

CB

Citizens' Band

Britain's Leading CB Monthly

85p

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TWONG

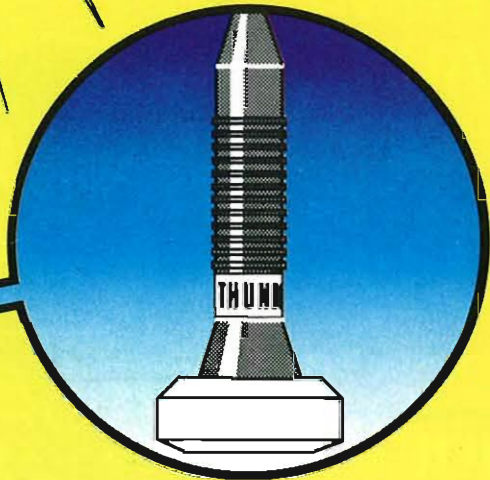
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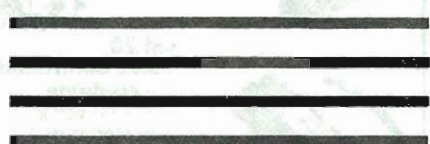
Advertisement Director:
Iain Herbertson
Classified Advertising:
Julie Bates
Design and Origination
by MM Design and Print
London WC2H 0EE
Chief Executive
T J Connell

Editor:
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Consultant Editor
Chris Adam-Smith
Managing Editor:
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CB

CITIZENS' BAND



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Cover this Month

On the cover this month in all it's seasonal glory is the Westward P.T. 2. After considering it's versatility, you might want to consider this (but then again, you might not) . . .

In days of yore, Vikings were well known for their anti-social habits, but they had their problems too. Eric, for example, had a nagging wife who was very keen on home improvements and he had hardly put his feet up after a raid before being pressured into refitting the kitchen. When Eric's next trip to Britain came around she gave him strict instructions that, since Britain led the field in kitchen design, he needn't bother coming home unless he had a kitchen sink with him.

After six days in a drunken stupor celebrating the spoils of war, Eric suddenly remembered that he hadn't yet got a sink and the long boat was due to leave in an hours time. Rushing up to a medieval Barettes building site, he asked for a sink unit. "No can do, squire", said the labourer, "they've all been installed". "What's that then?" said the panic stricken Eric. "Well" said the labourer "you're welcome to that if you want it."

Three sea sick days later, the Viking presented his wife with her new sink unit. She was delighted, which a!!! goes to show that A HOD'S AS GOOD AS A SINK TO AN UNKIND NORSE!!!!

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CITIZENS' BAND is normally published on the third Friday of each month prior to cover date.

CITIZENS' BAND, 145 Charing Cross Road, London WC2H 0EE. 01-437-1002. Published by Argus Specialist Publications Ltd. Distributed by Argus Press Sales & Distribution Ltd., 12-18 Paul Street, London EC2A 4JS. Printed by Knapp, Drewett & Sons Ltd, Kingston-upon-Thames, Surrey.

NOVEMBER 1983

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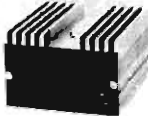
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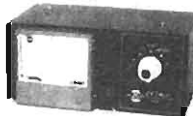


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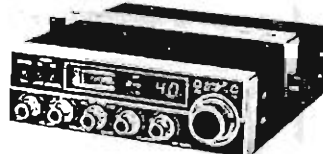


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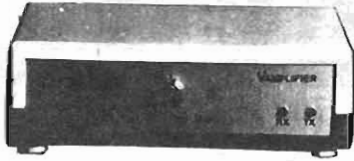
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From Us.... To You



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Dear Breaker,

As the country's largest C.B. distributor it would take us virtually the whole of this magazine to tell you about all our C.B. equipment in detail - so we don't intend to even try! Instead, why not send us £1 for our full catalogue and lists? If you do so before December 31st 1983, in addition to the usual £2 voucher we will send you a free C.B. Jargon book (worth 99p).

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Bob Jenkins

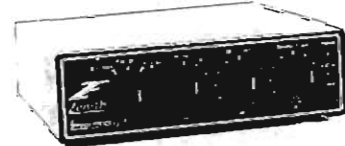
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The ZX4 is Zenith's most advanced product. This microphone has not only just been released but has met with a good response. The microphone (which will just fit into your 3/4" gully) is on a gooseneck with the PTT button located on a replaceable gear lever knob (which is available in black or tan). The ZX4 costs £25.82 (approx). Although basically a design company, Zenith handles all its own manufacturing on its own premises.





UPDATE

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

The Citizens' Band office has been the scene of great upheaval lately, with arrivals and departures. Departing has been David Lawrenson, man about town, sometime CB editor, rugby player and known to his friends and enemies alike as 'Piggy Lawrenson'. Arriving has been Sue Sharp, woman about town, soon to be CB editor, definitely NOT a rugby player and we won't go into what she is called as she's writing this editorial!

David has taken his bruised and scarred body off to a rugby magazine to write for those already initiated into this fearsome sport — unfortunately before he could show me some scrum tactics for getting near the coffee machine or out of the building at 5.30. I've been trapped here three weeks now, without a cup of coffee. Although, going by some of the others, maybe that's not such a bad thing after all...

Turning to more serious

matters, you will be pleased to hear that this change in editorship doesn't signal any significant change in the magazine. Hedgehogs will be able to sleep at night, secure in the knowledge that CB watches over them and those (quite rightly) in fear of an imminent attack from Twong will be relieved to know that I have been granted custody of the 'Twong Gun' and the hot line is waiting for reported sightings.

I'm glad to include an optimistic note in my first editorial. I've been doing my homework over the past week or two and reading past issues of Citizens' Band. It seems to me that the rather negative attitudes on CB, from users and non-users alike, are dying down and being replaced by a more cheerful view.

There's no denying CB has had a shaky introduction in this country. A spectacularly bad press, some dealers who have not been over particular in their

business practices, a section of society that regards CB as a private plaything and an unsympathetic government have combined to make even the most ardent CBER have a sigh of despair. But now, two years after the legalisation of CB we do have a workable and working system. There are not nearly as many complaints about 'wallies and bucketmouths' (even more encouraging, positive steps are being taken in some areas of the country to counteract them), there are many dedicated people who give up their time to monitor the emergency channel (and there's a lot less infighting between them) and there is a thriving British CB industry offering a range of innovative goods and employing British people. We can start forgetting the sighs and allow ourselves a small pat on the back.

Sue Sharp

On The Side

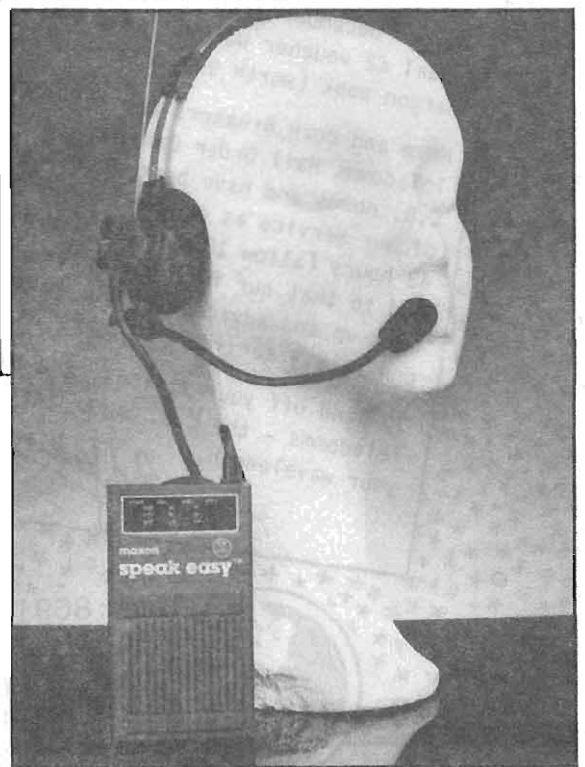
In September's 'Communicate the QSL Way' Mike referred to the fact that the other CB publications had taken a tumble and that we seemed to be the sole survivor.

'On The Side' magazine has written to us, understandably grieved by this comment as they are still producing their magazine and it obviously doesn't do the confidence of their readers and advertisers much good to read that sort of news. Sorry about that, O-T-S.

Spoke Too Easy

August's edition of Citizens' Band magazine saw a review of the Maxcom Speak Easy, operating on 49MHz. Our reviewer made some very favourable comments about it but lamented the lack of a legal version. Maxcom have written to us to point out that the 27MHz version *is* available and is very similar to the reviewed model.

The Speak Easy 27 conforms to government regulations and takes a PP3 battery. It is available from usual CB suppliers and at a similar cost to the 49MHz version.



Safety First

No apologies for reproducing this bulletin from the Electricity Council exactly as it arrived in our office. Read it and follow it — your life may depend on it.

Two men were electrocuted recently when a 30 foot CB radio aerial which they were moving fell

against a 11,000 volt overhead electric power line. They were up a tree at the time and it is possible that they did not realise that the line was there. It is also possible that they knew the line was there, but that they did not realise it was live.

A number of other CB enthusiasts have been electrocuted while moving aerials near overhead

electric lines. In one or two cases, surviving witnesses have claimed that they did not know the lines were dangerous.

It is important to remember that:

All overhead electric lines carry currents which can be lethal and which in many cases, can jump short distances to an aerial. Most materials

conduct electricity to some extent, and gloves do not provide any real protection against electrocution. It is therefore extremely dangerous to handle CB aerials near overhead electric lines.

It would be safer and more sensible to talk to the local Electricity Board before erecting or dismantling CB aerials near lines.

Knight Time

Those busy lads from Luton, Knight Communications Ltd., have added some new goodies to the vast range they distribute.

First out of the hat is P.G. Electronics accessory selection from Italy. These include antenna switches, dummy loads, linear amps, pre-amps and a robust collection of power supplies. The power supplies range from 2.3 amps to 25 amps (although the last one is a bit pricey!).

For the very specialised breaker, Knight's have the Kopek AR-1002 antenna rotator, an automatic, compact version suitable for radio and TV antennas and lightweight amateur aerials. The AR-1002 comes complete with all fixings and is simple to install.

Last but definitely not least is the Moonraker AK 1000, a British manufactured and legal mobile antenna. Knights claim a 3dB gain over 1/4 wave isotropic aerial.

These accessories are not directly available from Knights, of course, but ask your local shop if you're interested.

Beta By Far

If you live in the Manchester area and are looking for a real communications specialist, or just for something to do on a damp Saturday afternoon we can recommend a trip to Beta Comm of 231 Chorley Road, Swinton, Manchester.

Beta Comm is a specialist communications shop covering CB, amateur radio and satellite T.V. The shop dates back to 1979 and the very early days of CB and the range of equipment that the shop now carries shows how it

has grown and developed in the past four years.

Owner Roy Trent's expertise doesn't only extend to his stock. The shop is fully equipped for repairs, modifications and testing — and Beta Comm don't stock anything that doesn't perform well under test. The service extends further to an antenna erection service, custom built accessories like filters and seven day opening.

So if you have money to spend or you're in need of advice call in at Beta Comm or phone them on 061-793 1010.



Good Listening

Any short wave listeners amongst you might care to listen out for station ON 4 CLM in Belgium at the end of October.

Amateur radio users in Knokke, Belgium are staging a 'Canada Week', running from the 28th October to the 2nd November. During this week a special station has been set up at the town

hall and special awards will be given for QSO and SWL reports. Applicants must send their own QSL card and 150 Bfr., or 5 dollars or 10 IRC's to:

Radio ON 4 CM
Box No. 140,
8300 Knokke 1
Belgium.

Knokke has close associations with Canada (although just what I'm not sure, they didn't tell me in

the letter) and the whole town will be under the 'maple leaf' for the duration of the week.

Frequencies to listen out on are:

SSB; 3.705, 7.090, 14.141, 21.212, 28.282, 144.250 and 145.400 on FM.
CW; 3.595, 7.005, 14.025, 21.025, 28.025 and 144.025. Let us know if you do get one of the special multicoloured awards

Thanks!

For those who are thankfully fit and able-bodied and enjoy CB as fun, it can be difficult to appreciate the need of disabled people for human contact and security — and that CB can mean much more than just fun.

CBers have always been aware of the benefits that CB can offer handicapped and disabled users and much of their fund raising is aimed in this direction. At times, though, breakers feel that this has become a one way street and that they don't get the credit.

So it's nice to see that one charity at least publicly realises the help that CB and CBers can give. Arthritis Care is a national charity and has given quite a bit of attention to CB, especially in its publication Arthritis News. Their first story featured ninety year old Ernie Austin or 'Lucerne' of Bristol who has discovered a whole new world with his CB. Not only has he found people to talk to during the long nights when he has been unable to sleep but has found a new group of friends.

Arthritis News followed up their first story with a selection of letters from CB users (some who also had arthritis) and CB clubs and organisations who were prepared to help.

If you or your club are able to extend help or advice to local arthritis sufferers write to: Mrs. C. Holland, Editor — Arthritis News, 6, Grosvenor Crescent, London, SW1X 7ER.

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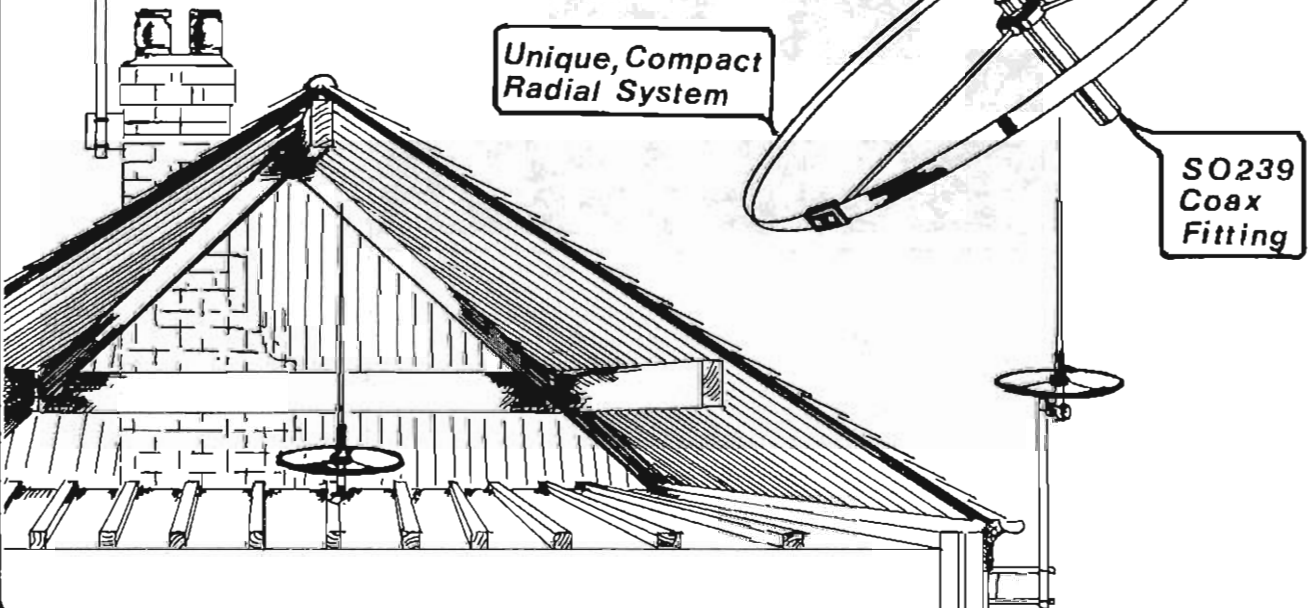
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Fitting



★ TWONG

JOHN RICHARDSON

REMEMBER HOW TWONG GOT LURED INTO A SPACESHIP BY AN ALIEN WAVING A BANANANA ON A STICK?... HOW IT WASN'T A BANANANA TWONG WANTED... ..HOW, AFTER HE'D HAD ONE, THEY ZWARPED RAG-DOLL UP THERE... AND HOW THE ALIENS ARE NOW ON THEIR WAY TO INVADE THE EARTH ??? V'DO ??? WELL NOW HE'S HAVING ANOTHER ONE!!



HEY! THAT LOOKS DOIN' IT AGAIN!
GOOD GRIEF!



HORAY, YOU CAN QUIT HITTING ME UPSIDE THE HEAD NOW...

...AN' YOU CAN QUIT SHRIEKIN' ABOUT THE ROTTEN OL' EARTH...



FDD YOU FECKON ALL THE FEARTHLINGS DO FTHAT?!

FJAW! PROB'LY FJUST THE FLOODY OUES!

FWELL IF IT FODES IT FAGAIN I'M FNOT CLEAVIN' FIT UP, AN' FTHAT FLODDY GOES FFOUR THE FIDE!

FTHERE, FTHERE! FFOUNT FUPET Y'FSELF! LET'S FGO FJUADE THE FEARTH! FTHAT'UL FFEER YOU FUP!

WAKE UP! WE HAFTA WARN THE EARTH! THEY GOULVA INVADE! Y'HEAR? WE GOTTA WARN EARTH!

CLIPPITY-SHMEK-SHMAK
EH?
WHO WAREN?



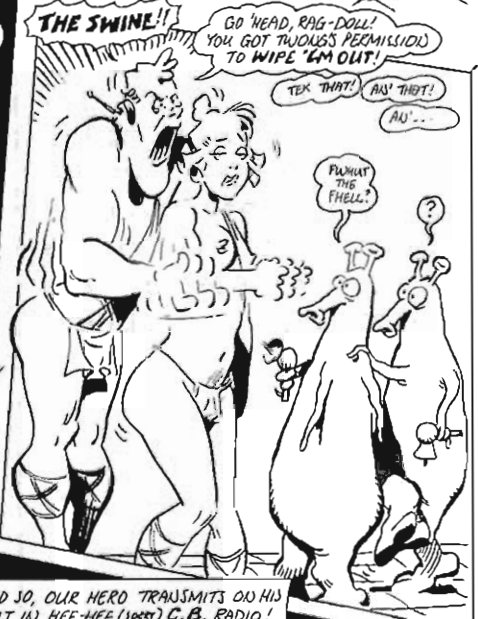
... I LEFT EARTH BECAUSE NOBODY THERE LOVED ME, AN' I CAUN'T THINK OF ONE REASON WHY I SHOULD SAVE IT!

BWAH!
'COS THEY'LL KILL EUERYONE...

...BAN C.B.

...BOMB YOUR KNAZ!

STOP PRODUCTION OF NEWCASTLE BROWN ALE!



THE SWINE!!

GO 'EAD, RAG-DOLL! YOU GOT TWOJUS PERMISSIOO TO WIPE 'EM OUT!

TEX THAT! AN' THAT!
AN'...

FWHAT THE FHELL?



LORD, I FLOVE DOWN FTHAT!

ZZAP

HEY'VE HARALIZED HUS! HOUR HAST HAXCE HIS HOR HU HO HUSE HOUR HEE-HEE HAVEHAND TO HARU HEARTH!

HO, HONAY! HERE HOES!



AND SO, OUR HERO TRANSMITS ON HIS BUILT IN HEE-HEE (1000) C.B. RADIO! AND THE FIRST TO PICK UP IS OUR HERO'S GOD FATHER, ZEUS!

HUK HOUT! HEY'RE HUMIN'!

GOOD GRIEF!

IT'S HIM AGAIN!



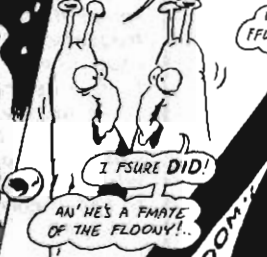
HERPES! YOU'RE MY MESSENGER SO GO TELL HIM A MESSAGE! GO TELL HIM BELT UP!

AND IT CAME TO PASS...



'TIS I... HERPES!

FDD YOU FHEAR WHUT THAT FMUCKY FSODS GOT?



I FSURE DID!
AN' HE'S A FIMATE OF THE FLOODY!

FRET! FFLIE!

FWITH YOU!

AN' SO, OUR HERO HAS SAVED THE WORLD YET AGAIN, AND CELEBRATES WITH A TUBE OF THE OL' NEWCASTLE NECTAR...



SIPPED IN THE TRADITIONAL MANNER, OF COURSE...

fitting something inside your rig could well invalidate the warranty or guarantee that Binatone offer, if your rig is a recent purchase.

Turning to your second problem, theoretically there's nothing stopping you from putting an antenna on your tow bar, but in practice it's not such a good idea. For a start the higher an antenna is mounted the better the signal will get out, and the less the signal will be attenuated by areas of metal (like a car chassis) etc. The other problem is the rust on the tow bar. All the instruction leaflets and text books tell you that you must get as good an earth as possible when mounting the antenna - and that areas of paint etc. must be scraped away. The same applies to rust. Apart from that if you can force the gutter mount to fit you're welcome to try it and let me know how it goes.

SA

Encore, Maestro

An interference problem of a different kind from Scotland again, but the other way round this time.

Q I recently bought an Austin Maestro 1.3L, and I have been told that the installation of a CB radio will affect the electronics. Could you please tell me if this information is correct, and if so, is there anything that could be done to allow a CB radio to be installed.

A We rang British Leyland on your behalf and spoke to the Engineering Dept. After some deliberation, they feel that installing a CB should not present a problem, since radio equipment installed in similar vehicles by the A.A. has been trouble-free. They do emphasize they have no direct experience of CB but can see no obstacle to the use of it. The suppliers of the digital equipment used in the Maestro also say that it is screened against routine RF interference but it would be common sense to site the rig away from the location of digital readouts.

I only wish poverty stricken writers could afford new Maestros . . .

SA



Announcing Albatross

Q Alex, first off, what does TBA stand for at the back of the magazine, under retail price and secondly, what do you think is best, a di-pole or a normal twig?

A Quite simply, TBA means 'to be announced'. We have had to use this when we have not been able to get a retail price from the supplier or been unable to get a price confirmed. This has often been to prices fluctuating wildly.

The main difference between a 'normal' twig and a di-pole is that the first is (presumably) legal and the second quite definitely isn't. In antenna design terms a di-pole is more efficient as it's effectively longer - and the most efficient CB antenna would be approx. 33 ft. long, a wavelength. As this is rarely practical and the Government wouldn't permit it anyway, the length is artificially added in the loading coil, at the bottom of the antenna on a legal version and in the centre of the 'poles' on a di-pole.

SA

Six Of The Best

Also from Scotland, Desert Fox (alias L. D. Tatton) really wants his moneys worth. Six questions!

Q 1. Do you have to join a club to DX legally?

2. Do you require different equipment from what I use at home base i.e. York CB869 with Thunderpole antenna. All legal, no extras to increase the power etc.,

3. Is channel 9 backed by the Home Office? (I do monitor although I am not a member of an emergency monitoring service).

4. Is there any truth that there will soon be 80 channels?

5. What is the benefit of 934 Mhz. over 27Mhz.?

6. I have a Barracuda in my fully suppressed car but still get a lot of interference. Any suggestions?



A Whew! Desert Fox needs a page to himself for that lot. I'll have to keep the answers short so that someone else gets a turn, so here goes.

1. No, but to DX legally you must use legal equipment only, although some DXers use illegal AM equipment and some clubs are based on this illegal use. DX means 'long distance' so it's free for anyone to try for that record breaking copy.

2. You don't need special equipment to DX, although many would say the better the equipment the better the chance of getting a long distance copy.

3. No, there is no legal protection for channel 9. The CB code of practice does recommend that breakers respect the tradition of channel 9 but it seems that the authorities are not prepared to back this up.

4. Very, very unlikely at the moment.

5. How long is a piece of string? Seriously D.F. you'll have to read up on this one in Citizens' Band, especially last month and this month.

