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**FEBRUARY 1986** 

Citizens' Band

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## Gitizens' Band



## Inside this month

We take a look at the world of microphones for citizens' band radio

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**NEWS** FROM THE WORLD CB CB **NEWS** FROM THE WORLD



Well, Nimrod's letter in the November issue certainly caused a stir. If you remember, he was bemoaning the lack of channel 9 monitors generally and REACT monitors in par-ticular. Space does not allow us to publish all the correspondence we have received on the subject but we have carried a fair representation of feelings on the matter. To me, it begs the question, "What exactly is a monitor?". Must you be a REACT member or a member of any other monitoring organisation? monitoring Does your name need to be registered somewhere or other so you can be clearly identified as a *bona fide* monitor? *Must* you be on the telephone?

Well, it appears to me (and I hope I'm not stirring up another hornets' nest here -

oh, so what if I am?) that a monitor is someone who has the time and inclination to listen in to channel 9 for emergency messages and, more importantly, someone who has the intelligence to know what to do if and when one arises. It's no good panicking and then simply flicking around the channels trying to find someone who knows what to do. It's not a good idea to rush to the phone, dial 999, and then realise you don't have enough details to give them. And, have you established, to the best of your knowledge, that the call was genuine? A tricky one, this, with the number of hoaxsters about and you could be committing an offence, relaying hoax emer-

gencies to the police. I tend to agree with the REACT directors that, in Nim-.od's case, his wife was, in

that incident, a monitor. She heard the call and eventually got the message through. Nobody is *born* a monitor, but it is often the case that a certain type of person makes the best monitor. Most monitoring organisations throughout the country offer special training in emergency procedures, but this is in no way compulsory. You don't *have* to join such an organisation (although it must be said that most of them do a great job in actually *organising* rotas and suchlike). If you feel confident in your own abilities in dealing with an emergency, then what's to stop you monitoring channel 9? Member badge or no member badge, surely it is better than the emergency channel being left otherwise unattended?

Eamonn Percival

## Quick Thinking for Quickbrew

A Nottingham man's life was saved recently, thanks to the fast action of local monitors. Kenneth Wells, 55, known to fellow breakers as Quickbrew, was at home alone when he suddenly suffered a dangerous blood clot. Ken, who can only get around with the aid of wheelchair or crutches, could not get to a telephone and so reached for his rig instead. Monitors on channel 9

moved swiftly into action and, while some contacted police and ambulance services, others kept Ken conscious by talking to him until the emergency services arrived to break down the door.

Ken is now out of hospital and, upon his release, immediately put an advertisement in his local newspaper to thank all the breakers who helped.

## Farewell Midnight Express

It is with great regret that we report the closure of Midnight Express, the technical newletter produced by Specialist Engineering Services. Sadly, the number of subscriptions was insufficient to cover printing costs and the proprietor Martin Pickering, tells us the newsletter was running at a loss. Martin, however hopes to circulate C8 information sheets with repair hints and tips in the future.

We will let you know more of this when we hear from Martin.

Meanwhile S E Services are not closing down altogether, as they will be supplying a conversion board for the soon-to-be-introduced FCC frequencies. These boards will be marketed by S J Tonks CB Components, 18 Simmonds Place, Wednesbury, West Midlands. Again, we'll let you know more as and when.

**DTI Must Return Rig** 

After the Department of Trade and Industry seized a CB rig belonging to a 45-year-old disabled man, magistrates have ordered them to return it with all haste". However, William Rowse, of Stenalees, had to forfeit the part of the system which was illegal; a linear amplifier which boosted the output to 20 watts.

Rowse told St Austell Magistrates that he was at fault for having an illegal amplifier but that it was only being used as a bridge as there was a mismatch between rig and antenna. He also said that he had no objection to the forfeiture of the linear, as it was only part of a "box of tricks" he had bought. He pointed out that the radio itself was legal and that the antenna had since been altered so that there was no need to use the linear.

Magistrates ordered the seizure of the amplifier and the return of the radio, and Rowse was given a conditional discharge for 12 months, after paying £25 court costs.

## **CB** Information Pack

With Citizen's Band the only remaining CB magazine in the UK, and the sad news elsewhere on these pages that Midnight Express has ceased publication, we were interested to receive a copy of The CB Information Pack - National Revised Edition from J. S. Telecommunications.

The publication is a revised edition of a local CB information pack which was produced in the Dorset area 18 months ago. It is not a glossy, colour magazine rather, it is a stapled booklet of single-sided photocopied sheets. However, it is packed with information on CB and seems ideal as either a basic guide to CB for newcomers or a handy reference tool for those already well-established.

Twenty-five pages of information cover Q-codes, 10codes, RST codes, Morse, phonetics, frequency guide, gain, SWR, interference, lightning protection, preamps, a technical glossary, fault-finding guide, sel-call, CB jargon and lots more (we particularly liked the hilarious version of the Twelve Days of Christmas, tool)

With the pack comes a guarantee that, if anyone purchases one or more packs and they are not 100% satisfied, their money will be refunded promptly (with the condition that the pack or packs are returned, undamaged, within ten days).

The price of the Information Pack is £1.95 (post and packing free) and those interested should contact; S. Telecommunications, J. 35 The Avenue, Poole, Dorset BH13 6LJ.

## **Circuits for Sale**

mentioned the fact that we do not hold a stock of circuits for CB rigs. Since then, Roger D of Mansfield have been in touch with us, pointing out that they keep a comprehensive stock of circuit diagrams

In our November issue, we for rigs new and old. They before sending money, so they can check that they have what you want. Either write to Roger D, 831 Mansfield Road, Nottingham NG5 3GF, or telephone (0602) 265250.

## **DTI Seize Equipment**

Four men from the Portsmouth area recently ended up in a magistate's court for transmitting on illegal frequencies, and forfeited thousands of pounds worth of equipment. The four defendants said that they had been at pains to ensure they were not causing infereference to neighbours. All four were conditionally discharged for a year after admitting unlawfully using CB equipment, and each had to pay £46 court costs. The magistrates also made orders for the forfeitur of the equipment

## Organisation of Radio Clubs

In our Club News pages in the November 1985 issue, we stated that the Organisation of Radio Clubs' meetings are held at the Robin Hood public house in Ripley. In fact, the ORC meets at the Red Lion. Sorry, chaps. While we are on the sub-

ject of the ORC, they would also like to thank all the breakers who took part in their sponsored modulation on behalf of the blind and disabled in their area, which took place on 9th and 10th November. They report that donations received will be going towards purchasing CB equipment for the blind and disabled.



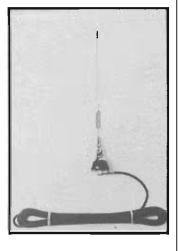
## New 934 from Nevada

Telecomms of Portsmouth recently introduced two new products for 934MHz. The Nevada G900A and the G900R are 'low profile' mobile antennas, offering 3.5dB gain with wide angle coverage.

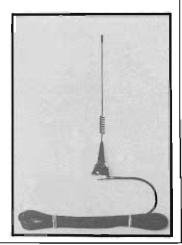
Each antenna is supplied complete with 4.8 metres of cable and, while the G900A is fully adjustable with an inox steel whip, the G900R is finished in black in common with many cellular radio antennas. Both antennas feature an 'SL' UHF low-loss base/connector. They are both of 50 ohms impedance and work in the frequency range 920-934MHz. Maximum power is 50 watts and they each measure approximately 335mm in length.

Telecomms tell us that for certain uses in built-up areas, they have found lower gain and wider angle radiation to be an asset over the narrow angle, high gain existing range of antennas they distribute. The wider acceptance angle of their G900 range, they say, gives better average levels of reception/transmission than higher gain mobile antennas. Both retail at £25.

Another introduction to Nevada's range of 934 equipment is the WR900 SWR/ power meter. Competitively priced (49.50) It is a single meter unit with three power measurement ranges up to 100 watts and accuracy is rated at + or -18%.

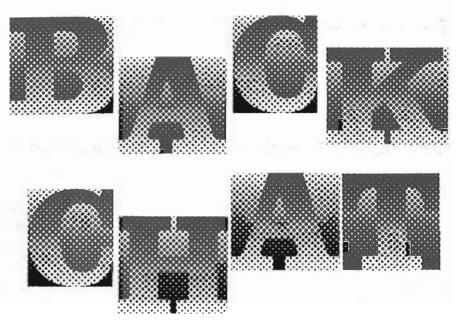


(Top) WR900 SWR/power meter; (Above) G900A 934MHz antenna; (Below) G900A G900 934MHz antenna





More thoughts and opinions from readers



## Reply to Nimrod

In reply to Nimrod's letter (November), the Executive Board of REACT Directors send this reply...

The Editorial comment that accompanied your letter states that you have little faith in Monitoring organisations... on reading your letter, we suspect that you also have little faith in yourself, for your wife took the call from disabled people requiring assistance on the M6.

You have declared that "now is the time to form a club or similar to clean up your frequencies". We would wholeheartedly agree with you, and offer our total support and co-operation when you start such a group. It is easy, you see, to pontificate on what should be happening, and what should be being done...but have you noticed that these things should always be done by "someone else"?

Why couldn't you be the "someone else" this time?...when you have set up a system of administration to correlate replies, raised sufficient funds to finance the scheme, recruited enough unpaid helpers to deal with the mail, organised a method of "getting the word" to all CB users, I am sure you would receive tremendous support.

On your reference to CB groups, whatever the mode and alleged attitude that "one's face must fit...one must think along the same lines etc", it is always so much more pleasant, particularly in a voluntary capacity, to work with and alongside people that have similar objectives, feelings and methods, don't you think?

As for your allegations about so called REACT Monitors and the incident on the motorway, permit us to lift your horizons and broaden your viewpoint... all "in the best possible taste" of course.

It seems paradoxical for you to complain that the REACT monitor did not hear the call, and then complain with equal ferocity that your wife could not take the call due to interference by

those unfortunates known as "wallies", in common parlance. Might I suggest that the REACT monitor did not hear the call for the same reason? I notice that you mention that your wife took the call, "although she is not a monitor". If she took the call as any responsible CB user would when required, she was a monitor at the time! I am curious as to what you think a monitor is. They are human beings, and become monitors via training, dedication, commitment and patience. They do not, contrary to common supposition, have to undergo weird and secret rites involving rolled up trouser legs, up turned mikes, bent daggers and initiation ceremonies.

Why should the "so-called monitors" feel small just because a group of troublemakers rendered it impossible to hear the call? The troublemakers should feel small. The dedicated monitor, REACT or otherwise, merely feels saddened and upset that a call has been missed. On your constant refarence to the "so-called" REACT monitor, to alleviate your confusion, permit us to clarify that any fully paidup, currently registered member *is* a Monitor, and is not in the twilight half world of the "so-called". REACT UK members have the facility

of a National Private VHF frequency, and this additional tool has rendered it possible for Teams everywhere to extend their programme of community help. The provision of radio safety nets on events is now much more reliable from the point of view of the Event Organiser, and Teams have found such a satisfying new dimension to their work that many Teams operate almost every week and throughout the summer months. Every Team has the right to evaluate for themselves whether to continue their programme of monitoring Channel 09 when they are "booked" to do an event radio safety net. It may be that the Team decide that the number of people they can help on an event far outnumber the odd call they may be able to hear on Channel 09 due to the uproar on which you have commented.

Just a thought...it may be that your local Team simply hadn't quite enough personnel to cover that particular hour. Why don't you join them, thus boosting their numbers, and making it easier for them to cover more hours?

You see, Nimrod of Wigan, it is so very easy to flick round to Channel 09 in a bored five minutes whilst waiting for your Auntie Flo to come back with the chips. It is easy to hear a call in that random moment, take it, and then spend a hugely self-satisfied two days writing to Citizens' Band telling them how wonderful you are. That isn't what makes a good monitor. It would be magical monitoring time folks, if we could all turn on when we know there is a call, take it, and turn off again when we fancy. That isn't what makes any monitor, so-called or otherwise. What makes a good monitor, Mr Nimrod, is the ability and selfless patience to sit, hour after boring hour, through a regular four-hour shift, hear nothing but rubbish, never take a call for weeks, and yet still do it again tomorrow, next week, next year...just so that the monitor can be sure that when a call does come through over the abuse, they will be there to help. That is a Monitor.

Finally, what seems to have been overlooked in all of this. You have used the incident on the M6 as a tool to castigate our members, denigrate all independent monitoring groups, and generally complain that no-one will start a "clean-up" campaign. Surely, the main object of the whole exercise of your taking the call is, quite simply, someone was helped. The fact remains that, by whatever means, CB radio assisted a group of disabled people on the M6 who were in difficulty. Surely, that is the point. Surely, that is what CB is all about. Surely this type of assistance has to be good for us all.

## Taunton REACT Replies

Another response to Nimrod's letter in the November issue, this time from the Team Leader of Taunton REACT...

I felt I had to put pen to paper when I read the letter from Nimrod (November issue). I cannot speak for Wigan REACT, or REACT HQ, but 09 is not the sole property of REACT, or any other emergency organisation, and anybody monitoring 09, and hears a 10.33, is allowed, and should be encouraged to give any assistance they can, and here I can only praise Silver Bell for being able to do all she could in that emergency.

If he feels so strongly about the fact that "so-called" monitors are not monitoring, why doesn't he {or may be he has already} contact Wigan REACT, and offer to help them, rather than have a dig, when he probably does not realise how many times there has been a monitor on 09 when somebody has asked for help.

For example, our Chairman has his rig switched onto 09 all night, and has quite often had his beauty sleep disturbed by an emergency call, one time from a breaker who was ready to end it



Lots of React reaction this month

all, and just needed somebody to talk to. Another time he was telephoned by Taunton Police at 3am, because breakers were DXing on the local hills, using power, and managing to wipe out most of the emergency channels.

That is just two of the wide range of emergencies that we deal with, and I hope that it proves we are dedicated breakers, who help others whenever and wherever possible, whether it be on O9, or monitoring a fun-run or any other event.

I hope that if you print this letter, that it may make Nimrod, and others like him, who feel that all we are about is being able to boast that we belong to REACT, and add another badge to our collection, that what I have written will make him shrink in size just a little, and to offer help rather than criticise something which I do not think he has taken the bother to find out much about.



## More REACT Reaction

Someone who describes himself simply as A REACT Monitor from Scotland writes...

I am writing to you regarding Nimrod's letter in the November Back Chat. I notice he does not give his name when he slams REACT monitors. In fact, you will find one on channel 9 24 hours a day in all parts of the country from south of the borders to the highlands of Scotland. I know you will find them in most parts — if not on channel 9 (because of the wallies) then on channel 19, so please do not cast slurs on REACT or on monitors. They do a great job and it is good to know they are there monitoring channel 9 or 19.

## **Monitor Madness**

Worzel Base writes from Nottingham with a few words about the problems monitors face...

In reply to Nimrod (November), I was once group leader of the Lima Echo Mike (Local Emergency Monitors) which folded up because monitors were not prepared to sit on channel 9 and be open to all sorts of verbal abuse and offensive threats.

REACT Nottingham are the same as the national body. They get more satisfaction from monitoring something like the Nottingham Marathon, yet are thanked for their efforts on CB channel 9.

You help someone today so they come and swear at you tomorrow. I have monitored channel 9, both as part of a group and independantly, since the birth of legal CB. Channel 9 in Nottingham regrettably, is unworkable at present. The blame lies with just three breakers who operate without due respect to others. We have quite a number of handicapped, housebound breakers in Nottinghamshire and Derbyshire who have, in the past, had to make emergency calls via a channel 9 monitor. I am very strongly in favour of the laws being changed making it an offence to use channel 9 for any other purpose than emergency and assistance.

In the past five years, I and many others have dealt with many emergencies. I don't intend to throw this effort away to Igor, Gasman, Goblin and all the black sheep joining their flock. I intend getting rid of them by every legal means.

## Please Don't Touch

Martin Pickering from North Yorkshire warns those who love to fiddle...

