

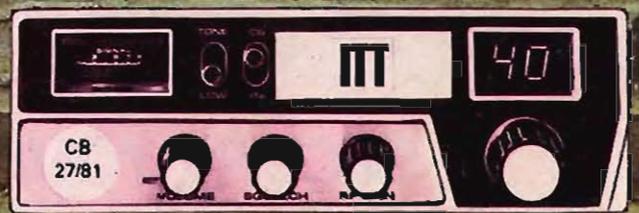
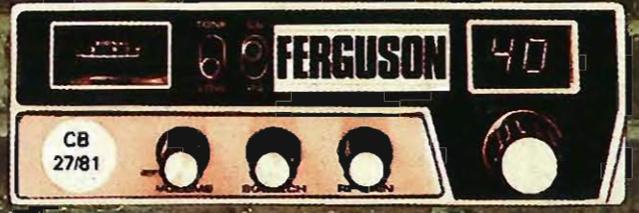
CB World

For Citizens Band and two-way radio enthusiasts

OCTOBER 1981

70p

CB rules OK



BRITISH MADE C.B. SETS—WHERE ARE THEY?

- Police allegations C.B. World replies
- Isle of Man and the Law
- Code of Conduct
- Club Corner
- Handle Register

FISH BIT NO CHIPS
 Kilroy breaks on 14
 regularise AM

AM LOVES FM

LABORATORY TEST
 Rigalizer exposed
 C.B. Licence details



SECURE YOUR SHARE OF THE MOST EXCITING NEW MARKET IN YEARS...

The Government has spent the past twelve months struggling with the whys and wherefores of CB. However, at Citizens' Band Radio Centre we haven't been standing idle, waiting to see what would happen next.

Instead, anticipating the good news, we have built up a thriving business as direct importers of equipment and accessories. CBRC Limited is now an established name amongst the world's leading manufacturers.

You may well have considered venturing into the CB business but wondered about finding a reliable source of supply and the initial help to get started.

Here is our six-point policy:

- 1) To carry the largest stock of CB equipment and accessories in the country.
- 2) To deliver orders express anywhere within the U.K. mainland.
- 3) To provide free technical and product advice to our customers, especially those who are new to the field.
- 4) To seek out the very latest quality CB products. If it's new you'll find it first at CBRC Limited.
- 5) To offer our 60-page fully-illustrated catalogue to make ordering easy and let you see what you're buying.
- 6) To pass on to our customers the benefits of our flexible & economic buying methods. This means highly competitive prices at all times without sacrificing standards.

So whatever you're planning in CB ... becoming a distributor, a retailer, or simply adding CB products to your existing lines ... grow with us. Secure your share of this valuable market now.

CITIZENS' BAND RADIO CENTRE LTD.
 337 Kenton Road, Harrow,
 Middlesex HA3 0XS.
 Trade enquiries: 01-907 3666.
 All other enquiries 01-907 1106.
 Telex: 291871 CBRAD G



CITIZENS' BAND
Radio Centre Ltd.
Britain's foremost CB specialists



CB World COME ON!

AS LEGISLATION day approaches more and more specialist c.b. shops are compiling shopping lists and ordering stocks from the equipment manufacturers and importers. Whilst there is an abundance of accessories, some of rather dubious quality, there is still a distinct lack of c.b. sets, with no firm indication from suppliers if they will be able to supply, when and how many.

Trade buyers must use this time to seek what is available, discard the cheap and nasty products and purchase wisely. We do not want other countries' discarded c.b. equipment over here. Inferior accessories will impede performance, not last long and be a constant source of aggravation to the user. Therefore buy c.b. accessories wisely, spend just that little bit extra for a quality product and make sure it is covered by a warranty scheme. The suppliers will soon get the message.

Many c.b. set manufacturers and importers appear to have caught the great British disease and are saying, "We will wait to see what happens to the set market before considering introducing a range ourselves". Suppose everyone said that — there would be no sets available. Perhaps they have been reading too many American and Australian magazines and developed cold feet? C.b. will remain alive and kicking for a long time to come in the U.K.

Our own laboratory for checking the performance of legal specification c.b. sets is ready, for action; we have a technician standing by but where are the sets? So far we have seen several sets in action in neutral territory but have not been allowed to take the covers off let alone borrow them for a few hours. If we can't get our hands on legal specification sets then what chance have the sales outlets got?

The message to the manufacturers and importers is simple. Our evaluation and demonstration licence is yellowing with age so COME ON — who will be the first to show they have confidence in their product with nothing to hide — like piggy back boards, or pretty boxes with flashing lights but nothing inside.

Brian L. Chalmers - Hunt

Copies of the CB licence application forms are now available (see the LCL advertisement) and although they can be completed the Post Office cannot issue valid licences until legislation day. We understand that the fee will be £10 for up to three sets and thereafter in increments of £10 for every additional three sets up to a maximum of 15 sets. Antenna lengths of 1.5 metres are still being stipulated. Also linear amplifiers are specifically excluded.

NEXT MONTH

In C.B. World next month we will be welcoming new readers to the world of c.b. A selection of home base power supplies come under review and hints on how not to purchase inadequate equipment.

We will be looking at a U.K. produced 27MHz transceiver which can be obtained in kit or ready assembled form.

Many public transport undertakings use radio control for controlling bus movements. Dublin City Bus Services come under our scrutiny.

Also included will be Bring it Back, Club Corner, This and That, Let There Be Music, Femme Scene and more of your Handles.

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It is an offence to operate, import or install an unlicensed transmitter in the UK. CB WORLD realises this and points out that it is not our deliberate intention to encourage the illegal use of c.b. equipment.

The transceivers shown below are typical of the wide range which we shall be offering as soon as the Home Office specification is issued. Whatever your interest and however much you want to spend, Lowe Electronics will have the right rig.



BELCOM LS102

For those of you who have a hankering for ham radio, the LS102 gives you full coverage of the 10 metre amateur band (home market) or 11 metre band 26-28 MHz (export market).

All mode facilities AM/SSB/FM with continuous no gap tuning and digital frequency readout in 100 hz steps with 1 KHz steps instantly available for fast tuning. Fitted with an advanced noise blanker for removing ignition pulse interference, R.I.T. for spot on tuning, and every possible design feature, the LS102 is an outstanding transceiver. It's not for the beginner but for the advanced operator who appreciates real performance and flexibility in operating.

LS102 now in stock £240 inc. VAT.



SKY ARROW

A really top quality FM 27 MHz transceiver with simple to use controls and rugged reliability. Includes PA facility and is already European type approved for FM CB use. Large, easy to read channel readout and supplied with all accessories, including hand mic., power cord and mobile mounting bracket.

Covered, of course, by the Lowe Electronics' guarantee and backed by our world famous service facilities.

About £85 inc. VAT.



TX22

A smashing 22 channel FM 27 MHz transceiver which has already received European type approval in Holland and France. Full coverage of the FM activity channels with power output to meet specifications and a high sensitivity receiver. Features RF gain control and the all important Delta Tune for spot on tuning of the receiver.

Easy to use, easy to install, and a price to beat them all.

About £65 including VAT.

LOWE ELECTRONICS

CHESTERFIELD ROAD

MATLOCK

DERBYSHIRE

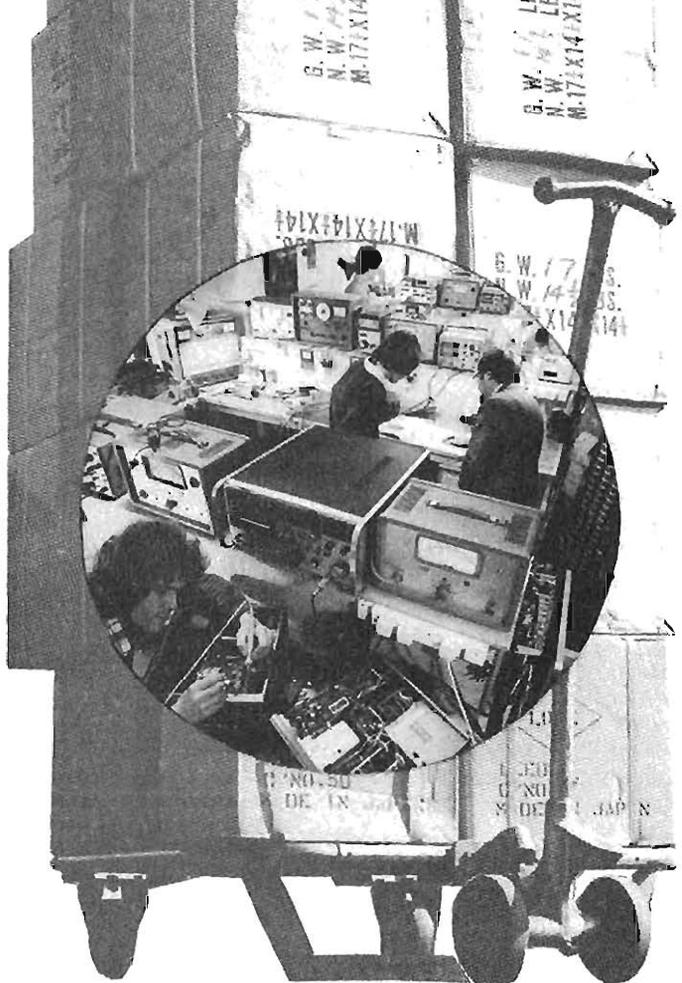
DE4 5LF tel 0629 2817, 2430 telex 377482

Below you see a corner of our workshop here in Matlock where facilities exist for those who purchase equipment from us. But more than exotic test equipment is necessary to repair the sophisticated equipment available on today's market. This is where Lowe Electronics' knowledge, coupled with the widest experience of any company in Europe involved in the supply of radio equipment and accessories to the enthusiast, is of value to you.

Today you are buying more than a rig, you are buying the after-sales service that goes with it.

At any one time we have around half a million pounds sterling of items all picked with great care to represent value for money to you, our discerning customer.

So why the photograph of boxes? This simply assures you that when it's truly legal you can have it off the shelf.



LOWE ELECTRONICS

TRADE ENQUIRIES WELCOMED



NUMBER 8 OCTOBER 1981

6

Why no British C.B. sets?

8

The race is on

12

CB World condemns riot claim

16

British Rail on radio

18

The Isle of Man-Hole

20

Bring it back

24

Handles National Register

27

This and that

32

C.B. Wheels

35

GBH Column

36

Club Corner

40

Traffic Signals

41

Femme Scene

42

Westminster Watch

45

Lab Reports

50

Average . . . adequate . . . maximum

53

Base loaded mobile antenna location

58

From Breaker to Ham

59

C.B. Code

60

Let there be Music

WHY NO BRITISH CB SETS

reveals that there will not be many jobs available to British workers producing CB transceivers. Comments from well known radio producers can be described as alarming.

p6

CB World observes the **ANTICS AT HEATHROW AIRPORT** when Halcyon imports its first British CB set.

From landing to official clearance took just over five hours. p8

Allegations are dispelled when CB World investigates the claims that **CB RADIO IS USED IN RIOT SITUATIONS.** p12

Late trains and lack of communication is frustrating for rail travellers. We reveal how **BRITISH RAIL USES THE AIRWAVES** to assist control at many main line stations. p16

CB sets are being **SOLD WITH IMPORT DUTY AND VAT PAID.** The Isle of Man have run a coach and horses through S.1.61 (1968). p18

A further **SELECTION OF YOUR LETTERS** from our postbag shows the concern of many breakers for the future. p20

Handles, handles and more handles. **OUR LIST IS GROWING FAST.** Have you sent in yours yet? p24

With legislation imminent we summarise the **LATEST CB EQUIPMENT** made known to us and also comment about anything to do with CB. p27

Having been inundated to include a further selection of **CB WHEELS . . .** your wish is our command. p32

There is no way that British CB clubs will die. (See *CB World* August '81). Here is the latest round-up from the **CLUB SECRETARIES.** p36

Once again our lady breaker has put pen to paper. This month she divulges **IN FEMME SCENE** problems with handles, wrappers and mikes. p41

This month we look at the **RIGALIZER** which could be used by law enforcement officers and two much publicised **MICROPHONES.** p45

Many breakers are concerned about the **OPERATING DISTANCE** of the proposed 27MHz FM frequency. We look at the facts. p50

Where to fit a **BASE LOADED MOBILE ANTENNA** is open to discussion. Here are a few tips for the newcomer to CB. p53

Our **FROM BREAKER TO HAM COURSE** looks at how a CB transceiver works. p58

Legislation day plus one could be a free for all. We propose a **CODE OF CONDUCT** and invite your comments. p59

New car radios and cassette players are being continually announced. Here is the latest equipment in our regular feature **LET THERE BE MUSIC.** p60

PLESSEY STORNO

BRITISH JOBS FOR BRITISH WORKERS

UK Manufacturers stonewalled over satisfying c.b. market

Alba, BSR, Decca, Ferguson . . . these were just some of the major British manufacturers who have dominated the British and foreign markets for domestic radio and television over the years.

However since the mid 1960's there has been a rapid decline in UK's electronic manufacturing base. Several theories have been advanced for this — high wages, low productivity, lack of investment in automated manufacturing plant, argumentative and sullen unions; all have culminated in the loss of British jobs from British workers.

In the meantime, areas of the world with a cheap labour market have cashed in. So desperate are their governments to avoid mass unemployment that sometimes equipment and components are sold with massive subsidies. It is now possible to buy a transistor portable for even less than it costs to produce.

Some members of the c.b. movement would like to see this happening here.

Not content with the success of wringing out of the Home Office some form of c.b. service which, although ridiculous in some of its petty restrictions, will work (just!); they want to legalise the equipment which our Far East competitors are desperately fighting to find a market for.

That means less jobs for your fellow workers and more jobs for our Far East competitors.

The effect of import controls as some authoritarian left wing countries impose, would guarantee nearly full employment but at the price of destroying consumer choice.

Whilst the effect of consumer choice is to open the flood gates to cheap imports which, with our present industrial decline hastens it and increases unemployment.

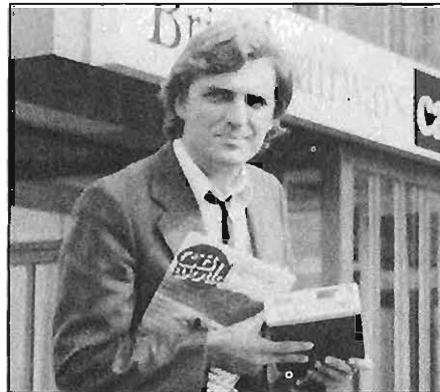
The one apparently happy co-incidence ensuring that the market is restricted and thus to a certain extent protected from our clever Japanese friends was the "other authorised users" on the FCC/CEPT channel. Thus, legalisation of c.b. on our own, unique channels is justified. Or so the argument goes.

The anguished wails from U.K. outfits who planned to make a quick killing by importing FCC standard U.K. equipment irrespective of the British jobs they killed in the process have come to nothing. They will not have the monopoly of supply.



"... and I don't want Japanese jobs for Japanese workers, I want British jobs for British workers!"

Richard Town, Tech. adviser Parliamentary Working Party
ITN, September, 1980.



One year later. Richard Town with the first imported set from Taiwan. Heathrow Air-cargo Terminal September, 1981.

That one word — monopoly — tells the story. Without consumer choice there will always be monopolies and cartels exerting enormous financial power, scouring the markets of the world for likely places of influence.

Wherever there has been law prohibiting that which people want, be it hallucigens, titillating pornography or even a.m. c.b. radio, there have been suppliers ready and willing to fill the demand. Remember alcohol prohibition in the States?

So that's how we come to be a nation of over one million a.m. c.b. users but getting f.m. on funny frequencies that no one except the Far East wants to make.

So what are our UK electronic manufacturing companies doing about c.b.? The CB World 'Bulldog' survey reflects the rise and fall of UK manufacturers.

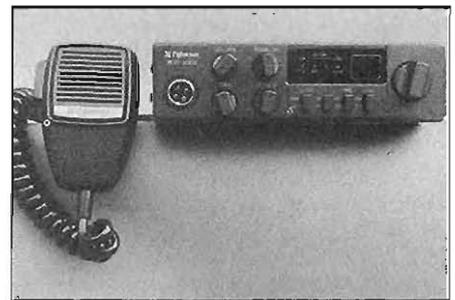
Walter Stephenson, Chairman of the Mobile Radio Users Association writes that the British Mobile Radio market has the highest rate of failures and changes than any other industrial country. "We are the only major nation that maintains two modulation systems — a.m. and f.m., and two channel spacings 12½kHz for VHF and 25 kHz for UHF", he claims. In addition our allocations



The M2010AM/SD1 radio telephone from the Dymar Lynx series. It's 7½ watt, 10 channel between 148 to 174 MHz. Er . . . it's also double-sideband a.m. But Dymar won't make c.b.



The M2 CB transceiver from John Woolfe Racing. Imported from Korea. Due in November and to retail about £60 less aerial.



The Goodman's distributed Cybernet Beta 3000. What makes this set as photographed so obviously illegal?

are scattered throughout the bands in a large number of small sub-bands with a variety of transmit and receiver separations. It would be wrong to blame all the problems on the regulatory policy but countries that have not followed the UK's practice have had a comparatively stable record.

The following British companies have ceased production of Civil Land Mobile Radio equipment in the UK:

- General Electric Co.
- Philips Electrical Ltd —
- Mullard Electronics
- E K Cole Ltd
- Murphy Radio Ltd. —
- Rank Bush Murphy
- Elliott Automation Ltd.
- British Communications Corp — BCC
- Hudson Electronic Devices Ltd.
- Cossor Communications Ltd.
- Ultra Electronics Ltd.
- ITT Mobile Communications Ltd.
- Callbuoy Ltd.
- Contact Radio Telephone Ltd.

In addition, a number of other companies have ceased production of Civil Land Mobile radio equipment in the UK for several years:

- Marconi Wireless Telegraphy Co. Ltd.





This time under the famous Radiomobile label (part of Smiths Industries) their model 202. Made by ... you've guessed it ... Cybernet.