6. Write to Lucas Electrical Ltd., Audio Dept., Great Hampton St., Birmingham for their booklet 'Radio Interference Suppression'.

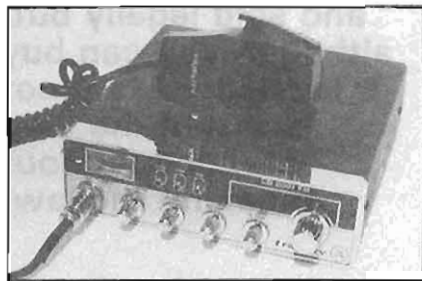
SA

Inside Out

Another antenna problem from M. Young in Pontypool, Gwent, and a question on the Fidelity 2000.

Q I have a feeling that this question might stump you, but if I know you lot at CB you'll be bounding around in a jiffy after you've read my question, proving that no-one stumps CB without a good battle first. Back to the question. Can you buy a CB mobile antenna that automatically goes up and down at the touch of a button? Do you have details and price ranges?

Also have you ever tested the Fidelity 2000?



A I've never seen a legal version of this type of antenna and I suspect that it wouldn't fall within the specification definition of legal anyway. This sort of antenna was very popular in the States, especially when there was a CB crime wave and breakers didn't want to identify their cars as having a CB in it and a few did 'cross the water'. I doubt if there are any still available and that aside, they are not altogether suitable for UK frequencies and are rather inefficient because of the restrictions of the design.

We did a review of the Fidelity 2001 in September 1982. The 2001 is very similar to the 2000 and technical characteristics and performance are identical.

SA



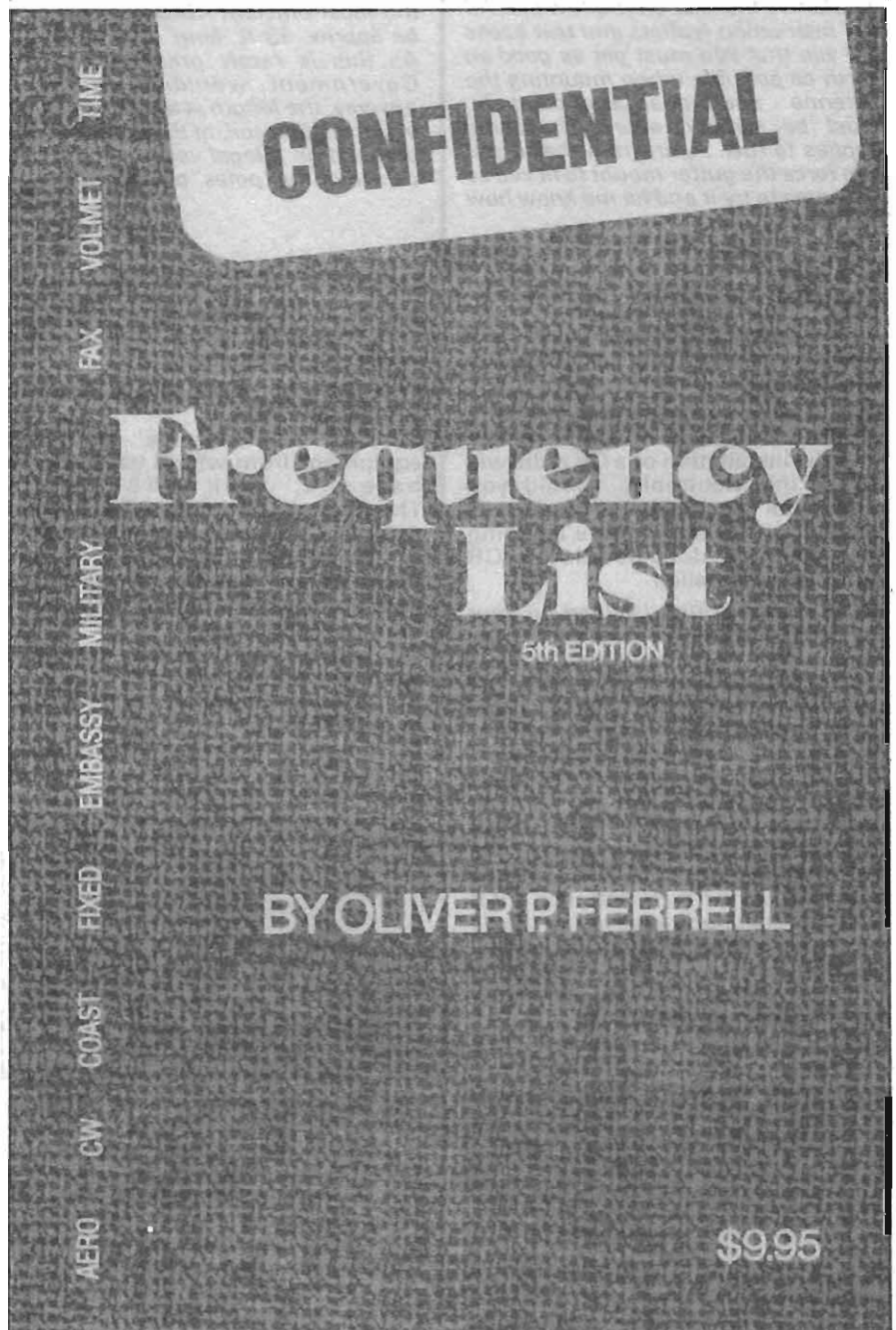
Problems should be sent to
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145 Charing Cross Road
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Feature



This month Andy R Giles reviews a book that was published legally, is imported and sold legally but, although you can buy it legally, you cannot use it in the way intended without breaking the law.

LISTEN WHO DARES



Someone, I forget who, once said that there are two types of people in the world, those who split people into two types and those who don't. He was of course highlighting an overworked old cliché that writers use far too often. Despite this, I am still going to say that I believe that there are two types of CB enthusiast. The first is the person who likes talking

to other like minded individuals and who sees CB as a way of doing this. He has no particular interest in the mechanics of his equipment and treats it just as a tool that allows him to chat to his friends.

The other sort of CBER may like talking to people, but his main interest is radio. He is fascinated by the principles of radio, with long distance contacts and with all the gadgetry that

goes with the hobby. He usually changes his rig quite often and goes in for very large (and sometimes illegal) antennas. It is this type of CB user who often goes on to buy a general coverage communications receiver. These are radios that cover from below 1MHz up to 30MHz. They allow the user to listen to broadcasts from all over the world and short wave listening is now a rapidly expanding hobby in its own right.

Some short wave listeners enjoy listening to the amateur bands. There are several of these bands and it can be quite entertaining to listen in on conversations between people who are often several thousand miles apart. It is not unusual to tune into an amateur net containing five or six stations, each in a different country.

Other listeners prefer to tune into the broadcast bands and listen to obscure radio stations from all over the world. This is my personal preference. I regularly tune into Radio Moscow to hear their strange interpretation of world events. It is sometimes hard to believe that they are describing the same news items that were just on News At Ten. Another station whose broadcasts are liberally sprinkled with such phrases as 'capitalist lackeys' and 'the running dogs of Imperialism' is Radio Prague. Half an hour of this makes the BBC's licence fee seem very reasonable.

Hallelujah

On a good day, with a following wind, it is sometimes possible to pick up American local stations, their equivalent to our Capital or Radio City. The United States is covered by hundreds of these stations and all tastes are catered for. There are music stations that specialise in pop, jazz, rock, middle of the road and so on. There are all-new stations, revivalist stations (lots of 'Hallelujahs'), phone-in stations and even all weather stations. America offers rich pickings for the broadcast band listener. Every country in the world has a radio station of some sort and there is a great deal of pleasure to be had from winking out some of the more interesting ones. There is a book that is invaluable in this quest. It's called *The World Radio & TV Handbook* and it lists the frequency of every station in the world and the times of the broadcasts that are in English.

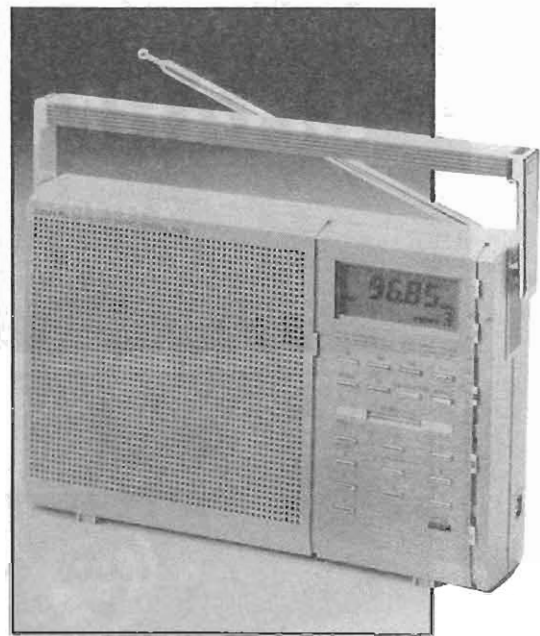
Having pointed out the pleasures of shortwave listening, I should now mention the drawbacks. The law in England is very strange, as we saw in the days when it was legal to buy and sell American CB rigs, but not to use them. Much the same sort of thing applies to listening to the radio. It is quite legal to sell, buy and possess a communications receiver that is capable of receiving from 0MHz to 30MHz, or a scanner that covers many hundreds of MegaHertz, usually from about 26MHz to 512MHz, but it is illegal to listen on most of the frequencies that these sets cover. It is a popular but mistaken belief that

listening to any frequency is permitted so long as you do not divulge any information that you hear. This is not true. The average British citizen does not have the right to receive any signals at all — unless he has the appropriate license. The one that most of us have (or should have) is a television license. Although the BBC benefits from the licence fees, this is not a license to receive BBC programmes. It is written permission for the license holder to operate a television receiver, which is why there is no point in modifying your set so that it only receives ITV. This ploy has been tried several times and it always fails in court because the television is still a television receiver and as such it must be licensed. However, a monitor is not a television receiver and I have often wondered how the law would apply to someone who had a monitor connected to a video recorder, especially if he said that he never watched programmes in 'real time' but only recorded them and played them back later. But that's a different story and I don't intend to be the one who tests it in court!

Besides bestowing upon its owner permission to operate a television set, a television license also allows him to receive signals from any authorised broadcasting station and from licensed radio amateurs. This means that you are allowed to listen to radio stations and radio amateurs from anywhere in the world and nothing else. You are not even allowed to listen to licensed American CBers because they do not fit into one of the above categories. You shouldn't even listen to British CB users without a CB license.

In America the law is completely different and anyone can listen to almost anything they like so long as they do not pass on any of the information that they may have gathered in the process. Tuning into the local police and emergency services is a popular pastime in the States and their Freedom Of Information Act has made it possible for some enterprising publishers to bring out lists of all the interesting frequencies that people may want to listen to. Once a book has been legally published in America, there is nothing to stop it being imported into this country and that is why *The Confidential Frequency List* is now available over here. Now in its fifth edition, it is a fat (223 pages) paperback that was compiled by Oliver P. Ferrell, with the aid of a minicomputer and a word processor. Even then it must have been a mammoth task because it lists some 8,500 frequencies and 100,000 items concerning them.

The book starts with a foreword from the author and then goes on to explain some of the things that the listener may hear. Different modes (c.w., RTTY, s.s.b. and so on) are explained as are Letter Beacons. There is also a paragraph about 'Number' stations. It is hard to say whether it is legal to listen to these broadcasts or not because no-one knows what they



Philips communications receiver

are! There are several of them sprinkled throughout the bands and they are all high powered stations that transmit a voice, usually female, which just reels off a list of numbers. In America the voice speaks Spanish, in Europe (including Britain) it is German and in the Far East it is Korean. The transmissions last about 15 minutes and nothing else is ever said, just strings of numbers. As far as I know, no-one has figured out who is doing it or why, but spying seems to be the most probable reason.

The next few pages in the book explain the abbreviations that have been used and how to use the list and the rest of the pages are packed with frequency lists. Everything is there, from Interpol to the Russian Navy, Canadian fishery vessels, embassies, military, oil rigs, aircraft, time signals and so on and so on. It even shows the frequencies used by Air Force One, the 'plane used by the President of the U.S.A. If anything, there is too much information in this book. It would take months to plough through all the frequencies listed, if you were allowed to, but it is interesting to be able to satisfy your curiosity as to say, the frequency used by the British Embassy in Finland.

Some communications, such as ship to shore, use a duplex system where one station transmits on one frequency while the other one uses a different one. Where these are listed in the book, both frequencies are given so that both sides of the conversation can be heard by switching from one to the other.

I was most impressed by the book and the amount of information that it contained. It is just a shame that here in Britain we are not allowed to make use of Mr. Ferrell's hard work.

The Confidential Frequency List is imported by The Amateur Radio Exchange, 373 Uxbridge Road, London W.3 9RH (Tel: 01-992-5765) and it costs £8.95.

CB

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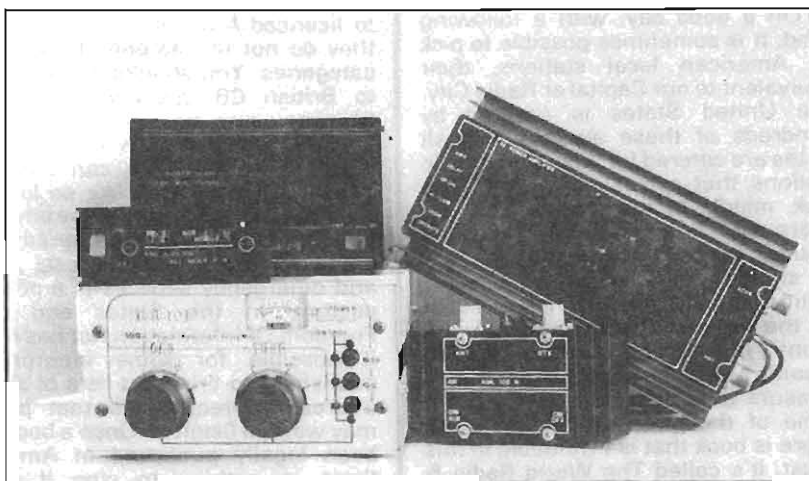


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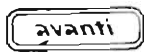


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Antenna man Brian Wright confesses all in this month's rig choice. But he can't help drifting back to antennas . . .

MY RIG

Knowing that I test many varied base stations and mobile antennas and rigs, breakers often ask "What do you suggest I purchase", when they are thinking of a new antenna and rig. This always seems to be a difficult question to answer, as many factors need to be considered. For example the choice of homebase antenna depends on available space, type of mounting and price etc. One point not very often considered is that if the rig being used is not very selective and suffers from bleedover, desensing etc., then a large efficient antenna mounted high up is only going to make the problem worse, not better. You will certainly get out further but you won't bring in the distant signals if there are other strong signals present on other channels.

Mobile antennas on the other hand need to be as efficient as possible as swamping is not usually a serious problem, at least not for long if you are moving. Types of mounting, design, durability and anti-theft devices etc. are some points that should be considered of course.

When it comes to advising on which rig, things get even more difficult as choice really comes down to personal preference. So many features have to be considered as well as performance, audability, tone, modulation levels, resistance to bleedover and reliability. After the breaker has listened to me waffling on, the inevitable reply is usually along the lines of — OK now that I've listened to all that rubbish, which has confused me even more — WHAT DO YOU USE?

Firstly we will deal with my homebase equipment. Good design, in my opinion, consists of producing a simple to use product, with the minimum of unnecessary controls, that does its job very well, is reliable and if it does need attention at a later date, is as simple as reasonably possible to repair. One more important feature when using a rig homebase is resistance to bleedover and desensing, which I find the most annoying problem on CB (even worse than wallies). This bleedover is something I had never experienced until using rigs other than my own. Even the so called special rigs I have tried, I have found impossible to use seriously when the channels are busy. Some rigs are better than others in this respect but the rig that I have found to be the best and the one which I have

used for over a year is a mobile rig, the Uniface 100. I have found it to be a superb little rig, it is small but has all the necessary features and has good modulation and the price is now very competitive. In fact most of my friends changed over to these rigs some time ago to cure swamping and modulation problems.

I use the Starduster antenna which I found to be superb in those early naughty days. I must hasten to add that my Starduster has been 'legalized' i.e. I have shortened the whip to 1.5 metres and fitted a base loading coil with no noticeable loss in performance and is still the best legal antenna that I have used. If I were to replace it, the only legal antenna that I have tried that virtually matches its performance is the Thunderpole, which is not surprising as it looks very similar.

Mobile Use

For mobile use I use another Uniface 100 (well I still want good modulation to get out), it's simplicity in operation and excellent squelch and compact size make it ideal for mobile use. Some breakers may not like the mic. socket on the left side, but extension leads to bring the mic lead out where desired are very cheap. At the time, if the greenstuff was available the mobile antenna just had to be a K40 although there are many good legal antennas around now. The K40 is nevertheless the best all round antenna that I have ever used mobile. If I had to change it, I would use the Armstrong TAK10 as this is a well constructed antenna with nearly the same performance but smaller in size.

One type of rig that I have always used a great deal and find very useful for copies back to homebase for up to 5 miles is a hand-held. I always use the 40 channel Harrier/Harvard, but I found the desensing a problem when the channels got busy. This problem was completely cured by fitting a 10.7MHz crystal filter and changing the 15kHz — 455kHz ceramic filter to a 6kHz unit. The hand-held now works perfectly on its own antenna and better than many mobiles on a homebase antenna. I occasionally use the Harvard O20 2 channel hand held for very short copies as I find it very conveniently fits into my pocket and is useful for shouting 'eyeball' to a friend passing in a car for example.

CB

AUTOSCAN 5000

'The technical performance is unimpeachable... the designers have got it right.'
CB Magazine JUNE 1983

CB MAGAZINE VOTES THE AUTOSCAN 5000

TOP RIG OF THE YEAR

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- Bleed-over virtually eliminated for most situations – 80dB (typical 100dB) adjacent carrier rejection
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What CB Magazine said in April...

All in all, we have to say that this is the best rig we have tested to date.

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The transmitted audio quality was excellent, crystal clear with real punch to it making any sort of power or processor mike totally unnecessary.

Inside, you will find the kind of construction normally found in computers and professional equipment. A marked contrast to imported rigs.

The performance has been a revelation compared to anything we have seen before, and what's more it's BRITISH!

...and in June.

The technical performance is unimpeachable, with an exceptionally high degree of immunity to bleed-over.

The designers of the Magpie Autoscan 5000 have got it right and during our tests we could detect no signs of desensing, bleed-over or any other misbehaviour despite severe provocation.

From the mailbag

J.W. from Sheffield

"... I must congratulate you on your Magpie. I did not think it possible to obtain anything of this standard. It has cut out bleed-over which here in Sheffield is one big problem..."

S.A.M. from Suffolk

"... My son brought an Autoscan 5000 for me to try... Breakers came in from all over the place and remarked on the 100% clear modulation. How soon can you let me have one?..."

Send now for FREE colour brochure.

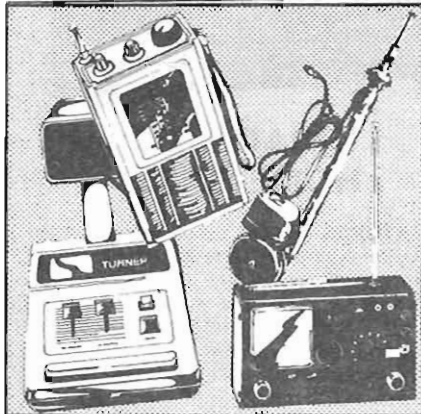
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Equipment Review



First in the field of 934MHz test equipment is this frequency counter from Black Star.

COUNTING ON YOU

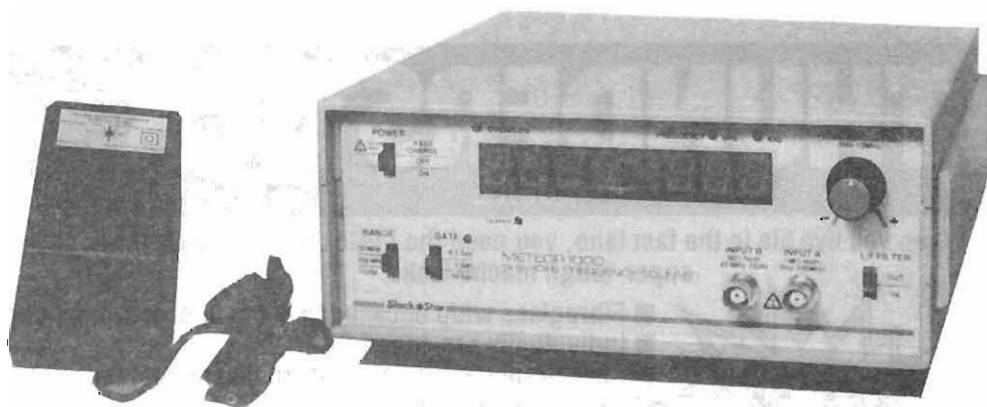
Now that 934MHz is really taking off, after a two year delay, there will be an increasing need for suitable test equipment. Although the sets currently available are well aligned and the manufacturer actively discourages any meddling with the set, there will come a time when repairs have to be made and real enthusiasts will want to assure themselves of the peak performance of their equipment.

A lot of the standard 'work bench' equipment that the average 'rig doctor' has won't be appropriate as UHF doesn't follow the same rules as 27MHz. Therefore, as and when specialised test facilities are introduced, we will give them short write up. We won't be going into great detail — rather we will be informing you of what is on the market and where to get it.

intended for someone familiar with the theory and practical use of a frequency counter. So while the Meteor is competitively priced as these things go, it isn't a sophisticated 'toy'.

On a more technical note, at the high frequency setting the 1000 has the following gate times: 1kHz resolution at 0.1 second, 100Hz at 1 second and 10Hz at 10 seconds. Maximum input voltages are 50V DC at 250V rms at 50Hz decreasing to 5V rms at 70kHz or above at low frequency and 2V rms at 50MHz and above at high frequency. Rather than fill the rest of the page with technical details I'll suggest that interested parties contact Black Star direct for a full specification.

Practically, the Meteor has a custom moulded A.B.S. case which is light, relatively sturdy and receptive to the essential cleaning off of coffee cup stains, blobs of solder and anti-



Meteor 1000

The Meteor 1000 is one of three frequency counters produced by Black Star Ltd. This particular model has an eight digit display counter and measures from 5Hz to 1000MHz in three switchable stages.

The Meteor is powered by a 9V mains adaptor (which also acts as a charger) or 6 nickel cadmium batteries. The counter can be recharged either on 'trickle charge' or 'fast charge' which will re-charge 'flat' batteries at the maximum rate.

Physically, the 1000 model, in common with the others, measures 219mm x 240mm x 98mm and weighs 980g. (These dimensions apply to the product without packing). The mains adaptor/charger and the instruction manual are supplied as standard.

The instruction manual is clear, comprehensive and concise but is

static fluid! It also has a tilt stand and a compartment for internal batteries. The fascia is well laid out and clearly marked and all the knobs and buttons have a positive feel when used.

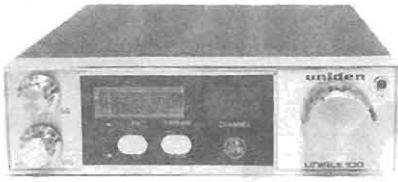
Now for the crunch! The Meteor 1000 retails at £159.00 excluding V.A.T. which adds another £23.85 to the price. There is also a range of extras and accessories which are also available from Black Star.

Black Star Ltd. are a British company based in St. Ives in Cambridgeshire and the Meteor range was designed and produced in the UK.