I was interested to read in the November issue the letter from The Conductor who is concerned about maladjustment of CB radios. It is true that people do twiddle without any idea of what they are doing but there is test equipment on the market. The simplest to use is a deviation meter, which at least two of your advertisers supply. One company supplies an excellent kit which is simple to construct, but really needs to be calibrated with laboratory equipment.

By far the most important piece of equipment is an accurate frequency counter having at least a seven-digit readout. Prices start at around £100. If this seems too expensive, please forget all about twiddling with CBs.

Signal generators are of little value in setting up a CB radio, particularly as regards transmission performance, and they require expert knowledge to connect and interpret results.

When I align a receiver, I use another rig to transmit a few microwatts into the input stage for rough alignment, followed by the use of a wobbulator and oscilloscope to set up the IF stages.

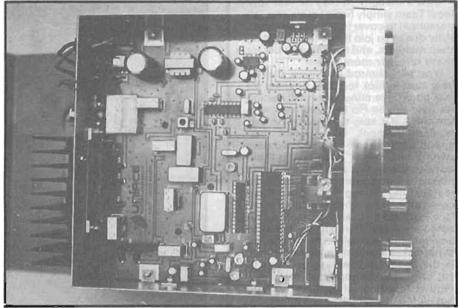
## **Deviation Deviants**

Moonbase Alpha. from Wimhorne, sticks up for sidebanders...

Silly time on the air has come round again and I feel that I should put a few people right about the dreaded "sideband wipeout" that most stations seem to suffer from in this area (Westmoors/ Tickets Cross/Ferndown). Nearly all the SSB received on the legal frequencies is from abroad; a very small percentage comes from local wallies who don't seem to know any better. There is no hope for these poor souls.

However, by far the biggest cause of interference blamed on SSB users comes from people using badly set up legal equipment. There are, around this area, two or three stations who must have deviation levels of at least 15 Kc and to cap it all they use a power mike with the gain turned up full. These stations, checked on my receiver (shows a picture of what's on the band, on a scope screen), take up a bandwidth of about 30 Kc. That's nearly three channels wide.

We users of other bands/ modes ask you UK FM stations to get your own house in order — all those naff power mikes and echo boxes, not forgetting the over-deviation specialists. Sort these out and the sideband wipeout will all but disappear, feaving the average UK FM station a nice clean band to swear and play music on! How about it, FM crew? Wake up to the fact that you don't need four watts to talk five hundred yards — a favourite trick round here with the resulting splatter blamed on sideband wipeout. Fit crystal filters and resist the urge to tweak up a rig (the small increase in



Don't fiddle, says Martin Pickering

power is not worth the effort). After you have done this, you will find the band is very well behaved and a pleasure to use.

In short, be sure of what you are talking about before you blame the shortcomings of your setup on sideband wipeout.

## Talking Rigs

Blunderbuss, from Burnley, suggests a cheap way to produce "talking" rigs...

With reference to your article "Talking Rigs" in the Update section of your November magazine, there is surely a much simpler and cheaper way to either produce rigs for the blind or to convert existing ones. Quite simply, replace the channel selector dial with a slightly larger one with the lower channels marked with a Braille-like system of dots and dashes.

The operator can quite easily count up or down to other channels if the dots were to go up from channel 9 to channel 19. I suggest these numbers because they include channel 9 which could be marked with a larger dot or cross, and both recognised breaking channels which could be marked with another easily racognised symbol. The remaining channels on the dial could be marked using either Braille or Morse.

The cost of producing these replacement dials would not only work out very low, but at least one blind person could find employment through the new production as I understand that a blind person is capable of operating a small injection moulding machine.

## Night-time DX

Mike, from Flat 1, 3a High Street, Torrington, Devon, wants some longdistance copies...

With your permission, through your magazine, I would like to ask if anybody is interested in a night-time DX net (it may appeal to ex-SSB users). The only rules would be:

1, All stations to be licence holders.

2. All contact to be made within the UK 27MHz FM band only.

 All stations to use standard power output (4 watts, no amplifiers).
 All stations to use callsigns (Alpha

4. All stations to use callsigns (Alpha Bravo etc) not handles.

5. RF to be in horizontal polarization through directional beams (I know beams are illegal but better these than large amounts of wattage into inefficient coils, causing TVI).

The reason for horizontal use is to reduce the risk of bleedover from vertical users and to keep the risk of interference down for other users locally. Some other recommendations are night-time use so city dwellers have a look in, and the use of channels 1 to 5 for initial contact as just one calling channel could easily be in use by other breakers not involved in the net. The idea will only be put into practice successfully if people are prepared to be patient with conditions.

As I said, this is only an idea. If anyone is interested I look forward to hearing from them.

## Whoops!

Bob Mersh, from Barnehurst, writes to clarify a point . . .

Having just read David Lazell's interesting article, "Pioneers and Pirates" in your September issue, I must point out one error, The first Radio Caroline was the MV Frederika, from which I have a QSL card, and not the Mi Amigo as stated in the article. The former was scrapped in Holland in, I believe, the late 1960s and the latter is, of course, reposing at the bottom of the Thames Estuary!

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

# A New Addition

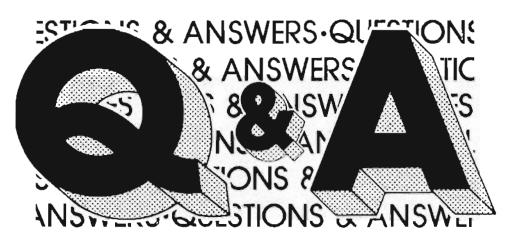
This antenna has quality, reliability and looks as

You'll be surprised



Smart Alec tackles some more readers' problems

> Problems should be sent to: CB Q&A, Citizens' Band, 1. Golden Square, London W1P, 3AB



## Motorcycle mobile

Peter Crabtree rides a motor bike around the streets of London . . .

Q Thave an Audioline rig fitted to the front of my motor cycle and run it through a centre-loaded antenna, mounted on a small frame above the rear mudguard. The microphone and speaker set-up are remotely operated through my helmet.

My problem is a lack of real effective range and I am unsure whether this is the result of in-town driving or some deficiency in my set-up. Please can you advise?

A Undoubtedly your surroundings are having a fair amount of effect on your ability to both transmit and receive over appreciable distances but I feel sure that the real culprit is your antenna, or rather the way it has been mounted. A small frame or carrier on the back of a bike will never provide an adequate ground-plane. It brings back memories of the once common trick of mounting a DV27 on top of a biscuit tin, which was equally ineffective.

For a ground-plane to work properly it should be at least a quarter wavelength, or 2.75 metres long and, since this is obviously impractical on a motor cycle, I suggest you change to a non-groundplane type antenna, such as, for example, the Allgon boat antenna. Although this and other, similar antennae were originally designed for use on craft without a metallic frame, they should bring about a considerable improvement in performance in your particular circumstance.

## Visitor's dilemma

From Ireland (or is it Wales?), comes a cautionary tale . . .

**Q** I am an Irish citizen who, until a few months ago, lived in Wales. I hold an Irish passport and my car carries Irish registration plates. Whilst resident in Wales I held a British CB licence and operated a legal rig, which I disposed of upon returning to Ireland, where the standard is somewhat different. I replaced it with a Hygain V and a Tristar 777, which I use in my car, in conjunction with a linear amplifier and frequency counter.

During a recent business trip to Britain, I spent a few days at my old



Motorcycle CB presents a problem (see above)

Welsh home, where I received a visit from a member of the Radio Investigation Service. At the time, my car, complete with Tristar, was parked on the drive and I had just completed some minor repairs to the Hygain, which I had then tested, simply to make sure that it worked, before returning it to the car.

I explained that although my British licence was still valid, I no longer owned an FM rig, since I was no longer a British resident. Asked about the Hygain, I explained that I had just repaired it, upon which the RIS officer suggested that that was a pity, since he was about to seize both it and the Tristar, because they were illegal in the UK. I pointed out that the rigs had been purchased in Ireland and had been allowed into this country by a Customs Officer but still they were seized, pending, as I was told, possible legal proceedings. Both the linear amp and the frequency counter were left in place.

Please can you offer any advice as to the likely outcome of this ridiculous situation?

A Our Irish friend has quite a problem. There appears to be no hard and last rule about carrying rigs from one country to the other in circumstances such as this. It is clearly illegal for a British subject to import multimode rigs but it is not uncommon for foreign nationals to be allowed to retain theirs, on the clear understanding that they may not be used whilst in this country. I am, however, slightly surprised that he was allowed through Customs without the rigs lirst being sealed.

He does not say just how he tested the repaired Hygain but if, as I suspect, he made a test transmission, he has clearly contravened British regulations in so doing and this may well be what led the RIS to his door in the first place.

Such a visit to a British citizen would, almost inevitably, lead to prosecution but I cannot say for certain whether legal action would automatically follow in the case of a foreign visitor. A written enquiry to the Director ol the Radio Investigation Service, at Waterloo Bridge House, Waterloo Road, London SE1 8VA might help to clarify the situation but I must emphasise the fact that under present legislation the RIS has the right to apply to a court for the permanent forleiture of the seized rigs. II, on the other hand, they choose not to take legal proceedings then the rigs must be returned.

It is possible that our Iriend might be charged with unlawful installation and use but one point worth bearing in mind is the lact that a recent High Court judgement defined installation as a single finite act, committed only on the first occasion that a rig was wired into the car and, since this clearly took place in the Irish Republic, he is unlikely to be convicted on this charge unless, in testing the rig, he has fixed it to an antenna power source within the house. A charge of unlawful transmission, however, is far more difficult to defend. Remember that each act of keying the mike, even into a dummy load, constitutes a transmission, whether or not speech was present and our Iriend may well have rendered himself liable to prosecution in this manner.

## Any answers?

Dave, ERG 02, Irom Edinburgh, has beaten us all...

**Q** Back in May 1985 I bought an "Elbex PD8500" multimode base station rig with push-button auto-scan. I have been involved in CB DX since 1978, during which time I have owned a wide variety of rigs, some good, some bad, and I thought I had heard of them all until this Elbex, which, I might add, is a superb machine, came along.

My problem is the fact that, despite extensive enquiries, I can find no other example of this marque, nor any information on it. A circuit diagram would be most useful and I would count an operator's manual as a real bonus. Please can you, or any of your readers offer any information about the Elber? For example, where it was made and whether it appears under any other brand name. Is it, for instance, the big brother of the Expert PD8500?

A Well, Dave, this one is a real puzzler. Like yoursell, I have been involved with CB since the seventies and have, in my time, met a few obscure makes of rig but I have never heard of either the Elbex, or Expert PD8500. Undaunted, I made a few enquiries among the more venerable members of the Citizen's Band editorial stafl, only to lind that I was not alone in my ignorance. Neither did a couple of hours talking to some friendly dealers provide any clues.

All I can do is to throw the question open to our erudite readers, in the almost certain knowledge that someone, somewhere out there, has the information you seek.

Please can anyone fill this lamentable gap in both mine and Dave's education?

## **Big Ears**

Alain, from Sunbury-on-Thames can hear you all right but . . .

**Q** I have a choice of two rigs, a Fidelity CB1000 and an Amstrad 900, both of which I use in conjunction with a Quatro magmount antenna. I have been very pleased with the reception of both rigs but never seem able to transmit to some of the people I can hear. So far as all the normal tests have shown, both the microphone and antenna are working properly. Please can you offer any advice on how to improve my transmission range, so that it is equal to my reception capabilities?

A Well, Alain, I must say that your problem makes a change from all the cases of deaf receivers which normally come our way. It is difficult to advise you without knowing a little more about your operating conditions. For example, is the magmount in the centre of the car roof and is the rool vinyf covered?

If the antenna is set to one side of the car then you wilf have a better ground pfane in one direction than another and this can have quite an ellect on transmission range, whilst a vinyl rool covering tends to make the antenna slightly more capacitive, with some deterioration in performance. You might also improve matters by changing from a magmount to a more secure form of lixing, which would improve the earth contact between the car and antenna.

Another thought is that the coaxial cable supplied with many magmounts is not of the best quality. Electromagnetic waves run along the outer surface of the inner core of the cable, so the greater its diameter, the better the signal is carried.

I assume that your own tests have included checking the power output of the rigs, since it is unlikely that both are developing less than the lull 4 watts but, if you have not already done so, this might be worth a look.

I am sorry but we have been unable to find out whether CB is allowed in Kuwait, as you ask in another part of your letter but, even if it is, it is most unlikely to coincide with British specilications, so there would be little pointu in taking your present rigs with you.

## Power to the people

Tim Crowe, known to one and all around Humberside, as Pacman, is unsure about power mikes...

**Q** I have bought a power mike to use with both my base and mobile rigs, a Fidelity 3000 and an Audioline. Please can you tell me whether I can expect any problems in fitting the mike and can you either confirm or deny the comments of my friend, who claims that power mikes are illegal because they raise the signal power?

A Let's deal with the last question first. The use of power mikes is perlectly legal, since your friend is wrong about their ability to increase transmission power, though, legal or not, I am afraid that you are most unlikely to be able to use the same mike on both rigs. The connections are different Irom one make ol rig to another and changing over would require the mike to be re-wired every single time.

Power mikes are really only at their best when used with SSB rigs, in which the audio strength aflects the outgoing signal strength. In an FM rig the output power is lixed and owes nothing to the audio, therefore there is no increase in signal strength. The only obvious effect is likely to be that your audio becomes a little more crisp, though this advantage should be weighed carefully against the fact that using a power mike can tend to "over drive" an FM rig, with potentially disastrous results so far as the power amplifier is concerned.



would like to thank Bunny the Glaswegian for his/her letter in the December issue — like Bunny, many of my friends in different parts of the country seem to be having great difficulty in getting any help at all from the RIS/DTI. The answer always seems to be that they are under-manned. With the amount of money they receive from licence fees and the very high unemployment rate, surely the answer is easy. Anyway Bunny, I shall take your advice so listen out. I shall hopefully catch you on one of my trips up north.

Last week found me down on the south coast near Brighton, a part of the country I don't go to very often. After doing the easy drops, I found I had a new customer to deliver to near Horsham and a quick shout on the 19 was answered by Popeye who talked me through the last five miles to my destination. This was a tremendous help to me because I encountered a 13ft bridge and my trailer is 13ft 6ins! Popeye was able to direct me avoiding this, and promised to come down to meet me. After I had unloaded, as promised, Popeye and his daughter Budgie came to see me. I am sorry 1 could not spent too long with you as I had lots of work still to do that day but many thanks to you both for your help and I sincerely hope we can meet again one day.

## Accident

After the terrible accident involving the coach and cars where thirteen people lost their lives and on which I reported in last month's issue, I have spoken to and earwigged many of my fellow truckers discussing their thoughts. Some would like to see coaches restricted to 60mph and banned from using the third lane whilst others, myself included, think this would cause even more problems with the bunching of vehicles in the first two lanes. travel our motorways five, sometimes six days of the week and find the standard of driving is, in the main, disgraceful. Fellow truckers sit inches behind cars that will not move out of the centre lane and, for the amount of notice most drivers take of the speed limits and motorway signs, they may as well scrap them. Miles before we reach a contra-flow roadworks etc,

This month, Big T offers some thoughts on the standard of motorway driving in this country

there are warning signs telling drivers to get into a particular lane, but when we reach the trouble spot, I can guarantee there will be chaos. Cars are by far the worst offenders. Many seem to think they are on a race track. Monday morning and Friday evening on the M1 are frightening and its a wonder more people are not killed and the smokies do not seem to care.

## Kilo Bravos

This month, instead of choosing a monitor or cafe of the month, I have decided to devote the space to a very well deserved CB club, the Kilo Bravos from Sheffield. On 2nd November, 1985 I was invited by Barry (Oddleg), Terry (Texaco) and Doreen (Do-Do) to the Kilo Bravo first reunion night at Sheffield. Myself and Dragonfly travelled the 90 miles in our caravanette intending to stay overnight. We arrived at about 6.15pm to find breakers from many parts of the country already there. It was a pleasure to meet a lot of people l had spoken to but hadn't met face to face. A very good evening was had by the 200-plus breakers attending and who were treated to a plate of pie and peas. Cabaret was provided by Barry, Terry and Doreen who, as usual, had everyone in fits of laughter.