Major are planning to distribute this their model 3000. It's made by ... (yawn) ... Cybernet. Note the type approval marked for Holland.



The Sirtel Searcher FM. It's made by ... ZzZzZzZzZzZzZz.

Standard Telephones & Cables Ltd.
Burndept Ltd.
Redifon Ltd.

A number of foreign manufacturers have also entered the market during the period, obtaining type approval for their products, setting up distribution arrangements and selling a number of their products, then withdrawing entirely from the market.

The history of the UK Civil Land Mobile Radio market has been one of endless controversy and dispute, since its beginnings in 1947. Whilst every other nation had settled the matter quickly, in UK the a.m. and/or s.s.b. argument has been with us for the last thirty years.

THE BULLDOG SURVEY

Alba Radio intend to commence importation from the Far East in two to three weeks time. They still maintain manufacturing facilities in the UK but they claim that since the Far East is already tooled up why should they do it also?

Autocar Electrical Equipment openly admit that "we're sitting on the fence due to no announcement of a start date." Autocar complain bitterly of a.m. sets being "dumped" and yet seem not to be interested

in supplying a UK product superior to them.

Amphenol, the UK connector people, say even for PL259's they can't compete with the Japanese. The manager of the RF products division says, "If I can sell fifty connectors at £5 each instead of five hundred at 50p each then I do the former."

Burndept Electronics emphatically say that they are not going to get involved in c.b. They say that it will probably be a "flash in the pan". "By delaying legalisation all these years, users are now on a.m. and the market is gone. We might look again at 934 MHz."

Meantime Dymar Electronics actually fear c.b. Dymar claim to be the largest independent manufacturer of PMR (Private Mobile Radio) in the UK with about 200 employees. Their spokesman said that "It (c.b.) is only a fun thing. We are however aware of it but we are professional manufacturers for a professional market. We see c.b. as competitive to our own land mobile radio and we hope people will change to our products later."

Decca have now been taken over by the Tatung Company of Taiwan and Decca's parent UK company is called Tatung UK Ltd. They say that they have "no plans" for entering the c.b. market. You may be interested to note that the Decca name is however still around on TVs but franchised out and marketed as Decca Colour.

The Managing Director of Essex Telecomms at least had things in perspective. Whilst, like Dymar, he claimed that his business was commercial and industrial and not dealing with the general public - "c.b. had already brought him more customers." Essex Telecomms make their own tone signalling equipment, everything else being "brought in for us".

Ferguson (Thorn-EMI group) see the c.b. scene as an opportunist market consisting of rapid growth, rapid decline, price cutting and distressed stocks. Asked whether they had any plans they said "No, and anyway it's not really our sort of thing."

Goodmans (Thorn-EMI group) well known for their quality speaker systems will be the only UK company distributing under the Cybernet label. They seemed to say this with pride. Their commercial director seemed to be worried about the Euro dimension that *CB World* had highlighted in previous issues. Our answer is simple - get involved.

G.E.C. (Radio & Television) told us that they have no plans to enter the market although no final decisions have yet been reached, we certainly won't be marketing c.b. in the foreseeable future. Then the 'phone went dead.

H.M.V. (Thorn-EMI group) said, "You must be joking. We haven't made a radio in years but Fidelity do some things under our licence. Why don't you 'phone the HMV record shops." We did - they didn't ring back.

I.T.T. were short and to the point. "We're not prepared to do it at the moment," they said.

Ingersoll who have made a name for themselves with the import and distribution of TV games say that they would like to supply but only from the date of legalisation.

They intend to market a home unit base and a mobile, sourcing from Cybernet.

Lucas Electrical are still evaluating products already on the market. They say that they hope to make an announcement sometime in the near future. Despite having manufacturing plant in the UK, "nothing has been decided."

Marconi (G.E.C. group) wasn't at all sure what I was talking about. After I had explained my question half a dozen different ways their spokesperson simply said, "We don't make radios anymore."

Pye Telecommunications, original members of NATCOLCIBAR (technical and industrial sub-group), still favoured either 200 MHz or 400 MHz being legalised. "We are not designing, we are not distributing and we certainly won't be manufacturing." Asked about the possibility of there being a Pye 934 MHz set their spokesman said, "There's no market worthwhile on 934 MHz and anyway we've got better things to do with our time nowadays."

Pye Cambridge had considered the subject but decided against it. Their spokesman said that the likelihood of a flood of imports would mean that we would have to do "some careful research".

Philips (simply years ahead) confided that they had produced a report but thought it was a "very strange" decision to go to 27 MHz f.m. with no action to curb 27 MHz a.m. users. The Philips combine, which sells c.b. sets on the continent, claims that the CEPT recommendation being used in Europe was "an unmitigated disaster".

Plessey Electronics asked us to spell their name right this time and pointed with pride to the two-chip set which they are confident will be a best seller with British manufacturers.

About the only enlightened view from these Bulldogs of British electronic production and supply comes from Storno who view c.b. as important even though they won't be involved themselves. Asked whether their land mobile market would be affected, Storno admitted that there would be a small loss in the short term but "we are happy that more and more people will want to use radio and save money and time. Thus the small business user will move over from c.b. to land mobile. Also since more people will understand the technology of communication through radio, there will be demands for more sophisticated equipment which must be good for the radio industry in general."

Storno, like Essex Telecomms, have certainly got the right approach yet today there seems not to be a British Radio Industry to care one way or the other.

Slowly but surely the UK is building a brick wall around itself in being unable to supply domestic demand. Our industries' reliance on the Far East manufacturer positively encourages a balance of payments deficit, even higher unemployment and finally the bringing to power of a government who will introduce import controls.

All of us are excited about the start of c.b. in the UK. That start contains the seeds of its end.

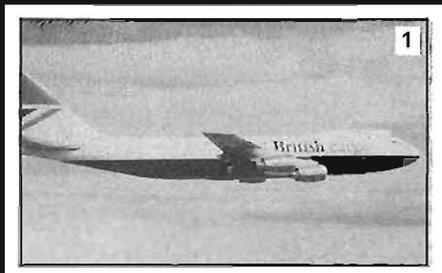
CYBERNET
 PHILIPS
 PYE
 DECCA
 GAG
 COLOUR
 FERUSON

THE RACE IS ON

Dateline Thursday September 3, 1981. 0700 hours. Heathrow Aircargo Terminal, British Airways.

An excited Roger Beattie sales manager and Alex Wacey managing director from Halcyon CB Ltd., await their first British c.b. set to arrive in the UK complete with the proper frequency generating chip providing all the British 27 MHz frequencies.

CB World is there with them to record this epoch moment in the history of British c.b. Little did we know what was in store for us.



Up With The Skywaves. Above us BA020 from Hong Kong wings its way homewards with its precious cargo. Hope no one is causing interference to its Instrument Landing System. Landed 0620 hours.

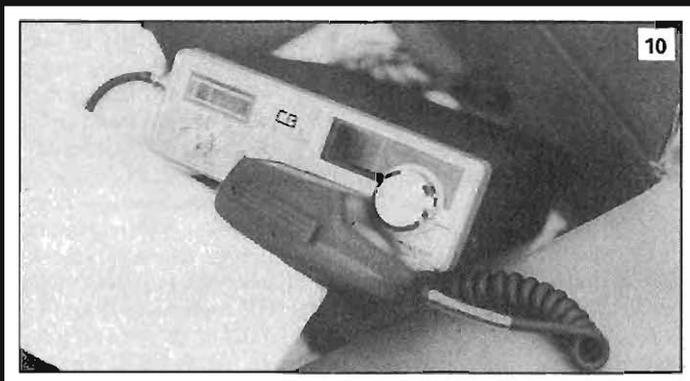


GB World Interceedes. Shows the Halcyon advert to the Customs to prove that the equipment imported is indeed the 'Cheetah'. Consignment is determined suspect and to be 'rummaged'. Having finally decided to 'phone the Home Office, Customs relent and issue the all important goods release note. 1100 hours.



Fingernail Operation. Customs having checked the contents against Halcyons' CB World advert have carefully resealed the package. Roger carefully unseals again. 1135 hours.

The Halcyon 'Cheetah'. Justy fifty-eight days from Taiwan drawing board to arrival in UK.



We Take More Care Of You. After tendering Halcyon's VAT registration number, telephone number and proof of identity, these are double checked. A Customs & Excise number is then assigned for the C & E computer. 0845 hours.



Wot Abaht The Workers? The goods release note is tendered at the dispatch window. A fork lift truck with pallet stands by — just in case. 1105 hours.



The Custom With Customs. Alex and Roger having tendered all the necessary forms become frustrated when HM Customs demand to know why a duplicate Home Office import authorisation is used. Bemused, our intrepid duo explain that the original was used to get the equipment onto the aircraft at Hong Kong in the first place. 0950 hours.



Sign 'Ere Please. Alex signs for his parcel praying that it's still in one piece. 1110 hours.



The Moment of Truth. Yes, its got the all important CB27/81 mark. 1136 hours.



So How Did They Do It? Enclosed with the package is a full set of circuits and test data. We see that the circuit was drawn in Taiwan on the 7th July.



I'm In The CB World Lab. Checking the equipment against Halcyon's claimed performance. Watch for CB World's forthcoming report.

021

**RADIO & ELECTRICAL
WHOLESALE LTD**

**THE LARGEST STOCKIST OF CB
ACCESSORIES IN THE MIDLANDS
HAVE BEEN APPOINTED
PLUSTRON SUPER DISTRIBUTORS**

**FOR THE
MIDLAND**

**FM RANGE OF CB RIGS
DEALERS ARE STILL REQUIRED
FOR MOST AREAS
TELEPHONE 021-472 6448**



Americas
now
Midland

MIDLAND
Midland is imported

**021 RADIO & ELECTRICAL WHOLESALE LTD.
590-592 BRISTOL ROAD
SELLYOAK, BIRMINGHAM B29 6BQ**

**WHICH COUNTRY IS THE BIG
WORLD FOR CB RADIOS?
UNITED STATES OF AMERICA**

**IS IT FAIR TO ASSUME THAT
KNOW MORE ABOUT CB RA
YES.**

**WHICH ARE THE BEST SELLING
THE UNITED STATES?
MIDLAND.**

NO MORE QUESTIONS.

Very soon FM CB will be with us. Dozens of brands will hit the UK market. Some good. Some not so good. So don't get your fingers burnt. Get it right. First time.

LARGEST MARKET IN THE

1.

THE AMERICANS BUY MORE CB RADIOS THAN ANYONE ELSE?

BUYING CB RADIOS IN



MIDLAND

AMERICA'S No. 1 IN CB.
NOW IN THE UK.

MIDLAND
precision series 

Midland is imported, distributed and fully guaranteed by Plustronics Ltd., Hempstalls Lane, Newcastle, Staffs ST5 0SW. Tel. 0782 615131.

"More than a year after the riot in St. Paul's Bristol, tension in the area remains high. One Sunday last month, a PC was called to a simple road accident in which a car driven by a black youth had collided with a parked car owned by a white man. Within five minutes, the officer was surrounded by thirty aggressive black people. The crowd refused to let the white man go until he had stated in writing that he was responsible for the accident. Other police were called and the incident ended without further trouble. What interests me is that the crowd had been summoned by Citizens' Band radio. It appears that black youths in the area are using c.b. to gather 'reinforcements' whenever one of their number has a problem with the police. As there is also extensive monitoring of police VHF messages, they appear to be using quite sophisticated technology to maintain their challenge to police authority."

"Dogberry" column p.6 of the monthly magazine of the Police Federation, "Police" — No. 11, July '81.

THE HARD WORK and dedication of many citizen band campaigners attempting to build up a sometimes awkward but always friendly relationship with the police has been sabotaged by a sensationalist and ill-informed report in "Police" the Police Federation's monthly journal.

Written under the alias (handle?) of "Dogberry", Tony Judge, the Federation's national press officer claims that "a crowd had been summoned by Citizens' Band radio." Additionally, he claims that "black youths in the area are using c.b. to gather reinforcements whenever one of their number has a problem with the police."

What gives this piece its sensational and hence credible hook is the area of the incident — St. Paul's, Bristol.

In the eyes of the rest of the country, St. Paul's, Bristol is known for being the first area of racial rioting. In the eyes of the rest of the country, it is not synonymous with getting up in the morning, getting the kids ready for school, doing the shopping and all the thousand and one normal everyday chores of the normal everyday families living in and around the area.

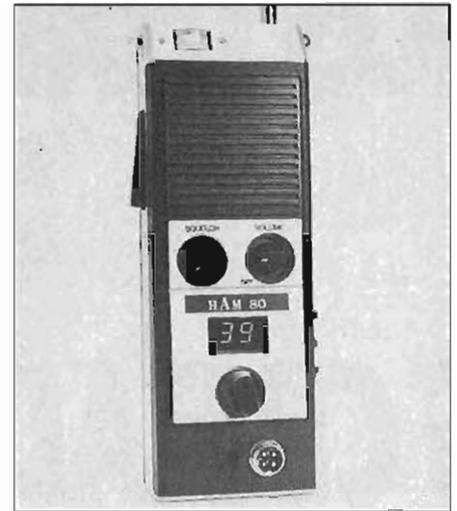
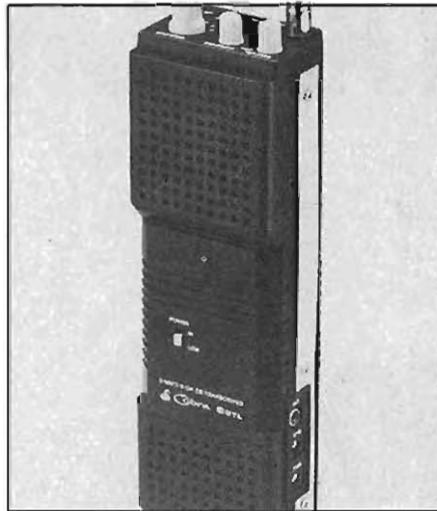
In short, if there had been such an occurrence in Plymouth, Bournemouth, Bexley, Warrington or Edinburgh — there wouldn't have been a story.

In sixty countries around the world, c.b. radio is a legal, accepted tool of everyday life; certainly not newsworthy by itself.

But here in UK, write a story having ingredients of riots, a riot area, black youths, a white man, and ice the story liberally with the illegal cult of c.b. — and there's your tale.

So balanced was the mixture, that not one of the national or local c.b. campaign leaders were asked for comment. This is probably because c.b. radio wasn't used at all.

CB WORLD CONDEMNNS RIOT CLAIM



Typical hand held, multi channel c.b. transceivers. Difficult to get hold of except by the dedicated c.b. enthusiast.

CB World has uncovered the fact that "walkie talkies" operating on 49.86 MHz were in the possession of some of the youths that Sunday.

The motoring accident occurred in a predominantly coloured area and since others saw it, they congregated when one of them was seen to be in difficulties.

A spokesman for the West Midland Police Joint Branch Board said "We have no knowledge of c.b. radio being used in troubles in the West Midlands."

A spokesman for the Derbyshire Constabulary said, "There is no evidence that c.b. was used in any trouble spots in Derby."

Meantime, the Chief Constable of Manchester claims that c.b. radios "were used to gather crowds together during the Moss Side riots."

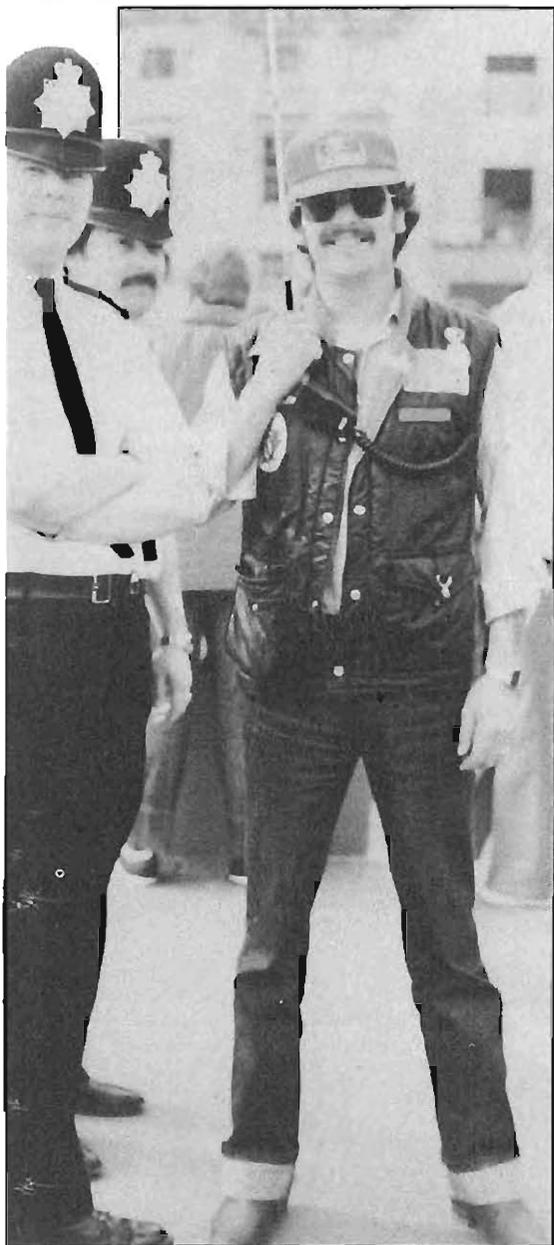
The Avon and Somerset police spokesman was somewhat more careful. "We are investigating these allegations but at the moment we are making no comment."

So when is c.b. not c.b.?

For you and your fellow readers of CB



'Dogberry' alias Tony Judge the Labour GLC member for Mitcham & Morden. (photo GLC)



Friendly breaker and friendly bobby. At National Committee Rally, Trafalgar Square.

World that question isn't hard to answer — but for the public at large, and perhaps for force Superintendents and “spokesmen”, we picture, as examples only, typical c.b. transceivers and walkie talkies.

