totton, Hants SO4 40P	OSCAR
				FL	Report Oct '83		OSCAR
•	•			FL	Report July '82	Radiotechnic Ltd, Rue des Buttes, St Mary, Jersey, C.1/23 Telford Rd, Fern Down Industrial Estate, Fern Down, Wimborne, Dorset	RADIOTECHNIC
•	•			FL	Report Nov '85		RADIOTECHNIC
•				FL	Cybernet chassis	Rotel Hi-Fi, 2-4 Erica Rd, Stacey Bushes, Milton Keynes	ROTEL
•	•	•		SL	Cybernet chassis		ROTEL
•				SL	Cybernet chassis		ROTEL
•				FL			SIRTEL
•	•			SL		Tame Way, Tower Bridge St, Walsall, Staffs	TANDY
•				SL			TANDY
•				SL			TANDY
•				—			TANDY
				SL	Report Nov '82		TANDY
•				SL	Report Sept '82	Cravenminster Ltd, Unit 8, Ind Est, Llandudno Junct, Gwynedd	UNIDEN
•	•			FL	Report Feb '83		UNIDEN
•	•			SL		Western Electronics, Fairfield Est, Louth, Notts	WESTERN
				FL	Report Nov '83	Westward Electronics, The Mill House, Westward Tuckenhay, Totnes, Devon 086423 336/370	WESTWARD

BASES & PORTABLES

POWER JACK	TX IND. LIGHT	RX IND. LIGHT	CH 9 SWITCH	MIKE POSITION	COMMENTS	ADDRESSES	NAME
•						Telecomms, Portsmouth and Globe, Essex	AUDIOLINE
				FR	Report December '83. Also comes with telescopic antenna		COMMTTEL
•				SL			HAM INT.
•				FL			HARVARD
					External antenna facility	Globe, 168 Brooker Road, Waltham Abbey, Essex	HARVARD
•						Telecomms, 189 London Road, North End, Portsmouth	KAISER
•						A.T.M., AM House, 9A Old's Approach, Tolpits, Lane, Watford, Herts	MAXCOM
						Tame Way, Tower Bridge Street, Walsall	TANDY
•				FL	Reviewed August '83	Cravenminster Ltd., Unit 8, Industrial Estate, Llandudno Junction, Gwynedd	UNIDEN
				FL	Report Nov '83	Westward Electronics, The Mill House, Tuckenhay, Totnes, Devon 086423 336/370	WESTWARD

ANTENNA CHECKLIST

The Citizens' Band Antenna

Name

Lists antennas by name and model number and gives you, where possible, the name and address of the manufacturer or distributor.

Construction

The majority of home base antennas are made of aluminium and mobile antennas from stainless steel, but fibre glass can be

The D.T.I. specs for CB antennas are now more liberal than those originally in force, with the base loading restriction removed to permit any type of loading as long as the antenna is 1.65m in length (or less) and no more than 55mm in diameter. This revised checklist now includes the many new antennas released after this change of heart.