My reason for including this in my Truckstop column is because I am full of admiration for the Kilo Bravos. The club has been in existence for 3½ years and has 200 long distance members with 100 local lads and ladies and, up to the time of writing, a total of £1,837 had been donated to the Sheffield Children's Hospital. A further £500 was handed over on the night of the reunion making a grand total of £2,337. Do-Do (Doreen) told me that as well as the fantastic amount above, another £1,800 had been handed over to purchase a ventilator machine for the Wayne Little fund. Well done Kilo Bravos, you are all a credit to CB.

Whilst I was in Sheffield, I renewed aquaintances with Martin who prints the Ensign QSL cards and was shown a few samples of their new designs and, in my opinion, to date these are the best I have seen. These cards are not cheap but I think that, for the serious DXers, they are a must and worth every penny. I fully intend to get a new design printed for Eileen and myself in the very near future.

## **Truck King**

Last week I called into Truck King of Watford and, as you have seen from their adverts in the magazine, they are one of the biggest CB stockists in the country. Richard and his staff were very helpful informing me that they stock up to 60 new and secondhand rigs, 934 included, and around 40 different homebase and mobile twigs. I found their prices were very competitive and enjoyed my half hour with them and do hope to call and see them again soon. Parking too, is no problem, which makes a pleasant change. 1 can't give you a full run down of all the goods they supply as I would need too much space. Besides CB equipment, they also sell air horns, wheel trims and many more truck goodies — a first class catalogue is available at a cost of £1, and this includes £10 discount vouchers, an order form plus a prepaid envelope. The shop is open Monday to Saturday 9am to 6pm and, for telephone enquiries, the number to ring is 0923-661673.

## **Golf Romeos**

This month I would like to close with a few words to my friends in the Golf Romeos, Gloucester, so to OO lvor, O3 Gordon and especially the 20 Michael, I am not taking singing lessons, I think my voice is perfect the way it is and lvor, there is no truth in the rumour you have started that my Truckstop page is going to be perforated! Happy New Year to all my many C8 friends, stay lucky.

Big T

## WHY NOT CALL **"TROPHY DEALER"** (Recognised CB Handle)

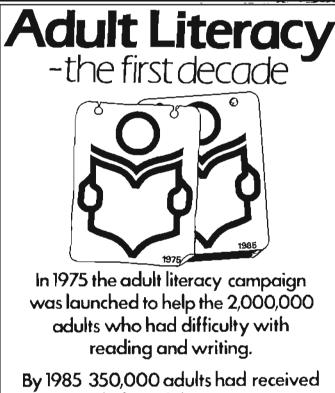
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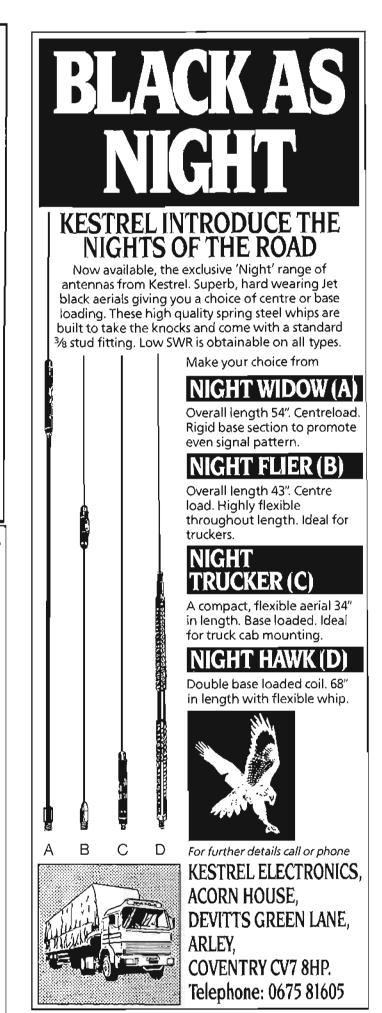
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## LADY BREAKERS





## This month, Filly is haunted by the spectre of St Valentine



t Valentine's Day is nearly upon us again and I suppose we'll have to endure the usual rows of vulgar red hearts shouting at us from the shelves when we set foot in the card shops, the pages of

coy messages in the newspapers. You needn't think I disapprove of Valentine's Day because no-one ever sends me a card. Oh dear me, no. Mind you, it's true. No one ever does. But then, I wouldn't want to receive a soppy Valentine with kisses all over it and some inane message scrawled anonymously inside.

How undignified to go rushing down the stairs on a cold February morning just to see if there are any pink envelopes

among the post. Thank goodness I've long outgrown all that sort of nonsense. Mind you, if even Elaine in the bakery can get two every year, with that long face and silly laugh of hers, you'd think... but perhaps she sends them to herself

Come to think of it, it's not strictly true that I never get Valentines. Take last year, for instance, although I can't say I was exactly flattered.

## Frosty

It was a typically bleak, frosty morning and I was driving to work, feeling rather peeved. Not, I hasten to add, because I had received no Valentine (my husband is impervious to hints, dates, anniversaries, you name it) but because it seemed even the radio stations were given over to the sickly sentiments of February 14th. I switched the radio off, and turned to CB in quest of more mature entertainment.

The first thing I heard, needless to say, was some stupid female going on about the card she'd just received, the usual thing, heart-shaped, scented... "I can't think who it's from!" she cooed. I hastily switched to another channel and was fortunate enough to find a like-minded breaker bemoaning the empty-headed frivolity of St Valentine's Day which, he said, was responsible for the collapse of the British Empire (he hadn't had a card either).

Everyone at work seemed to have a Valentine to chuckle and exclaim over except me. No one had even sent me a fake one. Worse still, they all sympathized with me! It was unbelievable. There I was, congratulating myself on my escape, and they were sorry for me! If we'd realised you wanted one, they said...!

I drove home that night in a fearful temper, ready to snap the head off anyone who dared say "Valentine" to me. I turned on the rig, hoping to find some sensible conversation, and listened to a number of irritatingly jolly conversations before I found myself on channel 20, a popular one with the breakers in our district. But there was to be no escape. Someone was talking about a Valentine's Day joke being played on somebody or other. I was about to turn the radio off in a huff when I heard a familiar name.

"Filly will be wild when she finds

out", a voice was chuckling. "We all know what she thinks of Valentines! Who thought it up?'

"Dunno", said another voice, "But the word went out after she was on the air this morning complaining about Valentines! I wouldn't be in his shoes when she finds out!"

'When she finds out what?" ) snapped, breaking in on the conversation. There was silence; the cowards had fled the channel. I flicked through the channels and caught my handle again. It seemed I was being discussed all over the county!

Ignore them, I thought, be aloof and dignified. Of course they resent my adult superiority, refusing to join in these childish traditions.

As it turned out, it proved a little difficult to ignore the 'joke'. My front door wouldn't open. Something was blocking it; after shoving at it for five minutes, I managed to stick my head round to see what was obstructing it.

## Envelopes

Envelopes, scores of them! Pink ones, yellow ones, purple ones, large and small, a small mountain of them in the hall! I struggled through the doorway and waded through the pile, picking up a handful. They all had "Filly" written on them, in a variety of different handwriting, but no address. I opened a few; gushing (anonymous) messages of admiration! Just what I would expect from the sort of half-wits who'd do something like this, I glowered.

My husband came home. I shoved a fistful of cards under his nose; he tried not to laugh.

'Were you in on this?" I snarled. He denied it, but admitted that he had seen a large box in the local grocer's with "The Send-A-Valentine-To-Filly Appeal" written on it in large letters. The "appeal" had been advertised locally over the airwaves, and it seemed that the locals had responded with enthusiasm!

In spite of myself, I had to laugh. The cheek of it! I confronted the grocer, an old "friend", the next day, but he wouldn't let on whose idea it was, and I never did find out. Just as well for whoever it was!

Perhaps I'll keep my opinions to myself this Valentine's Day. After all, / don't care if no one sends me a Valentine.

## **NEW! NEW!** Q.S.L Q.S.L Q.S.L. SAXON PRINT are delighted to announce the launch of the

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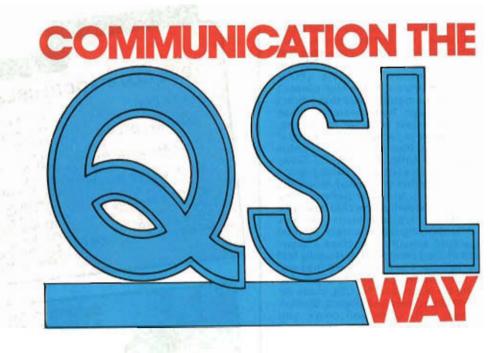
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David Shepherdson with more news about QSL clubs and QSLers



reetings once again to one and all! Now then, I've so much to get through yet again, I'll get right down to it by starting off with the Mike

Whisky Kilo DX Club as I promised I would last month. This one is in Newcastle, Staffs, has been going for some two years now and has a regular meeting once a month. President Mike says that any club within a 20-mile radius who fancies meeting or visiting on a return basis will be made most welcome and to get in touch with him at PO Box 279.

Some names now, starting with Fred (Gardener Fred) of Southampton. Fred's some 84 years young and is housebound so his hobby is using the ol' CB and collecting QSL cards. He has some 1,400 cards from many countries. As he says, it's a great way of bringing friends together from all over the world. For youngsters thinking about starting QSLing and who want a bit of financial help from your parents towards the cost of printing and postage and so on, you could always try the "It'll help me with my geography" gambit! Mind you, writing this lot each month helps me with my spelling as well

Digging back into the pile, I've come across a super POMA card from Paul (The Mongoose) which brought a smile to my face (thought it was Dirty Harry who said that). From Halewood in Liverpool comes an Ensign card from Brian (Strongbow), and I've had a letter from Ensign and if I can find it again, I'll return to that later on! A change of address here from Christine (Highway Girl) who has dropped me a line and asked me to pass it on. Another Ensign card here from Les *(Papillon)* of Dudley who says 'Happiness is a QSL'', and the last (Papillon) names for just now are Rose and Bill (Legion Lady and Rifleman) of Clwyd who have dropped me several lines to let me know that they do a similar service to Ann MacArthur up there in the Shetlands. That is, they also collect

your used stamps and old Christmas cards for various charities. As you may be able to guess from Rose's handle, her favourite is the Royal British Legion.

Right, some snippets on a few different clubs coming up now. First up is a new one called the "13-11" Club whose main interests are 13 to 11 metre short wave, any mode. The club is willing to help and advise anyone who is new to the shortwave bands, either from CB or as a first time radio user. There is no club fee, all that they ask for is a SASE (Self Addressed Stamped Envelope), which should always be sent when writing to any club. After all, if the club in question has closed down, then all you are out is the cost of postage, whereas if you had sent money and did not put a return address on your envelope, then you stand a good chance of losing your brass! Anyway, the 13-11 Club is a world-wide club based in Bristol and is open to any listener who wishes to join. There is also a club QSL card in the pipeline, again for listeners.

From Bordon in Hants, I've a letter from Andy (Stingray) who reminds of his club, but before anyone sends off to join it, it is not a QSL club, but a group of local CBers who got together to share the cost of a PO Box and printing, and this is one of the reasons why Andy wrote. He says that he has had very good service from J S Coates of Leeds and would like to recommend him as they found him to be very quick and reliable. Unfortunately, Andy forgot to let me know his address! The cards are very well printed and on good quality card. If you fancy any of these, then you'll have to drop Andy a line at PO Box 13 and ask him for the address.

From Bob (Roto Power), with yet another Ensign (they're taking over!) comes a request for a mention for the Kilo Papa QSL Bureau. To join, all that is required is for you to send up to 20 QSL cards plus a SASE, with the correct value of stamp on (that is, if you put an 18p stamp on yours, put the same on the return one tool) but do watch the weight; the majority of clubs and QSLers will not accept post with postage due! The Kilo Papa now has extras available like stickers at 50p per 100 and rosters for £1 etc. (PO's/ cheques made out to the club please.)

The other month, I said that I didn't get too much from overseas these days. Well, just to prove me wrong, I've a couple of packages from Europel From my old friend Manolo who helps to run the Antequera QSL DX Swap Club of Spain, a letter and cards passing on the info that their local mountain, the Torcal, is to be, or perhaps now is, a national park so the club has had a pair of new club cards made (numbers 4 & 5) showing the mountain. Manolo was kind enough to enclose a viewcard of the Torcal and I personally feel that number 4 has captured it the best. To join this very popular Spanish club costs £8 (cash) and 10 QSL cards for which you receive certificates, Spanish stamps, view cards and coins, unit number, mounted stamp, stickers, Q and 10 codes, club cards, roster (with updates from time to time), tourist info, exchange cards and invites and, the piece-de-resistance, one of the

"Bull Fighter" posters! May I just remind you here that, when sending money abroad, for your own sake, please do wrap it up well. It's best between your cards, by the way, and do ensure that your return address is clearly shown on the envelope with sufficient postage. Also, it's a very good idea to send it by registered post for added safety. This way, you stand a very good chance of getting it all back. in case the post office cannot deliver to the club.

OK, staying in Europe, I've some info on the only DX group in North Greece, the Great Alexander (King of Macedonia). Well, I said earlier that OSLing is good for your geography; now it looks like being good for your history tool Seriously though, the costs for this club are five personal QSL cards and \$15 (US) so do check with



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## **OSLER ADDRESSES:**-RT 54, PO Box 125, Southampton. SC 127, PO Box 27, Southport, Fred (Gardener Fred) Paul (The Mongoose) 8 Mirfield Close, Halewood, L'pool. 57 Grange Rd, Longford, Coventry, Brian (Strongbow) Christine (Highway Girl) 8 Bridgnorth Road, Himley, Dudley, Les (Pappilon) 48 Alyn Road, Buckley, Clwyd. PO Box 13. Bordon, Hants. 59 Heywood Court, Tenby, Dyfed, Rose & Bill (Legion Lady) Andy (Stingray) Bob (Roto Power) John & June (Desford Duck)59 Manor Road, Desford, Leics. Simon (Missing Link) 60c Church Rd, St Leonards-on-Simon (Missing Link) Sea, E Sussex. AZ 12, PO Box 5, Stockport, Eric (Sparky) PO Box 27, Southport, Merseyside. 27 Cuthberts Ave, Blackhill, Con-Bob (The Claymore) Peter (Big Daddy) sett, Co Durham. PO Box 1, Tourist Info Centre, Promenade, Largs, Scotland. Michael (A-Team)



rate if you fancy this one, or indeed any which ask for non-UK sterling. Anyway, for your \$15 you are in line to receive your Golf Alpha Unit Number, ID card and certificate, 10 view cards, club cards, stickers. Greek sticker, rubber stamp, packet of postage stamps, club pen, key ring, tourist info, souvenir of Macedonia, a map of Macedonia and Greece, and quite a few other items as well as a gift for your XYL tool There's quite a lot of numbers in the address, so I'll repeat it here as well as in the list at the end, just in case: PO Box 125. GR-59100, Veria, Greece.

At last, I've found that letter from Ensign! It's also the first one I've had in almost two years since I started writing these pages, and hopefully it will not be the last (hint, hint)! Ensign Cards was started in 1981 as a hobby by Wendy (Swallowtail) and it soon took over the whole house! In May 1984, Martyn (Pilsbury) took over from Wendy and moved into some business premises and has gone from strength to strength since. It's always nice to hear about a firm such as this that is doing well these days; keep it up. The Ensign cards are not the cheapest around, but you expect to pay a little extra for cards of this quality! These are, of course, the gold, or hot foil type, which come in many colours. The prices start at around £18 per 100, but that is for the first 100, subsequent 100s cost less as the initial order includes the cost of the plate. To the best of my knowledge, Ensign was the first to offer these hotfoil type cards, but there are at least two others now. However, I see that Ensign now include all-plastic cards

## **QSL SERVICE ADDRESSES:-**103 Duddle Ln, Walton-le-Dale,

A & S Badges

Curries (Printers)

Ensign (Printers)

58b Market St, Ashby-de-la-Zouch, Ray, PO Box 106, Canterbury, Kent.