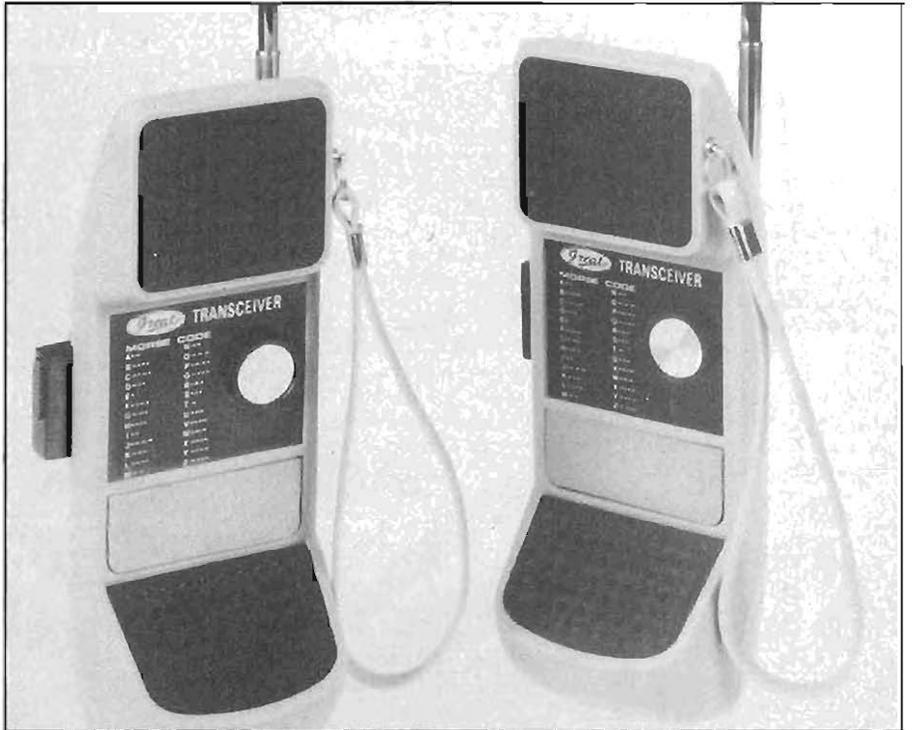
Spotted the difference? The Ham and the Cobra are multi-channel pieces of communications equipment and the others are, well in our opinion — toys.

The force communications officer of one area we spoke to had obviously thought about the subject in some detail. Talking about c.b. helping the police as it already undoubtedly has done in several missing person searches, he said. “C.b., like the telephone, may be used as a force for good or evil, but overall the forthcoming legalisation must be for the good.”

Dogberry's article, like c.b. stops heart pacemakers, like c.b. will be used by prostitutes, like c.b. will wipe out millions of t.v. sets, should be consigned to the dustbin of history. We hope that the national newspapers who copied this story, sometimes word for word, will, should there be a next



Another small business goes up in smoke due to riots in Brixton. C.b. gets blamed for 'co-ordinating'. C.b. monitors stop this happening, that's why rioters wouldn't use c.b. channels fearing being overheard.



Walkie-talkies on 49.86 MHz. Contains four transistors. A fun toy widely advertised and available..(Range — shouting distance only).

time, check with someone who knows.

CB World has spoken to enthusiasts who were actually monitoring during the “troubles”.

Vic Bull, National Press Officer for REACT, tells me that, in the London area, Police had let it be known through the major London clubs that they wanted silence on channel for thirty-six hours. Listening in for foreign c.b. transmissions, Vic said that “There was almost 99% compliance and discipline on channel appeared to be virtually absolute”. Asked whether he heard rioters on channel his answer was a big fat “No!”

We spoke to Pearly Teeth, a keen monitor, who said that she listened out throughout the weekend of the Brixton riots. It's rumoured that some police officers actually asked to listen out on some rigs to hear whether there was any co-ordination of rioters going on.

Apparently channel 14 became deserted during that fateful time. She heard no rioters — neither did the officers.

In the Tolworth area a monitoring system

was set up for mobiles to report back any looting or rioting so that the Police could be informed.

Many c.b. enthusiasts cruised the area so instead of c.b. being used to co-ordinate the rioters as “Dogberry” claims, it was available to actually help the police in maintaining law and order.

The last word should be left with Tony Judge alias “Dogberry” the author of the article in the Police Federation's magazine. “I couldn't disclose my sources but all are bona fide and attributable.”

We want the last word to be left with you. Were you monitoring during the troubles? Is your home 20 in or around the Brixton, St. Paul's or Toxteth areas. Did you hear rioters being co-ordinated on your channels? Even if you heard nothing, write in.

Before even this is published 'last words' are coming back from you. One such, we publish in “Bring it Back”. Well done the breakers. I will be tabling a copy of your letter at the next full meeting of the Parliamentary Working party. *Richard Town* ●

THERE ARE GOING TO BE A LOT OF CHEETAHS ON THE ROAD THIS YEAR



The Halcyon Cheetah is the most advanced mobile FM station on the market.

It will operate with unflinching precision on any of the 40 channels allocated for CB use.

To ensure this kind of performance Halcyon engineers have gone to great lengths to develop a soundly designed, reasonably priced system that can be easily installed even by a first timer.

What makes the Cheetah unique—and what will also make it very popular—is that it comes as a complete package including a slide mount, microphone holder and a specially designed Halcyon Searcher antenna that conforms to Home Office requirements.

At the heart of the package is our elegantly styled, ultra-sensitive trans-receiver and a power mike that will give years of reliable performance either as a mobile rig or as a home base station.

We also include a step by step guide for first time CB'ers as well as a cassette that tells how to put it all together, and a manual with all the technical details.

And to back up our claims we're offering a full, no-quibble guarantee.

So is it any wonder that we think the roads will soon be full of Cheetahs? And if you're smart, a lot of them will be seen leaving your shop.

The Halcyon Cheetah.

**We Believe Our Citizens
Deserve the Best.**

**DEALERSHIPS
NOW AVAILABLE**



Halcyon  **CHEETAH**

Halcyon CB, 395-397 Albany Road, London S.E.5.

URGENT TRACK REPAIRS, delayed trains, platform staff coping with rush-hour passenger peaks and trying to maintain some semblance of order at the large stations requires a communication system that is versatile and simple to operate.

To achieve this, British Rail have devised in conjunction with Storno Radio Communications Systems a radio link network known as either the BR Nationwide Network or the BR National Radio Plan. It is intended that it be used as a means of communication for maintenance and operating staff using equipment with 12 channels in the middle VHF band.

The network comprises approximately 30 radio control area systems all of which include the following standardised features:

1. Angle modulation (AM).
2. Single Channel throughout each radio control area.
3. Use of guard stations to allow additional conversations in free areas.
4. Connection to BR's own telephone network.
5. Depressed tone sequential signalling for outward selective calling.
6. Touch tones signalling for inward dialing.
7. Personal field radios with vehicle adaptors.

The geographical areas with radio control are increasing but at present includes Liverpool Street (London), Birmingham, Crewe, Preston, London South Centre (Victoria), Manchester, Liverpool, Doncaster and Brighton.

Radio coverage of each area is provided by up to 10 base stations, expandable to 20 if necessary and each capable of operating in the co-channel (quasi synchronous) transmission mode.

All base stations within each central area are operated over landlines from the control centre. This includes an interface between the radio system and the BR telephone network.

The control equipment permits a number of simultaneous conversations to be carried out over the total radio area and there are facilities for either local or extended communication between any of the field radios.

In addition direct lines from the control equipment enable radio users to contact the Electronic Control Rooms for routine or emergency purposes.

At the radio control centre equipment for the setting up of conversations, connection to British Rail's own telephone network and direct connection to the Electric Control Rooms is automatic and performed without the intervention of a radio operator.

There are facilities for controlling the system manually by an operator in an emergency.

Receiver voting in the base stations determines the best stations for traffic. A guard station technique is also used to protect base stations engaged in traffic.

In addition quasi synchronous (co-channel) transmission provides an acceptable signal in the overlap areas when adjacent base stations are simultaneously keyed in the repeat (talk through) mode.

A free tone is radiated in sequence from

BRITISH RAIL O

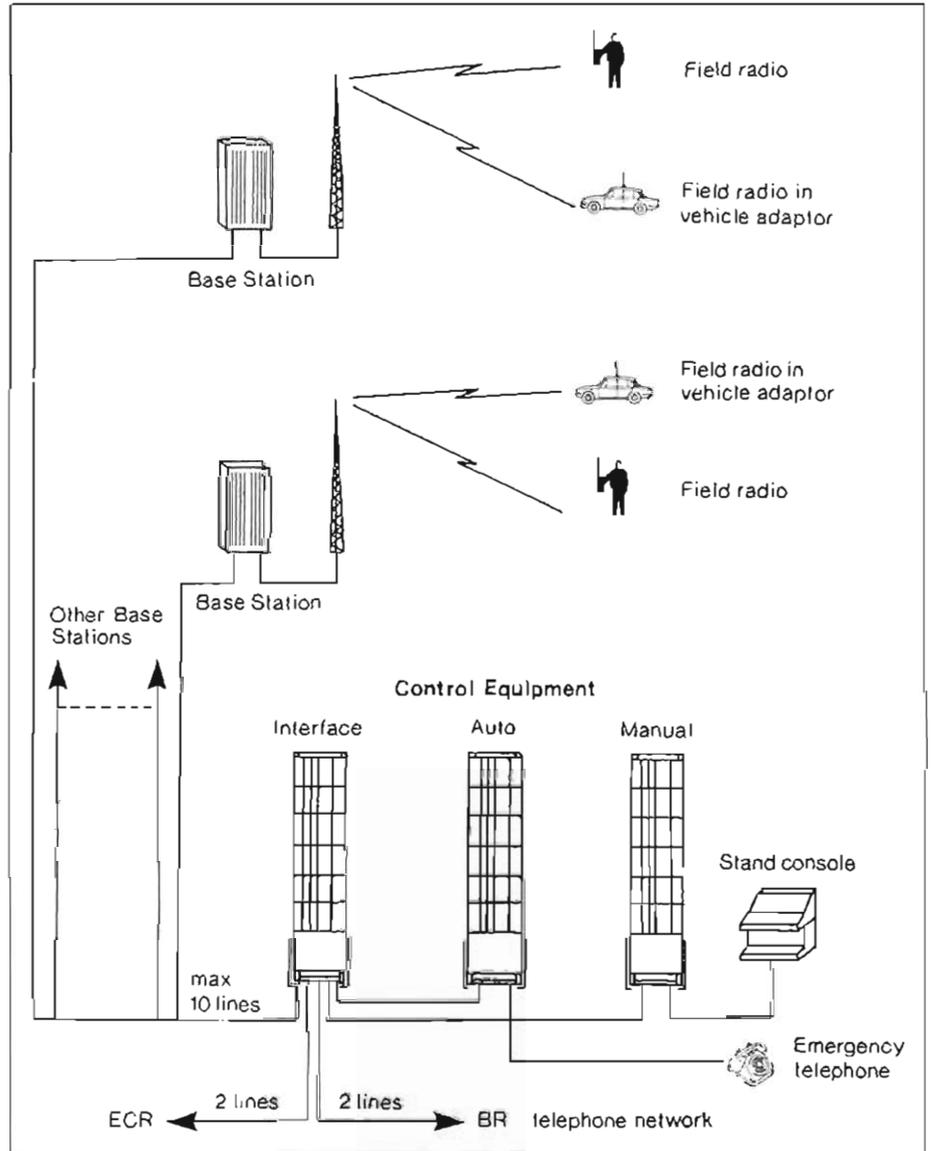


FIG. 1. The equipment required for remote operation of a typical base control area system.



The world's biggest indicator board at Victoria Station is continually updated using information supplied by two-way radio messages from B.R. platform personnel.

N RADIO



The Stornophone hand-held transceiver with vehicle adaptor.

non overlapping groups of base stations to indicate that they are free for traffic.

Built into the control system equipment is an automatic check facility to ensure the correct function of all static equipment.

Each mobile radio is fitted with a decoder for accepting an outward selective calling code and with a keypad for inward dialling.

These mobiles are of lightweight construction, weatherproof and easily held in the hand. Normal operation is by hand but a vehicle adaptor is provided to retain the mobile when operated in a vehicle. To ensure an acceptable operating range when in the vehicle the transceiver uses an external vehicle antenna.

The remote control system has been designed to use conventional relays for speed path switching and hand wired (random) logic for controlling such functions as selection of base stations, routing of telephone connections, voting and display of status information.

Because it is sometimes necessary to have multiple and simultaneous conversations, the system lends itself to software control in which the control sequence is similar for each conversation and status information is available in memory.

The software control not only results in a significant reduction in hardware but also ensures that the control system can be readily expanded or modified at a later date.

Realising the advantages of software control, experimental equipment was built by the Research and Development Division of British Rail. It was designated SPARCS (Stored Program Automatic Radio Connection System) and its design concepts recommended for implementation in the BR radio control area systems and equipment supplied

by Storno have been designed using the stored program technique and incorporate many special features including:

1. Central microprocessor control.
2. Independent automatic or manual control functions.
3. Co-channel and/or multi channel mode of operation without modification.
4. Electronic switching throughout (no relays).
5. Speech, tone and data bases.
6. Comprehensive test, monitoring and recording facilities.
7. Duplicated power supplies.
8. Modular construction using plug-in Eurocards.
9. Enclosed rack system.
10. Modular Software.
11. Ease and flexibility of expansion or modification.

The equipment required for the remote operation of a typical base control area system is shown in Fig. 1 and comprises:

1. Rack mounted interface unit for the interfacing for a maximum of 10 base stations, up to two Electric Control Rooms (ECR) and the BR telephone network to either the auto unit or manual unit.
2. Rack mounted auto unit which includes a microprocessor to provide automatic connections of up to four simultaneous and independent conversations.
3. Rack mounted manual unit containing circuits for use with item 2.
4. Standby console for use when manual supervision of the system is required or in the event of an automatic system failure.
5. Desk telephone for emergency calls to the control centre in the automatic mode.

The base equipment assembly, which includes three rack mounted units, can readily be expanded to permit control of up to 20 base stations and connection of up to three ECR lines.

When this is required, one interface unit and one auto unit are added to make up an expanded assembly comprising five rack mounted units, the standby console and the desk telephone.

The base station equipment installed by Storno comprises radio units, master oscillators and control panels which can be wall or rack mounted. Each base station consists of the following items:

1. Radio unit for operation in the UK middle VHF band and enclosing the 25W transmitter, receiver, two control panels, metering (engineer's) panel and power supply.
2. Master oscillator to ensure accuracy and long term stability of the assigned carrier frequency as required for operation in the co-channel transmission mode.
3. Control panel containing the circuits for interfacing the local intruder alarm devices and the remote control equipment to the radio unit.

The base station comprises a fully transistorised transmitter/receiver featuring modular construction on printed circuit boards. Silicon transistors are used throughout. It has a rugged cabinet with seals making the station completely dustproof and splash-proof.

Using no valves, the base station is reliable

and has a low maintenance cost. The temperature stable silicon transistors provide additional advantages such as small dimensions, longer life, and a larger measure of resistance to cold and heat. A maximum of frequency stability and optimum selectivity have been accomplished by the use of sealed crystal filters. Electronic stabilisation of the operating voltage makes the receiver sensitivity and transmitter power output independent of variations in the mains or battery supply voltage.

A maximum of 12 crystal controlled channels for channel separation of 50, 25, 20 or 12.5kHz, can be provided and there are a number of versions for simplex or duplex traffic in the 80, 160 and 450MHz frequency bands.

The base stations in use by British Rail have received type approval by the postal and telegraph authorities of a number of countries and meets American EIA specifications.

The field radios comprise of a pocket-sized portable UHF/VHF-FM transmitter/receiver with dimensions and weight been reduced to a minimum by use of thick film technology and a modular construction technique.

It is housed in all leather-covered extruded aluminium case which is both robust and rainproof. The housing provides effective screening against electrical interference.

A maximum of 12 crystal-controlled channels is available, the selection of which is made by a switch on the face of the unit. The transmitter power output on VHF is adjustable between 0.1-1.5W and on UHF 0.1-1.0W, and the receiver sensitivity is better than 0.4uV. Easily replaceable nickel-cadmium batteries can be recharged at least 500 times. Extreme temperatures have little influence on the operation of the equipment; it may be used in temperatures down to -25°C without degradation in performance.

Each body worn field radio consists of the following detachable items:

1. 12 channel radio unit for operation in the UK middle VHF band and containing the 3W transmitter, receiver, selective calling decoder, touch tone encoder, speaker/microphone and 12 key dialling pad.
2. Heavy duty rechargeable nickel cadmium battery.
3. Coil loaded flexible whip antenna.

Items supplied for use of the field radio in a vehicle comprise:

4. Vehicle adaptor for secure retention of the radio unit and battery and incorporating the charging facility from the vehicle supply.
5. Control unit connected to the vehicle adaptor by a cable to provide extended control facilities.

Additional items include:

6. Spare battery BU803.
7. Charger CU801 for rapid charging of up to two batteries.
8. Charger CU802 for rapid charging of up to 10 batteries.

The next time you visit one of the major rail terminals look out for staff using radio telephone equipment. This is one of the many developments that British Rail is implementing to try to increase its operational efficiency. ●

THE ISLE OF MAN-HOLE

Enterprising Manx businessmen have apparently blown a hole in the statutory instrument banning the importation and manufacture of c.b.'s

HOME OFFICE

WIRELESS TELEGRAPHY ACT 1967

The Manufacture and Importation of Citizens Band Radio Apparatus

Section 7(1) of the Wireless Telegraphy Act 1967 enables the Secretary of State for the Home Department, for the purpose of preventing or reducing the risk of interference with wireless telegraphy, to specify, by Order, any class or description of apparatus. The manufacture (whether or not for sale) and importation of any apparatus so specified is prohibited under section 7(2) of that Act save with the authority of the Secretary of State. By virtue of section 7(2) any such authority may be subject to terms and conditions which may relate to a period after, as well as to the time of, or a period before, the manufacture or importation of the specified apparatus. By virtue of section 7(3), such authority (including any such terms and conditions) may be given generally by means of a notice in the *London Gazette* which shall also be published in the *Edinburgh Gazette* and the *Belfast Gazette*. By virtue of section 7(4) the Secretary of State cannot give any such authority unless the Secretary of State (or Trade) is satisfied that the authority (including any term or condition) is compatible with the international obligations of the United Kingdom.