NAME	ADDRESSES	MODEL	CONSTRUCTION	LENGTH	MAX POWER	TYPE	LOADING	MOUNT	PRICE RANGE
AERIAL SUPPLIES	Aerial Supplies (Redditch) Ltd. 6 Widney House, Bromsgrove Road, Redditch, Worcs. (0527 62620/60107)	Silver Star	AL	1.5	100	B	B	Pole	D
		Silver Arrow	AL	1.5	500	B	B	Pole	M
		Javelin	AL	1.64	500	B	C	Pole	M
		Javelin Dipole	AL	1.54	500	B	C	Pole	C
ALLGON	Communications, 10 North Street, Strood, Kent.	Various	FG SS AL	Various	Various	B M	T C E CW C/B	Various	A-H inc.
		466	SS	1.4	10w	Marine	C/B	Mast/Cabin	F
ARMSTRONG	Stateside Trading Ltd. Audley Avenue, Newport, Shropshire	SAM 10	SS	1.06	1000	M	B	Surface	F
		SAM 20	SS	1.06	1000	M	B	Spring Surface	F
		TAK 10	SS	1.06	1000	M	B	Boot lip	F
		TAK 20	SS	1.06	1000	M	B	Spring Boot lip	G
		MAG 10	SS	1.05	1000	M	B	Mag.	G
		MAG 20	SS	1.06	1000	M	B	Spring Mag.	G
		BDY 20	SS	1.05	1000	M	B	Sida	G
		PEC 20	SS	1.06	1000	M	B	Sida, Fold over & Quick Disconnect	G
ARCHER	Tandy Corp. Tameway Tower, Bridge Street, Walsall, West Mids.	21-904	SS	0.5	50	M	B	3/8" thread	D
AVANTI	CB Radio Centre Ltd., 337 Kenton Road, Harrow, Middlesex	AV 241	SS	1.22		M	B	Stud	D
		AV 241T	SS	1.22		M	B	Trunk	E
		AV 241M	SS	1.22		M	B	Mag.	E
		AV 241MM	SS	1.22		M	B	Mag.	G
BANDIT	Telecomms, 189 London Road, North End, Portsmouth	B10	SS	1.42		M	B	Mag.	G
		B15	SS	0.61		M	B	Mag.	F
		B15	SS	1.22		M	B	Mag.	F
		B20	SS	1.42		M	B	Mirror	F
		B30	SS	1.42		M	B	Drill Thru	F
		B30	SS	1.22		M	B	Drill Thru	E
		B40	SS	1.42		M	B	Various	E
		B40	SS	1.22		M	B	Various	D
		B50	SS	1.42		M	B	Various	D
		B50	SS	1.22		M	B	Various	D
		BREMI UK LTD.	Unit 6, Innage Park, Holly Lane Industrial Estate, Atherstone, Warks.	B27S C27S HB27S	SS SS AL	1.62 1.38 1.55	1000 1000 1000	M M B	B C T
CB SERVICES	57 Crab Lane, Harrogate, North Yorks.	Bullwhip	SS	1.5		M	B	Various	C
		Knuckleduster	AL	1.5		B	B		D
CDMMTEL	Near Third Drive, Fengate, Peterborough	Rocket	SS	1.5		M	B	3/8" thread	
		Shuttle	FG	1.5		M	B	3/8" thread	
		Starlight	SS	1.5		M	B	3/8" thread	
		Shuttle Star	AL	1.5		B	CW	Clamp	
		Signal searcher	AL	1.5		B	B	Pole	
		Messenger	SS	1.5		B	B	Clamp	
Signal keeper	SS	1.5		B	B	Tripod	F		
FREEMAN AND PARDOE	Tything Road, Arden Forest Ind. Est, Alcester, Warks.	Invader	AL	1.5	250	B	B	Pole	E
		Thunderpole II	AL	1.5	500	B	B	Pole	F
		Thunderpole III	A1	1.65	500	B	C	Pole	F
GAMMA AERIAL PRODUCTS	Lye, West Midlands. (0384 891132/891474)	Skybreaker	AL	1.5		B	B	Pole	D
		Avenger	AL	1.6		B	B	Bracket	C
		Lofty	AL	1.5		B	B	Bracket	C
		Skybreaker II	AL	1.66		B	C	Pole	M
		Avenger II	AL	1.65		B	C	Bracket	E
		Lofty II	AL	1.66		B	C	Bracket	E
Firefly	SS	1.65		M	C	3/8" thread	F		

na Checklist will give you the following information:

used in some models. The list tells you what material the antenna is manufactured from.

Length

The legal maximum length of an antenna is 1.65m, base or mobile.

Maximum Power

This is intended as a guide

only, as the law only permits an effective radiated power of two watts. The power rating will give some indication of sturdiness. Figure refers to watts.

Type

Indicates whether a mobile or base antenna.

Loading

Indicates the type of

electrical loading of the antenna; top, centre, bottom or continuously wound.