For more specific information and availability contact Black Star Ltd., 9A Crown Street, St. Ives, Huntingdon, Cambs., PE17 4EB. Telephone St. Ives 62440. Many thanks to Mike Black for providing a Meteor 1000 for review.

CB

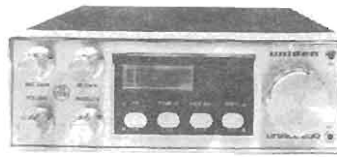
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GENERAL SPECIFICATIONS UNIACE 100
 Channels: 40
 Frequency range: 27.60125 MHz — 27.99125 MHz
 Microphone: 600 Ohms, dynamic type
 Size: 140 x 40 x 205 mm (W x H x D)
 Weight: 1 kg Power source: 13.2v D.C.



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GENERAL SPECIFICATIONS UNIACE 200
 Channels: 40
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 Microphone: 600 Ohms, dynamic type
 Size: 160 x 55 x 217 mm (W x H x D)
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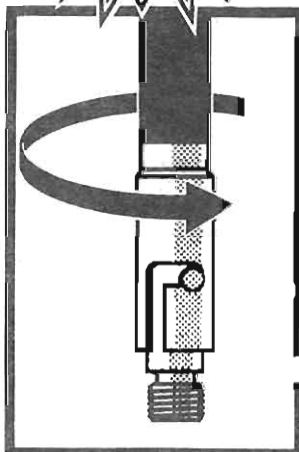
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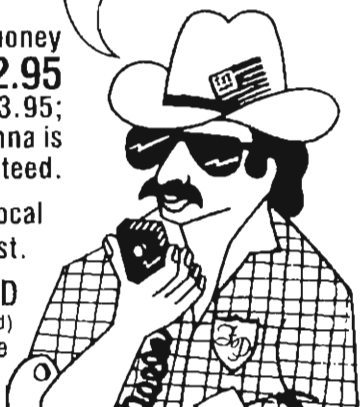
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Breakers Posted Overseas

Tango Whisky Romeo of Iserlohn, West Germany has written from the other side of the QSO fence . . .

As a member of the armed forces serving in West Germany I often QSO with the U.K., both on SSB and FM. However I find that breakers on FM often think that it is a wind up. Perhaps they think skip is only possible on AM (although my collection of over 30 QSL cards for FM QSOs proves otherwise) So next time anyone hears a West German station calling, give them a break, let them have your co-ordinates and wait for the magical QSL to arrive.

May I also mention a few points drawn from my experience:

1. Only a first class stamp is needed for B.F.P.O. addresses.
2. A forces address will always include the initials B.F.P.O. followed by a one to three digit number.
3. A QSL from West Germany will have a British stamp but with a B.F.P.O. post mark.

I hope this information is of value. *Thanks very much Trevor.*

Help

A cry from the heart from David of Paisley in Scotland - he's a card collector with no cards. Knowing our readers that won't last long . . .

My name is David Smith and I have been breaking for a year. 'HELP' I have no eyeball cards from other breakers. So could you please help me with my problem by printing my letter. I hope some good buddies out there will help me out by sending some to me. Thank you very much. *I know that many of our readers are very quick to reply to this sort of letter, especially as I think that David is quite young. Anyone wanting to get David off to a good start should send their cards to David Smith, 10, Neilston Road, Paisley, Scotland. PA2 6LN. Can the postman take the strain . . .*

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Jolly Swagman?

On to one of our foreign letters now. I must admit we had to edit this one a bit as Frans' English wasn't too hot . . .

I received your August '83 edition from a good CB friend in your country. You had in your 'Communication The QSL Way' a letter from the Swagman Club in Australia.

On 24.4.82 I sent by registered post 10 colour QSL cards and 30 gulden to the Swagman Club to join. On 1.7.82 I sent a letter, another on 1.4.83 and I have spoken to Swagman member. I still haven't had a club package or membership — or even a letter.

Swagman swappers don't always seem to send QSLs in return either, although I send my cards first.

I myself have a spoon collectors club, V. W. 16, and we have 57 good members. I do send a club package and 100% QSL.

I and my wife, Marian, have 175 different spoons, many souvenirs and QSL cards from across the world. We operate on USB, LSB and AM and have a great many QSOs with all Great Britain and Ireland from 20.5.83 to 29.7.83. Best wishes and greetings from 001 and 002, V. W. 16 Spoon Club, P.O. Box 2243-5600, Eindhoven, Netherlands. *Can any Swagman member let us know what's been going on Down Under? Frans and Marian obviously enjoyed the good radio conditions during this summer.*



Another Ace Shop

Following last months praise of the QCB Shop, we have a letter from Allan Copsey of Keighley, Yorkshire.

May I offer a word of praise for the most courteous and helpful piece of customer relations I have ever been party to.

I recently bought a G.A.P. Avenger and for some reason could not get the SWR out of the red. I telephoned G.A.P. to ask advice. I was connected to John Lines, a director of the company, who, after all the obvious questions and answers, said he was sorry but I must have bought an aerial that had beaten the system and was faulty.

He took my name and address and a few days later a new Avenger arrived, complete with co-ax., and pre-set and marked for the correct SWR. When installed the SWR was 1:1 and performance was excellent. There was no invoice or postal charge. In this day and age I think this kind of service is worth telling people about, especially as I had only asked for advice. We much prefer publishing this sort of letter than the other sort, criticising shops and service. Congratulations to G.A.P. and John Lines for keeping the customer happy.

Ecouté, mes amies

Back to 'sur le continent' for our next letter from Daniel of the Voyager Des Ondes DX Club De France. He has a correction to make to the CB Overseas article that appeared in June . . .

I see in your Citizens' Band of June 1983, the article 'CB Overseas' (page 24) list French CB regulations as 22 channel, FM, 2W. This is the old regulation. The new one is:

40 channels AM/FM/USB/LSB
with 1 Watt AM, 4 Watts FM and
4 Watts SSB (PEP)

Frequencies are 26.965Mhz. to 27.40Mhz., with 10 Khz. slide. In the new laws we are also allowed directive antennas (max. 6dB).

I'm president and founder of the Voyager Des Ondes DX Club De



France. This club was established in December '81 and has 215 members from 40 worldwide DX locations. If the English DX people have any suggestions or questions please feel free to write to me any time. That address is V.O. 001 Daniel, P.O. Box 214, 13308 Marseille-14, France. Thanks for the correction Daniel, but, we wonder, what hope for European unity with these further changes?

Eyeball, Eyeball

A quickie from Long John or Barry of Portsmouth . . .

I was walking along Albert Road, Southsea and stopped to look in a second-hand shop. I saw a tee-shirt saying 'You have just eyeballed — Pork Chop' priced at 55p. I thought it was one of the funniest eyeballs I have had since I have been on CB (just over five years).

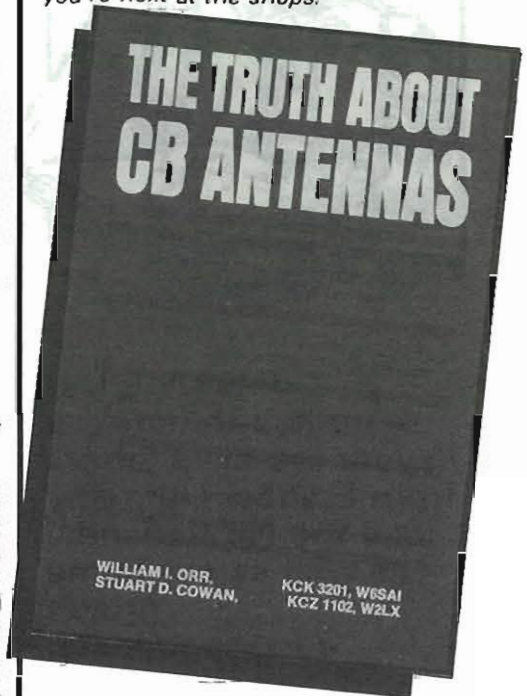
I read your magazine every month. I find it 100% interesting reading. Does anyone else have a good eyeball story? Send them in and we'll print the best ones.

Bookworm

A request from R. Young of Murton, Co. Durham. He wants to know about a book featured on the front cover of an earlier Citizens' Band . . .

With reference to the August front cover, could you let me know where I could obtain a copy of a book shown therein: 'The truth about CB

antennas'. Your assistance in this matter will be very much appreciated. Glad to be of help, R. Young. The book in question is an American publication and the authors are William I. Orr and Stuart D. Cowan. We haven't been able to find a British distributor but it's published by Radio Publications Inc., Box 149, Witton, Conn. 06897, U.S.A. Some CB shops have a good selection of books, both American and British, so keep an eye open when you're next at the shops.



Worrying Symptoms

Family Man, down in the Falklands, is beginning to develop withdrawal symptoms . . .

For over a month now I, through no choice of my own, have been experiencing terrible withdrawal symptoms caused by the complete and utter lack of CB radio here on South Georgia.

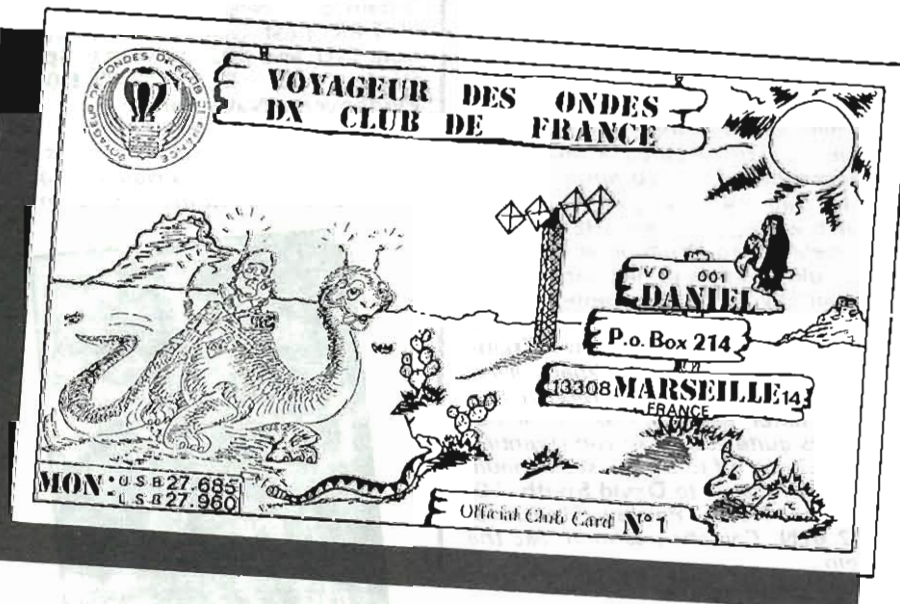
I wake up in the morning, reach out for my mike, open my eyes, only to find I am grasping a tin mug, half full of last night's cocoa. Try as I will I still can't get the S.W.R. down on my mess tins. It is getting so bad I am beginning to believe the rest of the lads here that 'breakers' are waves that wash up on the beach.

Looking on the brighter side (that's the side my bedside lamp is) I suppose I don't have any 'bucket mouths' to put up with but I honestly believe I would even listen to them rather than switch off.

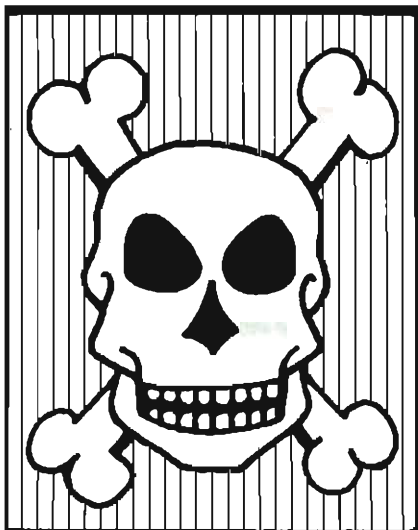
May I be the first to wish all staff and readers of Citizens' Band a happy new year for 1984. Well, has anyone got any suggestions for a cure of this crippling disease?

CB

Letters intended for publication should be addressed to: Backchat, Citizens' Band, 145 Charing Cross Road, London WC2H 0EE. Letters not containing a name and address will not be considered for publication.

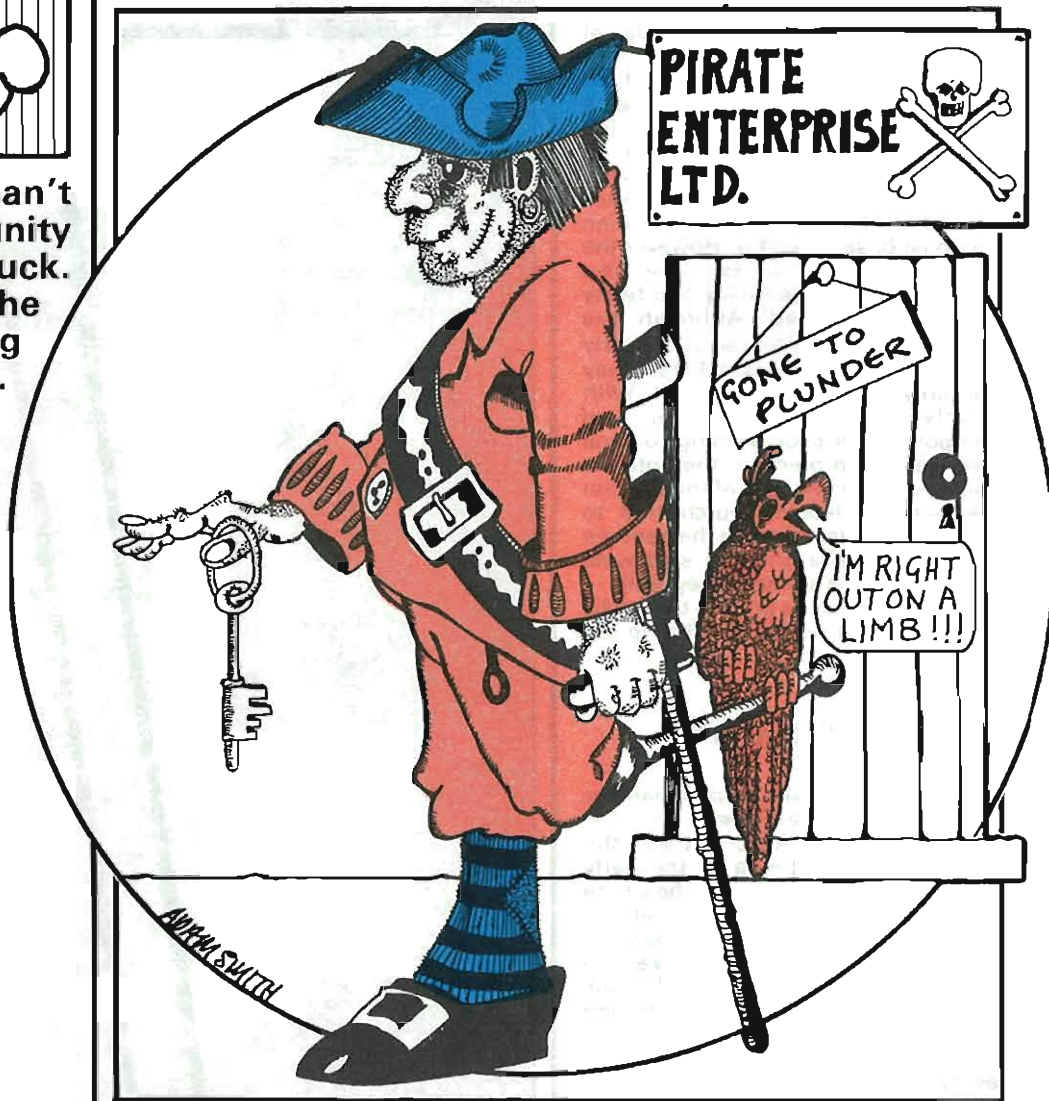


Feature



Some people can't resist the opportunity to make a fast buck. We investigate the counterfeiting industry.

COPY COPY



Any business or hobby that has sudden popular appeal is liable to attract the vultures that prey on product shortages or the particular novelty of an individual item. You only have to look at the street markets and traders to see what happened with Rubik's Cube, digital watches, those horrible bobbing things that young girls wore on their heads the summer before last . . . to see that the market was flooded with cheap imitations.

Unfortunately CB has gained the same 'novelty' image and is suffering from the same sort of problem — fake, inferior versions of reputable products made by people or companies concerned with making money and not with making a servicable product.

Although this is badly affecting some companies (particularly antenna manufacturers) this isn't a new problem.

In the early days of CB, both equipment and information were in short supply. One of the most

popular books of the time was 'The Big Dummy's Guide to CB Radio', available in this country in its original American version. Because of its very jokey presentation mixed with hard facts, it sold like the proverbial hot cakes, but it wasn't always easy to get hold of.

It didn't take long for some enterprising gentlemen to realise that with modern reproduction and printing techniques copies could be easily produced without the bother of unnecessary costs like freight charges from America, authors royalties and publishers and distributors fees. The difference between the two editions in trade prices at the time was a staggering £1.15p.

The 'pirates' did very well for a while, while the English distributors waved goodbye to thousands of pounds in lost sales.

Nearer home, antenna expert Fred Judd was experiencing the same problem. He had designed the Big Jim antenna, suitable for all modes on 27MHz. Well constructed and with years of antenna design experience behind it, it had an enviable reputation amongst base antennas. However the manufacturer started receiving complaints and eventually had faulty antennas returned. Although the returned antennas looked very nearly identical to the real thing, they certainly didn't perform like it. With vastly inferior materials and components, a poor winding coil and bad weather protection, the antenna came with a photocopy of the Big Jim instructions, leading purchasers to believe they were getting the genuine article. The fake antenna sold well, especially at CB shows and eyeballs — not surprising as its price to the public was the same as the Big Jim to the wholesalers.

You can't lick a 'Stik

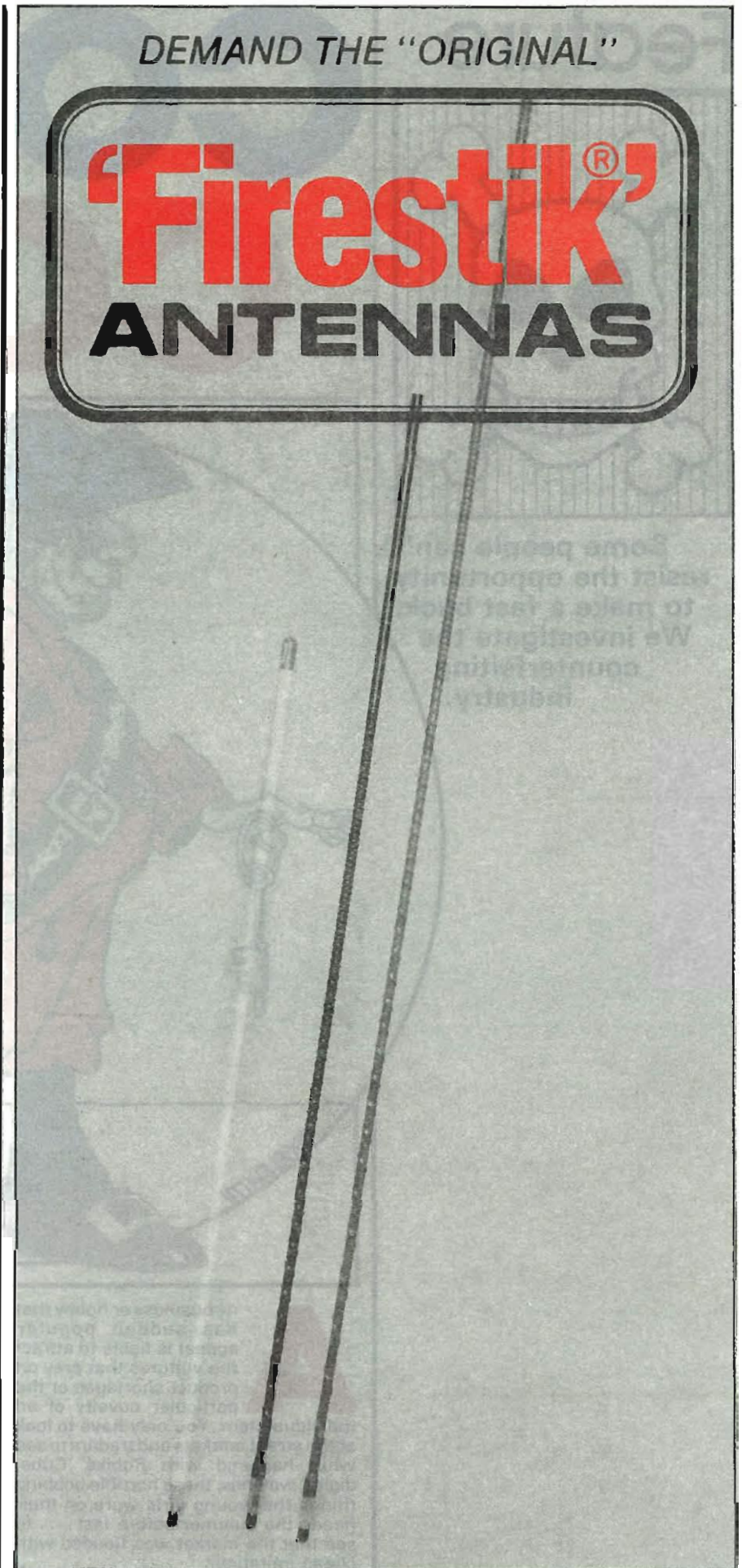
Older breakers will also remember with nostalgia the Firestik antenna. Born and bred in Arizona it was the distinctive CB antenna of the early days. There were breakers who swore by their 'Stik but there were others who swore too for different reasons. Copies were circulating, accurate to the last detail of the distinctive Firestik label but not to the standards and quality of the originals. Impossible at times to even SWR, the pirates copied everything except the performance.

After an apparent lull for a year or two, the forgers are at it again. As before they seem to be concentrating their efforts on antennas, and it's easy to see why. Antennas have high volume sales, don't require lots of intricate components (like rigs and electronic accessories) and can be copied by almost anyone with access to a small engineering workshop and who can take an antenna to bits.

The most hard hit companies have been the three that deal with some of the most popular of current antennas; Gamma Aerial Products, Les Wallen

DEMAND THE "ORIGINAL"

'Firestik[®]'
ANTENNAS



Manufacturing and CB Services.

Gamma Aerial Products manufacture and market a well known range of antennas including the GAP half wave, the five eighths wave and the Avenger. Since the introduction of the range eighteen months ago they have been plagued by copies of their product — particularly from one major source.

John Lines of Gamma comments, "We can't stop people from buying a cheaper antenna and we are not suggesting that all copies are badly made, but the culprits are deliberately creating the impression that breakers are buying the genuine product.

"Retail shops are to blame too. We have heard of one reader who went into a shop with a copy of your magazine, asked for a GAP five eighths wave and was sold a copy by the retailer."

John carries on to say,

"Despite the apparent simplicity of antennas, they take months to design and develop. The price the customer pays includes research and development costs and future research. This isn't going to happen if everything we make is immediately pirated. Copies are cheaper because their makers don't have to cover these costs."

As a service to customers who have been duped, Gamma have been replacing unservicable antennas that customers have returned believing they were GAP products. This, plus the lost revenue from potential sales, has cost £500,000 in turnover during the last year.

Gamma have taken out an injunction against one company to prevent the sale and manufacture of copied antennas and will shortly be involved in a lengthy court case to seek damages.

Hot on the heels of Gamma into the court house will be Les Wallen Manufacturing. Their Modulator range has been copied by upto six different sets of 'pirates'. The Modulator has suffered most from rogue retail shops rather than wholesalers, who have been more cautious. Shops have been buying 'Modulator' antennas from the back of vans well aware that they are buying fakes.