2. The Radio Telephonic Transmitters (Control of Manufacture and Importation) Order 1968 (S.I. 1968/61) specifies, for the purposes of section 7, wireless telegraphy apparatus consisting of radio-telephonic apparatus capable of transmitting on any frequency between 26.1 and 29.7 MHz or between 38 and 108 MHz.

3. The Secretary of State for the Home Department, with the agreement of the Secretary of State for Trade, hereby gives authority generally under section 7 (3) for the manufacture and importation forthwith of wireless telegraphy apparatus of the class or description specified in paragraph 4 of this notice. This authority is, however, subject to the condition that no apparatus which is manufactured or imported in reliance on this authority shall be sold or otherwise distributed by the manufacturer or importer (as the case may be) or any other person until such time as may be specified by a further notice given by virtue of section 7 (3) and published in this Gazette.

4. The apparatus to which the general authority described in paragraph 3 of this notice applies is wireless telegraphy apparatus which is designed or adapted for the purpose of transmitting spoken messages on any of the frequencies specified in paragraph 1.3 of Home Office Performance Specification MPT 1320 and which complies in all respects with the requirements of that Specification. Copies of Home Office Performance Specification MPT 1320 may be obtained from Her Majesty's Stationery Office.

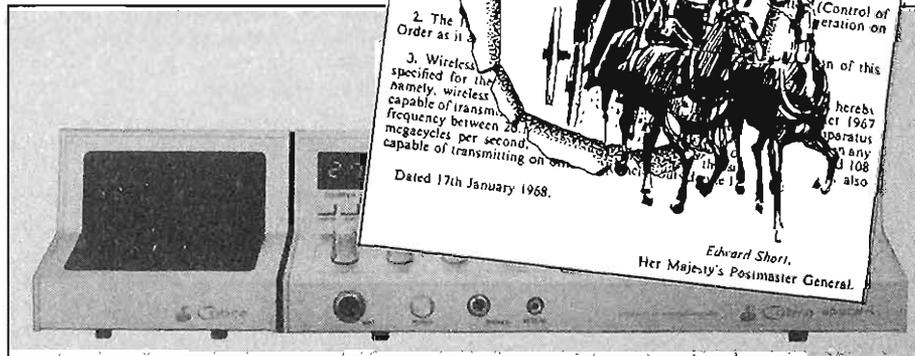
The Background

The Wireless Telegraphy Act of 1967 paragraph 7 of part 2 section (2) states that "Where apparatus of any class or description is for the time being specified by an order under subsection (1) of this section — (a) No person shall manufacture, whether or not for sale, any apparatus of that class or description; and (b) the importation of apparatus of that class or description is hereby prohibited."

Sub section one says that the Postmaster General (now superseded by the Home Secretary) "for the purpose of preventing or reducing the risk of interference with wireless telegraphy, may by order specify apparatus of that class or description for the purposes of this section."

Such an order is Statutory Instrument No. 61 of 1968 which came into operation on April Fool's Day 1968 under the signature of the then Postmaster General, Labour member for Newcastle upon Tyne Central, Rt. Hon. Edward Short, M.P.

Claims David Turner of Turmann Models, "Section 7 was never ratified by the House of Keys, the Isle of Man government. We have no representation in Westminster, and damned if we are going to allow the UK Government to tell us what we can make and what we can't."



Rebuilt Cobra 2000. From Turmann about £325.00.



Rebuilt Ham International Multi-mode II. From Turmann about £180.00.

That was the position until January of this year when the Manx government did eventually issue an order ratifying the relevant section of the Customs & Excise Management Act and brought in an order banning the importation of complete sets capable of transmitting between 26.1 MHz and 29.7 MHz.

Turmann Models again "If the UK government attempts to play big brother against our small island, section 7 will never be ratified by us at all. The only way I can see the House of Keys ratifying the Act completely is for the authority, at present vested in the UK Home Secretary as far as the UK is concerned, (this is subsection 3) to be vested in the House of Keys so far as the Isle of Man is concerned."

Not that this will help the UK Government out of its dilemma. Since the Isle of Man has a "Common Purse" arrangement with the UK and the Isle of Man is within the UK Customs area and the Manx government has not ratified section 7, then SI 61/68 does not apply. Turmann can then legally import the parts, put them together and since there isn't — nor can there be — a Customs Post between the Isle of Man and the UK, ship them to your door.

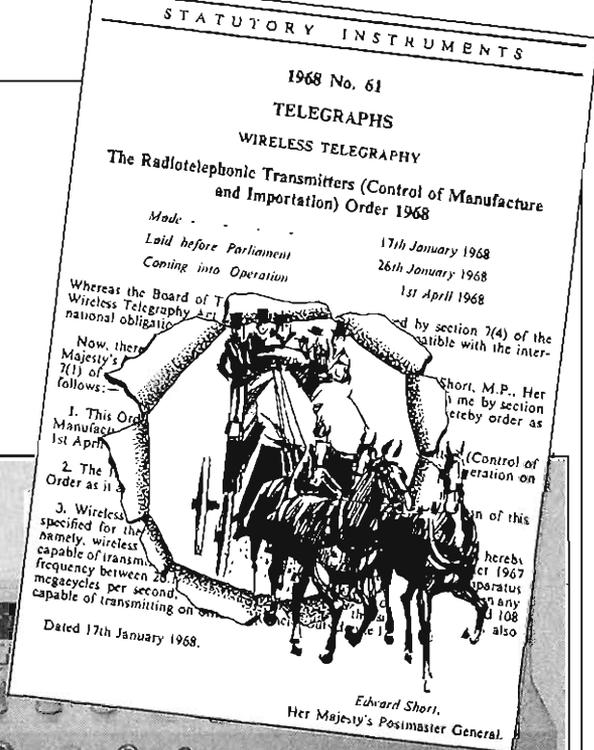
A word of warning however. The burden of proof is upon you to show, quoting sub-

section (5), "that the importation of the apparatus is or was not unlawful by virtue of this section; and if such proof is not furnished to the satisfaction of the said Commissioners, then, unless the contrary is proved, the apparatus shall be deemed to be prohibited goods and be liable to forfeiture under the Customs and Excise Act, 1952."

Mr Cook of LP Stereo in Eltham, South East London says he is "sick and tired" of salesmen trying to sell him a.m. gear to FCC standards and sometimes to no standards, claiming that it's all legal and above board. "Yes," he told *CB World*, "Import Duty at 9.9% and VAT at 15% is being paid, but the equipment still can't be installed, and it still can't be used."

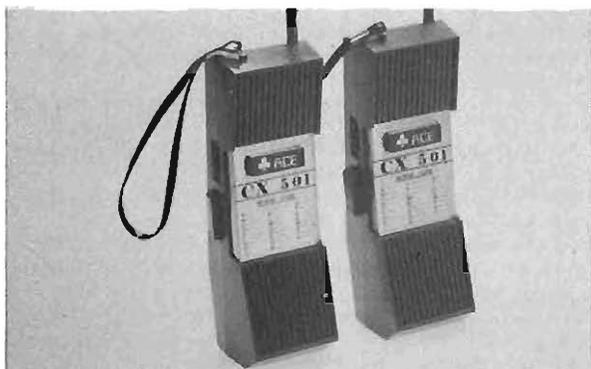
Both carry a maximum fine of £400 or three months imprisonment. My conscience couldn't rest easy having made money out of the c.b. kids so keen are they to have rigs, and then they end up in court."

CB World says that the fault doesn't lie with Turmann Models nor the people of this country. We pay hard earned taxes to Civil Servants so problems like this don't occur. If I worked in private industry like some bureaucrats work as public servants then I wouldn't keep my job very long. ●



LCL IMPORTS

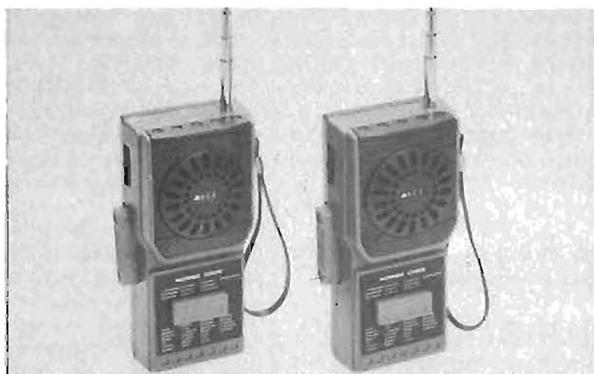
**FOR ALL YOUR CB REQUIREMENTS
INCLUDING LEGAL FM CB SETS**



CX 501 "ACE"



DM 510 POWER MICROPHONE



DG 808 ACE "COMMANDER"



101 DG SWR and POWER METER
(ex stock)



WT 909 "SOUNDER"

IMPORTANT NOTICE

We are issuing Home Office CB Radio Licence Application forms with the sale of our c.b. equipment. Please send stamped addressed envelope to obtain both our price list and licence application form free of charge.

CB LICENCE APPLICATION

*Send SAE for price list and Home Office CB Licence Form.
Trade enquiries welcome.*



LCL IMPORTS Ltd., 101 Dixons Green, Dudley, West Midlands
Telephone: Dudley (0384) 59185. Telex: 337290

BRING IT BACK

BREAKER SHOW '81, BRISTOL

After reading your magazine and seeing the advertisement for the Breaker Show '81, sponsored by *CB World*, I travelled 170 miles at great expense with three other breakers to see your so-called exhibition. When we arrived in Bristol, having driven for 3½ hours in fog and rain, we put a call out over the air to see if any of the local breakers could tell us the location. After getting a copy the breaker informed us that the show had been cancelled.

You gave adequate press coverage of the event but when it came to the cancellation surely a small announcement in the national press would not have come amiss.

We are all members of the Motion Lotion Breakers Supporters Club and we feel we have been sadly let down. We are not an isolated case; we also met breakers from other parts of the country who had travelled a considerable distance to see the show — no doubt you will be hearing from them also.

Lightfoat, Trebor, Oil Man and Seamstress, Ellesmere Port.

Ed. Thank you for your letter about the four day exhibition at the Bristol Centre and I too was disappointed that it had to be called off.

Time was against us because the final decision to cancel was made as the September edition was being printed so all we could do was to superimpose the word 'cancelled' on the advertisement.

You may not know but the exhibition was organised by a well known company of promoters, called Stevens-West Exhibitions Ltd. Because of lack of support from the industry the company lost a great deal of money and I understand had to call a halt to all their activities. Naturally this is all very unfortunate.

CB World did not have any dealings with the organisation of the Breaker Show '81, gave no financial support and were only asked to lend our name and magazine logo. Stevens-West Exhibitions Ltd.'s decision to cancel the exhibition is certainly regretted by *CB World* but obviously this was beyond our control.

The mini olympics are very much alive and kicking. Sponsored by *CB World* for The International Year of the Disabled People 1981, they are to be held at Lovestoft from September 26th to October 3rd. This event for the Mentally Handicapped has been held for the last two years and is always very successful. I hope

you are able to come along and enjoy yourselves and make up for the disappointment caused by Stevens-West Exhibitions Ltd.'s cancellation of the Bristol Show.

PLEASE REPLY

Dear Mr. William Whitelaw,

We have three important points to raise and be carefully considered by the Government in their decision to select and enforce a specification for c.b. radio.

Whilst other pressure groups, it seems, have had some success in lobbying the Government to reconsider the printed specification MPT 1320, we feel that our views in supporting this specification have been ignored.

Our views are, we suspect, shared by other substantial U.K. companies who intend to adopt a similar position to us in their efforts to invest in, guide and control Far East manufacturers to produce c.b. radio equipment.

The Government must be made fully aware that no sets under any specification will be produced in the U.K. in quantity. MPT 1320 should be adopted to stop the flood of cheap, poorly manufactured, low standard sets already being produced for sale in other countries. It will also ensure that the public are being provided with a c.b. radio service which will be of an acceptable standard and one which the U.K. Government has fully investigated and technically approved. Adoption of MPT 1320 will allow respectable branded importers such as ourselves to import under strict guidance and control equipment which meets the specification. It will also allow companies such as ourselves to reap cash benefits and provide employment from equipment imported under their control.

However, equipment built to other specifications, already in use elsewhere in the world, will bypass our profit and employment generating stage and be imported direct to wholesalers and retailers. If MPT 1320 is adopted, commercial restrictions should be imposed.

Strict adherence to MPT 1320 must be enforced if this specification is not to be made a mockery of. It appears that no commercial restrictions have been raised or suggested by the Government.

We propose that at the very least the following point should

be carefully considered in order that equipment that does not meet the specification is prevented from flooding the market, and that importers such as ourselves (who have already invested large sums of money in development work) are protected.

Our suggestion is that all c.b. sets for sale within the U.K. should be tested and approved by a Government Authority. Her Majesty's Customs would be provided with a list of approved importers who had proved that their sets meet the Government specification.

We have further suggestions which are embodied in a letter to Mr. W. Innis, Directorate of Radio Technology, Home Office.

Members of the Home Office have urged us to put our points forward and meet with you as soon as possible to discuss this matter further.

Yours faithfully, for and on behalf of Amstrad Consumer Electronics Ltd.

R.A. Mould.

Ed. We will publish the reply once it is made available to us.

QUESTIONS ANSWERED

Over the past few months there has been a lot of talk about the legal f.m. c.b. system which is to come into operation soon. But there have not actually been any hard facts. What we breakers would really like to know is:

- 1) Will there be an amnesty for a.m. breakers, like some sort of refund on the rigs?
 - 2) Will there be a time lapse to give a.m. breakers a chance to change over, and exactly how long? (We think a year would be quite sufficient before the Home Office etc. clamp down.)
 - 3) How much will the new f.m. licence cost and does the Government propose to set a really high price to stop the people in the street from affording it (even when this system is supposed to be for us)? £10 for a yearly licence is quite sufficient, if you match it to other licences.
 - 4) What happens if f.m. falls flat? Will they introduce the a.m. system higher along the wavelength to get away from t.v.i., modellers etc. to please everybody, or are they determined to wipe us out altogether?
- Could you please print this letter for two reasons:
- 1) I am an a.m. breaker and there-

fore cannot give you my name and address, and

2) Most breakers want to know the answers to these questions but nobody knows the answers. Even the press draw a complete blank in talking about c.b.

Thanking you in the hope that you answer these questions.

Bournemouth Breaker.

Ed. Answering your questions in turn:

The Parliamentary Working Party has been pushing for an amnesty for the existing a.m. users so that they may have time to change to the legal rigs or get their sets modified to the proposed U.K. standards. This has so far been refused by the Government. A period greater than six months is asked for. No refund will be given for existing rigs, but ideas are being talked about, including a waving of the V.A.T. which should have been paid when purchasing the rig and the Import Duty which should have been paid when it was first brought into the country.

The licence fee will be £10 for up to three sets.

It appears that the Home Office doesn't care whether f.m. "falls flat" or not. As soon as people who want a.m. can prove conclusively that it doesn't cause all the interference that the Radio Regulatory Department claim, then the a.m. campaign can move forward. This is happening, but only slowly.

Incidentally, why do you want a.m.? Have you ever tried working f.m. and if so what did you think? The Parliamentary Working Party has been demanding tests between existing a.m. and the proposed f.m. (with the restricted twig length). None have been allowed as yet. Wonder why?

GOOD AND BAD

Could you please spare a small part of your fine mag. for me to say thanks to Hedgehog from Pembury in Sussex, as he was a great help to me on Sunday, 23rd August when I was stuck in a traffic jam coming into Pembury. He directed me off the A21 and then some of his good buddies came out and met me, led me round a maze of country lanes and back onto the A21 far ahead of the hold up. Needless to say I was very grateful.

On a less good tone, I would like to say that the breakers in Camber, Sussex, are the most unsociable I have ever come across. I was down there for two days (22nd and 23rd August) and

although I could see antennas all over the town I could not get a copy from one breaker who lives there. I was pleased to hear the voices of two breakers from Blackheath, London — Quality Street and Nosey Parker, who were in Camber on holiday, and also The Elk from Rye and Midget from Peasmarsh, all of whom spoke to me on the way down.

*Grey Eagle,
Wallington.*

WAVELENGTH IN THE AIR

I would like to put my handle on your register, and that of my brother who is crazy about c.b. and uses it at every opportunity.

I would also like to congratulate you on a great magazine.

There are one or two points I would like to ask:

1) Is it true that radio controlled models are going to be moved to a different wavelength? (This being the case it would leave 27 a.m. clear for c.b.ers.)

2) Could you let us have any info. on the legal wavelength, as I have heard from a friend who has used a legal set on f.m. that it has no distance to it — is this so?

Thank you.

*Crazy Trader & Coffin Dodger,
Sugartown.*

ED. Radio controlled model aircraft have been moved to 35 MHz but radio controlled models (cars, boats and the like) appear to be staying on 27 MHz. Hospital paging equipment is in the process of being re-allocated to 31.5 MHz. The idea is to clear down the FCC/CEPT channels for eventual c.b. use for the "Euro Dimension". Whether this will be on a.m. or f.m. is less clear.

Effective radiated watt for watt there is no difference in the range between a.m. and f.m. but there is certainly a difference between s.s.b. (upper or lower sideband) and a.m. or f.m.

CIRCUIT PROBLEM

I wonder if you could help me find a wiring diagram for a c.b. rig? Two transistors have been badly damaged so the value or type cannot be read. No shop or dealer in the area can help me so you are my last resort.

The rig is an ACSA or PACE single band rig with all the controls on the microphone. It is a forty channel a.m. negative earth type — with no maker's number on it.

M. Chapman.

ED. Any replies to The Editor, *CB World*.