89 Derwent St, Blackhill, Consett,

POMA (UK Rep)

When writing to any QSL club or service, always include return postage to help with a speedy reply, thanks.

Preston, Lancs.

Co Durham.

and even a black-backed one in their range. For current prices and how to order, just drop them a line with SASE please. Also, some of their Christmas QSL cards have to be seen to be believed! The one I am thinking of here is a full-colour one from my old friends John and June (Desford Duck and Snowflake) of Desford, with a superb one showing a cartoon mallard disturbing snowflakes.

Right, anyone fancy any badges? If you do, how about this for an idea for either your club or as an extra for your QSL package? Andy and Steve (A&S Badges) of Preston will make up a 55mm circular badge for you to your own design, using black ink on any colour paper. They say that no order is too large or small and there is no charge for artwork. The prices start at 35p per badge, that's for the minimum quantity of 25, but the prices go down as the order goes up. For the actual prices and how to order, please drop them a line with a SASE for speedy reply. This firm comes highly recommended by Eric (Sparky) of Stockport who says he ordered some badges on a Wednesday, and received them on the Friday!

Right, a few more names, then a little club info and, to finish with, a little news on something I want to start next month. So, top of the pile is one from Simon (Missing Link) of East Sussex who has really personalised his Currie card, then from Southport comes Bob (The Claymore) with an excellent SC custom card. The 'SC' stands for Sierra Charlie which is the club run by Sue Rowlands and is an excellent club, both nationally and locally. From Peter (Big Daddy) comes a pile of Currie cards, both personal and of a club he recommends, this being the Sierra Romeo DX Club of Houghton-le-Spring. I've also had a bundle of cards from the A-Team! However, this A-Team is based at the Ayrshire & Clyde Coast Tourist Board in Largs, Scotland, Michael (A-Team) has let me know that the cards have been produced by the Board and are available for a SASE! There's plenty of room on them for all your details and they show the Board's logo in green and brown. Michael and Veronica (Golden Delicious) say that they are always pleased to see visiting breakers, so if you're in the area for your holidays later on this year, drop in and say hi!

Okay, a quick mention of that club info now and as I mentioned the Sierra certificate, ID card, 15 club cards, invites, exchange cards etc. One thing though, the invite I have is pretty old and I cannot find an up-to-date one, so I do ask you to check the price of membership before you send off to join, as I think the package has been added to and the price takes this into account.

Well, almost out of room again, and I've so much info still to pass on, but I quess it will have to wait until next month (again). Next month I hope to start a new slot within these pages. It'll be an occasional look through some club's packages, not as a "Club of the Month" spot, but a browse through a few club packages I occasionally

FROM

BRIAN

Cutty Sark POMA Meet at Cliftonville on 5th & 6th April 1986. Contact: Dave Bradshaw, 16 Bradenham Ave, Welling, Kent GBQDC Big Eyeball No. 2 at Stanley Youth Centre on 27th April 1986. April 1986. Contact: GBQDC Meet, PO Box 5, Consett, Co Durham. Tango Papa Eyeball at Southport's Floral Hall on 10th May Contact: TP Group (Eyeball), PO Box 13, Southport. GO AHEAD MAKE MY Q.S.L. DAYI STRONGBOW T.T.S.013CHARLIE KILO DX GROUP P.O. Box 13, Bordon, Hampshire, England. RAINY FOREST GU35 - 0AJ HALEWOOD C.K. EYEBALL PLEASE OSI - QSL WORLDWIDE DADD Romeo & Sierra Charlie just now, but with no details, I'll try to rectify that BIG here. To join the Sierra Romeo costs £5 plus five or more of your cards. For this amount, you can then look forward to receiving your SR number, ID card & He ous, England, U. certificate, (XYL No if required), exchange cards & invites, club QSLs, stamp & roster, welcome letter, tourist info etc. Extras available include the use of the club PO Box for £1.50, club cards at £1.50 per 50, or colour ones at £2.50 (per 50?). The club accepts only cash, not cheques, so wrap it up

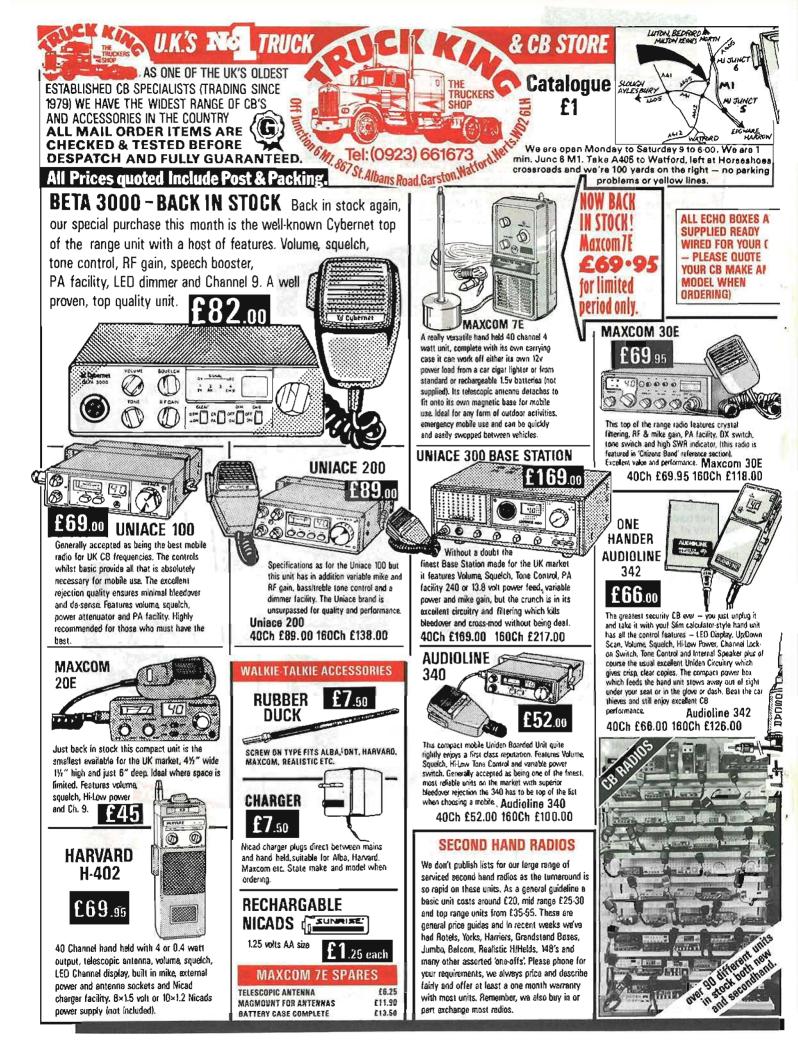
QSL MEETINGS/EYEBALLS - NATIONAL

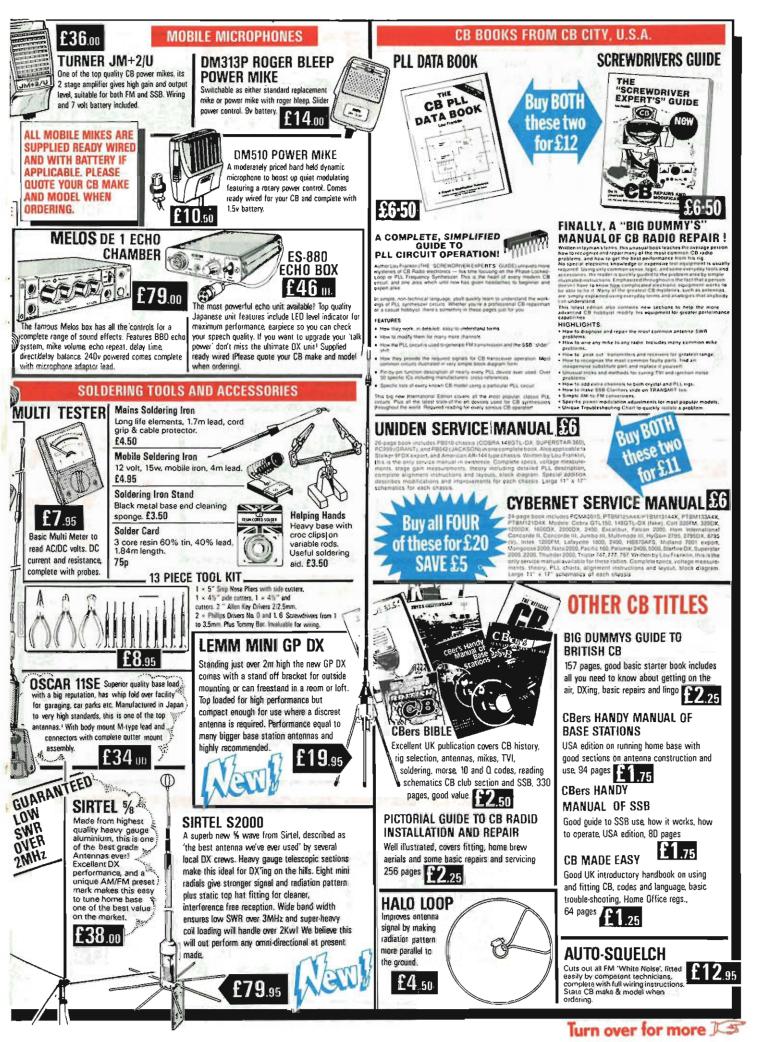
Cutty Sark POMA Meet at Cliftonville on 5th & 6th April 1986.

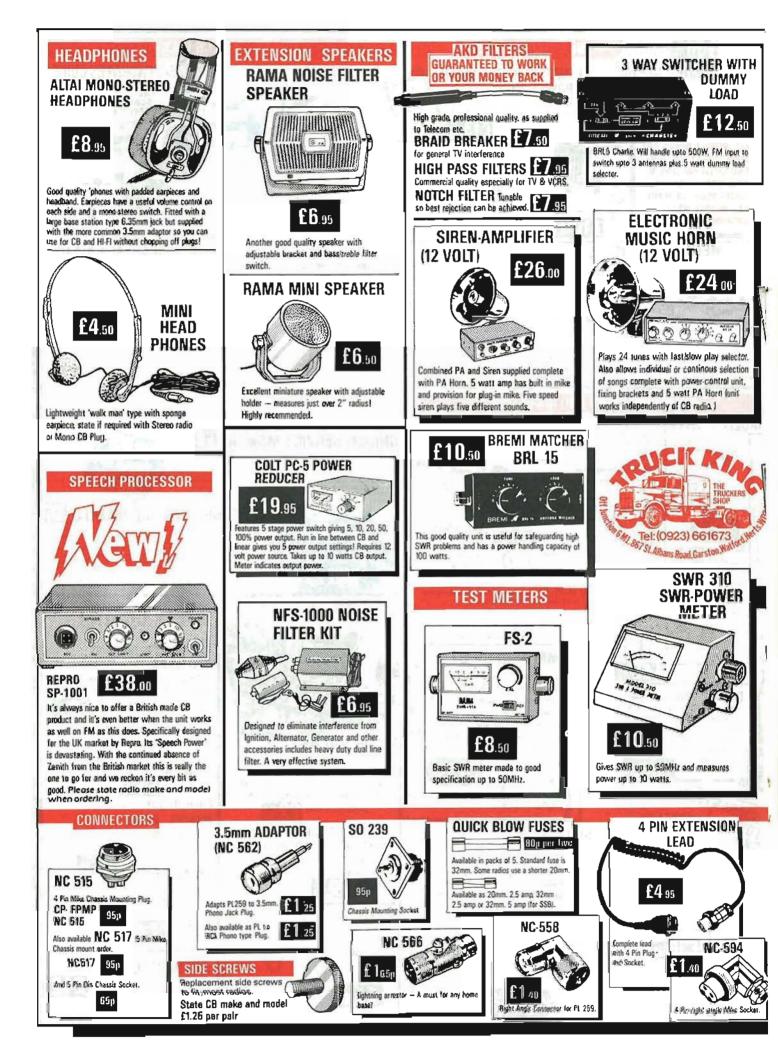
Moving on to the Sierra Charlie of Southport now, membership of this club costs £3 (cash) and 10 personal QSL cards for which you get a package containing, at least, your SC number,

weill

receive. Anyway, that's for another time, so I'll close down now and just add if you want a mention here, drop me a line and I'll see what I can squeeze in. If you want a plug for your club or for a forthcoming event, please send me full details, but please don't expect it to appear in a week or so. And, if you want a reply, please don't forget some return postage. Cheers for now, take care!









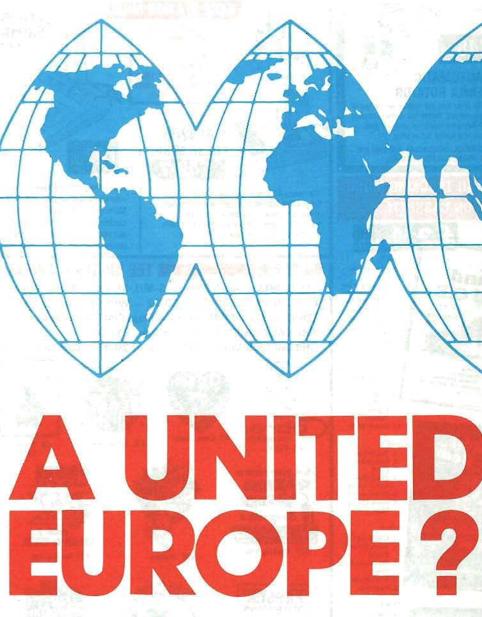
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y recent article on the differing standards of CB radio which currently exist throughout Europe prompted me to wonder exactly what

the proposed change to a common international standard might mean in practice. Here, at Citizens' Band, undoubtedly the first thing we shall notice is a steep reduction in our weekly postbag since, at the moment, never a week goes by without we receive an assortment of requests for information on whether CB is legal in various countries, just about everywhere from Bournemouth to Borneo. To tell the truth, in many cases we simply do not know. Telephone calls to various foreign embassies have met with widely varying responses, ranging from positive, through non-commital, to downright bemused and we all got a laugh when the representative of one Middle-Eastern state assured me that all religions were welcome in his country. But what will the real effect he?

Before discussing the possible changes which the new regulations will bring about, we first have to realise that the recommendations of CEPT proposal TR20.02 are only recommendations and nothing more. They do not constitute a directive and so, are not binding upon any of the member states of CEPT who may, if they so wish, elect to ignore them completely. This is the very nub of the matter, since it only requires just one or two major states to refuse to implement the proposals and the whole idea could fall flat on its face.

The idea of a common standard throughout the Western world is, in principle, a good one. It should remove the difficulties commonly faced by breakers wishing to travel between countries, with a rig in their car or truck, many of which have, in the past, led to long delays, heated altercations with Customs officials and, in a handful of cases, considerable embarassment. It should also remove the present uncertainty about whether, having reached foreign shores, you will be able to communicate with the natives. Provided, as we have already said, it is universally adopted - and this is by no means a foregone conclusion. Although Eire already uses the frequencies, mode of transmission and power level recommended by CEPT and Britain, West Germany and a few other countries are committed to following suit, France might prove to be a problem, since its present CB service is far more broadly based and Switzerland, which has always been opposed to any increase in the number of permitted channels, might also prove problematical, for precisely opposite reasons and no-one yet knows the likely stance of some of the Scandinavian countries. In the event that the proposals are adopted by the majority and ignored by the few, it is not at all difficult to envisage a situation in which you might happily travel through five of six borders, only to find yourself a long way from home and trying to

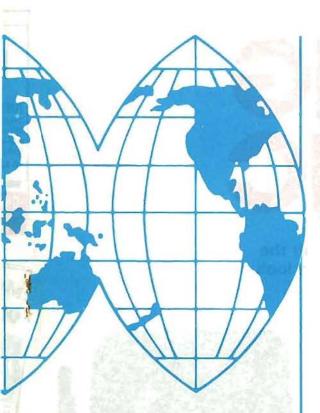


## Keith Townsend ponders over the implications of the CEPT frequencies due to be introduced next year

argue with some uniformed beaurocrat in a language you cannot even understand. (Which of us has not used that ploy to avoid a speeding ticket on some Autobahn, or Route Nationale?)