Les Wallen Manufacturing has also been replacing faked goods, conscious of the bad feedback they have had from fake Modulators owners. Mr. Short of the company estimates that they have lost 10,000 sales through bad copies and the consequent bad reputation — a retail value of £150,000. He echoes John Lines sentiments,

"We have put money and time into our products, testing and proving design patents. These fakes, although copied down to the distinctive yellow band, are bad copies and the copier has no intention of offering a good product. It is a premeditated consumer con as retailers are deliberately passing off the copy as a Modulator."

The Bullwhip antenna from CB

Services has a close copy too. Superficially very similar to the Bullwhip, the copy uses components costing only a quarter of the price — explaining why it has been so attractive to some retailers. As Mr. Young of CB Services says,

"If you were a retailer and had the chance to sell a copy at the same price as the original, when you had only paid half the usual trade price, what would you do? The problem is that we can only copyright the original drawing, not the product. It has cost us £450 to register two antennas and eighteen months to copyright the names.

"It has hit us very hard — our sales have dropped over 30% in six months and I doubt if you give a Bullwhip away in the West Midlands, it has such a bad reputation. Our losses run into thousands and thousands."

He further points out that the consumer is often at the mercy of the retailer or wholesaler. If he asks, for example, for an Avenger, it is in a box when handed over and he assumes he has been sold an Avenger. Understandably rather bitter, he goes on to say,

"There is a huge range of high quality, well designed value for money British CB products which don't even appear in some shops — certain wholesalers would rather stock junk and make twice the money."

Don't Get Caught!

So how do you recognise a baddie? Not easy as they have been made to deceive.

John Lines suggests looking at the box or packing for a label identifying the manufacturer and their name, address and telephone number. Don't just buy a blank cardboard box.

Mr. Short of Les Wallen says the thing to look for on their products is the yellow band with 'Modulator' on it. Copies have bad fitting heat shrink weather protection, low grade components and the careful avoidance of the actual name Modulator on the packing or antenna.

The Bullwhip can be identified most easily by the tapering, good quality whip, rather than the straight, dull, bendable copy.

Other points to bear in mind are,

- go to a reputable shop,
- look at the antenna for the differences mentioned above,

- ask, if you are not sure, "Is this a genuine . . ."

- and ask yourself, "Am I getting what I'm paying for?"

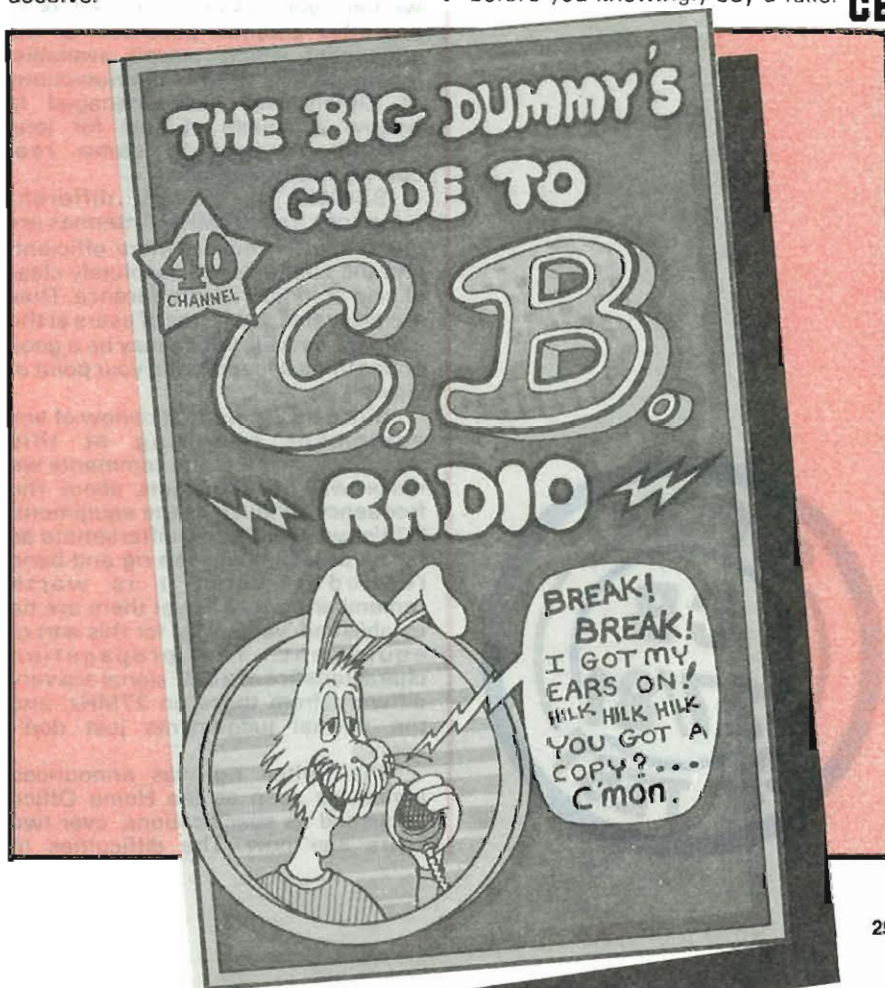
All three of the companies we spoke to had further valid comments to make.

"We are part of a true British growth industry and this is diverting money from the rightful place. It's depriving us of the money from development of new products, something that breakers are eager for."

"It's endangering our livelihood and jeopardising jobs."

"We care about supplying a good product and a good service and when we have built a high reputation based on that, it's heartbreaking to hear breakers on channel say 'Oh don't buy one of those, they're useless.'"

Over dramatic? Think about it before you knowingly buy a fake. **CB**

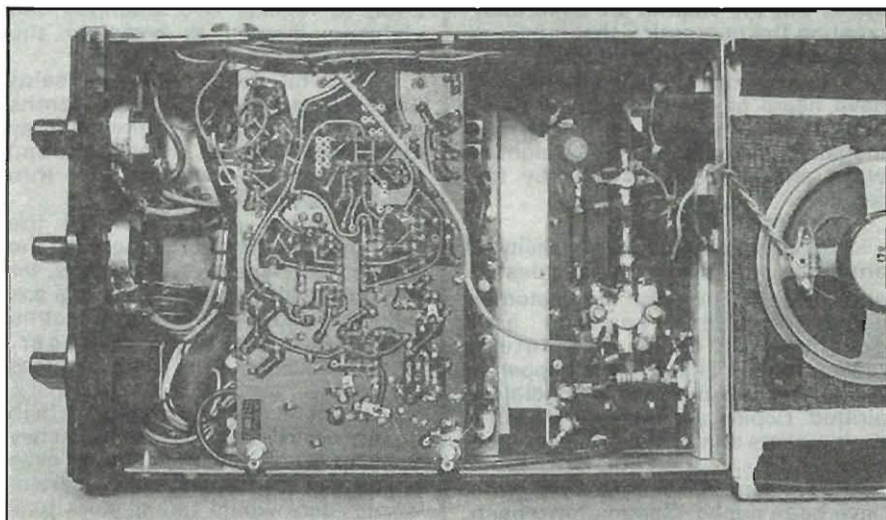


Rig Review



In the second part of this article, Chris Peterson looks at the technicalities and operation of the Reftec 934-1

TOMORROW'S CB TODAY



At long last, we have managed to lay our hands on some 934 MHz equipment for long enough to review. One of the most frequent requests we get is for information on this fascinating frequency. Until now, we have been as much in the dark as any other potential purchaser as the equipment simply wasn't available. Finally, thanks to 934 Communications of Eltham, we have managed to borrow a couple of sets for long enough to provide some real operational experience.

934MHz is a very different frequency from 27MHz. Antennas are much shorter, but far more efficient, and the channels are absolutely clear of skip or industrial interference. They are also remarkably free of users at the moment as well, which may be a good or bad thing depending on your point of view!

Since this is our first review of any equipment operating at this frequency, some of the comments we make will be comments about the frequency as much as the equipment. Whilst we will try and differentiate as far as possible between rig and band related effects, it is worth remembering that as yet there are no established 'yardsticks' for this sort of equipment. The propagation characteristics of a UHF signal are very different from those on 27MHz, and the normal judgements just don't apply.

The Reftec rig was announced almost as soon as the Home Office published its specifications, over two years ago now. The difficulties in

producing equipment for this band have resulted in supplies to date being a trickle. However, as Reftec gain experience and confidence, supplies are improving and several specialist suppliers are now able to offer rigs with minimal delay.

The Reftec comes in a substantial if plain package, the usual polystyrene box being contained in a stout cardboard case. It should be fairly 'Post Office Proof!' The rig itself measures 8" by 5 1/2" by 2 1/8" excluding projections. On the front panel there is a large channel selector knob at the left hand end, with squelch and volume/off knobs smaller and to the right. At the top left hand corner are red (Tx) and green (Rx) warning lights, whilst centrally above the squelch control is a LED channel indicator. Above the volume control on the right hand side is a row of five LEDs that form a bar squelch type Signal Strength display. The mic connector is on the side (ugh!), but at least it's on the right hand side! It is a six pin locking ring type connector. Moving to the rear, we find a two pin polarized power connector, a 3.5mm jacksocket for external speaker, and a BNC type antenna connector.

Warning!

The rig comes with all necessary mounting hardware, power leads and a rather cheap looking microphone. The instructions are photocopied! They are also rather minimal, but this is not unreasonable as few instructions are needed! All the currently available antennas are pre-tuned and need no SWR adjustment.



Indeed SWR meters are not exactly ten-a-penny for 934MHz (NO! Your 27MHz one WON'T do!) so perhaps this is as well.

Whilst on the subject of antennas and SWR, only genuine 934MHz antennas are suitable. Antennas designed for 27MHz MUST NOT be used with these rigs. Similarly the standard PL259 connectors that are used almost universally on 27MHz are TOTALLY UNSUITABLE on 934MHz. Sometimes PL259s are referred to as UHF connectors. They are nothing of the sort. Only BNC or 'N' type connectors are suitable at this frequency.

Technicalities

Normally at this point we go through the circuit details in a 'blow-by-blow' account. Since Reftec have a monopoly in this band at present, they obviously don't want to give too much away! Needless to say, we were unable to obtain a circuit diagram! However, opening the box up and looking around provides a general idea of what is going on.

At these Ultra High Frequencies, funny things happen to tuned circuits. A 'coil' may just be an inch or two of printed circuit track tuned by a small capacitor! At power levels, the tuned circuits are sometimes 'helical resonators'. To a layman they may look just like an IF can, but they aren't. Some of them can only be properly aligned using a Spectrum Analyzer, so please DON'T go tweaking around inside like you did with your 27MHz set! You could ruin it for all time!

Enough of the dire warnings. The Reftec uses modular construction internally. This means that the main transceiver functions are split between three separate boards inside. At the rear of the case is the main power output board. This contains two UHF power transistors, driver and output. The tuned circuit inductors are the PC tracks themselves, tuned by small trimmer capacitors. Connected to the output socket is a short length of open circuit co-ax cable that looks suspiciously like a matching stub section.

In front of the output board is the main synthesiser board. The synthesiser is a Motorola 145151, and appears to run at a reference frequency of 6.4MHz. The synthesiser board also contains the modulator circuitry and the multiplier stages for the transmitter and receiver first local oscillator stages. Two other crystal oscillator stages are present on the synthesiser board. It is a very crowded board, but built on a very nice double sided PC board.

Forming a 'sandwich' on the other side of the chassis is the receiver board. The receiver is a double superhet with IFs of 21.4MHz and 455KHz. 21.4MHz is a standard industrial IF frequency. It is twice the 10.7MHz normally found in 27MHz equipment. 10.7MHz would not provide adequate image rejection at 934MHz, hence the higher first IF

frequency. The first IF is filtered in a two pole crystal filter before being passed on to the second IF stage. This consists of an MC 3357 ic. The internal oscillator of this ic is used, with an external 20.945MHz crystal. Normally we shudder with horror when we come across these ics, as they are notorious for swamping and bleedover problems. However, here it is correctly preceded by a crystal filter which should tame it considerably.

The second IF is filtered by a Murata CFW455C ceramic ladder filter. This is a wide band version of the filter commonly used in 27MHz equipment. After demodulation within the 3357, the audio is amplified by an LM 380 audio ic.

Obviously this is a much more complex rig than its 27MHz equivalent. Indeed it must take hours to line one up properly, and we have only been able to bring out the basic overall picture of the workings. The quality of the printed circuit boards is high, though there is evidence of a number of 'afterthought' components. Some of the soldering around the output stages looks a little heavy-handed, though it must be born in mind that these frequencies demand unorthodox mounting and soldering techniques. Appearances can be deceptive. We are a little uneasy about the use of the 3357 ic on the receiver, although in this instance it is properly preceded by a crystal filter which ought to minimize any odd swamping effects. Also, we would imagine that it would be some considerable time before the band gets crowded enough for this to be a problem!

Be Prepared

Because of the amount of frequency multiplication involved, it is inevitable that UHF rigs will drift in frequency more than their 27MHz counterparts in absolute terms. Also greater deviation is permitted at UHF, and the spacing between channels is greater. It is thus not surprising that Reftec have chosen a relatively wide filter for the second IF.

At present 20 channels are allocated at 50KHz spacing. The Home Office have indicated that ultimately they intend to increase this to 40 channels at 25KHz spacing. The Reftec rig is well prepared for this. The channel selector switch is a 40 position unit, which at present repeats itself after 180 degrees rotation.

The modular construction will make it easy for Reftec to update the rig as time goes by, as they will only need to alter one board at a time.

In summary then, a very compact design RFwise, and designed for easy updating should this become necessary or desirable.

Lab. Results

One of the problems of testing 934MHz gear is that not much of the readily available test equipment will work up to such frequencies. Most signal generators only go upto

500MHz or so typically, so it was necessary to go to some rather unusual lengths to get the following results!

Two rigs were supplied for review and for some of the tests one rig was calibrated and then used to measure the other! Consequently the following results are in some cases composites of the two rigs. Put simply, some measurements were made on one rig, and some on the other. The serial numbers of the two rigs were 221 and 214, so where necessary the measured results are identified to show from which rig they were taken.

Output Power: This varied very strongly with supply voltage. Rig 221 was measured on a stabilized supply using a Hewlett-Packard RF power meter. At the specified 13.8 volt supply it delivered 4.8 watts. This fell to 2.8 watts at 12 volts. Rig 214 was measured on a Bird Through-line wattmeter in a car. With the engine running it delivered 6 watts, and with the engine off this fell to 4 watts.

The Radio Regulatory Dept. (RRD) specifications for 934MHz CB equipment permit a maximum RF output of 8 watts. Reftec's specification is 8 watts +0, -3dB. This means that any output between 4 and 8 watts meets Reftec's specifications and the RRDs. Thus both rigs meet their rated output at the specified voltage.

No 10dB attenuator is fitted as standard. Reftec state that if one is required it can be fitted at the factory. The implication is that it is then fixed and not switchable.

Spurious Outputs: The RRD specifications state that the spurious emissions shall not exceed 50nW between 70 and 230MHz or between 450 and 862 MHz. All other emissions should not exceed .25 uW. These figures correspond to a relative output of -79dB and -72dB with respect to a 4 watt carrier or -82dB and -75dB with respect to an 8 watt carrier. Spurious below 100KHz or above 3800MHz appears to be exempt from the specification.

Logical Choice

In fact we detected several spurious emissions outside these specs. When operating into a dummy load (30dB attenuator) a spur of -56dB was detected around 380MHz. It should have been at least -72dB. The second Harmonic was only -30dB and the third only -52dB. Again both these should have been at least -72dB.

These figures were taken off rig 221, which showed signs of instability working into the dummy load. At any voltage above 13.2 volts, large spurious emissions would occur every 2MHz from the carrier frequency. Each spur was progressively about 15dB down on the previous one.

In order to investigate this further, the test was repeated using an antenna and pick up loop rather than the dummy load. All signs of instability vanished at this point. This is unusual. Normally one would expect the rig to

be less stable working into the slightly reactive load presented by an antenna than a perfect dummy load. Instead the reverse is true.

When operating into the antenna, the receiver local oscillator could be observed "leaking" out of the antenna in the receive mode. This was 21.4MHz below the Tx carrier frequency, and about -56dB in amplitude. Again this should be over 70dB down. A -50dB spur was observed at about 845MHz, and a -40dB spur at about 604MHz. This latter remained constant in amplitude, but moved up and down in frequency depending whether the rig was transmitting or receiving.

Frequency Tolerance: (Measured on rig 221) All the channel frequencies were 7KHz high. Permitted tolerance is 8KHz. However the rig did appear to be drifting slightly downwards in frequency at the time the measurement was made which is reducing the error. The rig is in spec in this respect.

Deviation: The second IF of these rigs is 455KHz. Rig 221 was calibrated for deviation using a digital Voltmeter, signal generator and a digital frequency counter. It was then used to measure the deviation of rig 214. This was measured as +/- 2.45KHz peak. This is almost exactly to spec. The 'never exceeded' spec is +/- 5KHz with +/- 2.5KHz being the recommended nominal.

Receiver Sensitivity: Unfortunately we were able to get access to a suitable signal generator to measure this. However field trials indicate that it is, they say, 'adequate'!

Obviously producing 934MHz CB gear is not easy, and many of the measurements take on entirely different meanings at UHF. Certainly in respect of spurious outputs the rig appears to fail the RRD specifications. However, this did not appear to in anyway adversely affect the performance of the rig, nor did it appear to cause any undue interference with TV or radio reception. In fact, as we shall see in the next section, 934MHz is truly remarkable in this respect.

The power output of the rig does not appear to take full advantage of the limits allowed by the RRD specification. The output transistor is an SD1410, and these are only rated at 6 watts maximum. In one off quantities they cost over £16 each plus VAT! The next transistor up the range, the SD1412, is rated at 18 watts, but the price rises to over £22 in this case, so Reftecs choice is shown to be quite logical!

On The Air

Both rigs were used for a period of weeks both a mobiles and as home based installations. For home base operation, my trusty 27MHz antenna was pulled down from the roof and a Reftec Professional co-linear installed in its place. The first notable effect was the complete absence of TVI. Normally my 27MHz antenna, being very close

to my TV aerial, causes severe RF patterning and loss of colour on my TV (though curiously it does not affect the video at all!) Using the 10dB attenuator is a complete cure, but does restrict the range a bit! Although the 934MHz colinear was mounted in exactly the same location, the TV remained completely undisturbed by the transmissions. The Professional colinear has a gain of about 7.5dB. This means that for a 5 to 6 watt input, the ERP must be in the region of 20 watts, at least 5 times the power on 27MHz. Despite this, no interference was noticed on any of the sensitive electrical equipment in the house. This phenomenon has been confirmed by other 934MHz users. WE HAVE YET TO HEAR OF A SINGLE CASE OF TVI CAUSED BY A 934MHZ CB RIG!

As with anything new, the Reftec 934MHz CB has a number of traps waiting for the unwary and we fell into a couple of them. There are one or two operational 'funnies' that can be irritating too! For example the squelch control works backwards! Why Reftec have chosen to do this I really cannot imagine! There is no good reason for it and it is a source of constant irritation to everyone who owns a set! Secondly, the internal speaker is virtually useless. Not only is it very small and inefficient, but it has a limiting resistor in series with it to reduce its output even further! This time, though there is a good reason.

Suppression

Obviously, to operate at 934MHz requires a lot of frequency multiplication between the reference source (the PLL) and the output. With an FM system, each stage of frequency multiplication multiplies the deviation by the same amount. It appears that any significant amount of audio in the box makes either the reference crystal or one of the coupling coils "ring". This produces a very small amount of phase modulation. This is multiplied up to the receiver first local oscillator frequency (912.6MHz) where it mixes with the incoming signal. The "ring" generated FM is indistinguishable from the genuine incoming FM so it gets demodulated into audio. If this is loud enough it will make the crystal "ring" and . . . well you get the ideal! The end result is a nasty howl round such as you normally get on badly set up public address systems. To eliminate this possibility, Reftec have savagely reduced the level of audio available from the internal speaker. This makes it so faint that even in the quietest of cars it is virtually inaudible. A decent external speaker provides an instant cure AND is ABSOLUTELY ESSENTIAL FOR MOBILE OPERATIONS! Really they would have been much better off not bothering with an internal speaker at all.

Whoever designed the Reftec obviously knows a lot about UHF radio, but appears to be a bit thin on experience with car-borne electrical equipment. Car electrical systems are

notoriously noisy, and yet the power lead suppression on the Reftec appears rather inadequate. Reftec appear to have recognised this rather late in the day, and now supply in line chokes as an optional extra. I have yet to see these TIDILY installed in the power line, and anyway why aren't they in the rig where they belong? We first became aware of the problem when driving two cars in a convoy. One rig had a suppressed lead and the other didn't. It was impossible to receive the unsuppressed rig, because no matter how high the signal level, the squelch refused to open! It appears that the Reftec uses a very good noise squelch circuit. Such a circuit examines the receiver output and if it contains more than a certain amount of noise, it will not open. Unfortunately, when using an unsuppressed power lead, the Reftec appears to TRANSMIT ignition noise! The receiver reads the incoming ignition noise just as any other noise and refuses to open! It took us a long time to work out why we could never hear whichever rig had the unsuppressed despite having all five signal LEDs lit up!!! Black mark, Reftec.

Learning Curve

The five LEDs making up the signal strength metering appear to be relatively insensitive. Quite a solid signal is required to even light the first one, and perfect copies are possible with none lit at all. As with 27MHz rigs, there appears to be a considerable variation between the individual calibration of these displays. A five LED signal on one rig may be a one LED signal on another!

There is no Tx power measuring. When transmitting, none of the signal LEDs lights at all. It is a pity that no form of Tx power reading is included. With the band so relatively quiet it could be quite reassuring to know that some power could be measured on its way to the aerial.

Although not mentioned in the instructions, the rigs do appear to be at least partly overloaded protected. It is possible to transmit indefinitely with no antenna connected. Eventually the transmitter shuts itself off, and won't come on again till the rig has cooled down!

Incidentally the rigs do run quite warm to the touch. This appears to be quite normal, and is no cause for alarm.

Reading back over the foregoing you could be excused for believing that we were rather unimpressed by the Reftec CB. Yet you would be wrong! Our initial reaction was one of severe disappointment, of a good piece of RF design let down by a poor audio and noise filtering. Yet as time went on, and slowly the bugs were eliminated from the system, we began to realise what a fundamentally good communications system this is. As with any other piece of new equipment, there is a 'learning curve' as you become aware of its strengths

and weaknesses, and the steps necessary to improve performance. We have recounted our experiences here to try and prevent others from experiencing our initial disappointment. Once you have the system properly installed, with adequate suppression and the correct antenna for your application, the Reftec reveals its full potential. I have already mentioned in a previous article contacts between myself mobile around Uxbridge and base stations in Clapham. Once outside London, the potential of the system is truly revealed.

I was fortunate that the loan period for which I had the rigs coincided with my annual holidays, and I was able to take the rigs with me to South Devon. There is quite an impressive net of 934MHz down in that part of the world, and quite an amazing fund of untapped knowledge.

Initially, again, the response to my calls on channel 14 was disappointing. It appears that all points south and west of London use channel 10 as a calling channel on UHF. Along the South West Coast there is a "South West Link" most evenings on channel 6. If you get no joy on channel 10, that probably means they are all chatting away on channel 6! And it is quite a link! One of the 'standard' links is from Paignton to Portland and Brighton!!! Certainly I was able to maintain solid contact with most of the base stations from my mobile over the whole of the Torbay area despite the very hilly and wooded terrain. My personal best was to copy a stationary mobile at Haytor from my mobile nearly all the way from Exeter to Torquay. Such a copy would have been completely impossible with a legal 27MHz set up.