CRYSTAL HELP

Would you be able, please, to give me the address of a firm in the London area who could supply crystals for a six channel walkie talkie? I have 14 and 11 and any other four channels would do. Payment would be in Sterling.

*Michael Kavanagh,
Dublin 1.*

ED. Can anyone help this reader? Replies to the Editor, *CB World*.

FALSE ACCUSATION

We would like to point out the action that was taken on the Wirral during the weekend of the main rioting on Merseyside.

After Mr. Anderton's criticism in the press that c.b. was used to benefit the rioters and looters in Manchester, The Wirral Citizen's Band Association and The Apollon C.B. Club held a joint meeting on the Friday evening before the rioting was expected.

We were determined that Merseyside would not be criticized in the way Manchester had been and we agreed that there were two courses of action open to us: Either

1. Completely wipe out the 27 MHz band plus some of the 26

and 28 MHz band, or
2. Monitor every channel which could possibly be used.

Eventually we decided that it would not be fair to responsible c.b.ers to wipe out their hobby for a complete weekend, so monitoring services were set up to cover 26 MHz to 28.3 MHz. This service commenced at 8.00 p.m. on the Friday evening and continued until 8.00 a.m. the following Monday morning.

As a result we can safely assure Mr. Oxford (Chief Constable of Merseyside) and Mr. Whitelaw that in no way was c.b. radio used on Merseyside to organise rioting.

We feel that the operation was a complete success and although many boring hours were spent monitoring, we have peace of mind in the knowledge that nobody (just let anybody try) can criticize Merseyside c.b.ers.

Looking back, the only oversight was that the 49 MHz walkie talkie band was not covered.

*D.J. Rimmer (Public Relations),
Wirral Citizen's Band Association.*

STARS AND STRIPES IN U.K.

I would like to comment on RAWWAR's letter in the August issue.



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LOWEST PRICED comprehensive range of CB Rigs and Accessories anywhere in the United Kingdom. Also vacancies exist for new or existing traders to obtain a MCTCB franchise in Cambridgeshire, Herefordshire and Worcester and most of the Midlands.

BRING IT BACK

I think the Yankee c.b. jargon is all part of c.b. I feel that if everybody was to speak plain English we might as well sell our rigs and buy G.P.O. telephones. The jargon will be here to stay even when c.b. becomes legal.

Keep up the good work, and long live c.b. jargon.

*The Man of Mystery Houdi Elbow,
East Molesey.*

P.S. I know it's a long handle but it's one way of being remembered!

NO TO BURNERS

Since your first edition hit the street (ouch, sorry) went on sale at the newsagents, I have had a standing order, and do read, yes read, all information contained within its covers.

Your coverage of technical and non-technical know-how of the two way radio system is (I think) in down to earth terms and should be able to be understood by all operators. However, I must frown on the use of pre-amplifiers as they interfere with other operators' reception and transmissions, and I daresay they are the worst source of t.v.i.

A medium priced quality radio and a good quality antenna should be all that is required; these two aligned into one compatible unit (s.w.r. 1.3:1 or better) should give satisfaction to all operators. You can even sideband on 4 watts given harmonious conditions, and no burner interference.

So why not stop the cussing, the music and the alligators and moreso the burners and let's have a happy two way radio system on 27 a.m. as soon as possible.

*Poppa George,
Nottingham.*

HORRIFIED WARNS OTHERS

On reading the opening page "Come On!" in the June issue of *CB World* I was horrified to read of the Government's f.m. plans, i.e. 40 channels from 27.60125 to 27.99125 MHz f.m.

Does the average breaker realise what this means? This is not the same set of channels we already use on a.m. The illegal 40 channel a.m. rigs used in the U.K. use 40 channels from 26.965 to 27.405 MHz. The proposed system is more like our original high band — channels 41 to 80 a.m. If a breaker

with a 40 channel a.m. rig wishes to convert to f.m. he will not just have to pay for the a.m. to f.m. conversion, but for the frequency conversion as well.

Also, I must warn breakers not to buy a pre-tuned twig (factory s.w.r.'d) unless it has been specially designed for the new f.m. proposals. Pre-tuned twigs are tuned so they will give the lowest s.w.r. on channel 20 (27.250 MHz). Channel 20 on the new system will be around 27.79125 MHz. This frequency will need a slightly shorter length of twig — and this is hard to obtain with a pre-tuned twig.

One can calculate how much difference the length will be by the following formula: Length of full wave twig (metres) = $300X$ velocity factor frequency (MHz). Taking the velocity factor as 0.95 we now have: Length = 285 metres frequency (MHz).

Resonant full wave length channel 20 a.m. present system (27.205 MHz). $285 \div 27.205 = 10.48$ metres. Resonant full wave length channel 20 f.m. proposed system (27.79125 MHz). $285 \div 27.79125 = 10.25$ metres. The difference — an unloaded full wave twig would have to be 23 cm shorter to obtain a good s.w.r. For a half wave the distance would be halved and so on.

This is why it is best to keep off the pre-tuned twigs unless they are

made to U.K. specifications. Also make sure that you can alter your tuneable twigs by the necessary amount. If your twig is one of those which is adjustable by chopping bits off be careful not to cut too much off; keep taking off small amounts and watch the s.w.r. meter — calculations are only a guide.

Another important point I would like to mention is to do with the proposed f.m. system as well as radio control fanatics. A lot of radio control fanatics, upon hearing c.b. was to be made legal on 27 MHz f.m., have jumped to conclusions thinking that it will cause interference with their models, so they are converting their models to 35 MHz. Conversions of this type can cost £50 plus for a multi channel set and it is totally unnecessary as the present radio control frequencies are six channels, from 26.995 to 27.245 MHz. Bang in the middle of the a.m. system but far away from the proposed 27.60125 to 27.99125 MHz f.m. system. The new f.m. system will not interfere with their 27 MHz models.

Sorry about rambling on but I hope I have informed people exactly where they stand with the Government's f.m. proposals and I hope in some cases saved them a few "Green Stamps" as well!

*Robert,
Wigan.*

ESCAPE . . .

I am an old c.b.er and read your magazine. I would like to enter my handle in your national register — it is an unusual one and is quite appropriate — Partisan. I use this because I was an escaped p.o.w. in Italy and in escaping joined the Partisans in the mountains of Pratommagné in Northern Italy and fought with them for six months until we were shot up in a mountain battle. Luckily I escaped and joined up with the British Army.

I am 60 years of age — a lot of candles to my cake.

Keep up the good work in your mag. — it is the best.

*Partisan,
Norwich.*

STAY BRITISH

Just a few lines to let you know how much I enjoy reading *CB World*. It was the third c.b. magazine that I bought, and I found it the best.

I am new to c.b. and would like you to add my handle to your national register. It is Thunderbird. I picked this because most of my relatives live in the States, and I belong to several American societies including the Loyal American Association, and have several friends of Indian descent.

I agree with many others that in British c.b., the language used on the air should be English. It should not be Americanized. (American slang in regional accents can be mind bending!)

I have put in an order with my local news vendor for a regular supply of *CB World* and I look forward to reading more about the world of British c.b.

All success to your excellent magazine.

*El Capitan,
Kent.*



DEAR FRIENDS OF C.B. WORLD

HOLLAND

Thanks to the August issue of *CB World* I was able to put a stop payment on a £12.85 cheque to Grove House Electronics.

On my rare visits to the U.K. I usually grab a copy of *CB World* to see what is happening with the c.b. scene and I happened to catch the bit about Grove House. Now since I saved twelve pounds on this deal I thought it would be well spent toward a year's subscription to *CB World*.

How about billing me for a year's subscription, beginning with the September issue, and I

promise I'll send you a rubber-free, non-bouncing cheque.

I am into the c.b. scene over here and push a little old f.m. 1/2 watt 22 channel rig and get a lot of pleasure out of it. F.m. is not too bad if you want c.b. and are not too interested in world coverage or moon shots.

If you pass within a few miles of Den Helder, give a shout on channel 2 in English and you might get answered by my squaw, "Southern Comfort", or me, "Sea Horse".

Thanks again for the tip on Grove House and I look forward to receiving my copies of *CB World* each month.

*Sea Horse,
Den Helder, Holland.*

POINTS TO PREMIER

I have recently written to the Prime Minister to suggest the following points: The first one being that a specific channel should be set aside for emergencies; possibly channel 9. This should be a condition in the licenses. I feel that if a specific emergency channel is not arranged by the Government before legalisation the uninitiated may be unsure about which channel to call on in an emergency (like 999 on the 'phone). Also, all parties con-

cerned with emergencies monitoring will know where they stand. I have noticed that some c.b. sets have a channel 9 switch and I have suggested that channel 9 is used as the emergency channel because of this.

My second point is about antenna height/power output restriction. I have suggested that this does not apply to police/fire services etc., and that these should be allowed to use special c.b. sets with a higher transmitter output. This should also apply to the organised volunteer monitor groups, even if it means them using normal c.b. set output with an antenna of over 7 metres. I have suggested a special licence for these groups to avoid problems. The final point I wish to make is concerning the 27 MHz f.m. and the 934 MHz wavebands. 27 MHz f.m. could be called c.b. low band and the 934 MHz could be called c.b. high band.

The above remarks are only my ideas — others may not agree but they, too, are free to write to you with their ideas.

I like the magazine — keep up the good work.

*Wells Fargo,
Eastleigh.*

THANKS

Could I express through the column, my thanks to an Ashburton, Devon,

breaker who recently assisted me late at night.

My fiancée and I were travelling north on the A38; homeward bound following a short holiday, and perilously short of petrol. I would not consider using a 10-33 for help on such a thing; but just asked over the air if there were any 24-hour pumps ahead. There were not, but the next we knew a local and his girlfriend turned up out of the blue without even being asked. He proceeded to disconnect his car's fuel line and bleed off enough fuel into a can to get us to a garage. He had driven on past his home 20 just to help.

Thanks a million to Hot Potato. Hope we can help you one day.

*Chokkybikky and Dairymaid,
Cheltenham.*

MODELS WANT A BREAK

I was sorry to read the last paragraph of the letter from Flipper (July issue) who, due to his tender age may not realise that radio controlled models have been around longer than c.b.

As an enthusiastic supporter of both model control and c.b., I must plead for a policy of tolerance on both sides. Each obtains enjoyment from his own following; it is unfortunate that some frequencies conflict at the moment.

To the c.b. fraternity, if a

radio controlled model is being used in your area give them a break — there are plenty of other channels to choose from.

*Papa-ex,
Orpington.*

DISGUISE

Since legalisation seems no nearer now than it did at the time of the specification announcement, maybe it is premature to judge the general reaction to the new f.m. service.

However, looking into my crystal ball, I think the major grouse is going to be the 2 watts ERP restriction. Most breakers are happy with their DV 27, Firestick etc., and the idea of using some grotty straightened coat-banger like the Government proposes won't be too appealing.

Personally I expect to see a boom in the sale of splitter boxes, with one legal, one decent twig, (Pardon Officer? Illegal aerial? Not me, decoration only . . .). How the average Smokey will tell the difference, or whether he cares, I don't know.

The other minor detail will be the tiny licence fee, no doubt to cover the six million extra civil servants Willie Whitelaw will need to print the licences.

Please accept my QSL card; been trying to get rid of them for months . . .

Hi to Pussycat, Concorde, and all the Fishtown Breakers; also Goose (Newcastle), Oil Hunter (Canterbury), and this Roger bloke everyone keeps talking to.

*Mercury Man,
Dartford.*

EVEN MORE CHANNELS

In July's issue of *CB World* under the article headed Facts and Fallacies of c.b. you said you have never seen a rig with more than 120 channels. I am writing to inform you of such a rig.

The unit to which I am referring is a Super Star 2000, which has a four position switch (equivalent to a low/medium/high switch) labelled A, B, C, and D. Each selects a batch of 50 channels (40 on most rigs). Normal 40 channels are to be found on the C position. This gives 200 channels. These facilities include a.m./f.m., CB/PA, SSB (CW Morse) and also a KC shift of ± 5 . The rig also has a three position output power switch, low = 1 watt, mid = 4 watts and high = 7½ watts. The frequency coverage is from 25.965 MHz to 28.005 MHz.

Although quite large (about the size of a police "Westminster"), this is a mobile rig.

The price? About £250.

*G. Perkins, JNR,
Lower Kingswood.*

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| <input type="checkbox"/> With Handle £3.35 | <input type="checkbox"/> With Handle £3.95 | <input type="checkbox"/> With Handle £1.75 |
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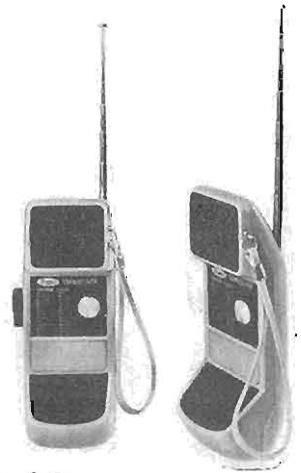
This month we continue where we left off last issue

Taranula	Milton Keynes	Woodstock	Gainsborough	Black Spot	Gainsborough	Check Mate	Wolverhampton
Tartan Tammie	Renfrew	Woofitt	Hull	Black Tulip	Sandbach	Cherry Bee	Redcar
Taurus	Leeds	Woolly Bear	Ayr	Black Velvet	Southend, Essex	Chickadee	Spalding
Tawny Owl	Huddersfield	Wriggler	Newark			Chinchilla	Bolton
Taxi Cab	Coventry			Blond Gonk	Tollerton	Chip	Retford
T.C.	Wolverhampton	Yamasuki	Newcastle	Blue Badger	Bristol	Chubby Chops	Bolton
Tea Cake	Huddersfield	Yellow Demon	Huddersfield	Bluebird	Ewell	Clemantine	Haydock
Teddy Bear	Gateshead	Yetti	Newcastle	Bluebird	Market Rasen	Clockwork	Spalding
Ten Speed	Milton Keynes	Yogi Bear	Slough	Blue Bortle	Market Rasen	Coaster	Burnham-On-Sea
Termite	Hull	Yogi Bear	Weston-S-Mare	Blue Brick	Spalding	Coathanger	South Woodham Ferrers
Texas Rose	Barry	Zebra One	Greenwich	Blue Buzzard	Leeds	Cockney Mouse	Market Rasen
Thermostat	Bristol	Zeppelin	Washington, Tyne & Wear	Blue Cat	Hull	Cockney Reject	Huddersfield
Thunderbolt	Huddersfield	Zodiac	Royton	Blue Devil	Hounslow	Cockney Reject	Northampton
Tiger	Market Rasen	Zorro	Irvine	Blue Flash	Spalding	Coffee Mate	Huddersfield
Tiger Tot	Lichfield			Blue Ghost	Sandbach	Coffin Maker	Lancaster
Time Lord	Gainsborough	Acorn	Nottingham	Blue Jay	Stevenage	Comedy One	Wirral
Time Machine	Huddersfield	Ajax	Titchmarsh	Blue Lady	Gravesend	Confederate	Coventry
Tinkerbell	Titchmarsh	Alley Cat	Worcester	Blue Leader	Spalding	Conga	Spalding
Tin Can	Haydock	Alpha One	Wolverhampton	Blue Meanie	Wolverhampton	Conman	Bourne
Tin Soldier	Hull	Andy Capp	Sandbach	Blue Movie	Abingdon	Copper Knob	Leigh
Tin Tin	Hull	Angel Eyes	Coppull	Blue Rabbit	Hull	Copper Washer	Bloxwich
Tiny Dog	Southampton	Angel Eyes	Renfrew	Blue Rally	Sandbach	Cornish Pixie	East Ham
Tiswas	Hull	Apache	Boston	BP	Newark	Coyote	Pelsall
Tiswas	Wolverhampton	Apache Brave	Whitstable	Bo Peep	Nottingham	Coyote	Sheffield
Toe Kicker	Hull	Apollo	Abergavenny	Boilerman	Glasgow	Crossbow	Hull
Tomahawk	Daventry	Aquarist	Gainsborough	Boney Maroney	Huddersfield	Crowman	Huddersfield
Top Cat	Trowell	Artic Ranger	Hull	Bonny	Bedford	Custard Pie	Hull
Touche Turtle	Irvine	Atom Monk	Bexhill	Boo-Boo	Bedford		
Touche Turtle	Pontefract	Aunt SaHy	Sheerness	Boozy Rouge	Silvertown	Danger Man	Silvertown
Trader	Penzance	Axeman	Ilkeston	Botle Top	Market Rasen	Dark Lady	Sheffield
Trail Blazer	Peterborough			Bougal	Hounslow	Dark Star	Pontefract
Trentside	Gainsborough	Baby Cham	Hull	Bowler Bott	Keithley	Dartsman	Wincanton
Rambler		Baby Doll	Leek	Bramm	Huddersfield	Dawn Breaker	Sandbach
Tufty	Retford	Baby Girl	Boston	Bread Bin	Renfrew	Dax	Sheerness
Tug Boat	Hull	Bacardi	Market Rasen	Brewmaster	Hull	Delta Lady	Haydock
Turbo Sonic	Hull	Bad Girl	Renfrew	Bronco Billy	Newark	Demon King	Southport
Twiggy	Huddersfield	Bakers Boy	Hull	Brooke Bond	Sandbach	Desert Rat	Larkfield
Twizzle	Hadleigh	Bandana	Wolverhampton	Brown Eyes	Swansea	Diamond Lil	Huddersfield
Two Persons	Hull	Bandit	Sheerness	Bubbles	Willenhall	Diesel Cowboy	Spalding
Typewriter	Broxbourne	Barmaid	Huddersfield	Buccaneer	Huddersfield	Diesel Doctor	Spalding
		Barney Bear	Renfrew	Buck Rogers	Manchester	Diesel Weasel	Spalding
Vicar	Darlington	Basil Brush	Bolton	Bullet	Sandbach	Digital Display	Formby
Villain	Walsall Wood	Beachboy	Sheffield	Bullfinch	Rotherham	Dipstick	Huddersfield
Vulcan	Bewdley	Beetle	Market Rasen	Bullion Boy	Thunderstey	Disco Thre	Brighthouse
		Bellringer	Bolton	Bush Baby	Orknie	Diver	Sandbach
Wallpaper	Nelson	Bernie The Bolt	Spalding	Bushy	Irvine	Diver	Sheerness
Warewolf	Burnham	Big Bopper	Market Rasen	Butcher	Retford	Doberman	Hull
War Load	Leeds	Big Chief	Cumbernauld	Butler	Barry	Doberman	Penzance
Water Baby	Gravesend	Big Daddy	Thundersley	Buttercup	Renfrew	Dog Biscuit	Wirral
Water Baby	Wolverhampton	Big Foot	Retford		Sheffield	Dog Collar	Carshalton
Wavy Gravy	Barnsley	Big Poppa	Retford	Calamity Jane	Huddersfield	Dolly Peg	Sandbach
Waxman	Radcliffe	Big Sis	Thundersley	Candy	Glasgow	Dosser	Trowell
Weight Belt	Tollerton	Big M	Sandbach	Candy Floss	Irvine	Double Eagle	Wolverhampton
Weirdo	Cheshunt	Big V	Grange Over Sands	Cannonball	Bedford	Dr Strangelove	Hull
Wet Willie	Hull	Bill and Ben	Sandbach	Captain Beakey	Wellingborough	Dragon Fly	Market Rasen
White Dove	Rotherham	Billy The Kid	Scunthorpe	Captain Gee	Gainsborough	Dreamweaver	Hull
White Knight	Glasgow	Bingo Queen	Retford	Bee		Druid	Glasgow
White Knight	Hull	Birdman	Ongar	Captain	Hull	Drummer	Forth
White Rabbit	Hull	Black Beetle	Stevenage	Paralitic		Drumsticks	Huddersfield
White Snake	Market Rasen	Black Diamond	Market Rasen	Pugwash	Sandbach	The Dude	Skegness
Wide Wheels	Nottingham	Black Jack	Gravesend	Captain Scarlet	Ilford	Duke	Market Rasen
Willy	Burnham	Black Knight	Nottingham	Captain Slippy	Hayle	Dusty Rose	Boston
Windjammer	Newcastle	Black Knight	Royston	Carrot Topper		Dutches	Sandbach
Wingspan	Sandbach	Black Pixie	Hull	Casanova	Spalding		
Witch Doctor	Amble	Black Sedan	Sheerness	Casey Jones	Burnham	Echo	Shrewsbury
Wombal	Sheerness			Cassade	Aberdeen	Enforcer	Forth
Wonder Woman	Sheerness			Catalina	Bolton	Engineer	Burnham
Wood Butcher	Market Rasen			Catcher	Glasgow	Ever Ready	Bolton
				Cat Chow	Gainsborough	Evil	Pontypool
				Cats Whisker	Wirral	Exerdor	Finchley, Nth London
				Cat Woman	Grantham		Castleford
				Caveman	Glasgow	Exray Eyes	
				Caveman	Hull		
				Cement Mixer	Sheerness	Fagin	Cogan
				Centerpede	Langtoft	Fair Lady	Greenwich
				Champagne Girl	Boston	Fat Cat	Sheerness
					Renfrew	Fenderbender	Gillingham,
							Dorset
						Fenian	Halesowen
						Fibreglass	Scotlan