What of the technical standards suggested by TR20.02? With the notable exception of the reversion to frequencies originating in post-war USA and beloved of pre-legalisation British breakers, they are not so different from what we already have. Most of us prefer to leave considerations of a highly technical nature to equipment manufacturers and will not even notice the tightening up of some standards regarding such things as spurious emissions and harmonic radiation, Likewise, the slight matter of the likely effects on other services can safely be left to the regulating authorities, who have, no doubt, gone through some horrendously complex mathematical equations in order to ensure the feasibility of the change, before agreeing to it. What is more important to the average breaker is the basic question: "Will it work?"

Despite its obvious drawbacks, an FM-based service has been proven viable. To be honest, most of the problems which we all know to beset the present service are the result not of its technical shortcomings but of the way in which we use it. For example, whilst there is no immediate cure for the present overcrowding of channels, it would be significantly reduced by a properly enforced prohibition on the use of "burners" and the simple expedient, adopted by the majority, of enquiring whether a channel was in use before beginning transmission. Some degree of proper control over the drain-brain brigade would also have distinct advantages in this respect. Nevertheless, there are still a considerable number who favour the licensing of other modes of transmission. There is truth in the argument that the use of single sideband would reduce the congestion, since an SSB



signal occupies less bandwidth, though the mere fact that SSB tends to remain intelligible over greater distances does, to some extent, negate this point and many an opponent of SSB has a vivid mental picture of even more overcrowding, as a growing number of SSB signals merge over greater distances, Regardless of these considerations, the simple fact that television receivers rely entirely on SSB makes them particularly susceptible to interference from other SSB transmissions and this, together with the lamentable standards set for the rejection of unwanted signals in modern TV receivers, ensures continuing political opposition to such a change.

Antenna standards will remain another bone of contention. We might have hoped that the likelihood of European unity would allow British breakers the free use of many types of antennae currently frowned upon but this seems most unlikely. Although detailing very specific standards for both CB transmitters and receivers, the CEPT recommendation states quite clearly that member states will retain the right to make their own internal regulations on matters such as antenna construction and licence conditions so, unless we are graced with a major revision of such conditions, we appear to be stuck, for the foreseeable future, with a set of restrictions which fail to take account of the vast differences in terrain which can occur over even the shortest distances and a power to height ratio so arbitrary as to be impractical.

There is, however, another possible drawback which appears to have been overlooked by those pre-legislation campaigners, myself included, who thought that, since 27MHz was, after all that argument, to be the standard, we should use the "FCC" frequencies. For the moment, there is precious little

real skip about, with the result that we hear comparitively little of the CB activity generated by our European neighbours. This will not always be the case. The sunspot cycle is destined to rise again within the next three or four years and those of you for whom DX has, until now, been little more than a dream, will be amazed at just how easy it will become to copy stations which, until now, you have considered impossible. I kid you not when I point out that during the late seventies it was common to hear the States coming in anywhere between S5 and S9. "Great!", I hear many of you shout, but will you feel the same way when you cannot work your friends because the band is packed solid with highpowered Italian stations? Please do not expect CEPT proposals, or anything else for that matter, to make one iota of difference to the way Italian CB is operated for, even if the Italian government were to espouse the new system, it would take a grade one optimist to believe that they would be any more effective in enforcing it than they have been, to date, with their present system. Unless a uniform service is accompanied by uniform standards of regulation enforcement we may be on a loser from the outset.

Despite these very real concerns, the outlook for a pan-European CB service is by no means all gloom and despondency. As we have already postulated, international travel should become very much easier and the economies of scale could well bring about significant improvements in the technical standard of rigs, as manufacturers are able to concentrate their production, rather than attempt to honour the vagaries of more than a dozen different specifications. Receiver selectivity and sensitivity might well be vastly improved by the increased ability of manufacturers to produce standard components and user choice should, within the broad framework of the technical specification, be considerably increased.

Of further benefit to us, here in Britain, is the allocation of 40 entirely new channels. In practice the changeover will, for many, mean little or nothing. The government's avowed intention to continue to permit the use of the existing, higher portion of the band removes the fear, expressed by many, that we might have to instantly scrap hundreds of pounds-worth of much loved and well used gear and affords us the enviable position of being legally able to transmit and receive on all 80 channels for at least the foreseeable future, though nothing has, as yet, been said about the possibility of a single rig incorporating both segments of the band. Neither can many of those with the knowledge see much practical alternative use for this higher portion of the band, which leaves us with the distinct possibility of a full 80-channel service for the rest of our days, though such a view might be hotly contested by many in authority.

There will, of course, be an added benefit for those whose major interest in CB is the ability to DX. No longer will it be necessary to use unlicenced frequencies, simply because our frequency allocation isolates us from those whom they wish to contact. It is perfectly possible to DX on FM, given the right atmospheric conditions and a reasonably clear channel and, provided it is done with consideration for those trying something less ambitious, it should prove most rewarding. Given the 80-channel allocation, I wonder whether we might not give serious consideration to some form of band plan which would set part of the international allocation aside, purely for DX purposes, whilst leaving a segment in the upper half of the band for the exclusive use of those wishing to maintain short distance communication. Such a provision would work admirably, given a modicum of goodwill on all sides.

It occurs to me that channel numbering might cause a few initial problems. It seems easy, on the surface, to simply number the entire band consecutively but what of the much maligned breaking, emergency and truckers' channels? Are we to have two of each? Consecutive numbering has its advantages until you consider that not everyone will be in a position to, or indeed want to, avail themselves of the entire band right from the first and conventions, once established, have a habit of lingering.

Clearly, the adoption of any common international standard for CB radio brings a few problems in its wake but they should not prove insoluble. From where I sit, the advantages appear to far outweigh the disadvantages, provided that the changeover is treated responsibly, not only in this country but by the licensing authorities and the breakers of every member country. Its success depends entirely on the goodwill of all involved.

National administrations have managed to sink their differences over matters far more complex than the standardisation of a public radio service and, with a little co-operation, can agree with each other this time. Serious consideration should be given to a major degree of uniformity of licence conditions and there is a strong case to be made for the issue of reciprocal licences which, although they might cost each participating country some slight loss of revenue, would considerably eliminate "red tape".

Of course there will be continuing dissent among individuals over the right standard to adopt. The terms of TR20.02 will be hotly contested by the inhabitants of those countries which currently allow the use of either SSB or AM, or a higher level of power output but nothing is fixed forever and the proposals represent the first tangible step toward the popular dream of a single, worldwide CB network. The technology of radio communication is now advancing so rapidly that the further modifications which many would dearly love to see but which, for the moment, appear unattainable, might ultimately prove feasible, given a sound basis of multinational coordination. Pan-European CB radio is a very exciting prospect indeed!



## A good microphone can make all the difference to your TX. We take a look at what's available

Ithough separated from the transceiver proper, the microphone must be considered an integral part of the CB rig, and deserves special attention. How do they work? What types are

there and what options are open to the user?

Well, the microphone is really the weak link in the rather sophisticated world of CB, and is certainly a vital element. It is a transducer, as too is the loudspeaker, transferring audio signals into electrical signals which the equipment is able to cope with. There are really two kinds of microphone in use on communications equipment dynamic and ceramic, or crystal.

A dynamic microphone basically consists of an electrical coil which is able to move in a magnetic field. The coil is physically connected to a large diaphragm. When speech enters the microphone, the pressure against the diaphragm changes, inducing a changing current as it moves within the magnetic field. This signal is then passed to the voltage amplifier within the input circuit and eventually ends up as an RF signal at the antenna socket.

Ceramic, or crystal microphones, on the other hand, provide a higher voltage at their output than their dynamic counterparts. Their construction is often of a solid slab of material which is forced out of shape and creates a voltage. The diaphragm is connected to the slab which has a force applied to it as speech hits the diaphragm.

In walkie-talkie type units, the dynamic, or moving coil microphone, often also acts as the speaker. During reception, the electrical signals pass through the coil and set up a varying magnetic field around it. The interaction between this field and the one generated by the permanent magnet causes the speaker cone to move, producing soundwaves through the now speaker.

Some carbon microphones are in use; the older type of telephones employed carbon granule mouthpieces. They operated on a variable-resistance method and, instead of generating a voltage, a DC voltage is applied across some granules of carbon. Any change in the resistance offered to the rest of the circuit by the carbon granules will affect the current through the carbon, as presented in Ohm's Law. There will also be an equivalent change through the associated transformer; this resulting change in resistance varies the current in accordance with the frequency and intensity of the soundwaves.

There are many variations to these basic principles incorporated into CB accessories. Power microphones are simply microphones with a built-in, add-on amplifier stage, with perhaps other controls for tone quality and output level. A very useful type of micophone to use in noisy environments, such as lorries or cars, is a noise-cancelling one. Noise-cancelling can be achieved by using two dynamic cartridges, separated but in the same direction so that, due to the phasing, the noise is eliminated from the signal because the speech is impressed on only one. Other types use a single dynamic cartridge so that noise is directed to the front and rear to give a total effect of no ambient noise.

Mounting microphones on the side of headsets is a very common practice, with often a single ear-piece employed as well. This means that, while mobile, the operator is free to drive using both hands. These 'boom' mics are readily available, although the correct type must be obtained to suit the rig.

Desk microphones are a useful asset when using a base station, and normally have a locking push-to-talk switch to leave both hands free, while chatting, for writing or even eating! Although expensive, these are useful and often produce good quality audio.

A gimmick type of microphone, which has dropped in popularity is the "echo mike" which included circuitry which introduced a controlled amount of feed-back, allowing the audio back into the amplification chain to produce an echo. This often made the speech unintelligible and many users replaced such equipment with more orthodox microphones. It was thought that echo increased the modulation, but this is more intelligently achieved by using a power microphone which will amplify the signal to 100 per cent mod.

The Telex Double

CB-73

MADE IN USA

BLENEADER

Whatever type of microphone/s you use, it is essential to make sure that they are of a suitable impedance and rated so that they "match" the rig's input. They should also, of course, produce the correct amount of audio input level. The impedance may be between 30 Ohms (low) and several MegaOhms (high). Typically, CB microphones are 300-500 Ohms.

As with rigs, homebase microphones tend to be a bit more expensive than their mobile counterparts. Prices will vary from dealer to dealer, but you can expect to pay between £40 and £70 for a homebase mike and between £7.50 and £40 for a mobile.

The Sadelta range of mikes are well worth checking out. Their Bravo O base mike features two slider controls, one for modulation gain and the other for compression. It also has a 'talklock' switch for really chatty types! Slightly more upmarket is the Bravo 2 base mike. It has all the features of the Bravo O plus twin meters to monitor modulation gain and compression.

The Sadelta Echo Master features a fully adjustable echo, modulation gain slider and meter, plus the talklock switch. More recently introduced is the Echo Master Plus, which also features a dual-tone roger bleep, adjustable reverb and echo and an internal 9v battery.

With its rather futuristic design, the Turner Expander 500 Homebase mike is a very popular model. It features sliders for volume and tone, a modulation meter and battery level indicator, a PTT (push to talk) bar and locking lever.

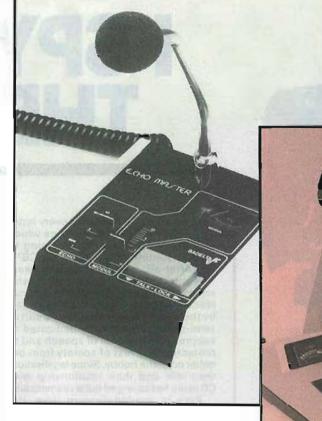
The well-known Ham International brand name appears on a number of base mikes, including the 232DX and the 232S. These can be well termed 'old favourites' and feature rotary volume control, the PTT bar and locking switch. Their 'big brother' is the Ham International Big Puncher, which includes facilities such as sliders for volume and tone, PTT bar (and locking lever) and modulation meter.

The Protel A-700 is a nice, powerful unit with a gooseneck mike (adjustable to any angle). It features an AM/SSB switch for tonal quality, level control and lockable PTT switch. For a few dollars more', the Protel AM-106 has the same features as the A-700 plus a mid-range mike and speech compression facility. The Protel A7000 goes a few steps further and includes a modulation meter plus a sophisticatedlooking graphic equaliser.

Among the excellent Zetagi range of products is their MB+5 base mike. It features rotary controls for volume and tone, modulation meter and PTT bar which locks sideways when required.

Representing good value for money is the Leson DT 258 Dynamic base mike. It is a basic gooseneck mike with a lockable PTT switch and is ideal for use when a dynamic, rather than an amplified, base mike is required. Again, from the Leson stable, comes the TW205AC base station microphone. It features variable volume control and lockable PTT bar.

A very nice unit worth looking at is



(Above) The popular Sadelta Echo Master

the EB-2010 echo power mike. The microphone is on a gooseneck and features a manual roger bleep. Slider controls are provided for echo and power volume and LED indicators for power and standby.

The Altai AL-4200 is specially designed for high modulation capability. It has a built-in speech compression amplifier, variable amplifier gain control and lock-on PTT facility. The AL-4200 comes supplied with a 9v battery.

For a touch of class, you could to worse than to check out the Astatic Silver Eagle. It is styled on the old 1930s radio mikes and is finished in chrome. There is a PTT on the base and a locking unit on the side. Although one of the more expensive base mikes, it still remains one of the most popular.

Moving on to mobile microphones now, straightforward replacement microphones come in all shapes and sizes, usually priced at under £10. Other mikes, however, have 'extras' like echo, roger bleeps etc. For instance, the popular Altai echo power mike houses a Densai board and features a slider power control and internal echo control.

The AO1 DM-106ALC power mike features an automatic level control which prevents overmodulation, while its 'younger brother', the DM-101A has a slider power control.

The Leson range of portable microphones includes the CH 233 preamplified mike with manual roger bleep and slider power control. A few pounds more will buy you the Leson CH 219, (Below) The futuristic Turner Expander 500



which is a high quality ceramic mike with a two-transistor amplifier.

The Telex 73 Double Header is almost two mikes in one. This Americanmade mike is switchable from noise canceller for truck or high noise level background to standard power mike.

Altai mikes are a very popular line, in particular the DM313 which is switchable as either a standard replacement mike or a power mike with roger bleep. It also has a slider power control. The Altai DM315E is a power mike and features variable echo level.

The compression and pre-amplification circuits of the Sadelta HM20 produces powerful results with low background noise. The HM20 also features variable gain. A less expensive alternative is the HM30, which is lightweight, sensitive and pre-amplified.

With safety first in mind, the Zenith XZ4 has been produced. Specifically designed for the mobile breaker, the gooseneck microphone obviates the necessity for one hand to be permanently 'handicapped' and the PTT switch can be located in the gearstick knob. It is a 'one-touch' device, in that you simply push once to transmit and again to receive.

Another safety device comes in the form of the Sadelta LM20 Laryngo microphone, designed to eliminate the use of hands when transmitting. It is voice-activated (VOX) directly from the vocal cords, thus eliminating background noise normally associated with mobile modulations. The sensitivity, too, is adjustable.