Many of the South West operators were using locally made antennas of very high quality. These included mobile and home based colinears, and four AND TEN element beams. There is a possibility that these excellent antennas may become commercially available, and naturally we will be keeping you informed!

After a rather shaky start we have ended up being rather impressed by the Reftec 934MHz CB. The potential of 934MHz is considerable, and Reftec are to be congratulated on actually getting a rig on the market. Such criticisms as we have of the rig are all surmountable once you are aware of the problem. It is probably worth bearing in mind what the early American CBs were like. The Reftec shines like a jewel in comparison!

Since we started on this review, Reftec have brought out an 'improved' model. The microphone socket has been brought round to the front panel, and the squelch control has become automatic. There is a small red button to over-ride the auto squelch and force it to open, but normally it is self-setting. The new squelch does not appear to be as susceptible to transmitted noise as the old ones, and appears overall to be a worthwhile improvement. This ability to readily update the rigs is a feature of the

modular construction mentioned earlier.

The RRD has recently announced that all the UHF CB channels are to be moved down by 12.5KHz to achieve a common European CB standard. There is a simple modification to allow this to be achieved on the Reftec, and the latest sets are in fact being supplied to the new specification. This is in marked contrast to another prospective UHF manufacturer, to whom the change in specification has caused a hold up of several months.

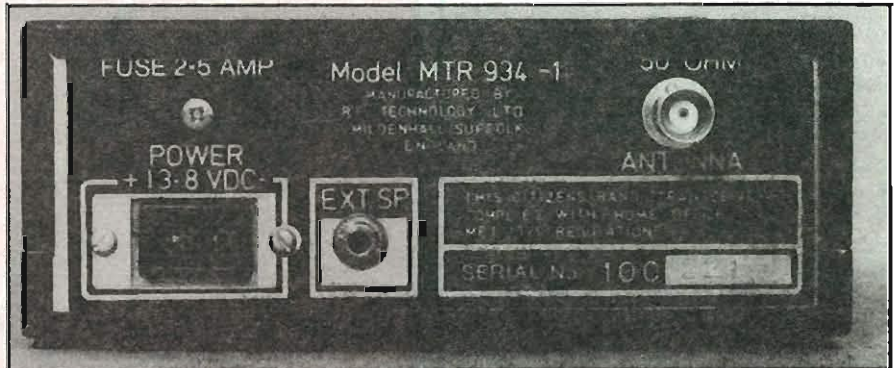
In summary, the Reftec is not perfect, but it does work and it is available now. Such flaws as it has are readily overcome once you are aware of them. Certainly I have become more enthusiastic with the Reftec as time goes on, and one of these rigs will be high on my Christmas shopping list!

Acknowledgements

We would like to thank 934 Communications, 64 Footscray Road, Eltham (01-859-0933) for the loan of the rigs for this review.

I would also like to thank Stations A.R.M. and P.T.E. (Elmo) of Paignton, Bill from Portland (Honestly!!!) and Angel from Bristol for their patience with me whilst conducting the field trials!

RIG REVIEW DATA PANEL



Model MTR 934-1

Distributor R.F. Technology Ltd
Typical Price £250-£300

Features	Yes	No
PA Facility		●
External Speaker Jack	●	
TX Indicator Light	●	
RX Indicator Light	●	
PA Indicator Light		●
S/RF Meter	●	
Hi/Lo Power Switch		●
ANL/NB Switch		●
CH9 Switch		●
Variable RF Gain		●
Mike Gain		●
Delta Tune		●
Tone Control		●
LED Channel Readout	●	

Facilities

- Ease Of Controls
- Built In Speaker
- Microphone Location
- Cabinet Construction
- Quality Of Control Switches
- Channel Indicator Readability
- Mounting Bracket
- Hand Book/Instructions

	Superb	Good	Fair	Poor
Ease Of Controls		●		
Built In Speaker				●
Microphone Location			●	
Cabinet Construction			●	
Quality Of Control Switches		●		
Channel Indicator Readability			●	
Mounting Bracket		●		
Hand Book/Instructions				●

Specifications

Modes Of Operation	FM Only
No. Of Channels	20
Weight	
Dimensions	8x5 1/2 x 2 1/2"
Supply Voltage	13.8
RF Output Power	6 watts typical
Frequency Stability	In Spec
Swamping	Adequate
Sensitivity (RX)	Adequate
Spurious Emissions	See Text

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

CB VERDICT

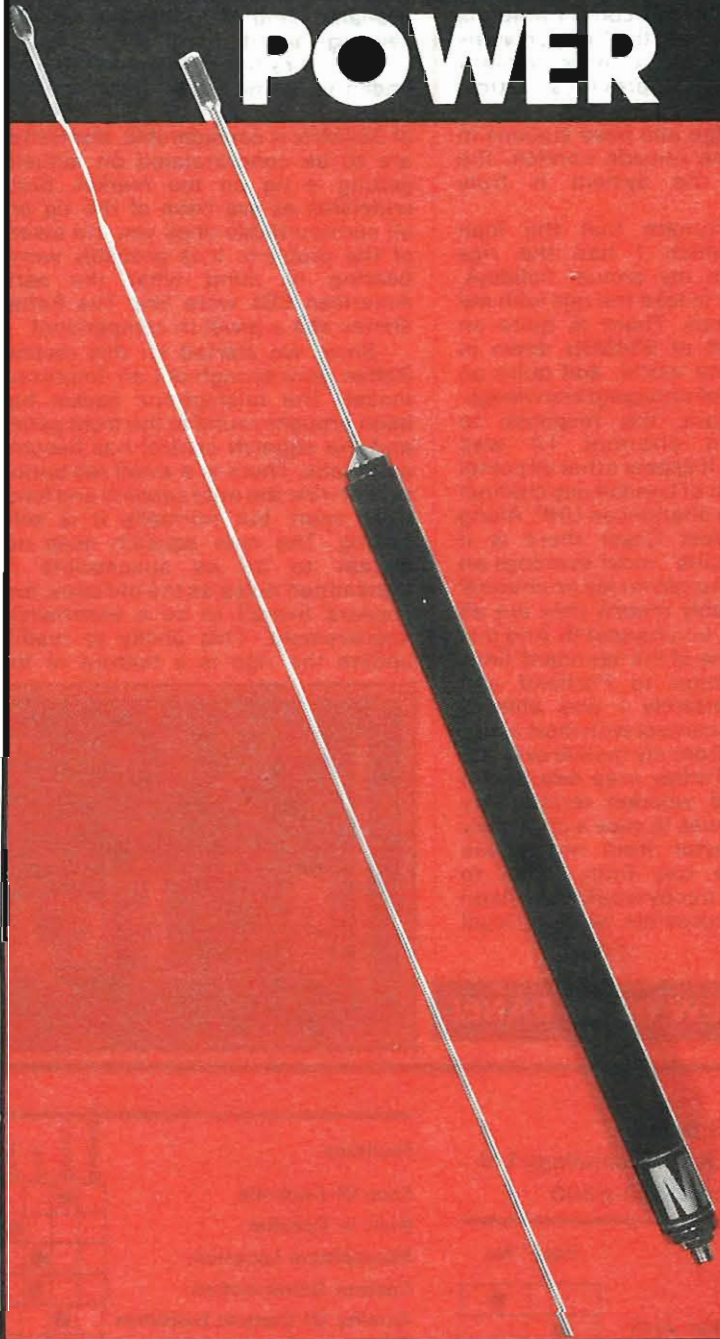
Range	XXXX
Clarity of TX	XXXX
Clarity of RX	XXXX
Ease Of Controls	XXX
Ease Of Installation	XXXX
Performance	XXXX

Antenna Review



Impress your friends
— and Brian Wright
too — with the
Modulator DX

MODULATOR POWER



There has always been a certain magic in being able to converse with some distant person without being connected to that person by wires. Most of us, if we were honest with ourselves would have to admit that we have had the desire to use two-way radio since seeing many of our childhood heroes doing so on the cinema or T.V. There always seemed to be a sort of special importance to talking into the magic box, probably because in the UK at least, radio communication was reserved for official people such as police, armed services, firemen etc.

Perhaps the part of the equipment that seemed to make the whole thing important or glamorous, for some reason, was the antenna, radiating its signals to the far off receiver, or plucking signals from the air. As with many things that impress us, the larger they are the more they usually impress us (and we are not referring to what you are thinking about). Well for those of you with large egos, you can certainly go out and impress your admirers with this month's mobile antenna — the Modulator DX from Les Wallen Manufacturing — it is about six feet long and fat at the bottom.

The Modulator DX is supplied in

four parts inside a plastic sleeve — no mounting base is supplied. The stainless steel whip is supplied in two parts, the top or main or main part is 1.3 metres long and taper ground from about 2mm at the base to 1mm at the top. This helps keep the wind resistance down, which is just as well as a long antenna such as this can put a fair leverage on the mounting base at high speeds. The bottom or short part of the whip is about 3mm diameter and roughly 200mm long. The two halves are joined by a chromed boss which has two grub screws in the side, one to grip each half of the whip. The lower half of the whip then fits into a chromed fitting on the top of the coil housing and is secured by a grub screw which screws downward at an angle of about 45 degrees.

The coil housing itself is very impressive, about 25mm diameter and 360mm long in black plastic. At the base of the plastic coil housing is another chromed fitting with a $\frac{3}{8}$ " 10 UNF thread protruding, this will fit many of the standard mobile mounts available and several homebase groundplanes. When the Modulator DX is fully assembled the total length is 1.855 metres (73"), the total whip length is 1.47 metres, just inside the legal limit of 1.5 metres. The quality of construction and materials is very good indeed and should give a long service when correctly assembled and installed.

No instructions are included, but assembly is fairly obvious and straightforward. The only thing that might confuse a new breaker is tuning, but if this is necessary this would be done by the usual method of adjusting the whip. As with most large antennas the tuning of the Modulator DX seems very broad and we simply assembled the test sample and mounted it on the car boot. The SWR was between 1:2:1 and 1:4:1 across all 40 channels, therefore no adjustment should be necessary.

With the Modulator DX on the car, looking as though it was about to wipe out all the local breakers, we set out optimistically on test. As you can see from the test pattern the Modulator DX performed quite well but not quite as well as we expected for an antenna of this size. Contact was maintained throughout the test route quite comfortably apart from once when a S2 signal came up on the channel when we were at the limits of the test route, but even then contact was maintained with slight difficulty.

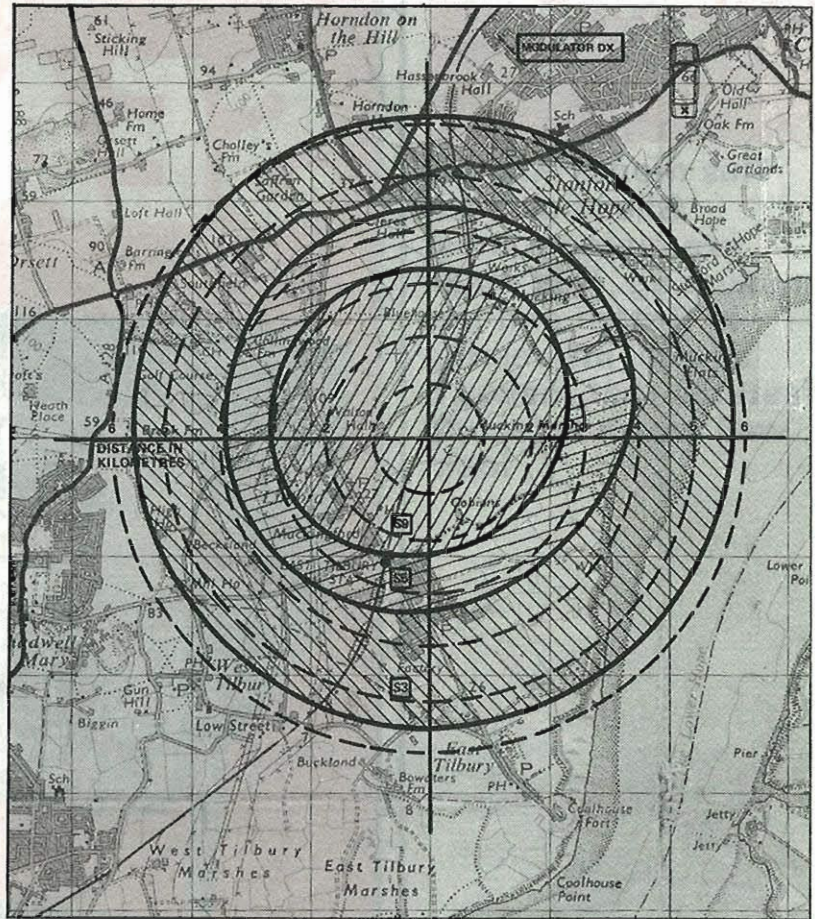
In conclusion we would say that in our opinion the Modulator DX is a very impressive looking British made antenna. Construction and materials are of high quality giving the antenna a good service life expectancy. Performance is very good but a little 'down' from what we expected from this size of antenna. Priced at £19.50 the Modulator DX is quite good value for money considering the good quality of construction.

A similar antenna for performance would be the Falcon 27 mobile. **CB**

ANTENNA REVIEW DATA PANEL

SPECIFICATIONS

Model Modulator DX
Type Mobile
Type Whip 1.47 metres, overall
Length 1.855 metres
Frequency Range 27MHz
Max Power Handling —
Impedance 50
Cable Supplied None
Mounting Details $\frac{3}{8}$ " 10 UNF Stud
Supplier Les Wallen Manufacturing
Typical Price £19.50



REVIEW VERDICT

Performance XXXX
SWR Adjustment XXXXX
Construction XXXX

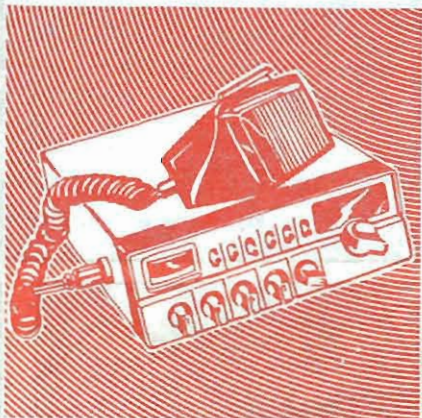
Installation XXXX
Instructions —
Value XXXX

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

The Tests

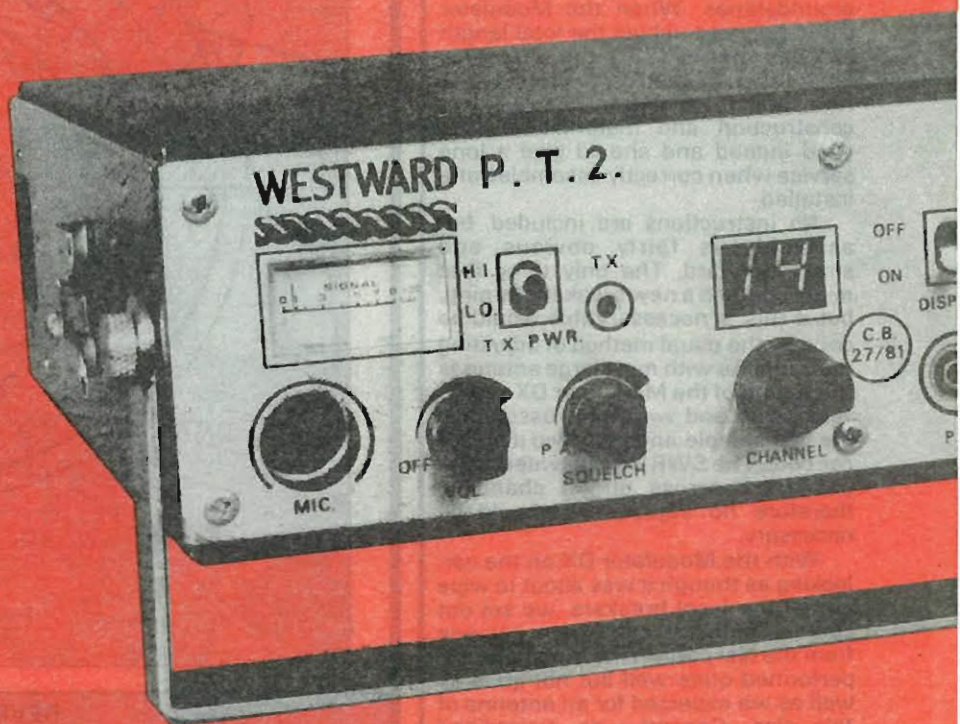
We have used our standard test procedure to assess the efficiency of this antenna. Just to bring new readers up to date this involves two tests; one static and one mobile. Our test sample is fitted to a stationary mobile and a second mobile follows a pre-arranged route that orbits the stationary test vehicle, sending and receiving signal reports at measured intervals. This is then repeated with the test antenna on the mobile test vehicle and the signals are sent and received between a stationary vehicle. A standard rig and antenna is used in all the tests. With the results obtained we are able to draw up the radiation pattern shown here. This is simplified to make the results more easily understood. The antenna is also subjected to a series of 'lab' tests to assess their durability, quality and construction, etc and finally we hand it over to a panel of CBers for comment.

Rig Review



This month Andy R Giles has been examining a most unusual rig. It is made in Britain and has several interesting features that makes it well worth a second look.

A RIG FOR ALL SEASONS



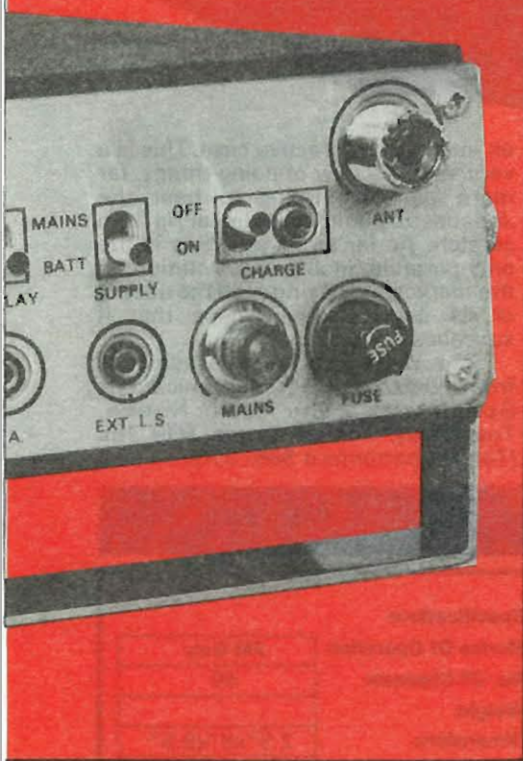
When I was first given the Westward P.T.2 to play with, my first reaction was one of amazement. Along with most of the other pundits in this field, I had thought that most British companies had abandoned the idea of producing CB rigs. There was one that appeared a couple of years ago, the P.E. Ranger, although now it seems to have vanished without trace. It was based on a project published in an electronics magazine and it sold fairly well initially because it was one of the few that was available at the time of legalisation, but I don't think that I am being unfair if I say that it was

not one of the best rigs that I have ever seen. Since then several British companies have made attempts to break into a market that has continued to be dominated by Japanese equipment. Now most dealers, those that are left that is, will readily admit that the CB bubble has well and truly burst and sales of CB rigs are low. Which is why I was puzzled by the appearance of the Westward. Admittedly it is a nice unit that I would quite like to own myself, but would I be willing to pay £129.95 for it? Especially as some quite acceptable rigs are now readily available for £20, or even less. Maybe I would. It is an unusual radio.

The Westward P.T.2 is a battery

R

S



portable/mobile/base station. It is very large, approximately 2.5 ins x 9 ins x 9.5 ins and it is also very heavy. Fortunately it is supplied with a carrying case that has a shoulder strap, so it is feasible to carry it around and use it as a portable. The carrying case, available as an extra, is beautiful. It seems that no expense has been spared on this because it is extremely well made out of genuine leather and it smells wonderful. Can you believe that anyone would make a carrying case for a CB out of leather? Westward have and it certainly gives their product an air of quality. The front panel of the Westward P.T.2 is screen printed brushed stainless steel and all of the controls and sockets are there,

apart from the two power inlets. One of these is for an external 12V DC supply while the other is for 240V mains and they are both at the back of the left-hand side. In the top left-hand corner of the front panel there is the S/RF meter and immediately next to it the Hi/Lo power switch that attenuates the output power by 10dB. Just to the right of that is a red LED that lights on transmit. In the bottom left-hand corner is the 5 pin DIN microphone socket and next to it are the two rotary controls for Volume and Squelch. The Squelch knob also activates the P.A. facility when it is turned fully anti-clockwise until a click is heard and the Volume control is also the On/Off switch. In the centre of the faceplate is the bright green LED channel display and the channel selector knob is directly underneath it. To the right of them are three toggle switches. The first one turns the display and the S/RF meter light on and off, which is a useful way of saving power when running the set on internal batteries. The middle one switches the rig from internal battery to mains power and the end one turns the built-in battery charger on or off. Next to that switch there is an orange lamp that lights to show when the batteries are being charged. Directly underneath the first two switches there are two 3.5mm jack sockets, one for an extension speaker and one for a P.A. speaker. Next to those is a panel orange neon lamp that lights whenever mains power is applied. In the bottom right-hand corner is a panel mounted fuseholder which makes it possible to change the fuse without opening the case. In the top right-hand corner of the front panel is a standard SO 329 antenna socket. As you can see from the number of sockets and switches, this is a multi-purpose rig. It is supplied with a mains lead and if this is plugged into the socket on the side, the switch on the front panel set to MAINS and an external antenna plugged into the socket, the Westward P.T.2 is a base station. If, however, the rig is fixed into the car with the mounting bracket that is supplied and 12V fed to it via the appropriate socket on the side, as well as having the car's antenna plugged into the antenna socket, then it is a mobile unit. Similarly, if the appropriate switch is set to BATTERY and the rubber duck antenna that comes with it is fitted into the socket, the Westward P.T.2 becomes a portable rig that can be carried around either by the handle on the front, or by the leather shoulder strap that comes with the case.

A truly versatile rig, but how well does it work? Very well is what I found out but before I continue I am going to give you an insight into how I do these reviews and also explain why I have been looking at this rig from the wrong viewpoint.

There is one important difference between literature and journalism — speed. The very first thing that I was taught was that 'It don't matter if you write good or if you write bad, so long

as you do it on time'. Obviously it is better to write well and some journalists, such as Mark Twain and Charles Dickens, wrote superbly even when they were churning out pieces for the magazines of their day. The rest of us do the best that we can but that all important deadline sometimes means that sometimes we cannot put the amount of thought into an article that we would like. There are two stories that illustrate the difference between a writer and a journalist. One concerns Oscar Wilde. He was spending the weekend in the country with some friends and on the Sunday stayed in his room until lunchtime. When he did appear, his hostess asked him if he had been feeling unwell. 'No', he replied, 'I've been working on my latest play'. He was then asked if he had managed to do much. 'Yes', he said, 'I put in a comma'.

'All those hours and you just put in a comma. Didn't you do anything else?' she asked.