Figaro	Brownhills	Huntsman	Huddersfield
Finger Print	Milton Keynes	Hush Puppy	Wickford
Fireball	Huddersfield		
Fire Bird	Hull	Ice Breaker	Market Rasen
Fisherman	Castleford	Injector	Warwick
Flintlock	Rotherham	Inside Leg	Barnsley
Flinstone	Market Rasen	Interceptor	Colwyn Bay
Four Stroke	Dewsbury		
Fox Cub	Daventry	Jackdaw	Wolverhampton
Fox Lady	Irvine	Jackson	Sheerness
Fozzie Bear	Hull	Japanese Sniper	New Malden
Freckles	Gainsborough	Jasper	Hull
Freedom	Sheffield	Joe 90	Daventry
Fighter		Joe 90	Winlaton
Fryer Tuck	Pool	Judge	Trowell
Fuel Injector	Huddersfield	Junck Machine	Wickford
Fuzzy Bear	Leicester	Juniper	Tollerton
G. Force	Abingdon	Kestrel	Cambeltown
Galaxia	Somercotes	Key Tapper	Huddersfield
Galaxy Kid	Hindon	Kindred Spirit	Swinton
Gardner	Godalming	King Kong	Darlington
Garnet	Colwyn Bay	King Prawn	Hull
Gear Girater	Boston	Kipper	Bolton
Gemini	Sandbach	Kit Kat	Huddersfield
Gemini Girl	Coventry	Knitting Man	Leigh
Gemini Lady	Royton	Kojak	Canvey Island
General	Ilkeston		
Grabber		Labrador	Gillingham,
Georges Gal	Nottingham		Dorset
Gerbal	Market Rasen	Lady Bubbles	Peterborough
German Measle	Gainsborough	Lady Luck	Boston
German	Wincanton	Lady Panatella	Huddersfield
Shepherd		Lady Sport	Renfrew
Geronimo	Gainsborough	Lager Man	Peterborough
Ghost Rider	Chorley	Lap Dog	Southampton
Giggler	Hull	Lazy Bones	Scunthorpe
Gin Boy	Huddersfield	Lazy Bones	Southampton
Ginger Bread	Hadleigh	Left Hand	Wickford
Man		Thread	
Gladiator	Crewe	Leopard Man	Newcastle
Gladiator	Huddersfield	Lighting	Forth
Gladiator	Newcastle	Lightning Base	Coppull
Gladiator	Nottingham	Little A	Pontefract
Globe Trotter	Glasgow	Little D	Pontefract
Globe Trotter	Harlow	Little Dee	Hounslow
Globe Trotter	Sheffield	Little Jim	Market Rasen
Gold Digger	Bolton	Little Legs	Burnham
Golden Girl	Lye	Little Mamma	Warwick
Golden Lay	Hull	Little Rambler	Burnham
Golden Wonder	Bidford-On-	Little Squaw	Cumbernauld
	Avon	Little Trucker	Southampton
Golden Wonder	Wolverhampton	Londoner	Pontefract
Goldfinch	Thundersley	Loner	Cogan
Gold Finger	Pontypool	Lone Wolf	Haydock
Golf Ball	Sandbach	Lucky Lad	Hull
Graduate	Bolton	Lucky Lucy	Sheffield
Grasshopper	Sheffield	Ludite	Huddersfield
Greaseater	Hull		
Greedy Pig	Renfrew	Mad Max	Glasgow
Greensleeves	Normanby	Mad Max	Sandbach
Green Goddess	Lye	Mad Monk	Renfrew
Green Machine	Westend	Mad Professor	Shrewsbury
Green Rabbit	Southend,	Magician	Penzance
	Essex	Magnum Force	Huddersfield
Grey Lady	Sheffield	Maggie	Coppull
Guinea Pig	Whickham	Maid Marian	Hounslow
Gundog	Darlington	Major Tom	Renfrew
Gunga Din	Huddersfield	Man in the	Huddersfield
Gun Runner	Rotherham	Moon	
		Marbles	East Ham
H.2.0.	Hull	Marine Boy	Tollerton
Hair Raiser	Renfrew	Marksman	Sheffield
Hairy Monster	Burnham	Martini Lady	Rotherham
Hangman	Redcar	Mary Baker	Huddersfield
Happy Paddy	Milton Keynes	Master Spy	Forth
Harlequin	Shipley	Maverick	Pontefract
Hawkwind	Harlow	McVicar	Ilkeston
Hedgehog	Epping	Meatman	Southend,
Hedgehog	Radcliffe		Essex
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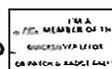
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THIS & THAT

Flight Safety Hazard

Information received too late to be included in our September Feature on Strike Command's accusation that c.b. interferes with instrument landing systems (ILS) comes from the Federal Communications Commission (FCC) in Washington D.C.

A spokesman for that department told *CB World* that "there has only ever been one reported case of interference to ILS in the history of U.S.A. c.b. That was due to one operator, near an airport using very high power. Even then the interference only last a second or so.

Facts:

The FCC currently has 12 million licences with about 35 million operators. Afterburners are (unfortunately) in quite common use. The

American system is on A.M. with SSB and uses the International c.b. channels 26.965 to 27.405, 4 watts with 12 watts p.e.p. Aircraft fly between America and the U.K. Both countries use an ILS system on the same channel. The FCC see no "flight safety hazard".

New base station antenna

Known as the Blue Laser this vertically polarised, omnidirectional base station antenna is claimed to give a very high performance.

Its design gives a very low angle of radiation resulting in excellent local coverage and the best possible type of radiation for long distance 'skip' working. The finely engineered high Q matching unit is claimed to offer high efficiency with a very low VSWR.

The antenna is DC grounded so

discharging any static to earth, resulting in greater operator safety, less risk of damage to equipment and reduced static noise.

The Blue Laser has no cumbersome radials and therefore theoretically will survive strong winds. It is according to the instructions, easy to mount and pleasing to the eye (neighbours complaining about unsightly antennas on the roof would have little to moan about this one).

It is made from seamless, special quality, hard drawn aluminium to give toughness combined with light weight (it only weighs 1.6kg).

Additionally, it is protected by a tough blue anodised finish and secured by stainless steel screws so ensuring good electrical contact between segments and a long life.

The major specifications include:

Frequency: 27MHz CB Band (US or UK) AM, FM, or SSB

Impedance: 50 ohm

Gain: 3 dBi

SWR: Less than 1.1:1 at resonance

Max. Power: 500 Watts

Connector: UHF Female

Length: 5.6m

Weight: 1.6 Kg

Mounting: Fits pole 25-45mm diameter

Vironix Communications Equipment and Accessories, Unit 10D, Dawkins Road, Hamworth, Poole, Dorset BH15 4JP. Tel: 02013 82844.

This antenna is to be the subject of a *CB World* laboratory test.

The first CB licenses issued

An Evaluation and Demonstration licence has been granted to Richard Town, *CB World's* Editorial Correspondent.

The license, issued by the Home Office under the Wireless Telegraphy Act, 1949, permits the station to be used for the "purpose of sending and receiving, between the stations spoken test messages for evaluating and demonstrating the apparatus comprised in the Stations".

The apparatus licensed for use at the stations must be designed to operate within the technical parameters laid down in MPT 1320 and MPT 1321 the draft specifications issued by the Home Office for the 27MHz and 934MHz U.K. c.b. service.

As exclusively predicted in the August issue of *CB World*, a restriction on antennas is included as part of the license.

For 27MHz this restriction reads: "The aerial shall be a single element rod or wire antenna not exceeding 1.5m in overall length. The height of the base of the aerial should not exceed 7 metres above ground level, but if it does a 10dB attenuator shall be fitted between the transmitter output and the feeder, or an attenuator integrated to the equipment shall be used."

For 934MHz equipment the antenna restriction reads: "The

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* We are the only people from whom you can obtain a legal to own set in the UK. Fully working sets — not kits. Guaranteed delivery to your door. Credit Cards accepted. Trade enquiries please write.

THIS & THAT

aerial shall consist of a maximum of four elements none of which may exceed 17cm in length. The height of the base of the aerial should not exceed 10 metres above ground level, but if it does a 10dB attenuator shall be fitted between the transmitter output and the feeder, or an attenuator integral to the equipment shall be used".

It is understood that some 60 applications, at the time of writing, are outstanding awaiting venting. Amongst the license holders are Alistair Mackay, Executive Managing Director of REACT-UK and Keith Townsend, CBA Secretary.

Licences cost £12.50 and are valid until 31st December, 1981.

And our number? 1.1 of course!!

Channel 7

A chain of retail shops selling c.b. radios and accessories are currently being opened. These shops, called Channel 7, are based around the Midlands. They claim they will be the first c.b. accessory shops to retail legal c.b. radios. Each shop will provide a full installation and repair service and will be fully operational hours after c.b. legalisation. Read *CB World* for further details of this new venture of A.C. Communications Ltd, a Midland Based company.

New approach to laboratory instrumentation

All too often a service engineer's bench becomes littered with test equipment not being fully utilised, but necessary for some particular function. Frequently an engineer has to spend valuable design time on building some small 'goody' which is not otherwise available. The PowerLab is intended to ease these problems.

Firstly, the G.B. PowerLab has six high quality linear power supply outputs, of ± 12 to 16V at 1.5A, 4.5 to 5.5V at 5A, 0 to 15V at 1.5A, and two 0 to 30V at 0.5A. All supplies are current limited and voltage or current is displayed on a 3½ digit panel meter.

Secondly, the G.B. PowerLab has a general purpose waveform generator producing sine, square and triangular waves of 0 to 20V peak to peak, at any frequency from 0.1Hz to 100KHz. Next there is a general purpose clock generator having two phase outputs suitable for micro-processor applications. Frequency is variable from 20KHz to 4MHz, or an external input may be used to control frequency, for example from the waveform generator, or single-stepped from G.B. PowerLab's own logic pulser. This pulser produces positive — or negative — going pulses of duration 10mSec, 1mSec, 100uSec, 10uSec, or 1uSec, at the touch of a button.

Mains synchronisation may be effected using the line sync. output which produces a square wave at twice line frequency. The last signal output is 'power clear', which is timed to rise after the 4.5 to 5.5V and 0 to 15V lines have reached their set levels.

When mains failure occurs, or the unit is switched off, power clear falls at least 30mSecs, before the same two outputs begin to fall. All the logic outputs are switch selectable to TTL or CMOS levels where the high states are controlled by the 4.5 to 5.5V or 0 to 15V supplies respectively to maintain compatibility.

Finally, there is an auxiliary output socket which will power a range of peripherals that G.B. have planned. A novel feature of the power supply side of the G.B. PowerLab is that all the supplies are isolated and therefore cannot be connected in series to give higher voltages, or their OV points can be connected to a star point using front-panel switches.

G.B. Electronic Designs, 7 Weyhill, Haslemere, Surrey GU27 1BH. Tel: (0428) 53096.

Gala day

The Kettering based Central Counties Breakers Club have

organised a Family Gala Day, to be held at 11.00 a.m. on Sunday, October 4th at Lilford Park near Oundle.

Admission is £1.00 for adults, 50 pence for children, and proceeds are to be donated to the Jimmy Saville Appeal Fund.

As well as 20 sidestalls (some selling c.b. accessories) there will be a barrel race across the water, five-a-side football tournament, tug-of-war and wellie throwing contests. Other attractions include the Canada Dry hot air balloon which, weather permitting, will be taking off during the day, a vintage transport show and a display by the drum majorettes.

A 16-seater jungle bus will be there to take children on rides to see the park's wildlife.

Music will be provided throughout the day by the Mushroom Road Show disco and three live bands — including steel and Scots pipe.

A self-service restaurant will be open all day, and a licenced bar between 12.00 p.m. and 6.00 p.m. Tickets for a buffet disco which is to be held in the evening can be obtained in advance from:

Mr Harry James, c/o The Evening Telegraph, Northfield Avenue, Kettering.

CB Slangage Language Dictionary — UK Edition 1981

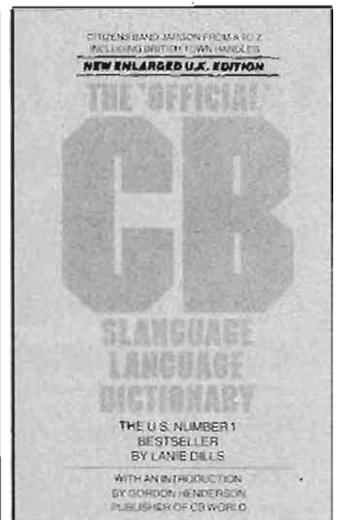
Just published, based on the No. 1 seller in the USA, this is a must for every c.b. user, whether he is a amateur or a f.mer. CB-SLD contains hundreds of USA slang words, many of them used on channel in the UK. Its got "Green Stamps" (money) to "Getting Out" (being heard). Its got "Smoky Dozing" (police car parked) to "Sneaker" (Linear amp.). Its got "Copying the Mail" (c.b. monitoring) to "Crotch Rocket" (motorcycle). All these, although US originated, are quite suitable for UK c.b. usage.

In addition, SLANGAGE LANGUAGE has the code names for UK towns such as "Milk Town" (Huddersfield), "Minto Town" (Nuthall) and "Rainy City" (Manchester).

There is a cross reference section listing many slang words with the same meanings and the 10-code, Q-code, 13-code and a list of USA towns and cities, together with their code names.

'Slangage Language' is edited by Lanie Dills. C.W. McCall of 'Convoy' fame was quoted as saying: "I wrote the c.b.ers national anthem and Lanie Dills wrote their bible." The introduction, in two parts, is written by Gordon Henderson of IPC's *CB World*.

Slangage Language has over 260 pages and retails at only £1.95. For further information on "The Official" CB Slangage Language



Dictionary" trade and c.b. users should contact: **John Brown, Truckstar Ltd., 10 Marshalsea Road, London SE1. Tel: 01-403 1717.**

Back copies — C.B. World

You may have had difficulty in obtaining a copy of *C.B. World*. We have a limited number of the August and September issues of the magazine available, and if you would like to purchase any, please send £1.00 per copy to the following address:

Mr F. H. Paul, General Sales Manager, I.P.C. Business Press Ltd., Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS.