In this exclusive interview, Keith Townsend talks to a Radio Investigation Officer about his work

## I SPY FOR THE DTI

wish I had a penny for every letter addressed to this magazine which started "When are they going to do something to clean up CB?". After all, it is not so many years ago that these same "they" who are expected to come dashing to our rescue, were the "meanies", regarded by the entire CB community as a sort of semi-secret police force dedicated to suppressing freedom of speech and to protecting the rest of society from our rather noisome hobby. Since legalisation, their role and their relationship with CB users has changed quite dramatically.

Back in pre-legalisation days, the RIS, the dreaded "Busby", were a department of British Telecom, who acted as agents for the Home Office in matters of radio regulation and this led to many a problem, as the left hand repeatedly displayed considerable lack of understanding of the workings of the right. Recent changes have brought the RIS directly under the wing of the Department of Trade and Industry, who have, in turn, assumed responsibility from the Home Office for controlling who uses what part of the spectrum and how they use it. At the same time, the terms of the Telecommunications Act 1984 have considerably widened their powers to act to prevent illicit transmission. For instance, prior to this act they were not empowered to seize unlicensed equipment. Such an act required the presence of either a policeman or a Customs and Excise officer, acting upon a warrant issued by a magistrate. The Telecommunications Act changed things to the extent that an RIS officer can now seize equipment which he believes to have been used unlawfully, as evidence for a possible future prosecution, though he is obliged to apply to a court of law for its permanent forfeiture.

The most recent change, of course has been the introduction of a call-out fee for dealing with complaints of domestic reception. To find out what these changes have meant in practice, we went out and found ourselves a friendly Radio Investigation Officer and were both pleased and surprised at some of his views.

"Legal CB has made a tremendous difference to our job." he told us. "Broadly speaking, the job falls into two easily definable categories; advising the public on how to improve radio and television reception and enforcing the

terms of wireless telegraphy legislation. The two often overlap and, in the days before CB became legal, enforcement was often the only practical means of curing interference. Not only has legalisation dramatically reduced the number of reception complaints directly attributable to CB but it has also greatly improved our relationship with the majority of the CB community, as well as allowing us to return to our preferred policy of law enforcement. Although I feel that there will always be a certain distance between ourselves and CB users, as there is between the public and the members of any law enforcement agency, we have been able to develop working relationships with many of the well organised CB clubs, and I and other members of the RIS have visited these clubs, speaking on many aspects of radio communication. Of course we are obliged, wherever possible, to prevent illegal radio operation of all types and this continues to bring us into conflict with a small minority of CB users but there is a very good relationship between ourselves and the people who are trying to use CB properly.

## Understanding

Given the new understanding between officialdom and CB, we next asked about the standards which existed across the country and found our contact to be full of praise for the majority of breakers.

"Reception problems are not really caused by CB radios or, for that matter, any other form of transmitter. They owe more to the fact that television sets and other domestic entertainment devices are not designed and manufactured to sufficiently reject unwanted signals, and are commonly incorrectly installed".

On the subject of CB installation, we discovered a wide variety of standards and were told: "I have seen CB stations which have been set up to a very professional standard and the average station offers very little cause for complaint. On the other hand, there have been the odd few occasions when I felt obliged to advise operators to close down. This has usually been because the set-up was electrically unsafe and presented a very real danger to the operator himself and to anyone else who went into the room. We have



Pictured outside the headquarters of the DTI - a most unwelcome sight for many a naughty breaker

very few complaints about the technical quality of commercially available CB equipment. Power output levels, in the main, vary between two and six watts and the most common problem that I, personally, have encountered has been under-deviation. You would be amazed at the number of sets whose deviation has been set too low before they leave the factory. Some of the earlier models of power supply units left a lot to be desired in terms of safety but these have now largely disappeared from the market. Frequency stability in the majority of sets is excellent and it is a rare event to find a set which is appreciably off frequency.

The most significant problem is that of spurious emissions, particularly harmonic radiation. Sets which are being operated in the proper manner, with normal power output, delivered to an antenna which meets the proper specification, are no problem. The real trouble occurs when you have a set connected to a linear amplifier, delivering power to a half-wave antenna. This condition creates a significant impedance mismatch between amplifier and antenna, which leads to the production of high levels of radiation on odd harmonics, or multiples, of the originating frequency and, since many of these harmonically related fre-quencies, particularly at VHF, are used by other services, serious disruption

can arise."

Asked whether the forthcoming introduction of new frequencies, as outlined by CEPT, would improve matters or not, our contact told us that careful research was carried out before the proposed change was agreed and any minor problems will have to be sorted out in the field.

## Enforcement

The next area we questioned was that uppermost in the mind of many a breaker. That of regulation enforcement. Many of you who have been on the air since licences were first issued and, in many cases, long before, have never met a Radio Investigation Officer, whilst others will remember only too well the aftermath of that knock on the door.

"CB operators who act within the terms of their licence, both as regards technical standards and operational procedure are very unlikely to be visited by the RIS," we were told. "Where we have received a complaint of interference our first step would be to visit the CB operator and carry out a station check to ensure that his equipment conformed to the specification and was being operated in accordance with the terms of the licence. Once

we were satisfied that this was the case we would begin to check on the standard of equipment suffering interference and perhaps recommend that the system and installation be checked by their dealer. Each RIS office now has a computer printout of all CB licences within the district and if monitoring shows up a station operating without a licence then they are likely to receive a visit. In short, anyone operating without a licence, or outside the terms of their licence, is far more likely to be visited by an RIO than someone who operates in a completely legal manner."

On the wider questions of enforcement, the RIS appears to feel some degree of embarrassment over the wide discrepancies in enforcement standards in the past and told us: "We are rapidly developing a more uniform enforcement policy towards all forms of radio throughout the country."

## Campaigns

They then referred to CB enforcement campaigns first mentilened by Industry Minister, John Butcher MP, in our recent interview.

"As part of this policy we undertook a number of campaigns against CB abuse in May. The areas covered included Cardiff, Chester, Cumbria, Glasgow, Portsmouth, Southampton and Swindon. In all, we visited some 1200 households throughout these areas. Because enforcement had, in the past, been somewhat patchy, the majority of abuses were dealt with in the form of a warning to the effect that we were aware of offences being committed and that further action would follow if they did not put their house in order. We were looking at both licence evasion and abuse. Campaigns of a similar nature will continue indefinitely"

Asked what forms of abuse were being uncovered we were told: "We were looking at technical abuse, such as the use of power amplifiers and over-large antennae, as well as operational abuse, including the use of offensive and threatening language and the playing of music. We learned a great deal from these campaigns and the experience gained will help us to protect the genuine CB user from such abuses in the future. We have been able to clear up the majority of cases of interference in the areas covered and one interesting sidelight has been the fact that, whilst licence holding throughout the country has declined, in the campaign areas it has gone up by seven per cent"

I asked what powers the RIS possessed beyond the Wireless Telegraphy and Telecommunications Acts. I was specifically interested in the point which has been made to me by many CB users, that the Public Order Acts might be used against some of the worst cases of persistent abuse and was told: "We can only operate within the framework of those Acts with which we are directly concerned. For the Public Order Acts to be invoked would require action on the part of the police and we would ask them to step in if we felt that there was a case for doing so. Of course Customs and Excise will continue to take appropriate action in cases of illegally imported CB equipment.

We were very interested in his next comment: "We have been asked, because of the great concern on the part of most CB users about the use of offensive language, to point out to magistrates those cases where this has been a feature of the abuse and this has, almost invariably, led to increased penalties, including the confiscation of equipment, often running into hundreds of pounds. There have even been two instances during 1985 in which suspended prison sentences were handed out, and sentences like this represent a very strong deterrent to those who use CB as a means of being offensive to others. To put this into perspective, perhaps I should explain that during the first eight months of 1985, which is the most recent period for which figures are available, we successfully prosecuted 714 offen-ders, of whom 359 were convicted of using either AM or SSB radios, whilst the remaining 355 were either using FM radios without a licence, or were acting outside the terms of their licence. In all, these convictions resulted in the forfeiture of some 462 radios, many of which were, in a technical sense, legal."

Asked about the apparent lack of any consistent policy on the enforcement of antenna regulations, the official said: "I agree that this is one area which, in the past, has been rather patchy and that what has, hitherto, been accepted in one area has been acted against in another but this anomoly should now be short-lived, since this is one specific area we are looking at. Many interference problems result directly from the use of larger antennae than the licence conditions permit and, before long, they will have to be re-examined."

We then went on to discuss the likelihood of any problems arising from the use of 934MHz CB and were told: "The use of 934MHz in my own area is now quite widespread and its growth is encouraging. From the reports which we have received, by far the majority of users are well satisfied with the results obtainable using legal power levels, though we are currently receiving complaints that UHF CB is being affected by cellular radio, which occupies a nearby frequency band and the problem is being investigated. I have, personally, only seen a couple of these radios, but have been impressed with their quality."

To create a comparison between enforcement of CB regulations and those of other services, I asked whether

"Many interference problems result directly from the use of larger antennae than the licence conditions permit.."

the policing of amateur radio received very much attention. "We do, of course, take action

against abuse within the amateur bands," I was told, "but since there are far fewer amateurs than CB users, far less of our time is taken up in this way. Abuse of VHF repeaters is a constant problem and one where we take action whenever possible but, like CB, amateur radio is an unprotected service and, as such, has a very low priority. Our major concerns are, firstly, to protect the integrity of those services such as the fire, ambulance and coastguard services, since the safety of life may easily be affected by any disruption of their communications and, secondly, to protect those services relied upon by business users, and it is to these areas that we devote most of our energies. There are, of course, a few occasions when stray CB or amateur signals cause interference in these areas and this has, in the past, often been the direct reason for action against specific operators.

He continued in more general terms:

"The radio spectrum is a finite resource with a growing number of users. To ensure that everyone gets a fair crack of the whip, it must be properly regulated. If anyone were allowed to transmit on any frequency, in any manner he chose, the inevitable result would be that nobody would be able to use radio effectively. This is why licences, setting out the terms and conditions under which transmitters may be used, are issued for a number of different types of service. Only if all radio users, regardless of the type of service they are using, comply with these conditions, can everyone get the best out of their radios. It has not been possible to identify any significant area within the spectrum which is not either currently in use, or allocated for future use. Even those frequencies which are currently being cleared of their present users have already been allocated for future use by other services. This is why it is vital that no-one should use a frequency for which they are not licensed. Even though a frequency may appear to the listener to be clear, it may be occupied by a low power device which, although inaudible, may be severely disrupted by an illicit transmission.

## Complexity

"It is the sheer complexity of radio communications that makes our job so interesting. A typical morning can include a couple of hours spent in court, either making application for a warrant to search premises from where we believe unlicensed transmissions to originate, or giving evidence in cases already before the magistrates, followed by a visit to someone suffering interference and attempting to trace the source. All too often these days this proves to be a CB station which is legal but for the fact that a very large antenna is in use. The normal procedure in such a case would be to carry out a check of the station and to inform the operator, both verbally and in written form, that he may not use the equipment until a legal antenna has been fitted.

Remembering the many tales I have heard from truckers about the "wheel tappers and shunters", I asked whether the RIS still take part in roadside checks.

Yes," came the immediate answer, "It never ceases to amaze me, just how many CB related offences are uncovered in this way. Roadside checks are expensive and so, rather than institute our own, the RIS usually attends those organised by either the police, or the Department of Transport. A typical twohour check can reveal an assortment of linear amplifiers, the odd rig fitted with an assortment of extra channels and an incredible number of unlicensed operators, not to mention the odd AM or SSB rig which turns up from time to time. Of course, we are not the only agency who occasionally detects mobile offenders and it is not at all unusual to get a phone call from some policeman who has removed an AM set from a car which he stopped for a completely different reason."

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## **"AGRIMOTORS"** (J. W. C. HUNT) MERTON "CB" RADIO CENTRE MERTON, OKEHAMPTON, DEVON. EX20 3DZ Tel: BEAFORD (08053) 200

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

All types of 934 M/hz Antennas, Mobile Colinears, Gutter mounts, Roof Mag Mounts, Roof through filtings etc. Home Base Professional Colinears, 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/celver. 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.

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CB MASTER 85020 3600 CORBA 148 GTL DX Mk 1 148 GTL DX Mk 3 GTL 150 COLT 320 320 FM 485 720 870 890 1200 DX 1200 Excalibur 1600 DX 1600 Excalibur FORMAC 80 88 120 HAM INTERNATIONAL Concorde 1 Concorde 2 Concorde 3 Jumbo 1 Jumbo 2

Jumbo 3

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Multimode 3

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## Complete with simple to fit instructions £9,95 inc. GOLF COMMUNICATIONS PO BOX 60, RICKMANSWORTH, HERTS WD3 2XE



## More news from around the clubs

Aforate	1.71



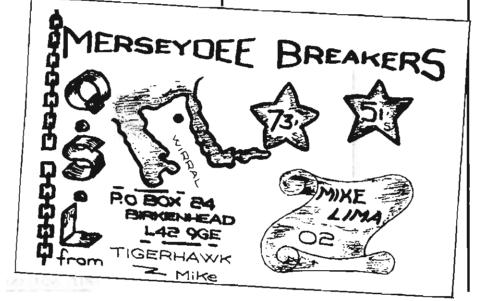
## Island FM CB Club

At a meeting of the Island FM CB Club (held last year), the committee decided to withdraw the Island DXing Club's use of our PO Box. Apparently this club has been asking a £5 membership fee without informing the Island FM CB Club whose PO Box this club has been using. The Chairman and founder of the Island DXing club has since moved away last year without leaving a forwarding address for the club's mail.

Since then the Key Holders of the PO Box have received several irate visits and letters from people who have paid the club money and have had no further news. Any mail that has been received at the PO Box since October 1985 has been opened and any money has been returned. We cannot help any one who has not received a direct reply from the Secretary of the Island FM Club.

The Island DXing Club committee members (and all local members) have resigned from this club and, to our knowledge, the club is no longer in existence.

We wish to take this opportunity to point out to you, and anyone else who may be concerned, that the Island FM CB Club has no connection at all with the Island DXing Club and we are not responsible for any debts or otherwise which this club may have incurred.



Thank you very much for your kind assistance in this matter.

P Turner (vice-chairman), Island FM CB Club, PO Box 19, Sheerness, Kent.

## **Merseydee Breakers**

I write on behalf of our Wirral based club formed in February of last year. We started with the aim of running a small, full-members' section to meet a regular intervals for the social benefit of members, families and friends. This we have achieved since foundation and have a very happy club as a result, growing steadily towards a limit of 60 members. At present, there are 18 fullmembers and we meet once a fortnight at a regular venue.

It is hoped that, in the not-toodistant future, we will be able to extend our activities to perhaps charitable work etc. Although full membership is limited, a DX section has just opened with no limit, with the hope of attracting DXers from everywhere.

I will keep you informed of future developments within the club which will hopefully soon attain full local membership.

Tigerhawk (chairman), Merseydee Breakers, PO Box 24, Birkenhead, Merseyside.

## Tripe City Breakers DX — QSL Club

We are already a well-established QSL swop club with a membership of close to 800, but we are now looking for new members of a different kind in a longterm attempt to reduce the number of people on the air who like to spoil our hobby by bad language, keying and playing music for hours on end using powerful linears and echo chambers which they obviously don't know how to use.

For all the new breakers that come on the scene after Christmas each year, we now produce a leaflet which contains lots of useful information for the less experienced, such as codes, frequencies, how to fit PLs, how to mount a car antenna, codes of practice, how to DX correctly, how to QSL and much more.

For anyone who would like this leaflet plus membership to our club, all that is required is a stamped addressed envelope (foolscap size) which must contain your handle/call sign, name and, of course, return address. We then ask all our current members to set a good example on the air and to encourage new breakers of any age to become good breakers, because the ones that are not welcomed and taught the correct ways will soon develop into our next generation of wallies. Maybe other clubs will follow suit and try to clean up the airwaves, especially as it would appear that the authorities don't want to know. I'm sure that it would also lead to a few more of us becoming "legal" breakers too.