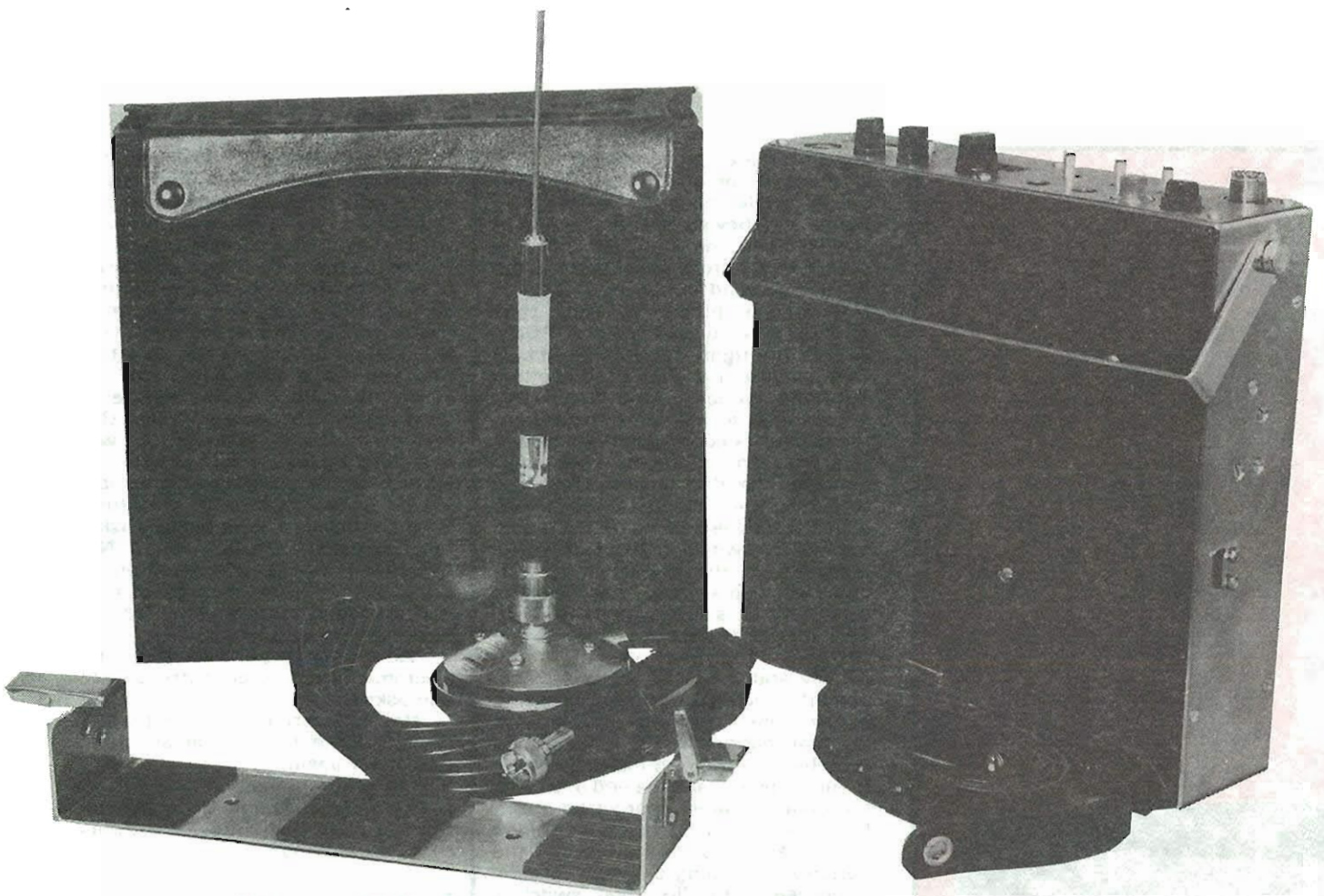
He answered, 'Yes indeed, I thought about it for a while and then I took it out again'.

The other interesting little snippet is that Ernest Hemmingway rewrote the last page of 'A Farewell to Arms' thirty seven times.

Surprise surprise!!

'What on earth has all this to do with a rig review?' you may well ask. I shall explain. When I was given the Westward, I was told that it was a British rig that is a bit different. There was no real handbook or literature with it but I thought that I would be able to play with it and find out most of the things that I needed to know by examining it. Unfortunately it is capable of doing so much that I soon found that there was a lot of information that I didn't have that would have liked for this article. For instance, I really wanted to know the charging time for the internal batteries and how long they could be expected to last in use. (Five hours — Ed.) The only way that I could think of to find out was to take the lid off and examine the batteries. When I did, I was very surprised. Firstly, instead of using conventional Ni-Cad cells, the Westward has what appears to be a sealed lead acid 2.6 amp hour battery. This would account for the weight of the unit. The second surprise was that this is not a British rig after all. Sitting inside the smart Westward case is a complete Maxcom 4E. Complete that is apart from its front panel which has been removed to allow the controls to project through the new front panel. What Westward Electronic & Communication Specialists, the manufacturers of the P.T.2 have done is to take a Maxcom and then added a few extras of their own.

Naturally I was nonplussed. Here I am, three quarters of the way through a review, only to find that the equipment is not what I had thought it was. Should I start again or should I just carry on? This is where the time



factor comes in and highlights just one of the differences between me and a 'real' writer. My deadline is approaching rapidly, and as I don't have the time for a complete re-write, I shall have to be honest and admit that I boobed. Had I known what this unit is before I started, I may well have approached it differently, but now that I do know what it is that I am looking at, I can say that I think that Westward Electronic & Communications Specialists have had a great idea. They have taken a mobile rig that works well

(see the review in our March '83 issue) and turned it into an all round performer and in using a basic mobile rig and effectively putting it in a bigger case they are doing the same as many base station manufacturers. They have added a good sized battery that should give more than enough power for portable use, nicely regulated power supply and charging system that even uses a toroidal transformer instead of the more usual laminated types, which eliminates that nasty mechanical hum, and they have put it

all into a very attractive case. This is a very sensible way of doing things, far more so than trying to beat the Japanese by building a similar rig from scratch. As far as I know, this is the only portable/mobile/base station on the market and having seen the quality of its construction, I hope that it succeeds.

The Westward P.T.2 is available from Electronic & Communications Specialists, The Mill House, Tuckenhay, Totnes, Devon TQ9 7EL (Tel: Harbertonford 336/370).

RIG REVIEW DATA PANEL

Model P.T.2 Distributor Westward Typical Price £129.95		Facilities <table border="1"> <tr> <td>Ease Of Controls</td> <td>●</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Built In Speaker</td> <td></td> <td></td> <td>●</td> <td></td> </tr> <tr> <td>Microphone Location</td> <td></td> <td></td> <td></td> <td>●</td> </tr> <tr> <td>Cabinet Construction</td> <td></td> <td>●</td> <td></td> <td></td> </tr> <tr> <td>Quality Of Control Switches</td> <td></td> <td>●</td> <td></td> <td></td> </tr> <tr> <td>Channel Indicator Readability</td> <td></td> <td>●</td> <td></td> <td></td> </tr> <tr> <td>Mounting Bracket</td> <td></td> <td></td> <td>●</td> <td></td> </tr> <tr> <td>Hand Book/Instructions</td> <td></td> <td></td> <td></td> <td>●</td> </tr> </table>		Ease Of Controls	●				Built In Speaker			●		Microphone Location				●	Cabinet Construction		●			Quality Of Control Switches		●			Channel Indicator Readability		●			Mounting Bracket			●		Hand Book/Instructions				●	Specifications <table border="1"> <tr> <td>Modes Of Operation</td> <td>FM Only</td> </tr> <tr> <td>No. Of Channels</td> <td>40</td> </tr> <tr> <td>Weight</td> <td></td> </tr> <tr> <td>Dimensions</td> <td>2.5"x9"x9.5"</td> </tr> <tr> <td>Supply Voltage</td> <td>12V or 240V</td> </tr> <tr> <td>RF Output Power</td> <td>4W</td> </tr> <tr> <td>Frequency Stability</td> <td>Spec</td> </tr> <tr> <td>Swamping</td> <td>Good</td> </tr> <tr> <td>Sensitivity (RX)</td> <td>Good</td> </tr> <tr> <td>Spurious Emissions</td> <td>Spec</td> </tr> </table>		Modes Of Operation	FM Only	No. Of Channels	40	Weight		Dimensions	2.5"x9"x9.5"	Supply Voltage	12V or 240V	RF Output Power	4W	Frequency Stability	Spec	Swamping	Good	Sensitivity (RX)	Good	Spurious Emissions	Spec
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News from all round the QSL world with swappers from Spain and across the British Isles.

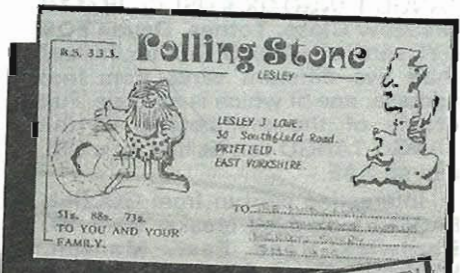
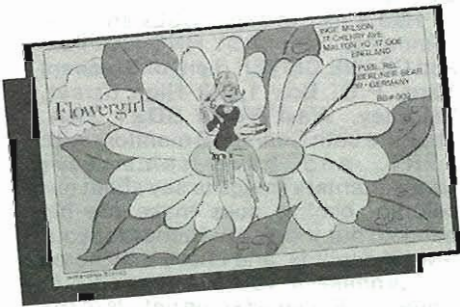
COMMUNICATION THE QSL WAY

Welcome to another Communication the QSL Way. Judging from all your letters you can hardly wait each month for a copy of your favourite magazine, and time to put pen to paper certainly does come round quickly.

Heard from Des Currie of the GREAT BRITISH DX CLUB, the Competition announced two months ago is going very well, seems the Currie CB QSL cards are now very much sought after. For those of you who missed the details, Des Currie Printers of P.O. Box 5, Consett, Co. Durham DH8 8NG, are running a super competition for the first five QSLers who collect 100 different design Currie Cards, the prize being a free Currie Radio Log Book, and if you go on to collect 200 different Currie QSLs then you qualify for 1000 Rainbow QSL Cards plus a Jumbo 5000 entry Radio Log Book. The Rainbow cards apply to the first two QSLers to lodge their 200 different cards with Des. Not many rules for this super competition, but I had better relate them so you won't be disappointed. All cards must be from the D. Currie Printers stable, and must be all of different designs, you cannot count club cards more than once even if they were collected from different members. Any club design may only be counted once. Most QSL cards printed by D Currie have the 'Currie' imprint on the side of the card, which makes them easy to recognise (Some do not have it on — they are the hard ones, you'll need to ask the operator about them). Currie cards with SAMPLE marked on them do NOT count. All cards entered will be returned with your award, all cards will have at least one corner snipped off and cards entered for the extra bonus will have two corners snipped. The cards with one corner snipped may be re-used to qualify for extra bonus awards, cards with two corners snipped may not be used towards any present award, but

may count towards any future award. To get you off to a good flying start I will give you a hint when opening this months mail if any CURRIE cards are found, best of luck to you all.

First Christmas card in this year — the honour goes to a favourite lady of mine — TONGUE TIED — Wendy of Brownhills whose hubby SLAVE TRADER runs the ENSIGN QSL PRINTERS, now very well known and very popular indeed. Wendy asks for a special mention for hubby John as everyone asks who is the SLAVE TRADER, and the answers is always TONGUE TIED's hubby. Seems they had quite an eyeball a short while ago and met many old and new friends, and it ended up with eighteen people staying overnight with Wendy and John, that's real CB friendship. Don't forget if you are looking for extra special QSL cards drop Wendy a line at 107, Howdles Lane, Brownhills, West Midlands WS8 7PJ enclosing an SAE.



This is Wendy the better looking half of ENSIGN QSL CARDS run by Wendy and husband John.

From HAWKLORD Mike Pittaway comes details of his new FREE club — the CHELTENHAM QSL CLUB, of 34, Cowper Road, St Marks, Cheltenham, Glos GL51 7ST. News in of THE UNICORN QSL CLUB OF GREAT BRITAIN of 15 Savernake Avenue, Melksham, Wiltshire SN12 7HB founded by President Steve. Membership is just £2 plus a first class postage stamp for lots of goodies.

Gordon, Press Officer of the ROMEO DELTA X-RAY CLUB OF SCOTLAND pleads for a mention. Apparently incredibly easy to join says Gordon. All it takes to join is ten signed and dated QSLs and a stamped addressed envelope to Dougie the President and hey-presto — you're in! The club address is 10, Wallace Street, Rutherglen, Glasgow, Scotland G73 2SA.

Always on the look-out for something different, we heard from the first club we have heard of in Yugoslavia. It's called the INTERNATIONAL "KILO-LIMA" RADIO DX GROUP OF YUGOSLAVIA, run by President ZIVKO from Predjamska 15, 61000 Ljubljana, Yugoslavia, perhaps a little costly at £8 membership, but we are assured all mail is returned by First Class Air Mail, so that would account for nearly £3.00 worth of postage. Last club mention this month is from THE FRIENDS OF RADIO QSL CLUB run by a Radio Amateur no less — he is David Taylor of 13, Curlew Glebe, Dunnington, York YO1 5PQ and is just starting off, so an SAE will bring full details of this new club which shows great promise by promoting friendship through



Radio. That's what our hobby is all about Dave so you can enter me up.

Right-ho, here we go now with the lucky ones out of our ever increasing Post-Bag. Thought I recognised this handsome fellow — it's a new QSL from RED RIDER Paul Jukes of 100 Dudley Road, Tipton, West Midlands DY4 8DL, it's a super new SUNDOWN photo-QSL showing Paul with his rig and a huge selection of his QSLs — I think this is a really great idea, must get some photo QSLs myself — it's great to see who's QSLing you. I do appreciate any mail, and thank the three breakers namely SILVER KNIGHT, MONTY PYTHON and MR BLUE SKY, but oh how it does upset me (as the song goes) when breakers go to all the trouble of QSLing, then forgetting the most important details of all — their addresses! This one is even worse, as they have not even had their address printed on their super card.

Had a most disturbing letter from

David of 59, Arlescote Road, Solihull, West Midlands, seems he QSLed all the names and addresses in a past issue of this magazine and didn't get many replies. The only advice I can give David is either you forgot to include your name and address or — and I do not mean to offend — was your QSL package something you would be pleased to receive yourself? Anyone out there can QSL an anxious David who has lost a little faith in our hobby? Now by complete contrast comes a letter from BRITISH CONCORDE INTERNATIONAL member BROTHER JOHN, John Winship of 1, St. Johns Avenue, Churchdown, Gloucester GL3 2DG, he started QSLing after reading our column from day 1, and was absolutely thrilled with the return results from addresses taken from it, with a special mention for TIME TRAVELLER who returned a QSL within three days — well done, just shows the difference when you make up a good pack doesn't it? If you want a few ideas for enclosures, your local English Tourist Board will be pleased to send you some FREE brochures, as many as you like — to include in your packs, and don't forget local tourist places close to your own home — they normally have free leaflets — it all helps to make up a great pack.

Had a pair of super QSLs and nice comments from LADY FINCH (Gillian) and CRANE DRIVER (Len) of Breakers Yard, P.O. Box 1, 22 High Street, Keighley, West Yorks BD21 2AA. They are both Channel 9 monitors with CERT, and have some very complimentary things to say about our column, oool it does make me big headed, but thank you friends for your few kind words, and I have duly noted you promise a 100 per cent QSL to everyone. Received some details of the TANGO TANGO DX & QSL CLUB of 10 Meadow Close, Totnes, Devon TQ9 5YF sent in by Alex O'Connor, no less than five different cards from that address, one of which is a Currie. Full details of the membership of the TANGO TANGO can be had for a QSL and an SAE.

Interesting card in from GOLDEN EAGLE, a disabled breaker from 19, Hardwick Road East, Manton, Worksop, Notts S80 2NS, he has been on channel some six months now and is an active member of the local REACT team in Nottingham. Golden Eagle — Doug has two very nice QSL cards, and will QSL allcomers. Incidentally I have put Doug in touch with my other friend GOLDEN EAGLE — Arthur Brodeur of 6, Mt. St. Charles Avenue, Woonsocket, Rhode Island 02895 in the USA, who incidentally welcomes all mail from the UK — if you write say a big hello to Arthur from me, he is one of the greatest old-timers in CB, a real gent! Heard again from someone who must be one of the most prolific QSLers in the world, and what really amazes me is that this QSLer consistently sends out a magnificent QSL package — he is Malcolm Fisher of Aghnish,

ZULU ECHO UK DX & QSL CLUB
P.O. Box 31,
Saffron Walden,
Essex CB10 1DH.

Founded in July last year by Dean Baird — TOMCAT — currently with over 350 members, originally to provide a Post Office Box Number for local Saffron Walden Breakers, but with so much interest being shown, it was decided to extend the club internationally. The club caters for all aspects of CB, both FM and AM and SSB, even Ham and 2 metres, and the club has a few 'B' Licence holders in their ranks. The main request of the club is that ALL members must QSL 100 per cent, irrespective of whether the contact is by Radio, QSLing or direct swapping, indeed an excellent rule. We had a sample club package to inspect at the office, and the requested £5.50 membership seems to bring quite a return, including:-

- 1) Club unit number
- 2) I D Card sealed in plastic
- 3) Club Rubber stamp, fully mounted
- 4) Club Keyring
- 5) Club Roster of members
- 6) Club stickers and seals



- 7) Newsletter
- 8) 2 club pens
- 9) Codes — RST & Q
- 10) Pack of 30 Club QSLs
- 11) Tips on QSLing
- 12) Members QSL swap cards
- 13) Information on other clubs
- 14) Phonetic and IO Codes
- 15) Local View Cards
- 16) Presidents and Vice-Presidents QSL cards
- 17) Use of club P.O. Box (UK only)
- 18) Other items as available.

Comment: A better than normal club pack, club obviously run for benefit of members, and use of club P.O. Box numbers an attractive facility, especially to AM + SSB operators. Little doubt this will be one of the well established clubs in the future.

Ramelton, Co. Donegal, Ireland. He is also a member of countless QSL clubs throughout the world, including some rare ones, well done again, Malcolm, super QSL!

Beautiful hand-drawn home-brew QSL from BLACK LEOPARD — Chris Boller of 25, Manor Farm Green, Belle Isle, Leeds, West Yorkshire LS10 3RL, who not only sends that cracking hand-drawn but some of his CURRIE QSL cards (Hint).

How dare I ignore this huge pack sitting here on the pile — it's almost parcel post size — sent in by Tony Sheach MAD MAX of 8, Strauan Road, Portree, Isle of Skye, Scotland IU51 9EG, not only lots of very absorbing tourist literature, but countless membership forms to lots of interesting and unusual QSL clubs, and the crowning glory of this QSL — no less than 15 different CURRIE QSL cards — real beauties, plus some of his own cards. Tony says he is only 16 and QSLs worldwide, swops non-stop, and will answer all mail. Being still at school I am sure a stamp would help his limited finances for a return QSL.

From John, Secretary of RADIO COASTLINE CLUB at P.O. Box 32, Ballymoney, BT53, Co Antrim, Northern Ireland comes details of their club who not only have their own CURRIE QSLs (Hint again) but some nice club QSLs and eyeball cards. The club meets the first Monday of the month at the Bayview Hotel, Portballintrae, Co Antrim, and all members must QSL 100%, that is one condition of membership. Some really attractive QSLs in from GREEN NIGEL — Guy C Davidson of 5, Ernest Terrace, Chester Le Street, Co Durham DH3 3HR, a nice club card of the Black Horse Inn DX Club and some nice home-brew cards, and an interesting long letter about his legal

DX contacts with his Audioline 340 Rig and Thunderpole Mk 2 Antenna. Saucy! is the only way I can describe the next QSL in from Station Bravo Sierra 27 Operator Jacqui of 27, Tenterden Road, Croydon, Surrey CR0 6NQ, what a pin-up. Both Jacqui and her OM John are members of the Cobra Operators Club and QSL 100 per cent, especially to fellow members. ROLLING STONE — Lesley J Lowe of 30, Southfield Road, Driffield, East Yorkshire writes to say she is a keen QSLer, and sends a pile of postcards as well as her own personalised QSL card, she is looking for lots of good QSL contacts.

Isn't it funny how you never seem to hear of a place, then receive two QSLs in one month? Another fine QSL in from the Outer Hebrides, this one from MARKSMAN — James OH 003, P.O. Box 11, Stornoway, Isle of Lewis, Scotland, another fine pack with some cards of the OUTER HEBRIDES DX-QSL SWAP CLUB, plus some of the SCOTTISH DX CLUB. Not much room left, so we close this month with a letter received from



Manolo, President of THE ANTEQUERA QSL DX SWAP CLUB of P.O. Box 17, Antequera, Malaga, Spain, who thanks us for a nice mention in our columns, and tells us the club now has some 150 members in 18 countries throughout the world, and tells us he will QSL everyone from the UK who QSLs him, he will reply with QSL cards and details of the club. In closing this month I would like to just say a special hello to SHOESTRING and DOG COLLAR of the Mitcham 20, and a special request to you all out there to respect the convention of Channel 09 being for Emergency work only. Monitors give up their time to help us should we need it and I think it's the least we can do to help them keep Channel 09 for Emergencies only. For the breaker who asked for details of REACT their Headquarters is at 142, Lutterworth Road, Nuneaton, Warks, telephone 0203 383005, they are always pleased to hear from prospective new members. Well, that's it my darlings, thanks again for all the mail, keep it coming, we always try to squeeze as many of you as possible in. Until next month, take care — we care.

CB

Citizens' Band Magazines List of QSLers

JIM ELMS *Coachman*

IRIS SILCOCK *Nac One*

DAVE *Nature Man*

JOHN BASS *Jetliner*

DAVID *Mr Jinx*

JACKIE *Woodstock*

STEVE CARPENTER
Soldier Blue

NICKOLAS VJESTICA
Chetnik

BOB ZE 572
Ratchet Neck

JANET ROPER *Delta Dawn*

11, Hall Lane, Ocker Hill,
Tipton, West Midlands
DY4 0XN

21, Hazel Road, Batchley,
Redditch, Worcs.

13, Fugglestone, Wilton,
Salisbury, Wilts SP2 0B2

34, Parkside Terrace,
Cullingworth, Bradford,
West Yorks BD13 5AD

139, Cornish Road, Chipping
Norton, Oxford.

34, Meadow View, Higham
Ferres, Wellingborough,
Northants NN9 8EVV

40, Oakleyfield Road,
Thurston, Bury St. Edmonds,
Suffolk IP31 3RX

56, Adderley, North Bretton,
Peterborough PE3 8RB

P.O. Box 31, Saifron Walden,
Essex.