Mount

This gives some idea of the mount or type of mount appropriate for the antenna concerned. Home base antennas are usually pole

mounted, but can be house gutter mounted. Mobile antennas are either mag. mounted by a strong magnet, attached to the car gutter or boot lid edge whilst others are physically attached in the same way as a car radio antenna. Mobile antennas with 3/8" thread usually will fit a range of mounts.

NAME	ADDRESSES	MODEL	KEY						
			CONSTRUCTION	LENGTH	MAX. POWER	TYPE	LOADING	MOUNT	PRICE RANGE
HAM	Cognat & Co. Whitegate, 12 Farden, Bitterley, Ludlow, Salop	Big Mac	AL	9.9m	2k	B	B	Various	H
		Thunderbird	AL	8.5	2k	B	B	Various	G
		Hpower	AL	8.5	2k	B	B	Various	G
		Quatro	AL	5.0	2k	B	B	Various	G
		Sexy	AL	7.5	2k	B	B	Various	G
HOT ROD	Stateside Trading Ltd, Audley Avenue, Newport,	FM UK	SS	1.27		M	B	3/8" Thread	B
LES WALLEN MANF.	Pembroke Works, Ramsgate Road, Sandwich,	Modulator LC	SS	1.65	1000	M	B	3/8" Thread	C
		M.O.X. Long	SS	2.00	1000	M	B	3/8" Thread	C
		M.O.X. Short	SS	1.65	1000	M	B	3/8" Thread	C
		Mini M.D.X.	SS	1.10	100	M	B	3/8" Thread	B
		Mini 27	SS	1.40	500	M	B	3/8" Thread	B
		T-Bolt	SS	0.83	200	M	B	3/8" Thread	B
		Saturn	AL	1.00	500	B	CW	Pole/wall	D
Expur	AL	1.00	1000	B	C	Pole/wall	F		
MARKSMAN	Marksmen Products, PO Box 40, Milton Keynes MK5 2UT (0908 868916)	Mister Stick	SS	1.19 1.83	Above legal limit	M	C	3/4" UNF	D
R.W. 8ADLAND LTD.	Roetan Trading Estate, Providence Street, Lye, Stourbridge, West Midlands (Lye 3160/5051)	Rebol 1	SS	1.5	500	M	B	3/8" Thread	
		Rebol II	SS	1.5	500	M	B	3/8" Thread	
		Rebol Raider	SS	1.8	500	M	C	3/8" Thread	
		Rebol Bullet	SS	0.61	50	M	B	3/8" Thread	
		Red Devil	SS	1.52	500	M	CW	3/8" Thread	
REVCO	Telecomms, 189 London Road, North End, Portsmouth.	Revco	SS	1.0	100	M	B	Various	B
SMC	Rumbridge Street, Totton Street, Hants	Oscar CBA 11GP	SS	1.5		B	B		F
		Oscar 11V11S11	SS	1.5		B	B		F
		Oscar 11CM	SS	1.2		M	B	Mag. Foldover Base	O
		Oscar 11CE	SS	1.2		M	B	Pull up	C
		Oscar 11NE	SS	1.5		M	B	Foldover Base	C
		Oscar 11SE	SS	1.5		M	B		C
		Oscar 11ZE	SS	1.5		M	B		B
TAGRA	CB Radio Centre, 337 Kerton Road, Middlesex.	T40	SS	1.4	500	M	B	Various	E
THORO'BRED	Pixtron UK Ltd, 10 Victoria Street, Newark, Notts. (0630 74688 Telex: 377627)	Z 27	SS	1.52	1700	M	B	3/8" Thread	B
		Z Mag	SS	1.52	1700	M	B	3" Dia Magnet	C
		Z 251	SS	1.60	100	M	B	5" Dia Magnet	C
VALOR	W.T.A. Electronics Ltd, 111 Cromer Road, Halesdon, Norwich (0603 47694)	Warrior 650	SS	1.52	1500	M	C	3/8" Thread	G
		Half Breed 52D	SS	1.52	1500	M	B	3/8" Thread	C
		Half Breed 610	SS	1.2	1500	M	B	3/8" Thread	C
		Half Breed 500	SS	0.9	1600	M	B	3/8" Thread	C
		Dial-a-Match 540	SS	1.2	100	M	B	3/8" Thread	C
		Dial-A-Match 630	SS	0.6	25	M	B	3/8" Thread	C
		Rubber Duck 300	SS	0.35	25	M	CW	3/8" Thread	C
		Pro Am PLB 27	SS	1.52	200	M	B	3/8" Thread	E
		Road Hog 338	FG	0.9	1000	M	T	3/8" Thread	D
		Road Hog 335	FG	1.2	1000	M	T	3/8" Thread	D
		Road Hog 338	FG	1.52	1000	M	T	3/8" Thread	D
		Road Hog 337	FG	1.76	1000	M	T	3/8" Thread	D
		Road Hog 831	FG	0.6	500	M	T	3/8" Thread	D
		Road Hog 838	FG	0.9	1000	M	T	3/8" Thread	D
		Road Hog 836	FG	1.2	1000	M	T	3/8" Thread	D
		Road Hog 838	FG	1.52	1000	M	T	3/8" Thread	D
		Black Magic 333 1/2	FG	0.76	500	M	T	3/8" Thread	D
		Black Magic 333	FG	1.2	500	M	T	3/8" Thread	D
		Black Magic 332	FG	1.52	500	M	T	3/8" Thread	D
		Black Magic 333 1/2	FG	0.76	500	M	T	3/8" Thread	D
Black Magic 833	FG	1.2	500	M	T	3/8" Thread	D		
WTA	W.T.A. Electronics Ltd, 111 Cromer Road, Halesdon, Norwich (0603 47694)	Wot Pole 1	AL	1.6	1000	B	B	Pole	B
		Wot Pole II	AL	1.6	1000	B	B	Pole	C
		Wot Stick 1	SS	1.6	1000	M	B	3/8" Thread	A
		Wot Stick II	SS	1.6	1000	M	B	3/8" Thread	B
VAN ORDT	Knight Communications, Unit 19 Britannia Estate, Leagrave Road.	Audio King	SS	1.5	2000	M	B	3/8" Thread	S