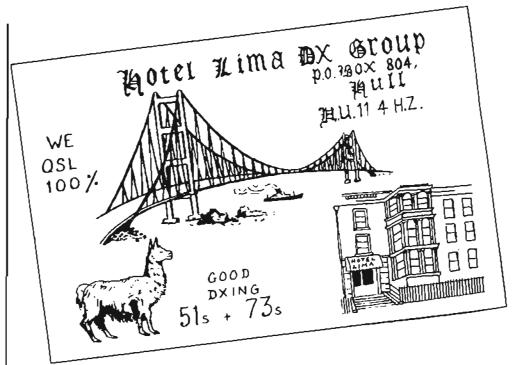
Blunderbuss (Martin), Tripe City Breakers DX — QSL Club, 55 Whitegate Close, Padiham, Burnley, Lancs.

## Group 2LO Radio Club

Back in the winter of 1981/82, this group was formed by several mature breakers wanting to get away from the wallies who followed them round from pub to pub, so a secure venue was found and membership restricted to operators with a mental age of over 30.

The club is still going strong and every year, with help from other local clubs, we organise the 2LO Poppy Run, which is a cycle ride from Richmond, Surrey to Brighton seafront in aid of disabled ex-servicemen of the Royal Star and Garter Home.

Most of the members are longestablished CBers and many are now also licensed amateurs. Any sensible breakers wishing to meet a warm and friendly group will be welcome to visit at the South Western pub, Whitton Road, Hounslow, Middlesex any Thursday night. Best wishes for 1986 to all clubs everywhere.



PS. The money raised on the poppy run over three years is in excess of £5,000.

Mike Alpha Charlie (chairman), Group 2LO Radio Club, c/o South Western public house, Whitton Road, Hounslow, Middlesex.

## Peterborough & District CB Radio Group

We formed our club in April last year and we already have over 50 members in and around the Peterborough area. Our aims are to raise money for local charities and to help out blind and disabled CBers (we have already provided a Backchat for a blind person).

Our membership is £2.50 a year and members get 10 free QSL cards, as well as use of the PO Box.

A Fitzjohn (PD02), PO Box 97, Peterborough, Cambs.



## Hotel Lima DX Group

The Hotel Lima DX Group started in May 1985 and we have a membership now of 73, and it's still growing. Membership of the club is 50p a year as we are just a DX group with a PO Box. The charge helps with the PO Box cost and any extra money also helps keep the cost of DX cards down.

Condition of membership is that all QSL cards received must be returned. Cards are collected from our home QTH or our headquarters at Hull CB centre, 194 Hessle Road, Hull, but for long distance members, we forward if a SAE is supplied.

Bookworm (HL 01), PO Box 804, Hull.

## Midland Radio Group

I would like to inform you of our radio group. We are a group of Midland CBers and radio amateur enthusiasts whose sole aim is to DX and create friendship throughout the entire spectrum of radio operators.

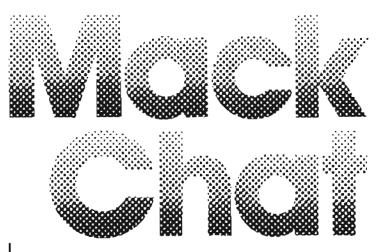
Presently, the group meets every two weeks at The George public house in Oldbury, West Midlands. Anyone wishing to visit us would be made most welcome; we meet Monday nights.

We formed in December 1984 and, at present, have a small restricted amount of members, but due to many requests for membership we have decided to extend the membership. This may also include postal members and this will take place at the beginning of 1986.

Anyone who may be interested in joining the group, please write for details, also any other DX radio group; we would be pleased to hear from you.

Paul (Secretary), Midland Radio Group, PO Box 33, Warley, West Midlands.







#### Mack investigates business use on 934MHz

was flabbergasted — in fact my gaster was woll flabbered when I read the letter last month from CTVR communications, Grantham. Idiots on 934? Could he mean the wally types who are normally found on 27MHz? Living on the outskirts of London and being able to communicate with most stations in and around this city I would have thought that I would have known if any idiots were in evidence, Also, I would have thought that if the wallying had started it would have surely reached London. Reading through the letter I realised what it was really all about. Mr Buck is quite correct in his statement. that the CB frequencies are open to business users. In fact, I have just checked through all the past literature that I have received from the Home Office and DTI relating to licencing conditions. Many mentions are made to the effect that the CB channels are to be shared between all users including business users and one of the DTI's information sheets even recommends that the 934 frequency would be a better mode for business use. OK, fair enough, Mr Buck's remarks are true. A business user would only use one channel at a time and for a short period. to pass on a message. As a 934 user myself. that's fine. I can find no objection to that and I'm surprised that the other users that Mr Buck refers to as idiots should have any objection to this procedure. In fact, any 934 hobbyist user who is guilty of the offences that Mr Buck spoke of would be better off on 27MHz if they want to police the band, having goes at the idiots on that frequency. Let us suppose that a small taxi firm with, say, three mobiles and a base use it for their business and also for the occasional chat when the taxis are not conveying passengers, and they allowed other breakers in on their conversations. It would be accepted by all the 934 hobbyists. Yet it seems that if the taxi firm cold-shouldered the 934 hobbyist, the hobbyist gets the 'ike' and causes trouble. I ask why? It could be a coincidence but amongst my latest batch of fan mail I received a letter from 'Merlin' who recently joined the 934 band and says all was well for

about five weeks but now he and his mate 'Spiderman', who also sacrificed much to purchase 934 equipment, find they are getting "screech-screech, bleep-bleep, gooday, blah-blah taxis at your service" all over the top of whoever they are talking to at the time. From what Merlin also tells in his letter, someone in his area (Swineshead, Lincs, not too far from Grantham) has come up with the idea of connecting an IQ smartpatch to a Cybernet Delta One along with a sell-call device and is selling them to taxi firms. (Must be CTVR). As I can see from his letter, here is one 934 hobbyist who is not happy with the idea of business users on the 934 band and, as he states, the business users are going over the top of his communications.

#### Conditions

Back to the licence conditions, Mr Buck is correct when he points out that the CB bands can be shared but he should have read or have noticed licence condition 7. I won't quote it here but all of you with current licences. will see that it confirms that selective calling systems are allowed, as are tone bursts and, of course, plain speech. Now Mr Buck says that when his system is in use a 'hum' will be heard over the business user's transmission. By a 'hum' he must mean a continuous digital tone. Is that permissable? I think not. Condition 7 in my CB Information Sheet No 2, June 1984 (Licence Conditions) issued by the DTI states that coded transmission including morse and computer signals are not permitted. So this 'hum' could well be defined as a computerised signal. If the users of the 'doctored' 934 rigs cannot hear other stations, how do they know if the channel is in use or not? Fair enough, the doctored rig can scan for a clear channel, but I believe that the user would have and would use a favourite or preferred channel that they would regard as their channel and they would not know or care if the channel was being used by the hobbyist.

Mr Buck also states that there are enough channels at the present for all to use, but if his idea catches on, and I can well believe it could, as many companies are looking for cheap PMR systems for the reasons that Mr Buck mentions, will it be good for the average citizen's band enthusiast?. Surely CB was conceived with the hobbyist in mind. When I was campagning for legalisation, I didn't see any private business companies on the Saturday afternoon marches and meetings.

Already we have the cellular telephones that are clogging the 934 bands and if this cheap PMR catches on then the 20 channels begin to thin out a little. I can also see a lot of other disadvantages. For instance, if the hobbyists do get the neadle they would only have to go mobile and park a couple of streets away from the taxi office and waffle on the channels that the taxi company use. Worse still, if a burglar acquired a 934 rig, he could listen on the taxi channels, and the rest you can imagine.

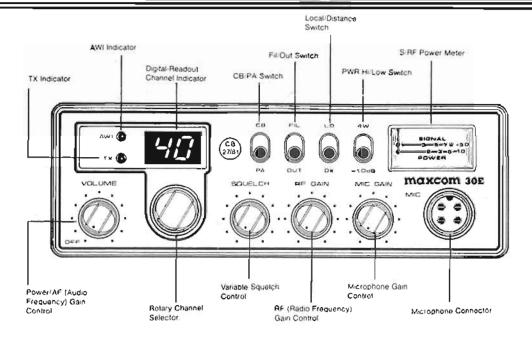
Why do people make such a big noise over the amateur radio exam and the passing of it (remember Tom McLean on Rockall saga)? Why is it that many people take on the attitude of 'I'm a radio amateur and are therefore holier than thou!' Big deal, so you went and put the lines across the boxes in the correct order. So did I, and I bet a chimpanzee could be trained to do the same. I wonder if it's as much luck as skill, as I could quote many instances of licenced hams that confess that they were surprised that they passed. When I took my Part 2 for the fourth time, I came out of the examination room feeling more of a failure than the previous three times. I told myself to forget the amateur scene as it was obviously not for me and get stuck into more CB. I did forget about it that until that January morning when the result slip arrived with a credit pass (second best). No way was that skill, but pure luck.

This is nothing to do with radio but if you ever want to pass a worthwhile exam try passing the licenced London taxi driver's "knowledge". Only one out of ten succeed and it can take from one year to pass out. The failures drive mini cabs (pirates)!

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6

# zens'.Ban



#### 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.

SOUELCH 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 circut will then only open to lot through a stronger signal than those you have quieted out. As soon as the stronger signal goas, 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/RF 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

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

#### Your set may also have the following controls

CHANNEL 9 SWITCH 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 tight dimmer, and reduces the amount of illumination on displays and dials on the CB sot. A few sets have an automatic dommer built in, which measures the lighting fevel 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 desensitiving the receiver slightly. If the ignition circuit is already adequirity 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.

# FMRIG CHECKLIST

CB 27/81		RETAIL	OFC	SUPPLY VOLTAGE	SQUELC.	NB SWITCH	ANI SWITT	MIKE GAL	RF GAIN	TONE CO.	S. RF AL	S/AF LET	HILLOON	PA FACILIE	100	OPEAKER
NAME	MODEL	PR P	NO	120	20	N8 /	AN	110	AF.	12	15	15	Ĩ.	12	1 2	1
AUDIO LINE	341	£60	40	13.8VDC	•			•	•	•	•	ĺ	•	•	1.1	Ť.
AUDIO LINE	340	£40	40	13.8VDC	٠			•		•	•		•		1.3	
AUDIO LINE	342	£115	40	13.8VDC	•				1999	100	•			•	100	t
COLT	295	£49.99	40	13.8VDC	•		19		•		•		•		•	t
COMMTEL	GT858	£30	40	13.8DVC	•		01	- 5	-	-	٠		•		•	T
COMMTEL	GT688	£36	40	13.8DVC	•				•			h	•		•	
COMMTRON	CB40F	£70	40	13.8VDC	•						•		•		•	t
COMMTRON	CXX	£69.95	40	13.8VDC	•				•					•	•	t
COMMUNICATORS	NI-440DX	£60	40	13.8DVC		1										÷
CYBERNET	BETA 1000	£70	40	13.8V0C			-					•	•			+
CYBERNET	BETA 2000	£70 £85	40	13.8VUC	•	-			•	•		•		•		+
CYBERNET	BETA 3000	£169	40	13.8VDC					•		•	•	•	•		+
CYBERNET	DELTA 1	£355	20	13.8VDC												+
INTERCEPTOR	INTERCEPTOR	£80	40	13.8VDC			-	-	•	•	•				•	+
	TC400	£95	40	13.8VOC	•		•	•	•	-			•		•	+-
INTERCEPTOR	ONE HANDER	£100	40	13.8VDC	•	-		•	•	•		•			•	ł
	JOHNSON	£50	40	13.8VDC	•		-	-	•		•		•	•	•	t
LAKE	MANXMAN 850	£32.50	40	13.8VDC	•						•		•		1	t
LAKE	MANXMAN 950	£37.50	40	13.8VDC	•	1 3			٠		•		•	•	•	t
LOWE	TX 40	£50	40	13.8VDC	•				•		•	1993	•		•	t.
MAGPIE	AUTOSCAN 5000	£120	40	13.8VDC	•			•	•		•		•	•	•	t
МАХСОМ	4E	£50	40	13.8VDC	•						•		•	•	•	t
MAXCOM	6E	£48	40	13.8VDC	•			1	•		•	-	•			1
МАХСОМ	20E	£50	40	13.8VDC	•						٠					T
МАХСОМ	21E	£50	40	13.8VDC	•						•		٠			t
МАХСОМ	16E	£40	40	13.8VDC	•						•		•		•	T
МАХСОМ	30E	£65	40	13.8VDC	•			•	•	٠	•		•	٠	•	Ţ
	1-104		тх	- 14	4	19 E										

# **REFERENCE**

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.

RX IND. LIGHT	182	COMMENTS	ADDRESS	NAME
and the second s	SL		Telecomms, 189 London Rd, North End, Portsmouth	AUDIOLINE
		Report Feb '82		AUDIOLINE
•				AUDIO LINE
1.10-1	FL		K 8 & Co Ltd., 202 Cheetham Hill Rd, Manchester	COLT
	SL		Globe, 168 Brooker Road, Waltham Abbey, Essox	COMMTEL
Collins -	SL	Dimmer Switch Features		COMMTEL
•	FL		Roger D 831 Mansfield Rd. Notis	COMMTRON
-	FL			COMMTRON
• •	FL	Roger Beep Faature		CONVERTION V
	SL		Telecomms, 198 Landon Rd, North End, Portsmouth	CYBERNET
•	FL	Report May '83		CYBERNET
	FL	Report September '83		CYBERNET
	FR	Report Oct '84		CYBERNET
•	SL		A COMPANY AND A DESCRIPTION OF A DESCRIP	INTERCEPTOR
•	FL			INTERCEPTOR
•	FL			INTERCEPTOR
	FL	Great GT868 chassis	Star Warehouse, Chalk Farm Rd, London	JOHNSON
	FL		Roger D, B31 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
•	FI.			MAXCOM
•	FL			MAXCOM
	FL			MAXCOM
	FL	Report Jan '84		MAXCOM

# REFERENCE

27/61		AFTAIL PRICE	000	Supply HOI.	Sque, 14GE	10. H	IL S.	MIKE .	GAIN	WE	S. AL OUTROL	S. A.E.	HI 10 A.O	Par E.	Solutry SoleAu
NAME	MODEL	AF	130	1 3	100	182	ANI	12	A.F.	15	15	10	I'H	4	14
MERCURY	10 40	N/A	40	13.8VDC							•	-0	•		
MUSTANG	CB1000	£49.95	40	13.8VDC	•				1.3	1000	•		-	٠	
MUSTANG	CB3000	£59.99	40	13.8VDC			Tool St		•	•	•			•	•
NATO	40M	£69.95	40	13.8VDC				•	•	٠	•		2. 1.	٠	•
NATO	2000	£189.95	40	13.8VDC	0	•	•		•	٠	•			•	•
OSCAR	OSCAR I	£85	40	13.8VDC							•		•		0
OSCAR	OSCAR II	£49	40	13.8VDC					1		•			•	•
RADIOTECHNIC	SUPERTUNED M40	£59.95	40	13.8VDC							•				
RADIOTECHNIC	RT 852	£69.95	40	13.8VDC	•				1				•		•
ROTEL	RVC 220	£50	40	13.8VDC	.0								•		0
ROTEL	RVC 230	£70	40	13.8VDC					•	٠	•		٥	•	•
ROTEL	RVC 240	£90	40	13.8VDC	•			•	•	٠	•			•	0
SIRTEL	SEARCHER	£40	40	13.8VDC	0				0.2		•			•	•
TANDY	TRC2001	£80	40	13.8VDC	0						•		0		0
TANDY	TRC2002	£70	40	13.8VDC							•			•	
TANDY	TRC2000	£100	40	13.8VDC	0			•	•		•		•	•	0
TANDY	TRC1004	£79	40	12VDC			-						•		
TANDY	TRC2003	£130	40	13.8VDC											0
UNIDEN	UNIACE 100	£69.95	40	13.8VDC									•	٠	
UNIDEN	UNIACE 200	£89.95	40	13.8VDC			132 5	•	•	٠	0	1	•	•	0
WESTERN	COMPACT 40	£34.50	40	13.8VDC	•										
WESTWARD	P.T.2	£159.95	40	13.8VDC 240V	0				1		•		•	•	•