P.O. Box 131, Wigan WN3 5TR

IAN PD122 *Big Daddy*

RON PARKER
Tango Delta 100
MRS A PEZONE
Black Phantom
R. H. ROBERTSON
Elephant Boy
DIANNE CURRIE
Swap A Lot

R. SOMERVILLE
Cavalier

AUDREY ROSS
Bust Bee

JIM BROOME
Stagecoach

JANET PERFECT
Moscow Mule

P.O. Box 592, Birmingham
B38 8RW
35, Cowper Close, Sutton In
Ashfield, Notts.
65, Eastside Street,
Lawrence, MA 01841, USA
23, Springfield Lane, Ely,
Cams.
89, Derwent Street, Blackhill,
Consett, Co. Durham DH8 8LT

11, Douglas Terrace, High-
stables, Dipton, Stanley,
Co. Durham DH9 9EP
27, Skegness Parade,
Hebburn, Tyne & Wear
NE31 2AJ
20, Westmorland Avenue,
Newbiggin by the Sea,
Northumberland NE64 6RW
Estate Cottage, Box Hill
School, Mickleham, Nr
Dorking, Surrey RH5 6EA

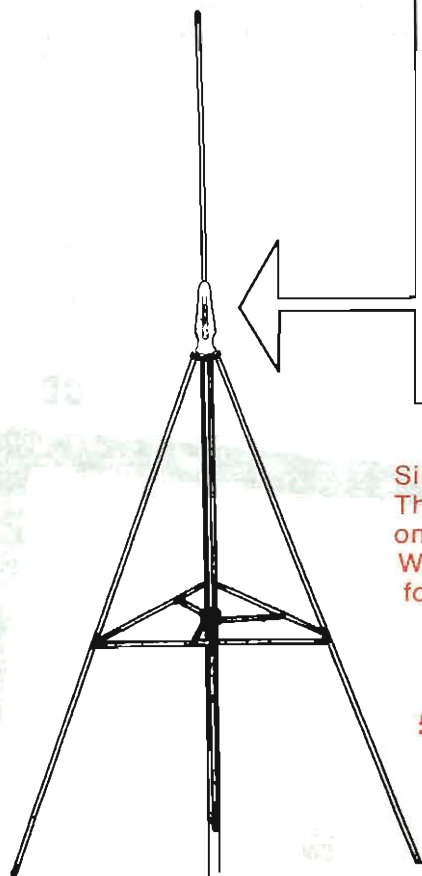
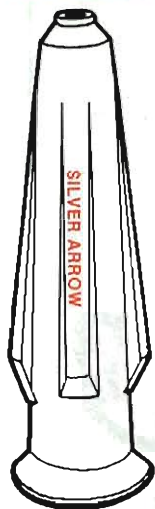


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ACCESS AND BARCLAYCARD ACCEPTED

DECEMBER
ISSUE WILL BE ON SALE
FRIDAY
18
NOVEMBER

Gypsy Rose Sharp sits hunched over the editorial crystal ball, peering into it's hazy depths. What will be in the next issue of Citizens' Band? That's funny, the mist is getting thicker . . . wait, the waste paper bin's on fire!

Right. That's better. The firemen have gone and Branston has emerged from under the filing cabinet. Where were we. Next months issue. Right. The bit of paper with December's feature is a bit scorched and sodden but I think I can just about make it out.

As it is a festive time of year, we've been asking some of our contributors and staff what they'd like for Christmas. Mind you, looking through the lists, what they want and what they are going to get are two entirely different things. You've got nearly a month to guess what Twong wants . . .

Due to great public demand and fresh from his winter season at Cleethorpes Hippodrome, Chris Peterson finally discloses the facts on crystal filter modifications. Plug in your soldering irons now.

For 934MHz fans there is the first of — hopefully — a series of features on this frequency — lots of news, questions answered, new products as they become available. Brian Wright looks at an Oscar base

NEXT MONTH

The articles mentioned are in an advanced state of preparation but circumstances may affect the final contents

antenna station, Mack the Hack has his usual tuppence worth (sorry, 2p worth) and Ms. Judd has a word or two to add.

Hang on a minute, this bit's burnt . . . oh yes, all the regular features and, no doubt, a competition prize or two if we can find them when the smoke clears.

COMPETITION

Up for grabs this months is an SMC Oscar II. Those of you who pay attention when you're spoken to will know that this was reviewed recently and was very highly thought

of. Thanks to SMC in Totton for the prize, but what do you have to do to earn it?

Hmm, tricky. Complete in not more than fifteen words 'I think the editor of Citizens' Band deserves ten trillion pounds a year because . . . No. Them upstairs won't wear that. How many spikes has Branston got? No, I'm not counting them to find out.

How about celebrity handles? That's it.

For this months competition we'd like you to think of appropriate handles for the following list of celebrities:

Koo Stark
Cliff Richard
Barbara Woodhouse
Angela Rippon
David Frost
Denis Thatcher

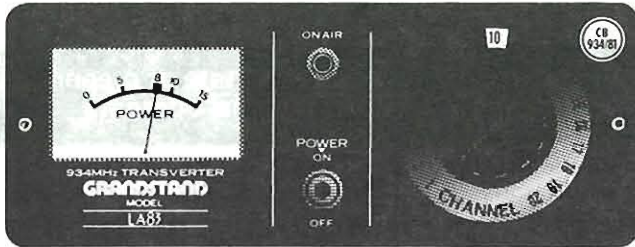
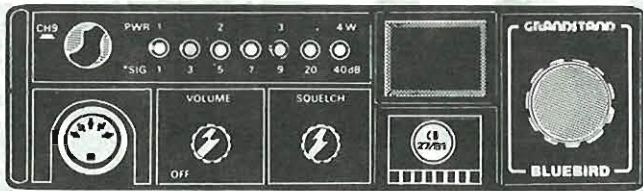
Answers on a postcard (from now on envelopes will not be opened!) and don't forget to include your own name and address — quite a few of you do! You should know the rules by now but here they are again just in case.

Rules

No employee of ASP are allowed to enter. All entries must be here by second post Friday, 18th November. The editors decision is final. Entries to Handles Competition, Citizens' Band, ASP Ltd., 145 Charing Cross Road, London WC2H 0EE.



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At last he's seen the light! Bullroarer is on channel with a vengeance, will Filly see her rig again?

LADY BREAKERS

Our autumn holiday has long been planned and looked forward to. However, shocking to relate, I had to agree at the outset to leave my rig ("that damn squawk box" as my husband prefers to call it) at home. My husband, you may remember, does not for his own inscrutable reasons approve of CB.

So there we were a week ago, loading enough luggage into the car to sink the boat, and (being a sentimental idiot) I went off to take leave of the house, the garden, the houseplants, the cat, the goldfish, and my CB radio. Well, I don't know, the poor little rig looked so lonely sitting there in my car in the gloomy garage, and — and perhaps it would go rusty from disuse. . . and anyway, didn't it deserve a holiday too? I found at the last minute that I couldn't bear to be parted from it, so I smuggled it into the car in a pile of blankets.

We eventually got away, only two hours late, picked up our friends and headed for Warwickshire. We were half an hour and two locks safely out of the boatyard when the outraged roar from the bow meant my husband had discovered the rig — I got there just in time to prevent my precious Maxcom disappearing into the murky waters of the Oxford Canal. Baulked, he contented himself with sneering comments to the effect that (a) I would not be able to set it up and (b) who on earth did I think I would find to talk to out on the back of beyond anyway, and stalked off to take the tiller and play at being Admiral.

Alas for his good humour, setting up, as it turned out, was not too difficult. Most modern narrowboats have fibreglass roofs, so it was just as well I had brought the aluminium sheet along to act as a groundplane, and positively fortunate that I had not brought a mag mount along. I fiddled about in the bow with aluminium and antenna, balancing myself precariously with one toe on the rail at the side of the boat, under the sardonic eye of my husband who was obviously hoping I would fall in.

The next problem was the SWR meter — or lack of it. Surely I had brought the wretched thing? I had — it was in a Wellington boot. I hauled it out and tested the SWR — 1.5, not brilliant, but, I thought, pretty good in the circumstances. And it was at that point, just as I was all set to go, that we entered a deep cutting where reception, needless to say, was impossible.

Next day was typical boating weather — it was pouring with rain. My husband, who normally snarls like an alsatian when anyone tries to take the tiller from him, suddenly decided

someone else could have a turn, and leaving our two hapless friends to get drenched in the stern, came into the cabin to pester me.

"You won't get anything", he stated, settling down on a seat and watching me twiddle the channel selector. "Who on earth would take a CB radio on a narrowboat?" (scornful laughter).

"Never could understand what you see in that thing", my audience went on aggressively, warming up for a fight. And then suddenly, there was a voice, not very clear, but definitely a voice.

"Little Lady here, Little Lady", it said, coyly. "Anyone for a copy? This is Little Lady". He jumped about six feet.

"Who's that?" he demanded.

"Who's what?" I asked blandly (two can play at games, after all).

"Little Lady wants to hear a friendly voice. Come on boys, there must be someone out on the canal to talk to Little Lady?", lisped the voice.

He sat there watching the radio, fascinated, his eyes glinting. After a short struggle with himself, he reached out and picked up the mike. "How do you work this thing?" he asked, trying to sound disinterested. I showed him and he caught on straight away.

"Hello Little Lady, do you, er, do you ('copy', I said) — copy?" No mike fright for him, I thought amused. Talk about an instant conversion, Saul on the road to Damascus had nothing on him.

There was no reply and he looked at me in dismay. "Where's she gone?"

"Let go of the button", I told him. He did.

"Well, hi", said the voice at once. "Who are you sweetie?" Sweetie looked at me wildly. "Who am I?" he hissed. I could think of a few names, but didn't want to undo all the good work.

"What about Red Admiral?" I suggested.

"This is Red Admiral", he said into the mike. "You've got Red Admiral, Little Lady — er — over". He released the button and beamed at me. "This is fun!" he confided. "You don't say", I said, grinning, and crept away, leaving him in the clutches of Little Lady. It was safe enough. I had caught sight of a cottage out of the window generously endowed with a CB aerial which I guessed to be Little Lady's lair, in which case she would quickly be left behind.

In fact, it has proved difficult ever since to prise him away from his new toy, even to take a turn at the tiller, let alone helping with with locks. He has been making plans to install (my) rig in his car when he gets home, and has even chosen his permanent handle. Bullroarer. Well, at least it's apt.

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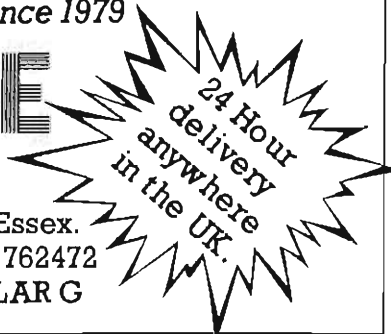
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**when replying
to all
Adverts**

Mack Chat

Mack's been on his holidays and waxes lyrical on the unfettered airways.



What ho, it's me again. I'm still here doing my bit in this magazine. When I visit the office to pass the time of day or to learn what's new, I begin to get confused over who's who. I've seen four editors come and go and now we welcome the fifth. The first was Rick Maybury — he was in on the beginning, way before CB was legal and saw the introduction of a legal service. Although he is still interested in CB he has gone on to other things. Next came Chris Adam-Smith, also interested in CB and hedgehogs. Chris now edits a sister video mag. For a while young Kevin Whitchurch took the chair but he developed an interest in hi-fi where he is now seeking his fortune. David Lawrenson is now giving blood to a rugby magazine. Our latest is Sue Sharp, our first lady editor, and, it seems, an old acquaintance of mine as we met a few years ago whilst campaigning for legal CB. So Sue has a long background in CB. I look forward with interest to future issues of this magazine as Sue Sharp is a lady with original ideas.

I have seen and also received letters from readers asking and sometimes demanding, "When are we going to get more channels?". One almost, but not quite, obscene letter from a Mr. Becket of Blackpool with the usual questions on more channels but with an extra question. He asks, "Is there anyone still campaigning for AM?" I don't know — is there? After two years of FM I can't see why anyone would want us to use AM, as we all know FM is far superior and, of course, legal. But back to the question of more channels. Why do people write to me and the magazine asking us for more channels? We can't give you them but the Home Office could. So write to them. I don't think we will get anymore channels as the existing forty are so badly abused in some areas the authorities won't give us any more to abuse. To back this up, I have just been reading a news release issued by the Home Office on proposed adjustments to the CB licence. There is nothing in it at this stage to get excited about, but one part refers to 934Mhz. repeater stations. A couple of months ago I was told that 'no way' would repeaters be allowed on 934 but this latest statement shows there could be a possibility and reads,

"There has been some interest in the establishing of repeater stations in the 934Mhz. service. This is not considered appropriate until it is clear what sort of service will develop at 934Mhz. If it is subject to significant abuse the advantages of repeaters will be lost whilst the disadvantages, notably reduced channel capacity, will remain. The matter will be reviewed when there is next an opportunity to revise the licence, by which time the nature of the service will be more apparent."

So you see the authorities are aware of the abuse on the channels, but what are 'they' doing about it? Nothing. So when you write to the Home Office asking for more channels, why don't you ask what they are

doing about channel abuse.

At the present time I am taking my annual holiday — it's also a holiday for my CB. As I have mentioned before I have a weekend retreat in Clacton, Essex, and this is one place where we don't need more channels. Most evenings I can find at least twenty channels out of the forty that are reasonably clear. CB can be used here as it should — I can and do go mobile into Clacton for some shopping and if my wife wants to call me to add something to the list she can. One can chat to stations in Kent, thirty miles away, at any time of the night or day and at the time of writing I am listening to channel 34. The time is 4 pm and a net is in progress with a station on Mersea Island, another in Dover, Kent, and there is another station near Harwich and now a station in Ramsgate can be heard. Now can you do this in any of our big cities? I doubt it. There is occasionally some abuse but the breakers here seem to be clever and ignore the abuse until it eventually goes away. On a Sunday evening at 10 pm on channel 10 you will find a news bulletin by 'Cuddles'. The broadcast contains useful information for the holiday visiting CBer, such as duty chemists in the area, tide times, places of 'eyeballs', lost property and CB equipment for sale.

At home in North East London it's a different story, almost every channel has an S9+ signal and unless a station is within half a mile I've got no chance of a decent copy (unless it's early morning). During the day whilst working I used to use CB but now it's impossible. Fortunately many of my fellow CBing friends have passed the radio amateur exam, and now have licences, so I monitor the two metre band (not a repeater) most of the day and we can converse in peace.

At times, when I get lost for things to write about to fill this page, I'll listen on the rig for local gossip and ideas or study the magazine for any letters or adverts I can comment on. I'm always willing to accept your letters on CB happenings in your area, but remember this is being written weeks before publication, so send any details of local events as early as possible. Looking through the adverts in the September issue I noticed that at last someone has come up with the idea of a QSL bureau. It's a very good idea if you don't want your own box number. For a small fee (£3 in this case) and a supply of self addressed envelopes the bureau forwards to you any QSL cards received in your name. I know that many local clubs rent P.O. boxes for its members and the members share the cost but if you want to go it alone it will cost you around £30 a year and you have to collect any mail from the local post office. So a QSL bureau saves all that hassle and I wouldn't be surprised if more materialise in other areas. Another advert that caught my eye is for a kit and instructions to convert your Reftec rig to forty channels. Blimey, I couldn't find anyone on the twenty channels when I had a Reftec on loan, so what does one do with another twenty?

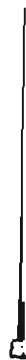
Besides, its illegal

CB

TARGA OXTED ANTENNAS 934

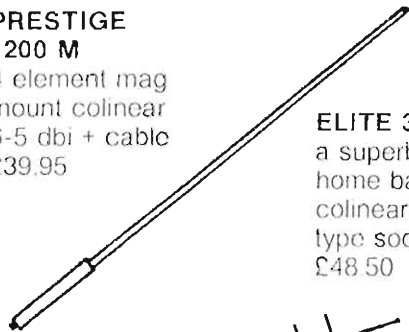


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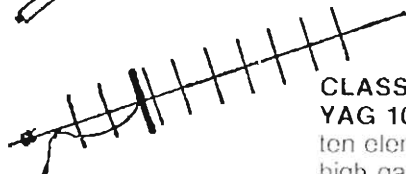


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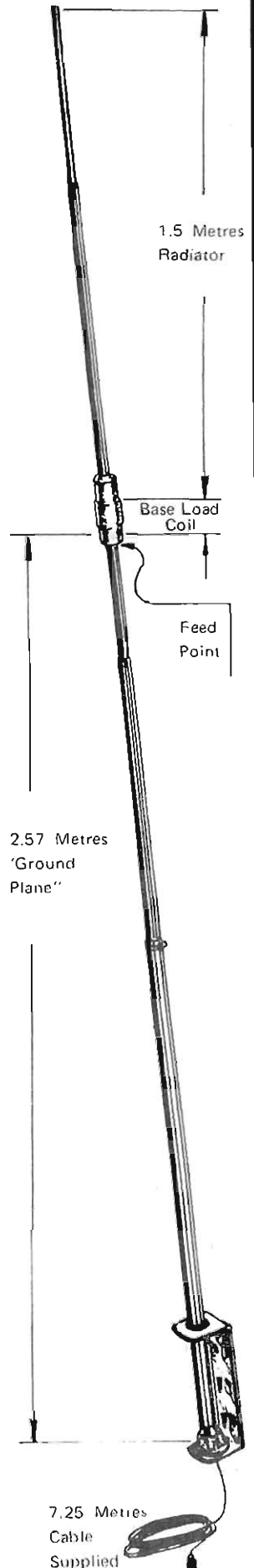
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**News from the
W.S.T.P. Breakers
Club and time to
catch up on a few
listings.**

CLUB NEWS

A letter from Worthing in West Sussex, showing, once again, that breakers have hearts of gold. The writer, Ian, also belongs to the Whiskey Sierra DX Group mentioned in September's Club News.

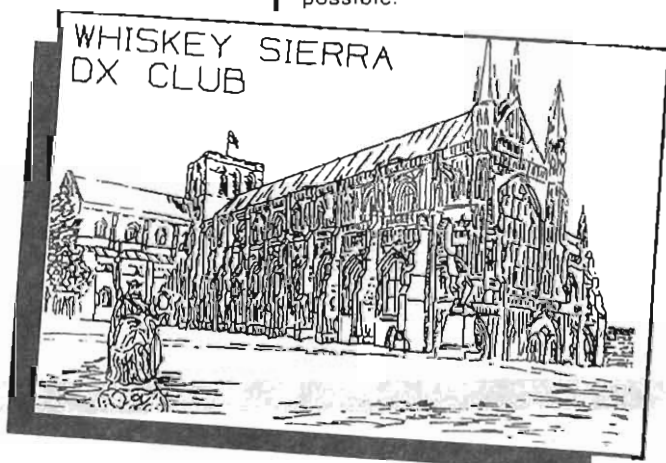
Family Fun Day

A few lines about an event put on by a breakers club to raise money for the handicapped kids of the Ingfield Manor School for Handicapped Children. It was a fun day out for all the family and was held at Westlands Farm, Billingshurst Lane in Ashington. The days activities included 'It's a Knock-Out', a tug of war competition, car boot sale, sideshows, childrens fun castle, motor cycle stunt team and childrens motor bike rides, barbecue and disco.

It would be nice to read about what good breakers do and not about wallies all the time.

Ian WS 12
W.S.T.P. Breakers Club,
2 Copse View,
Smock Alley,
West Chilmington,
Sussex.

We are more than happy to publish good news rather than bad but one point we must emphasize. I think Ian had hoped we could print his letter before, rather than after, the event, to get further publicity. The letter arrived less than three weeks before the 'fun day' and the August edition had gone to press at the end of June! Please, please, please send in information as much in advance as possible.



CLUB DIRECTORY

CHESHIRE

14 CB BREAKERS
Chairman: Matchstick,
88 Capesthorpe Road,
Wistaston,
Crewe, Cheshire CW2 8PU
Meet: Horseshoe Inn, Coppenhall.
Every other Mon. 8.00 pm.

HAMPSHIRE

**SOLENT CITY COMMUNICATION
GROUP**
Chairman: Gorgy Boy
P.O. Box 110,
Southampton,
Hants.
Meet: Halo Club, Weston,
Southampton. Monday 8.00 pm.

THE RED ARROW DX GROUP
Chairman: Road Runner
P.O. Box 8,
Petersfield,
Hants.
Meet: White Horse, Rogat, Sussex.
Last Friday in month, 7.00 pm.

WHISKEY SIERRA DX CLUB
Chairman: Mike (Chipmonk)
P.O. Box 8,
Winchester,
Hants. SO22 4EL

HERTFORDSHIRE

WATFORD RADIO CLUB
Chairman: Tony G6FIB
A.C.T. Enterprises,
P.O. Box 243,
Watford,
Herts. WD1 4AD
Meet: 1st and 3rd Wed. Christchurch
Hall. 2nd and 4th Wed. Tudor Pub,
Bushey Mill Lane.

YANKEE BRAVO U.K.
Chairman: Sean Gooch
Gernel,
Woodend Green,
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Herts. CM22 6AZ

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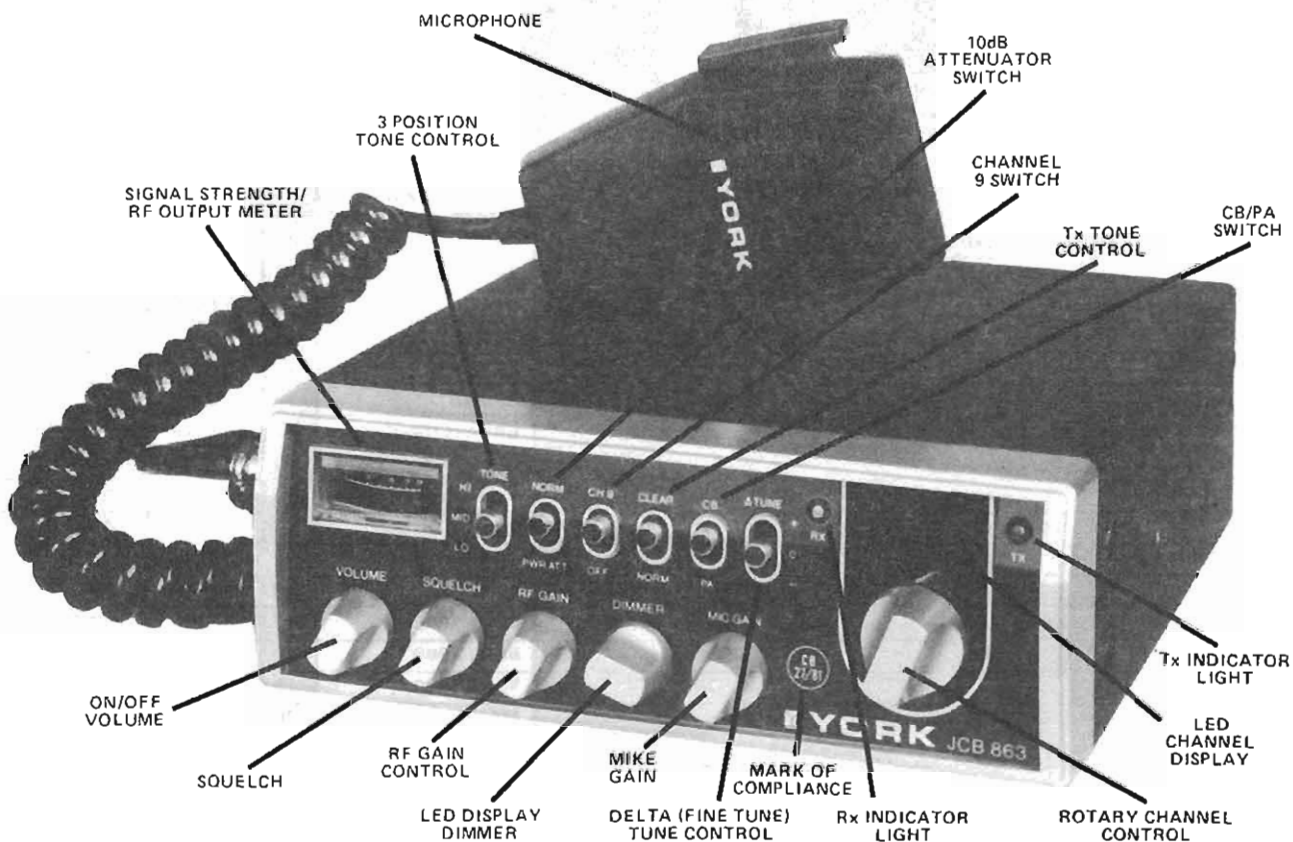
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Citizens' Band

REFERENCE SECTION



SQUELCH

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

RF GAIN

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

SIGNAL STRENGTH/RF METER

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

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

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

NOISE BLANKER

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

LEDS (RX TX)

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

PA/CB

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

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

MIC. GAIN.

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

HI/LO

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

CHANNEL SELECTOR

This is the knob that you use to change channels.