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CYBERNET — NEVADA — CREST

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 CB 934 and electronic components

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TAGRA BASE ANTENNAS

MODEL

Type
Impedance
Frequency
Polarisation
S.W.R.

Gain
Net Weight
Material, Base
Radials & Fittings
Max Power
Connection
Radiator Length
Radial Length

F2
1/4 wave
50Ω approx.
27.29 MHz
Vertical
< 1.2
3 dB
3.895 kg
cast aluminium, copper coil,
heavy gauge gold anodized aluminium
1500w
U.H.F. Coax
5.760 meters
72 meters

MODEL

Type
Impedance
Frequency
Polarisation
S.W.R.

Gain
Net Weight
Material, Base
Radials & fittings
Max Power
Connection
Radiator Length
Radial Length

F4
1/4 wave
50Ω approx.
27.29 MHz
Vertical
< 1.2
3.5 dB
4.425 kg
cast aluminium, copper coil,
heavy gauge gold anodized aluminium
3000w
U.H.F. Coax
6.385 meters
1.43 meters

TAGRA MOBILE

MODEL

Type
Impedance
Frequency
Polarisation
S.W.R.
Net Weight
Length
Material
Max Power
Connection

: ML 145 (Mag Mount)
: 1/4 wave
: 50Ω approx.
: 27 MHz
: Vertical
: < 1.25
: 1.84 kg
: 1.609 meters
: Stainless Steel
: 250w
: U.H.F. Coax

MOONRAKER



Golden Lance

**Gets you clean
away from
the crowd**

SPECIFICATION

- POWER RATING —
1000 WATTS.
- FREQUENCY — 25.5 MHz
— 28.5 MHz
- S.W.R. — PRE S.W.R'D AND
INDIVIDUALLY TESTED.
- MATERIAL — HIGH QUALITY
17.7 PH GAUGE STAINLESS
STEEL TAPERED WHIP.

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