Telex from Pitt Enterprises

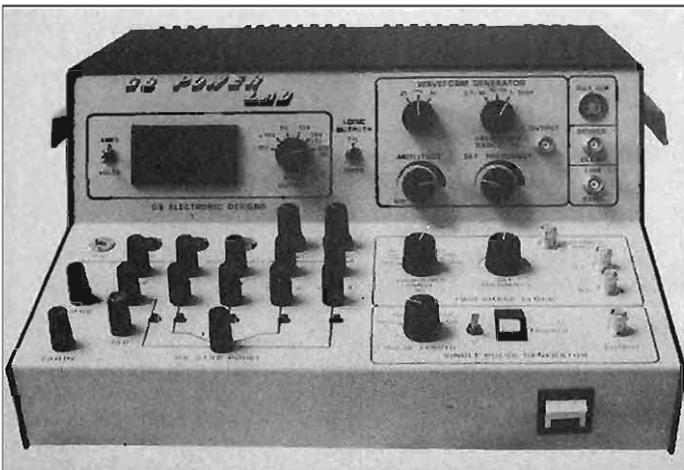
Attn. Mr B. Chalmers-Hunt
Retraction of £65.00 M. Unit availability

As a company used to trading with high quality products the F.M. transceiver that was available and advertised was proved to be unreliable after two months use. This was after insertion of the advertisement but before any shipments had been received in the U.K. Mr Pitt flew to the Far East to sort out this problem and found that some components used in the cheaper models are very suspect — this will be improved and before any sets are imported they will be reported on by *C.B. World's* laboratory.

We wish to apologise to the readers of *C.B. World* for any inconvenience but must underline the fact that we will not under any circumstances supply goods unless they are of the highest standard.

One word of warning — it may save money in the short term to buy cheap transceivers but for an extra £10.00 or so you could be assured of a far better and far more reliable unit.

All readers that sent for information will be given priority on the new set when they become available



and will be sent all details. Our main aim is to give good value for money — not to make a quick sale and leave customers with suspect equipment.

Hope you can help us out Brian, thanks again for your assistance.
Regards, Stephen Pitt.

Ed. This company placed an advertisement in *C.B. World* and it is gratifying to note that they acted in a responsible manner.

Managing Director, Stephen Pitt, will be sending an example of a substandard and modified set for our evaluation. More news, I hope, in the next edition of *C.B. World*.

Fidelity in c.b. market

Fidelity Sales Director Jeffrey Dickman told *C.B. World* recently that he will be marketing two sets, operating on 27MHz F.M. (see *C.B. World* last month).

The CB1000FM will be sold at around £60.00 and will be aimed at the beginners market whilst their more sophisticated design, the CB2000FM will cost approximately £80.00.

Both models comply with the required U.K. specifications and operate on 27MHz F.M. with 40 channels and have four watts output.

The CB1000FM is a basic unit for first time buyers which has separate rotary volume and squelch controls. There is a 40 channel LED indicator and a signal strength meter.

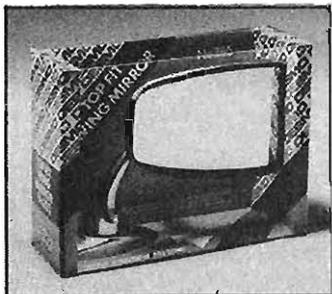
A screw fixing is provided for the microphone which is supplied together with fixing brackets for the unit itself and microphone. Fused connecting leads are also provided.

The more advanced CB2000FM also incorporates rotary tone and RF gain controls, switches for PA, channel 9 and external speaker. There is an LED dimmer control and power microphone with microphone gain control. Other features are as for the CB1000FM.

No reflection on their driving

Recently in *Femme Scene* our lady breaker (to be) cast aspersions on the car driving abilities of certain breakers:

"I can almost hear all you men sigh and say, 'Women drivers...' Well, let me tell you — the first time I rode shotgun with a male breaker, who incidentally has been driving — and breaking — for years, he stalled the car twice, hit the kerb, drove up



on the roundabout and completely missed the turning he was looking for. I don't think I did too badly at all!"

Desmo Ltd., a leader in the motor accessory market, have suggested that to assist breakers in maintaining a certain standard of safe driving they fit a pair of driving mirrors. The example shown in the photograph is their new Top Fit 285 Boomerang Wing Mirror and is available from all leading car accessory shops.

This is one aid that will help breakers not to break their wheels.

Thiefproofing for under £6

Following our feature on the thief-proofing of mobile c.b. and amateur radio transceivers Breaker 1-9 have sent to us a simple alarm system that works from the 12 volt car battery.

Known as the Black Knight (NAILER BK) alarm system, it protects both the set and antenna and operates when the PL 259 connector is removed or the installation earth circuit broken.

The alarm system has been designed so that there is no RF attenuation when installed.

Fitment is simple and will only take a matter of minutes. Comprehensive instructions are supplied with the kit.

The NAILER BK1 is distributed by Breaker 1-9 and is available from all good local c.b. accessory shops, price £5.75 inclusive of V.A.T.

(Breaker 1-9, 415 The Arcade, Hitchin, Herts. Tel: 0462 57826).



TV1 could cause eviction

Tenants of council houses up and down the country could face eviction if they cause a nuisance to neighbours by using c.b.

The nuisance in this case could constitute television or radio interference to neighbours domestic equipment, no matter how badly that equipment is installed.

The Peterborough breakers' plight is further complicated by the fact that under their tenancy agreement, permission from the Council has to be obtained for the external fitting of a proper c.b. antenna. ▶

THE RANGER

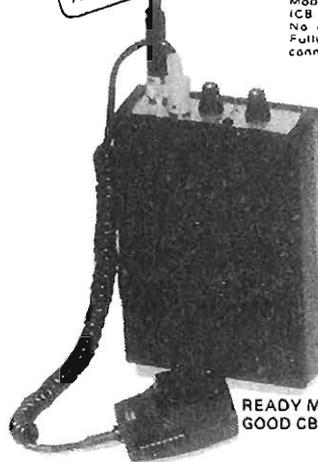
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BASE/MOBILE ADD-ON UNIT TO GIVE 4 WATTS AND 40 CHANNELS



THE RANGER CB rig has been designed to fit the new legal Home Office specification, and starts off as a hand held unit complete with aerial, mic., and rechargeable batteries.

The unit plugs into the mains, 12V car outlet, or runs on built-in rechargeable batteries (built-in charger). Up to 5 miles range in town to keep in touch with family and friends.

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RF Power Output 1.1 Watt
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Modulation FM 100 27.6MHz 28MHz (CB Band) (excellent speech quality)
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Coleshill, Birmingham.
(0675) 64136

THIS & THAT

CB World spoke to the Deputy City Housing Officer of Labour controlled Peterborough City Council which has some 11,000 council houses and flats under its management.

The Housing Officer explained that in the case of a house, fitting of a c.b. aerial would "probably be alright" if it was situated in the roof space and permission may not be required.

Special permission is also required for the external fitting of a television antenna, the majority of them therefore being fitted in roof spaces.

Anyone who has had anything at all to do with eradicating breakthrough from c.b. to TV knows that this problem is mostly solved by ensuring that the c.b. and affected TV's antennas are spaced as far away as possible.

It would appear that Peterborough's dictate to municipal housing uniformity could, by ensuring that c.b. and TV antennas are installed at the same level, cause more TVI. The very problem that they are rightly trying to avoid.

CBA Manchester folds

In recent months, there has been a decline both in interest amongst members and on the part of potential members in the activities of CBA Manchester. It has, therefore, been decided by founder members to dissolve the Club.

James Bryant, national CBA President, comments: "A number of clubs formed to campaign are giving up because they see the battles been won by the Government's crazy system. We hope that the national CBA will continue as a users group".

Part of the CBA constitution says that when CB is legal it's up to the membership to decide whether they wish to stay in business. As James says, "It would be silly for the CND (Campaign for Nuclear Disarmament) to stay in business if indeed the UK did unilaterally disarm".

The following was published in a recent edition of the *Daily Telegraph*, which just goes to prove that other countries have their c.b. problems as well.

"The West Berlin court yesterday gave a radio ham a four-month suspended prison sentence and ordered him to pay a DM2,000 (£435) fine for broadcasting recordings of speeches by Hitler and Goebbels on a Citizens's Band radio last April."

Book review

THE OTHER DAY a review copy of Peter Chippindale's book "The British C.B. Book" landed on my desk.

On turning to the first page I was intrigued to see that it had been dedicated "To Richard Town. Hope all is going well". Fascinating, until I turned over more pages and the content seemed vaguely familiar. Oh well, so I have read parts of this book before in *C.B. World*. I presumed that they included our name in the credits — but no.

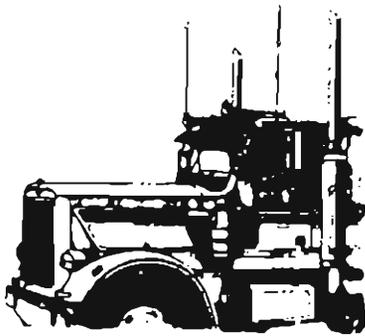
In simple terms, parts of this book have been compiled by lifting material — errors as well, from our publication without permission.

The town code names starting on page 168 have virtually been lifted out of *C.B. World*. It is noticeable when a town has two code names. These names were submitted to *C.B. World* by our readers and they in turn supplied the codes.

To prove that they have lifted these from *C.B. World*, look under Matlock on page 178 where they refer to it as Gremlin Town. We printed Gremlin town but it is in fact Kremlin town, as pointed out to us by a reader at a later stage.

Richard says he got no credits either, despite being quoted in the book and inaccurately as well! (Page 72).

Therefore I can only say to Peter Chippindale, "No, all is not going well and in journalism, contributing authors do not review their own magazines". BC-H.●



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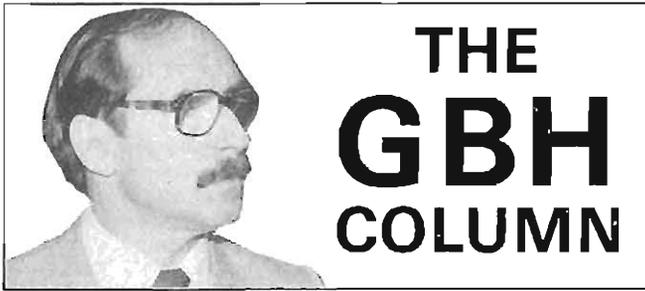
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KENT BREAKER 'SEES' THROUGH C.B.

ON AUGUST 15th *C.B. World* paid a visit to an eyeball at Lenham, a little village near Ashford in Kent. It was a jolly affair and was organised by 'The Squire' (John Harper) to raise money for the Mini Olympic Games for the mentally handicapped.

In walking around, we met many breakers from the Kent area and a nicer bunch of people would be hard to find.

I came by two breakers, Sundown and Jellybean and to my amazement, I was actually seen buying them a beer each. I say 'seen' like that, because I am not known for my generosity although I have other good points, at least that's what my mother used to say!

With Sundown and Jellybean only one of them saw me buy the drinks. The other one, Sundown, was blind.

Sundown, real name Ernie Tumber, is married, has six children and breaks from the Chatham twenty. Ernie told me that ten years ago, when he was 36, he became blind through a disease called 'retinitis

pigmentosa'. Before becoming blind, Ernie was a petrol station supervisor. He has, during his ten years of blindness, been trained as a Capstan lathe operator, but like many in this land, he is unemployed. Up to recently, he has not been able to live too well with his disability and admitted to me that he was unbearable to live with.

That has now changed. What has bought about this change, it's citizens band radio. The Medway Breakers clubbed together and on a Father's Day arranged with a c.b. dealer to fit Ernie up with a 40 channel c.b. rig in his home, everything paid for including the DV27. He has changed the antenna and now has a 'Silver Pole'.

From the very first copy, Ernie entered a new world. He now has many new friends and admits it himself, he is a new man. I asked Ernie what drawbacks he encounters when using his c.b.

"I can't obviously give breakers an 'S' meter reading and really that's the give-away to my blindness. I don't normally let on,

why should I, I feel quite relaxed when I'm ratchet jawing", said Ernie.

He selects the channels by counting the click stops on the channel selector. He reckons he can whiz round the channels faster than breakers with sight.

He said with a grin that he enjoyed reading *C.B. World*. It appears that his children read to him the stories and letters from our magazine. His other interest, and that's how he met Jellybean, is Country & Western music. He actually goes to C & W meetings dressed in cowboy gear including six guns. (Shades of the Lone Ranger).

Ernie Tumber has, through c.b., found some comfort and asked me to thank the following breakers for their kindness and companionship:

English, Super Stag, White Swan, Kestrel, Golden Wonder, Foxy Feeling and, of course, Jellybean from the West Malling twenty. He said that if he's left someone out he's sorry but he thanks everyone else that knows him.

EYEBALL THIS GOOD BUDDIES!

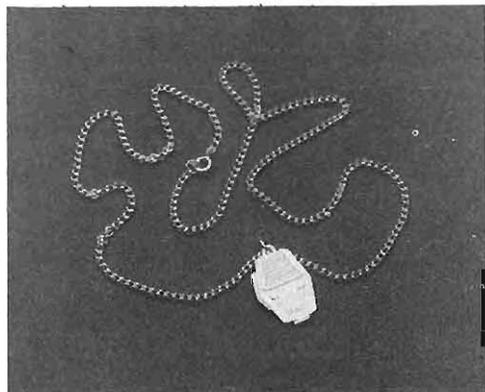
A hallmarked, sterling silver, CB mike-pendant, engraved with your own handle and complete with a 20" curb sterling silver chain for only £14.95 (inc. VAT, postage and packing) from PRECIOUS METAL INVESTMENTS.

Wear one yourself and you'll communicate without having to speak a word! Give one to your favourite Foxjaws or super-skirt and you'll do more than just communicate!

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CLUB CORNER

THE LOCAL BREAKERS CLUB (Willenhall)

Baa Lamb tells that "The Local Breakers Club" was formed at the end of June. Meetings are held every Monday night at the Brown Jug, Sandbed Road, Short Heath, Willenhall.

Membership is £1.00 per annum and an entrance fee of 20p is charged. The members (50 and rising) have taken part in a sponsored bed push, a yard of ale drinking contest and a darts match with a disabled darts team.

Anyone wishing to join "The Local Breakers Club" should write to: Mrs V. Adams, 29A Northwood Park Road, Bushbury, Wolverhampton.

WOODLEY TOWN BREAKERS (Woodley, Reading)

The Vee Too wrote to us about a new c.b. club in the Woodley area of

Reading, called The Woodley Town Breakers.

The public bar of the Good Companions is the meeting place, each Monday night from 7.30 pm.

The "20" is Loddon Bridge Road, Woodley — and is between the A329M and the A4.

Any good buddies who'd like to go along should ring Andy one evening on Reading 593220.

STEELTOWN BREAKERWAYS (Langor Nr Nottingham)

On 7th June 1981, a sponsored parachute jump was held by the Steeltown Breakerways, at Langor near Nottingham. Although there were several injuries, including broken ankles, everyone concerned thought it was well worth it, especially as a grand total of £1,050 was raised for charity.

Many of the breakers who did the jump had never even been up in a plane let alone jump out of one from 2,500 feet up! (Whoever said ladies were weaker than men should think

again, for there were several lady breakers who did the jump and they did very well, with one lady coming nearer to the target than anyone.)

The proceeds were gratefully accepted by the children's ward of the Scunthorpe General Hospital.

The Steeltown Breakerways held a presentation night at the King Henry VIII. A disco was laid on and the whole evening was a great success.

A second sponsored jump was staged on 16th August 1981, at Bridlington Airfield. Several of the breakers who jumped before tried their skills again, and some new daredevils also took part. The proceeds of this jump went to the Brigg Children's Home.

MONKEY TOWN BREAKERS (Lancashire)

We are pleased to announce that the Monkey Town Breakers celebrated their first birthday last July! To date over 300 breakers have joined the club, and take part in regular meetings each Wednesday.

Meetings are always followed by a social or disco, which starts at 8.30 p.m. and continues until throwing out time.

Members have supported many demos in other areas, organised several charity nights, and are in the process of setting up the monitoring of channel 9 — they are in close contact with the emergency services in the area.

Their breaking channel is 14, and they can also be contacted c/o Mermaid (Club Secretary), Victoria Hotel, Church Street, Heywood, Lancashire.

VALLEY TOWN BREAKERS (Louth)

This club was formed in January 1981 and at present has 150 members.

Social nights are held every Wednesday at the Top Hat Club, Louth, and these take the form of discos or video film sessions.

Treasure hunts are arranged for Sunday nights, and are usually held once or twice a month.

The Club also has a bust fund, prints its own news sheets, and runs a section for the junior breakers.

Members say that anyone passing through Valley Town is welcome to take part in the club's activities — they also say they do not tolerate bad language or idiots on channel, so watch what you say when you call for a copy of Channel 14!

WEYMOUTH AND DORCHESTER 40 CLUB (Dorset)

The Weymouth and Dorchester 40 Club was formed in February. Membership stands at 500, and is increasing dramatically at each fortnightly meeting.

The club would welcome any invitations to participate in national rallies or campaigns. These should be sent to: Sue Brackley, Secretary, Weymouth and Dorchester 40 Club, P.O. Box 13, Weymouth, Dorset.

Further information about the club can also be obtained from this address.

ROYAL BREAKERS CLUB (South Humberside)

The Royal Breakers Club is a relatively new club based in the Fishtown area. It was formed by a group of breakers who worked at the same slave pen.

A committee was elected and it was decided that the handle for the meeting place would be Buckingham Palace.

The club is interested in having eyeballs with clubs from other towns, and "Raven" suggests that anyone who fancies a day out in sunny Cleethorpes should contact him, c/o C.B. Sales Centre and Truckers World, Sixhills Street, Grimsby, South Humberside to make arrangements.

I.B.C. (Ilkeston Breakers Club)

Started about nine months ago they have over 800 members and still the number grows. They have their meetings every Sunday at the Festival Inn, Trowell, Nottingham. On 22nd March they organised a charity walk which started from the Festival Inn at midday. Info sent in by Venus the I.B.C. Secretary.

WEST SOMERSET BREAKERS CLUB (Minehead)

The West Somerset Breakers club was formed in January 1981, and to date has 150 members.

Meetings are held at the Red Lion Hotel in Minehead each Sunday night.

The club runs its own magazine which is now posted all over the country as out of town breakers seem to enjoy reading it. (There is a Butlins in the town and breakers from all over the country call into the club).

In the near future members hope to set up a base station on one of the nearby hills to monitor for emer-

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gencies. It will also give out information on local events and the weather, and provide directions where necessary.