CHANNEL INDICATOR

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

CH 9 PRIORITY

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

REFERENCE

FM RIG CHECKLIST

MOBILES

NAME	ADDRESSES	MODEL	NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
AMSTRAD	Amstrad Consumer Electronics, 1-7 Garman Road, London N17	CB901	40	13.8VDC	£40
AUDIO LINE	Telecomms, 189 London Road, North End, Portsmouth	341	40	13.8VDC	£60
AUDIO LINE		340	40	13.8VDC	£40
AUDIO LINE		342	40	13.8VDC	£115
BARRACUDA	Halfords Motor Accessory Shops	GT 868	40	13.8VDC	£70
BARRACUDA		HP 940	40	13.8VDC	£85
BINATONE	Binatone House, Beresford Av., Wembley, Middx.	BREAKERPHONE	40	13.8VDC	£99
BINATONE		ROUTE 66	40	13.8VDC	£79.95
BINATONE		5-STAR	40	13.8VDC	£100
COLT	K B & Co Ltd, 202 Cheetham Hill Rd, Manchester	295	40	13.8VDC	£49.99
COMMTRON	Roger D, 831 Mansfield Rd, Notts	CB40F	40	13.8VDC	£70
COMMTRON		CXX	40	13.8VDC	£69.95
CYBERNET	Goodmans Loudspeakers Ltd, Downley Road, Havant, Hants PO0 2NL	BETA 1000	40	13.8VDC	£70
CYBERNET		BETA 2000	40	13.8VDC	£85
CYBERNET		BETA 3000	40	13.8VDC	£100
DNT	Radiotechnics Ltd, Grove Way Bel Royal, St Lawrence, Jersey CI	M40FM SPECIAL	40	13.8VDC	£100
FIDELITY	Fidelity Radio Ltd, Victoria Rd, London NW10	CB 1000M	40	13.8VDC	£70
FIDELITY		CB 2000M	40	13.8VDC	£90
FIDELITY		20001 FM	40	13.8VDC	£70
GRANDSTAND	Bee-Ware Ltd, Ripon Way, Harrogate, N. Yorks	BLUEBIRD	40	13.8VDC	£50
GRANDSTAND		HAWK	40	13.8VDC	£30
GRANDSTAND		GEMINI	40	13.8VDC	£60
HARRIER	Dixons Photographic Ltd.	CB MOBILE	40	13.8VDC	£49
HARRIER		CB X	40	13.8VDC	£89.99
HARVARD	Harris Overseas Ltd, Havard House, 14-16 Thames Rd, Barking, Essex	400M	40	13.8VDC	£80
HARVARD		402 MPA	40	13.8VDC	£69.95
HARVARD		H403 GOOD BUDDY	40	13.8VDC	£50
HARVARD		420M	40	13.8VDC	£100
INTERCEPTOR	Telecomms, 189 London Road, North End, Portsmouth	INTERCEPTOR	40	13.8VDC	£80
INTERCEPTOR		TC400	40	13.8VDC	£95
INTERCEPTOR		ONE HANDER	40	13.8VDC	£100
JOHNSON	Star Warehouse, Chalk Farm Rd, London	JOHNSON	40	13.8VDC	£50
KAISER	Kaiser Electronics Nevrotstrasse 21-25, Waldorf Baden, W. Germany	UK 40	40	13.8VDC	£TBA
LADYLINE	Market Drayton, Salop	QUASAR	40	13.8VDC	£80
LAKE	Roger D, 831 Mansfield Rd, Nottingham NG5 3GF	MANXMAN 850	40	13.8VDC	£32.50
LAKE		MANXMAN 950	40	13.8VDC	£37.50
LOWE	Lowe Electronics, Matlock, Derbyshire	TX 40	40	13.8VDC	£50
MAGPIE	Magpie Electronics, PO Box 35, Andover, Hants SP10 2LG	AUTOSCAN 5000	40	13.8VDC	£120
MAXCOM	A.M. Telecommunications, AM House, 17 Shepherds Way,	4E	40	13.8VDC	£50
MAXCOM	Rickmansworth, Herts	6E	40	13.8VDC	£48
MAXCOM		20E	40	13.8VDC	£50
MAXCOM		21E	40	13.8VDC	£50
MAXCOM		16E	40	13.8VDC	£40

Remember — Shop around as prices can vary

REFERENCE

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



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

considerably from CB shop to CB shop!

REFERENCE

MOBILES

NAME	ADDRESSES	MODEL	NO OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
MICROLINK	Warman-Freed Ltd, 82 Golders Gn. Rd, NW11	CB401	40	13.8VDC	£115
MIDLAND	Plustronics Ltd, Hempstalls Ln, Newcastle-under-Lyne, Staffs	2001	40	13.8VDC	£70
MIDLAND		3001	40	13.8VDC	£80
MIDLAND		4001	40	13.8VDC	£90
MIDLAND		2001T	40	13.8VDC	£100
MERCURY	EMS Communications, Grove Street, Wantage, Oxon, LX21 7AD	10 40	40	13.8VDC	N/A
MUSTANG	KB & Co. Ltd, 202 Cheetham Hill Rd, M/cr.	CB1000	40	13.8VDC	£49.95
MUSTANG		CB3000	40	13.8VDC	£59.99
NATO	Roger D, 831 Mansfield Rd, Nottingham NG5 3GF	40M	40	13.8VDC	£69.95
NATO		2000	40	13.8VDC	£189.95
OSCAR	S.M.C. Osborne House, Totton, Southampton	OSCAR1	40	13.8VDC	£85
RADIOMOBILE	Goodwood Wks, North Circular Rd, London NW2 7JS	201	40	13.8VDC	£80.90
RADIOMOBILE		202	40	13.8VDC	£120
REFTEC	RF Technology, Leyton Avenue Ind. Est, Mildenhall, Suffolk	934	20	13.8VDC	£200
ROTEL	Rotel Hi-Fi, 2-4 Erica Rd, Stacey Bushes, Milton Keynes	RVC 220	40	13.8VDC	£50
ROTEL		RVC 230	40	13.8VDC	£70
ROTEL		RVC 240	40	13.8VDC	£90
SHOGUN	Colliers Fm, Freith, Henley-on-Thames, Oxon, RG6 6NR	SHOGUN	40	13.8VDC	£100
SIRTEL	24 Alfric Sq, Off Maxwell Rd, Woodston Ind. Est, Peterborough	SEARCHER	40	13.8VDC	£40
STEEPLETONE	Park End Works, Croughton, Nr Brackley, Northants	SCB1FM	40	13.8VDC	£103
TANDY	Tame Way, Tower Bridge St, Walsall, Staffs	TRC2001	40	13.8VDC	£80
TANDY		TRC2002	40	13.8VDC	£70
TANDY		TRC2000	40	13.8VDC	£100
TANDY		TRC1004	40	12VDC	£79
TANDY		TRC2003	40	13.8VDC	£130
UNIDEN	Cravenmaster Ltd, 31 Madoc St, Llandudno	UNI ACE 100	40	13.8VDC	£59.95
UNIDEN		UNI ACE 200	40	13.8VDC	£79.95
VIPER	Radio 88, Barking, Essex	VIPER 88	40	13.8VDC	£29
WAGNER	Knight Communications Ltd, Unit 19 Britannia Est, Leagrave Rd, Luton	9000	40	13.8VDC	£59.95
WAGNER		COMPACT 40	40	13.8VDC	£25
WESTERN	Western Electronics, Fairfield Estate, Louth, Notts	COMPACT 40	40	13.8VDC	£34.50
YORK	Sulkin (UK) Ltd, 73 Grosvenor Street, London W1X 9DD	JCB 861	40	13.8VDC	£69
YORK		JCB 863	40	13.8VDC	£89



REFERENCE



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



REFERENCE

BASE STATIONS

BASES



NAME	ADDRESS	MODEL	NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
AUDIOLINE	Telecomms, 189 London Road, North End, Portsmouth, Hants.	345	40	240VAC	£139.95
DNT	Radiotechnics Ltd, Grove Way, Bel Royal, St Lawrence, Jersey CI	B40	40	240VAC	£TBA
DNT		B2740	40	240VAC	£TBA
DNT			40	240VAC	£TBA
FIDELITY	Fidelity Radio Ltd, Victoria Rd, London NW10	CB 3000M	40	240VAC	£125
GRANDSTAND	Bee-Ware Ltd, Ripon Way, Haregate, N Yorks	BASE	40	240VAC	£220
HAM INT.	Telecomms, 189 London Road, North End, Portsmouth, Hants.	JUMBO	40	240VAC	£254
HAM INT		CONCORDE II	40	240VAC	£164
HARRIER	Dixons Photographic Ltd	CB HQ	40	240VAC	£130
HAVARD	Harris Overseas Ltd, Harvard House, 14-16 Thames Rd, Barking, Essex	H407	40	240VAC	£125
HARVARD		H401	40	240VAC	£149.95
JOHNSON	Star Warehouse, Chalk Farm Rd, London	XK 2000	40	240VAC	£99
MIDLAND	Plustronix Ltd, Hempstalls Ln, Newcastle-under-Lyme, Staffs	76-200	40	240VAC	£150
UNIDEN	Cravenmaster Ltd, 31 Madoc St, Llandudno	UNIACE 3001	40	240VAC	£129.95
WAGNER	Knight Communications Ltd, Unit 19 Britannia Estate, Leagrave Rd, Luton LU3 1RJ	BASE	40	240VAC	£150

PORTABLES

NAME	ADDRESSES	MODEL	NO. OF CHANNELS	SUPPLY VOLTAGE	RETAIL PRICE
BEAR	Air Bear (UK) Ltd, Wortley, Sheffield	RBH 35	3		£44
BINATONE	Binatone House, Beresford Avenue, Wembley, Middlesex	LONGRANGER	40	BATTERIES	£59.95
DNT	Radiotechnics Ltd, Grove Way, Bel Royal, St Lawrence, Jersey CI	HF 12/3	3	BATTERIES	£47.55
HARRIER	Dixons Photographic Ltd	WT1	2	BATTERIES	£25
HARRIER		WT2	40	BATTERIES	£59.99
HARVARD	Harris Overseas Ltd, Harvard House, 14-16 Thames Rd, Barking, Essex	0-2-0	2	BATTERY	£20
HARVARD		410T	40	8xAA cells	£69.95
HARVARD		10-4 CONVOY	2	BATTERY	£19.95
HARVARD		H6	2	BATTERY	£29.95
KAISER	Solid State Electronics (UK), 41 Twyford Ave, Shirley, Southampton (Tel: 0703 780335)	CBX40	40	BATTERY	£80
MAXCOM	A.T.M., AM House, 9a Olds Approach, Tolpits Lane, Watford, Herts	7E	40	BATTERY	£49.95
MIDLAND	Plustronix Ltd, Hempstalls Ln, Newcastle-under-Lyme, Staffs.	76-720	40	12VDC	£59.95
TANDY	Tame Way Tower Bridge St, Walsall	TRC1001		BATTERY	£119

REFERENCE

ANTENNA CHECKLIST

Here's a brief intro

Name

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

Construction

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

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

NAME	ADDRESSES	MODEL	CONSTRUCTION		MAX POWER	TYPE	MOUNT	PRICE RANGE
			AL	SS				
AERIAL SUPPLIES	Aerial Supplies, 6 Widney House, Bromsgrove Rd, Reddich, Worcs (Tel 0527 62620)	Silver Star	AL	1.6	100	B	Pole	
		Silver Arrow	AL	1.6	500	B	Pole	
		CBA 1500	SS				Various	C
ANTENNA INC.		12510 Telecomm	SS	0.9		M	3/8ths	D
		Super Persuader	SS	1.5		M	Mag	F
		MR511	SS	1.2		M	Mag	G
		M710	SS	1.5		M	3/8ths	G
		AS M126	SS	1.14	150	M		C
AS M 129	SS	1.14	150	M		C		
ANTENNA SPECIALISTS	Antiference Ltd, Aylesbury, Bucks HP19 3BJ	AS M131	SS	1.14	150	M	gutter	D
		AS MR440	SS	1.2	100	M	mag	D
		AS MT178	SS	1.2	150	M	mag	D
		AS M510	SS	1.2	200	M	3/8"	D
		AS M2000	SS	1.5	150	M	3/8"	D
		AS 9812	SS	1.2	150	M	mag	D
		IC 86	SS	1M		M	mag	D
		IC 80	SS	1M		M	spring-based mag	D
		IC 15	SS	1		M	trunk	C
ANTLER	Shakespeare Performance Antennas, Betton Rd., Market Drayton, Salop	IC 20	SS	1 1/2		M	roof	D
		IC 30	SS	1 1/2		M	gutter	E
		IC 40	SS	1 1/2		M	mirror	C
		IC 80	SS	1 1/2		M	mag	C
ARCHER	Tandy Corp, Tame Way, Tower Bridge St, Walsall, W. Mid.	21-904	SS	0.5	50	M	3/8" snap	D
ARMSTRONG	Stateside Trading Ltd, Audley Ave, Newport, Shropshire	SAM 10	SS	1.06	1,000	M	surface	F
		SAM 20	SS	1.06	1,000	M	surface with spring	F
		TAK 10	SS	1.06	1,000	M	boot lip	F
		TAK 20	SS	1.06	1,000	M	boot lip	G
		MAG 10	SS	1.06	1,000	M	with spring	G
		MAG 20	SS	1.06	1,000	M	magnetic	G
		BDY 20	SS	1.06	1,000	M	magnetic with spring	G
		PEC 20	SS	1.06	1,000	M	side & fold over & quick disconnect	G
		TAK 101	SS	1.06	1,000	M	boot lip illuminator	G
AVANTI	CB Radio Centre Ltd, 337 Kenton Rd, Harrow	AV 241 (Moonraker)	SS	1.22		M	stud	D
		AV241 T	SS	1.22		M	trunk	E
		AV241 M	SS	1.22		M	mag	G
		AV241 MM	SS	1.22		M	super mag	G
BADLAND	Badland, Roeten Ind Est, Providence St, Lye, Stourbridge	B10	SS	1.22			mag	G
BANDIT	Telecomms Ltd, 189 London Road, North End, Portsmouth, Hants	B10	SS	1.42		M	mag	G
		B15	SS	0.61		M	mag	F
		B16	SS	1.22		M	mag	F
		B20	SS	1.42		M	mirror	F
		B30	SS	1.42		M	drill thru	E
		B30	SS	1.22		M	drill thru	E
		B40	SS	1.42		M	various	D
		B40	SS	1.22		M	various	D
		B60	SS	1.42		M	various	D
		B60	SS	1.22		M	various	D
C BRIT	C Brit Unit 3, 5 East Lane, Wembley, Middx	Stingray	AL	1.5	500	B	pole	G
		Whiplash	SS	1.5	25	M	3/8"	C
CY INTERNATIONAL	CT International, CTE (UK) Ltd, Unit 3, Mitcham Ind Est, 85 Streatham Rd, Mitcham, Surrey	MG27	SS	0.91		M	mag	C
DIAL-A-MATCH	WTA Electronics Ltd, 111 Crozier Rd, Helleston, Norwich (Tel 0606 47654)	Rubber Duck	R	0.3		M	3/8"	C
		630 (Cherokee)	SS	0.61		M		C
		531 HBF	SS	0.61		M		F
		531 SMF	SS	0.61		M		F
		540	SS	1.22		M		E
		541 HBF	SS	1.22		M		E
		541 SMF	SS	1.22		M		E
		520 (Hallbread)	SS	1.27		M		C
DIGITEK UK LTD	179-181 Streatham Rd, Mitcham, Surrey	Falcon 27	SS	1.5		M	various	D

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

and stainless steel home based antennas.

Length

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

Maximum power

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

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

Type

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

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

Mount

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

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

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

Key:	C: £10 - £14.99	G: £30 - £39.99	AL - Aluminium	B - Base
Price Bands	D: £15 - £19.99	H: £40 Plus	FG - Fibreglass	
A: £1 - £4.99	E: £20 - £24.99	Construction	Application	Note: Prices are given as a guide only
B: £5 - £9.99	F: £25 - £29.99	SS - Stainless Steel	M - Mobile	

CONSTRUCTION	LENGTH	MAX POWER	TYPE	MOUNT	PRICE RANGE
SS	0.9	—	M	Mag	O
SS	1.27	—	M	1/4ths	B
AL	1.5	250	B	pole	F
AL	1.5	500	B	pole	F
SS	1.5	—	M	various	C
AL	1.5	—	B	—	D
SS	0.61	500	M	various	C
SS	1.22	2	M	various	D
SS	1.3	1,000	M	1/4"	C
SS	1.3	1,000	M	1/4"	C
SS	1.5	1,000	M	1/4"	C
SS	1.5	1,000	M	1/4"	C
FG	1.5	1,000	B	Pole	H
FG	1.3	1,000	B	Gutter	C
SS	1.3	1,000	M	1/4"	C
SS	1.5	1,000	B	Pole	D
AL	1.5	1,000	B	Wall	D
AL	1.5	1,000	B	Pole	D
—	—	—	M	—	F
SS	1.4	500	M	various	G
SS	1.45	200	M	various	B
SS	1.22	—	M	mag	B
—	1.5	—	M	trunk	C
SS	1	100	M	various	B
SS	1	—	M	mag	C
FG	0.75	—	M	trunk	C
SS	0.91	—	M	—	C
SS	1.5	—	B	clamp	E
SS	1.5	—	B	tripod	F
SS	1.5	—	B	—	F
SS	1.5	—	B	—	D
SS	1.2	—	M	mag	F
SS	1.2	—	M	foldover base	B
SS	1.5	—	M	'pull-up'	C
SS	1.5	—	M	'locking-coller' foldover base	B
SS	1.5	—	M	trunk	C
AL	1.5	—	B	pole	B
SS	1.4	500	M	various	E
SS	1.5	—	M	various	C
SS	1.5	—	M	various	B
SS	1.5	—	M	various	C
AL	1.5	—	B	—	E
AL	1.5	—	B	pole	E
SS	1.5	—	M	mag	E
SS	1.5	2,000	M	1/4"	G

NAME	ADDRESSES	MODEL
DIXONS	Dixons Photographic	Harrier
HOT ROD 200	Hot Rod 200, Stateside Trading Ltd, Audley Ave, Newport, Shropshire	FM UK
FREEMAN & PARDOE	Freeman & Pardoe, Tything Rd, Arden Forest Ind. Est, Alcester, Warwick	The Invader The Thunderpole
CB SERVICES	97, Crab Lane, Harrogate, N. Yorks HG1 3BQ	Bullwhip Knuckleduster
MIDWEST		Dial-a-tune Dial-a-tune
MODULATORS	Les Wallis Manufacturing, Pembroke Works, Sandwich Rd., Sandwich, Kent	MOBILE LC MOBILE SC MDX LC MDX SC 934 BASE 934 MOBILE VHF MOBILE VHF BASE 27 L/C BASE 27 DX BASE
MOTOROLA	Motorola, Taylors Rd, Stotford, Hitchin, Herts	EC106M
OCT.	Unit 1 Earlsfield Lane Ind. Estate, Grantham, Lincs	K40 Z27
PANORAMA	Panorama, 73 Wadham Rd, London SW15 2LS	CB27
PRIDOW		RT40
REVCO	Telecomms, 189 London Road, North End, Portsmouth, Hants	Revco
SHIRA		SYS 206M SYS 203C MA 62
SIRTEL	Sirtel, 24 Althie Sq, Off Maxwell Rd, Woodstock Ind. Est, Peterborough	GP Messenger GP Signal Keeper
SMC	Oscar, South Midlands Communications, Osborn House, Totton, Southampton, SO4 4DN	Oscar Base CBA 11GP Oscar Base IIVIS Oscar IICM Oscar IICE Oscar IINE Oscar IISE Oscar TMCAS
SPYDER		Spyder
TAGRA	CB Radio Centre Ltd, 337 Kenton Rd, Harrow	T40
THOROBREED	OCT, Unit 1, Earlsfield Lane, Grantham	Z51 Z27 Locktune
WITCHSTICK	CJM Motor Factors, Hill Farm Ave, Leavenden, N. Hants, Herts O9273 74646	Witchstick homebase
WTA ELECTRONICS	111 Cromer Rd, Helesdon, Norwich, Norfolk	West Pole Wat Mag
VAN ORD	Van Ord, Knight CB Specialist, 204 Dunstable Rd, Luton, Beds	Audio King AKD-100

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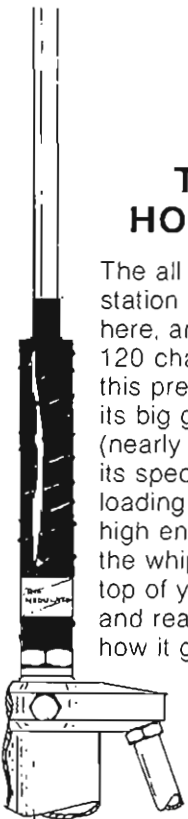
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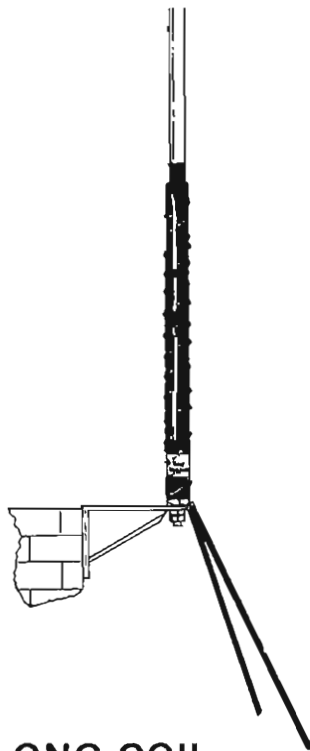
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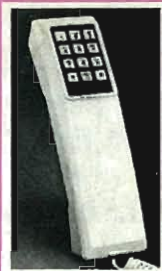
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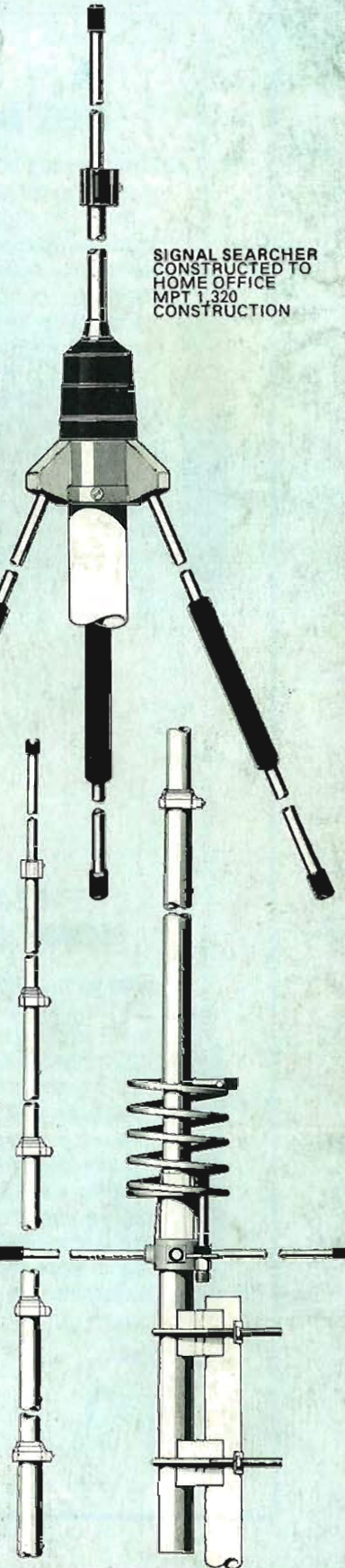


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