CREAT		* 4		Supply Voltage	Sque.	ron	1.00	Sunrch E	AF GAIN	Mr.	CONTROL	AL	HI 10 A.O	ourpur	ex speaks
NAME	MODEL	RETAIL	No	13 S	SQU	NBS		Course .	AF C	TONE	12 3	S.A.	HI LO	44	13
AUDIOLINE	345	£139.95	40	240VAC	•			•	•	•				•	
COMMTEL		£65	40	240/12V	•						•				
HAM INT.	JUMBO	£254	40	240VAC				•	•					•	
HARVARD	H401	£149.95	40	240VAC	•			•	•		•		•		1
HARVARD	WT44		40	BATTERIES	•				1000						
KAISER	CBX40	£80	40	BATTERY	•						•	_	•		.0
махсом	7E	£69.95	40	BATTERY	•								•		
TANDY	TRC1001	£119		BATTERY							•		•	•	۲
UNIDEN	UNIACE 300	£149.95	40	240VAC	•	100		•		•			•	•	
WESTWARD	P.T.2	£159.95	40	240V/12V	•							-	0	•	

					REFE	RENCE
"det	R.K. INCHT	. ucur	witch	Counterrys	MOBIL	ES
1	PAK IN	CH.S	MIKE	Comme	ADDRESSES	NAME
•		1.1	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
0	•	•	FL	and the second se		MUSTANG
•	1.20		FL		Roger D. 831 Mansfield Rd, Nortingham NG5 3GF	NATO
•	6.019		SL	Report January '83		NATO
	201	•	FL	Cybernet 134 chassis rep. April '82	S.M.C. Runbridge St. Totton, Hants SO4 40P	OSCAR
	1.2-21		FL	Report Oct '83		OSCAR
	•		FL	Report July '82	Radiotechnic Ltd, Rue des Butten, St Mary, Jerney, C1/23 Telford Rd, Farn	RADIOTECHNIC
•	•		FL	Report Nov '85	Down Industrial Estate, Fern Down, Wimborne, Dorset	RADIOTECHNIC
0	100		FL	Cybernet chassis	Rotel Hi-Fi, 2-4 Erica Rd, Stacey Bushes, Miton Keynes	ROTEL
•	•	•	SL	Cybernet chassis		ROTEL
0		1.33	SL	Cybornet chassis	- And the Property of the second second second	ROTEL
•	1. 199		FL		State of the second and a showing the	SIRTEL
•	•		SL		Tame Way, Tower Bridge St, Walsall, Steffs	TANDY
•			SL			TANDY
0			SL			TANDY
•			-			TANDY
			SL	Report Nov '82		TANDY
•			SL	Report Sept '82	Craveminster 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

CHT CH		no con	BASES & PORTAB	-
17 INO	CH 9 SWITC	Countervis	ADDRESSES	NAME
•	-		Telecomms, Portsmouth and Globe, Essex	AUDIOLINE
	FR	Report December '83. Also comes with telescopic antenna		COMMTEL
•	SL			HAM INT.
•	FL			HARVARD
		External antenna facility	Globe, 168 Brooker Road, Waltham Abbey, Essax	HARVARD
•			Telecomms, 189 London Road, North End, Portsmouth	KAISER
•	1. 7		Sharman's Wholesale, 3 Bury New Rd, Manchester (061-834 9571)	MAXCOM
	125		Tame Wey, Tower Bridge Street, Walsall	TANDY
•	FL	Reviewad August '83	Cravenminster Ltd., Unit 8, Industrial Estate, Llandudno Junction, Gwynedd	UNIDEN
	FL	Report Nav '83	Westward Electronics, The Mill House, Tuckenhay, Totnes, Devon 080423 336/370	WESTWARD

# REFERENCE ANTENNA CHECKLIST

## The Citizens' Band Anten

#### 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 iberal than those originally in force, with the ba oading restriction removed to permit any type of oading as long as the antenna is 1.65m in lenge ess) and no more than 55mm in diameter. This revised checklist now includes the many new antennas released after this change of heart. NAME ADDRESSES MO		the base type of n length (or r. This new art.	CONSTRUCTION	LENGTH	MAX POWER	TYPE	LOADING	MOUNT	PRICE RANGE
NAME	ADDRESSES	MODEL	ö	3	W	LF.	E -	Ŵ	H.
AERIAL SUPPLIES	Aerial Supplies (Redditch) Ltd. 5 Widney House, Bromagrove Road, Redditch, Worcs, (0527 62620/60107)	Silver Star Silver Arrow Javolin Javelin Dipole	AL AL AL AL	1.5 1.6 1.64 1.64	100 500 500 500	8 8 8 8	BBCC	Pole Pole Pole Pole	DmmC
ALLGON	Communications, 10 North Street, Strood, Kent.	Varlous 466	FG SS AL SS	Various 1.4	Various	B M Marine	T C B C	Various MasVCabin	A-H inc. F
ARMSTRONG	Stateside Trading Ltd. Audley Avanue, Newport. Shropshire	SAM 10 SAM 20 TAK 10 TAK 20 MAG 10 MAG 20 BDY 20 PEC 20	85 85 85 85 85 85 85 85 85	1.06 1.06 1.06 1.06 1.06 1.06 1.06 1.06	1000 1000 1000 1000 1000 1000 1000	M M M M M M M M M	8868888	Surface Spring Surface Boot lip Mag. Spring Mag. Side Side, Fold over & Quick Disconnect	111100000
ARCHER	Tandy Corp. Tameway Towar, Bridge Street, Walsall, West Mids.	21-904	<b>S</b> S	0.5	50	м	B	%" thread	D
BANDIT	Telecomms, 189 London Road. North End, Portamouth	810 815 815 820 830 830 840 840 840 840 860 850	55555555555555555555555555555555555555	1.42 0.61 1.42 1.42 1.42 1.42 1.42 1.42 1.42 1.4		2222222222	888888888888888888888888888888888888888	Mag. Mag. Mirror Drill Thru Drill Thru Various Various Various Various Various	GHFFFFF
BREMI UK LTD.	Unit 6, Innage Park, Holly Lane Industrial Estate. Atheratone, Warks.	В275 С275 НВ275	SS SS AL	1.62 1.38 1.55	1000 1000 1000	M M B	B C T	% <sup>™</sup> thread %″ thread Pole	CCE
CB SERVICES	97 Creb Lane, Harrogate, North Yorks.	Sullwhip Knuckleduster	SS AL	1.6 1.6	-	M B	B B	Various	CD
COMMTEL	Near Third Drove, Fengale, Peterborough	Rocket Shuttle Starlight Shuttle Star Signal searcher Messenger Signal keoper	SS FG SS AL SS SS	1.5 1.6 1.6 1.6 1.5 1.5 1.6		М М М В В В В В	888W BB BB BB BB BB	%" thread %" thread %" thread Clamp Pole Clamp Tripod	E F
FREEMAN AND PARDDE	Tything Road, Arden Forest Ind, Est, Alcester. Warks.	Invader Thunderpole II Thunderpole III	AL /AL /A1	1.5 1.5 1.55	250 500 500	8 8 8	8 B C	Pole Pole Pole	E F F
GAMMA AERIAL PRODUCTS	Lye, West Midlands, (0384,891132/891474)	Skybreaker Avenger Lofty Skybreaker II Avenger II Lofty II Firefly	AL AL AL AL AL SS	1.5 1.5 1.65 1.65 1.65 1.65		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	8880000	Pole Bracket Pole Breckat ¾" thread	DCDmmm

# REFERENCE

#### na Checklist will give you the following information:

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

n.	power indica Figure
maximum length	
ntenna is 1.65m,	Туре

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

Length

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 <sup>3</sup>/<sub>8</sub>" thread usually will fit a range of mounts.

KEY Construction SS Stainless Stoel AL Aluminium FG Fibreglass Type B Base M Mobile	T — Top     C -       C — Centre     D -       B — Basa     E -       CW — Continuously wound     F -       Price Bands     G -	- [5-£9.93 - £10-£14.99 - £15-£19.99 - £20-£24.99 - £25-£29.09 - £30-£39.90 - £30-£39.90	CONSTRUCTION	H	MAX POWER		LOADING	NF	Dan
NAME	ADDRESSES	MODEL	CON	LENGTH	MAX	TYPE	LOA	MOUNT	PRICE
нам	Cognet & Co. Whitegate, 12 Farden, Bitterley, Ludiow, Salop	Big Maa Thundarbird Hipowor Quatro Sexy	AL AL AL AL	9.9m 6.6 6.5 5.0 7.5	2k 2k 2k 2k 2k 2k	8 8 8 8	B B B B	Various Various Various Various Various Various	TOGOG
HOT ROD	Stateside Trading Ltd. Audley Avenue, Newport,	FM UK	55	1.27	E CUA	M	В	3%" Thread	8
LES WALLEN MANF.	Pembroke Works, Ramsgate Road, Sandwich,	Modulator LC M.D.X. Long M.D.X Short Mini M.D.X. Mini 27 T-Bolt Saturn Expor	SS SS SS SS AL	1.65 2.00 1.65 1.10 1.40 0.83 1.00 1.00	1000 1000 1000 100 500 200 500 1000	222220B	BBBBBBCC	%" Thread %" Thread %" Thread %" Thread %" Thread %" Thread %" Thread Pole/wall Pole/wall	CCCBBBDF
MARKSMAN	Marksman Products. PO Box 40, Milton Keynes MK6 2UT (0908 868916)	Mistor Silck	SS	1.19 1.63	Above legal limit	м	C	%"UNF	D
R.W. BAOLAND LTD.	Rostan Trading Estate, Providence Street, Lye, Stourbridge, West Midlends (Lye 3160/5051)	Robel 1 Robol II Robol Anidor Robel Bullet Rod Dovil	\$5 \$5 \$5 \$5 \$5 \$5	1.6 1.6 1.6 0.61 1.62	500 500 500 500 500		BBCBCW	% Thread % Thread % Thread % Thread % Thread % Thread	
REVCO	Telecomms. 189 London Road. North End, Portsmouth.	Ravea	85	1.0	100	м	8	Various	8
SMC	Rumbridge Street, Totton Street, Hants	Oscar CBA 11GP Oscar 11V11S11 Oscar 11CM Oscar 11CE Oscar 11CE Oscar 11NE Oscar 11SE Oscar 112E	*****	1.5 1.5 1.2 1.2 1.6 1.5 1.5		88×××××	8 8 8 8 8 8 8 8	Mag- Foldover Base Pull up Foldover Base	<b>F</b> FDCCCB
TAGRA	CB Radio Centre, 337 Kenton Road, Middlesex	¥40	SS	1.4	500	м	B	Various	E
ТНОЛО ВЯЕД	Pixtron UK Ltd. 10 Victoria Street. Newark, Notta. (0636 74688 Telex: 377627)	2 27 Z Mag 261	SS SS SS	1.62 1.52 1.80	1700 1700 100	M M M	8 8 8	%" Thread 3" Die Megnet 5" Die Megnet	BCC
VALOR	W.T.A. Electronics Ltd. 111 Cromer Road, Hellesdon, Norwich (0603 47694)	Warrior 650 Hall Breed 520 Hall Breed 520 Hall Breed 500 Dial-a-Match 540 Dial-a-Match 540 Dial-a-Match 530 Robber Duck 300 Pro Am PLB 27 Road Hog 336 Road Hog 336 Road Hog 336 Road Hog 336 Road Hog 836 Road Hog 836 Black Magic 333'/, Black Magic 333'/, Black Magic 333'/, Black Magic 333'/,	SS SS SS SS SS SS SS SS SS FFGGFFGGFFGGF	1.62 1.62 1.2 0.35 1.69 1.69 1.69 1.69 1.69 1.69 1.69 1.69	1500 1500 1500 1500 25 25 200 1000 1000	N N N N N N N N N N N N N N N N N N N	CBBBBBBCBTTTTTTTTTTTTTT	14" Thread 54" Thread	000000000000000000000000000000000000000
WTA	W.T.A. Electronics Ltd. 111 Cromer Road, Hellesdon, Norwich. (0603 47694)	Wat Pale 1 Wat Pale II Wat Silck 1 Wat Silck II	AL AL SS SS	1.6 1.6 1.6 1.6	1000 1000 1000 1000	0 8 M M	8 8 8	Pola Pola %" Thread %" Thread	BCAB
VAN ORDT	Knight Communications, Unit 19 Brittania Estate. Leagrave Road.	Audio King	SS	1.5	2000	м	ß	₩" Thread	ß

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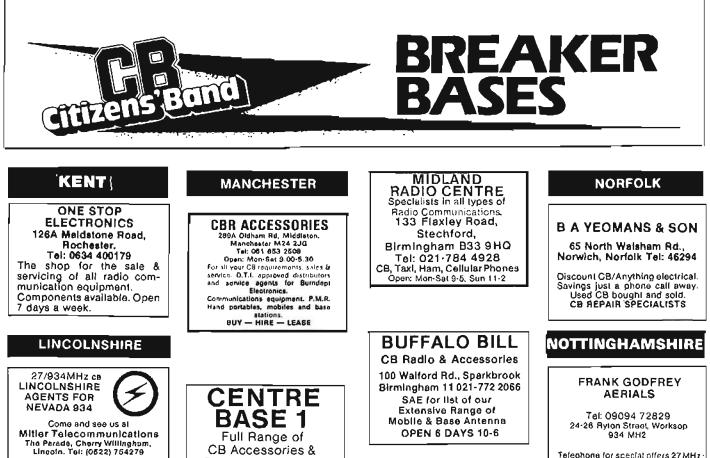
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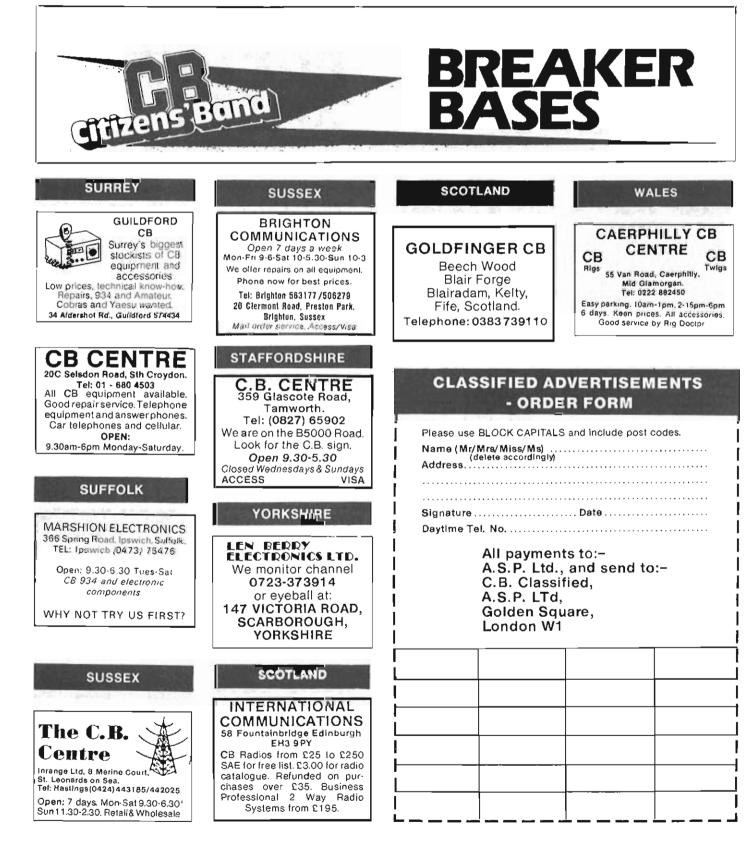
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