Anyone in the area who would like an eyeball, should give a shout on 14 or just drop into the club.

HAZARD COUNTY BREAKERS CLUB (Kendal)

The Hazard County Breakers Club was formed by a dozen members just over five months ago, and is based in Kendal (Cumbria).

Membership at the last meeting was 225 and this figure is growing rapidly. Members meet once a month at 7.30 p.m. in a local brown bottle shop — "The Brewery". Membership is £2.50.

Organisers have arranged for speakers to attend meetings and give talks on a variety of subjects, including T.V.I., and they also hope to show a film on REACT fairly soon.

The handle for Kendal is Mint City and the local breaking channel is 27.

NORTH WEST BREAKERS ASSOCIATION (Manchester)

John McCormick is Chairman of the North West Breakers Association. He wrote to us about the Association and its aims.

Originally, ten clubs got together to organise an active, unified campaign for "The legalisation of citizens' band radio on 27 a.m."

They want time to assess what the Government are offering and so are asking for a two year amnesty. This point was stressed in their demo which took place on 15th March. Any other clubs wishing to join the campaign are welcome at future meetings.

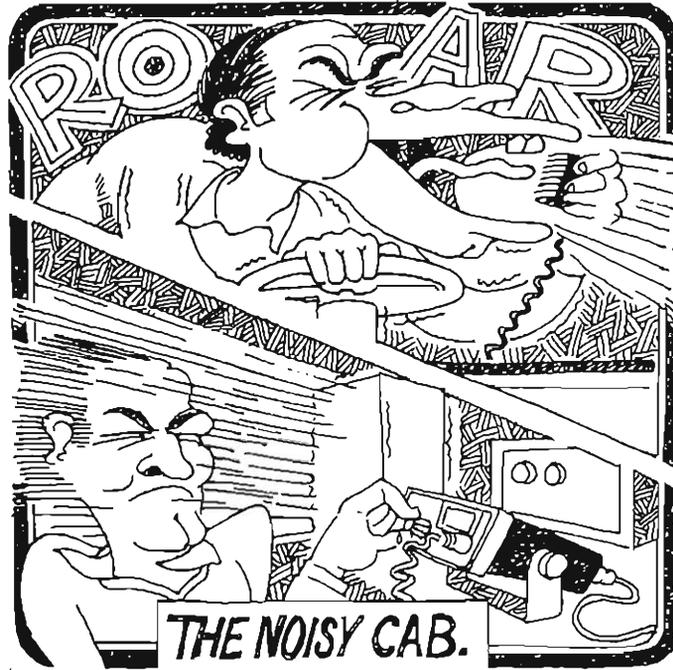
Further details may be obtained by writing to John at the following address: 8 Longhill Walk, Moston, Manchester M10 9NT.

A.M. — F.M. CITIZEN'S BAND CLUB (Chatham)

This club was started by Ace Breaker and Chairman Motorway Snoozer along with a few other local breakers.

At the beginning of August the first meeting was held to elect a committee and decide on membership fees and rules. Since then the club has really taken off and now has over 250 fully paid up members with enough money in the bank to keep it well established.

Every Sunday the club meets above the Twindragons Chinese Restaurant in Chatham town centre. There is a disco run by D.J. (of



course), a raffle and an in-club c.b. accessory shop run by White Bird.

There are many activities, such as film shows, cabarets, fox hunts, treasure hunts, convoys etc. that members wish to see and take part in. Some of these have already taken place; others are to be organised in the near future.

Beau Brummell, the Public Relations Officer, would appreciate any advice other clubs could give him, and he would like to thank all the breakers who support the club and by their attendance have helped get it off the ground.

Any correspondence should be addressed to R. Homden, P.R.O., at 46 Clendon Road, Chatham ME5 8YB.

WESTPOINT BREAKERS CLUB

Catweazle wrote to us about a North Humberside Club called the Westpoint Breakers Club. This club meets every other Wednesday at The Ferryboat Inn, Hessle, Nr. Hull, at 8.00p.m. There are 80 members at present, although the figure rises rapidly at each meeting. During the coming months the club intends being active in offering members all the usual facilities, but the main objective will not be forgotten. That is, to press for the legalisation of open channel radio.

AMMAN VALLEY BREAKERS CLUB (Ammanford)

This club was formed about three months ago; membership at the last eyeball was 130, and is still growing.

The club has held several convoys and there is a regular disco during the last week of each month. Future events are to include treasure hunts, convoys to other eyeballs, and a fancy dress disco with a prize for the

best dressed breakers.

Members held a bed race to raise money for the Gateway Youth Club for the Mentally Handicapped, to pay for new equipment, and £170.00 was collected.

The club meets every Thursday night at 8.00 p.m. at Parc Wern, Ammanford. The committee, who can be contacted by calling on channel 14, would like to welcome any out of town breakers to the meetings.

THE 10-30 BREAKERS CLUB (Plumpton)

The 10-30 Breakers first met on Wednesday 26th August. 66 breakers joined that night and a further 21 a fortnight later.

Meetings are held at The Fountain in Plumpton on Wednesday nights at 8.00 p.m. The committee have very kindly made the Fountain's landlord, Beer Puller, an honorary member of the club, and would like to say a big thank you to him for letting them use his watering hole for the club twenty.

A clay pigeon shoot was held on 20th September, and proceeds were donated to charity. Also arranged as a charity event is a Hallowe'en disco. The committee are also trying to arrange a Christmas trip to Dieppe — hope the sea's not too rough!

Soon to be set up is a 10-33 monitoring service on channel 14. An appeal to the members for monitors has had good response.

SPEEDWAY 10-4 BREAKERS CLUB (Dyfed)

This club was formed at the end of 1980 and has 300 members. Meetings are held each Thursday at the Plough Inn, Pined. Visitors are welcome.



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Club Spotlight

THE NATIONAL COMMITTEE

FORMED In Wednesbury West Midlands in November 1979, the National Committee for the Legalisation of Citizen's Band Radio (NATCOLCIBAR) brought together all the legalisation groups who were doing useful but local work. At that time there were delegates representing about 30,000 breakers up and down the country. Now, NATCOLCIBAR has well over 100 delegates representing the views and hopes of well over a million breakers.

National Committee Policy

The policy of the National Committee is always in the hands of the delegates and therefore subject to change as a result of how individual members of c.b. clubs instruct their delegate. Every c.b. club, no matter how small, may send one delegate and one observer.

The National Committee is a member of the European CB Federation and therefore is

pressing for a choice of modulation (a.m. double sideband, f.m. and s.s.b. upper and lower sideband). On frequencies, it will only accept a minimum of 40 channels on the FCC frequencies with 4 watts transmitter output power. NATCOLCIBAR also demands a free choice of antenna type.

It was not surprising therefore that when the previous Chairman Richard Town announced the Home Office proposals there was uproar culminating in his resignation from the chair in May. Says Richard ruefully, "I must be the only club Chairman to have lost his chair because I actually implemented its policy".

Since May however there has been time to more calmly digest the Home Office proposals yet the National Committee still "totally rejects" the proposals: a telegram to that effect being sent from the May meeting to Home Secretary Willie Whitelaw.

Let the User be the Chooser

Ian Leslie the previous Secretary, now NATCOLCIBAR Chairman, says "The Home Office suggestion is out. It's totally incompatible with not only every legal c.b. system in Europe but with any conceivable common specification for the future. It would only be acceptable as an additional and not as an original exclusive allocation in the 27 MHz band."

But what of the future? Given that Ministers devote, together with their other responsibilities, probably only 30 seconds of their working day to c.b., the Home Office presses on with the funny specification apparently unchecked.

Ian replies that "The National Committee intends to continue pressing for an immediate provisional authorisation of use of equipment to FCC specification and to hold Her Majesty's Government to their expressed commitment to authorise use in this country of whatever is eventually adopted as the pan-European standard."

We hope that's not 934 MHz.

By invitation of the North Wales CB Federation the National Committee went to Wales. Despite the heavy mid-August holiday traffic there was a big turnout showing the continuing strength of feeling on legalisation. Disappointment was expressed, however, that not one Welsh delegate turned up. What was that about keeping a welcome?

A post mortem was held on the Warrington by-election where c.b. candidate Leslie scored 111 votes. It was felt by the delegates however that all was not lost considering the short time of preparing and the special circumstances in Warrington. Yet, despite the result, NATCOLCIBAR still intends to support a c.b. candidate for Croydon, North West by-election, the date of which has yet to be announced.

Suggestions for further action were discussed including having a sacrificial 'bust' victim deliberately seeking prosecution and then taking the case to the European Court of Human Rights. As Annette Box, the Tunbridge Wells breaker who went to Holloway rather than pay her fine said: "Muggers and thieves get fines of £50 or so and probation, c.b.'ers get fines of four hundred pounds on each offence." ●

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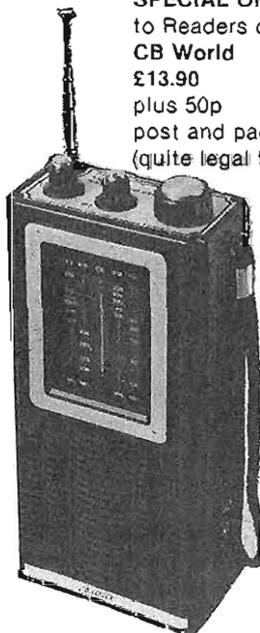
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TWO BREAKERS ARE EYEBALLING OVER A CUP OF BLACK TAR

HAVE YOU HEARD ABOUT FLASH MIKE BUILDING HIS LATEST RIG, IT'S A BIG ONE.

YES, HIS MILKMAN DELIVERS TWO PINTS OF MILK AND A CRATE OF SOLDER EVERY DAY.



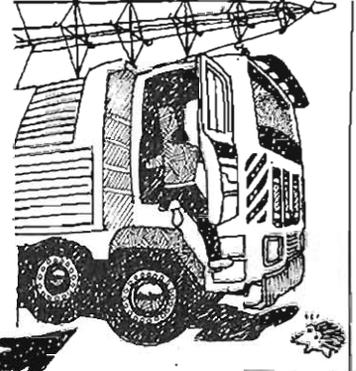
YEAH!, COME BACK BOOMERANG MAN!

ONE MORE SELF-TAPPER, AND I'LL BE READY TO GET MY ARCH-ENEMY SUMP-PLUG!



Andrew Owen.

I'LL SOON SHOW THAT CLOD WHO'S THE ACE BREAKER!



CHUGGA CHUGGA CHUGGA

SUMP-PLUG, ARE YOU ON CHANNEL?

ARE YOU OUT THERE, SUMP?

DEAREST SUMP-PLUG, HULLOOO!

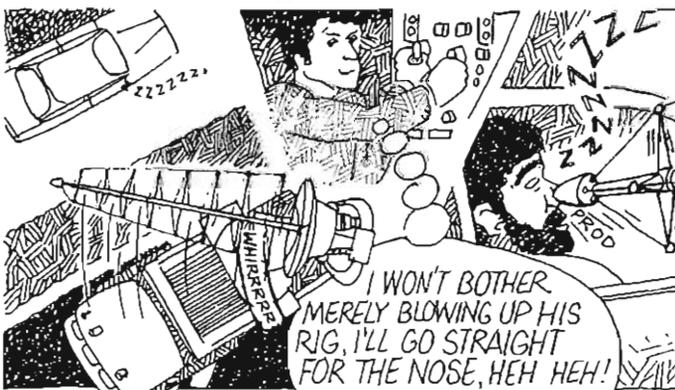
OH, SUMPY, OLD FRUIT, DO YOU COPY?

WHERE ARE YOU, CLOD FEATURES!

I'LL JUST GET ON MY NORMAL RIG TO FIND SUMP-PLUG



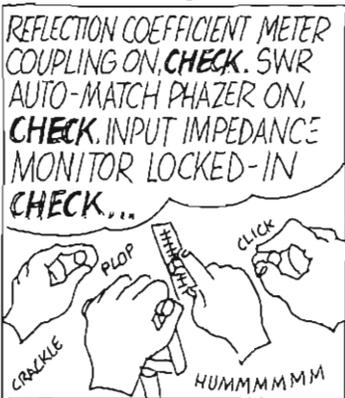
AHA, GOT YOU, ASLEEP IN A LAY-BY!



I WON'T BOTHER MERELY BLOWING UP HIS RIG, I'LL GO STRAIGHT FOR THE NOSE, HEH HEH!



NOW, GENERATOR ON, CHECK. POWER VALVES OPEN, CHECK...



REFLECTION COEFFICIENT METER COUPLING ON, CHECK. SWR AUTO-MATCH PHAZER ON, CHECK. INPUT IMPEDANCE MONITOR LOCKED-IN CHECK...

CRACKLE PLOP CLICK HUMMMMMMM

REACTANCE VALUE SWITCH, LINKED WITH CHROMA-LINE FILTRATED EQUALISER (KEYPAD) VIEWSpaced DIODE CHIP FEEDOVER CURRENT SELECTOR SLIDE KNOB ON, CHECK. EIGHT SLOT SPACED ELEMENT CONDUCTORISED FLIP-OVER BACCY-TIN LID ON, CHECK...



LEX LUTHER BALD HEAD WIG, ON, CHECK. SECOND GENERATOR BANK ON, CH

WILL FLASH-MIKE KONK-ER SLUMBERING SUMPY? WILL HE GENERATE ENOUGH WAVES TO BLOW SUMP'S NOSE? IS THIS AN ALTERNATIVE TO COTTON KERCHIEFS? WILL SUMP'S SENSE OF SMELL BE SLAYED BY SILLY SLASH-MIKE? DON'T MISS NEXT MONTH'S NASAL-BLASTING, NOSTRIL-MINCING BORING ISSUE!!!

TO BE CONTINUED.....

Femme Scene

by Smiler



I'VE BEEN HAVING an awful problem with my boyfriend recently and I'm finding the whole thing rather embarrassing (although I am told by several local lady breakers that his is a habit typical of the male species).

By writing about it in *Femme Scene*, I felt sure that you would be able to offer some useful advice, on how to goad my boyfriend into doing something about it quickly.

The problem is that although he's been on channel for six months, he still hasn't decided on his handle!

Men are always saying that we are indecisive, illogical, and lacking in ideas, and I've yet to come across a female who hasn't already picked an appropriate handle by the time she goes out to buy her rig — and then stuck to it.

Each time my other half has a copy he goes out under a different handle — and I've learnt during eyeballs that several other males do the same — it's so confusing.

My young man has got through at least a dozen, including Snowman, Snowball, Snowgobbler, Mr. Frostie, Mr. Meanie and Womaniser. I've always believed that the handle should describe the user's personality, occupation or way of life.

Well, I've never known him to have a pre-occupation with snow and he certainly doesn't have a frosty personality. There's no indication as yet of him being mean (except with the washing up — what man isn't?) and as for the Womaniser bit — if he dares . . .

Anyway, I've decided to tell you a little about him and ask you to send your ideas to *CB World*.

I'll get his lordship to choose the handle he likes best (if he can make up his mind) and I'll pay for a year's subscription to the mag for the lady breaker who sends in the one he picks.

I think he's good looking (in fact he often says how lucky I am to be going out with such a handsome chap) and has a moustache, which he combs whilst sitting on the end of his bed, waving his legs and free arm about to loud music.

He has caused several of our good buddies to wear oddly shaped jumpers by demonstrating his habit of starting with the jumper inside out when he gets dressed.

This looks extremely funny — there's a great deal of huffing, puffing and spluttering, then his head emerges from the now misshapen neckline and when his hands are free of the stretched sleeves he sits back on the bed and again combs his moustache.

He works at a small print finishing company, drives an M.G. and a Transit van, and is fond of sausages and mashed potato.

He's into water skiing in the snow and dancing down the garden in his underpants during thunderstorms.

He's owned two hamsters, 'No Name One' and 'No Name Two', and when he visits me he always hides my guinea pig in a different place!

Any ideas for a handle please — I'm desperate?

How did your menfolk choose their handles? I see some really strange ones printed in *CB World* and would love to know more about them. (I would also like to know whether 38" Waist is male, female or neither). I must say, the gents do seem to go for the more romantic handles, like Moonraker, Space Invader, Outlaw and Dragon Slayer. (How many fire breathers has he slain?)

The 'illogical' females seem to go for more down-to-earth names, like Blue Eyes, Disco Queen and Lovely Legs.

Do the males pick such outlandish aliases because they have mundane jobs and boring social lives, or is it a step towards fulfilling childhood fantasies?

Belt up

I heard with dismay that the Government has decided to make the wearing of seat belts compulsory. These things are definitely not designed for female use.

Could somebody please design a belt which doesn't painfully crush a woman's greatest asset, or effectively carry out the promise made by the American manufacturer

of a particular item of female underwear, to "lift and separate".

Short women (and men) are in an even worse predicament.

If involved in an accident whilst travelling in an open top sports car for example, they won't sustain concussion by bashing their heads on the windscreen, or be badly scarred during a slight through it.

Oh no, they are far more likely to be throttled to death by a belt which passes directly across the windpipe, or equally nasty, have their heads squashed or ground off (because of the restriction of the belt around the neck) if the car overturns! Seat belt and car manufacturers — please take note.

The French Connection

A party of us went to France for the day and as it was nearing the end of the month we decided to take our push bikes with us to save a few pennies (whoops — francs).

However, this turned out to be an absolute disaster because we kept on losing our friends who had the faster bikes. We would then have to organise a search party and usually found them sampling their second round of French plonk. This wasted a lot of time which could have otherwise been spent sightseeing.

How much easier it would have been for us if we could have fitted c.bs to our bikes because we could have kept in touch with each other. There must be someone who has fitted a c.b. to a bike who can tell me how to fit one to mine.

Femme fashion?

Finally, rumour has it that one microphone manufacturer will be offering a range of microphones in different colours to match either the car interior or the colour of dress that you might be wearing. Any takers? ●



Now, which mike shall I use today? 'hazel', to go with my hair, or 'stripe', like my dress!

WESTMINSTER WATCH

Now the Scottish Euro-Dimension

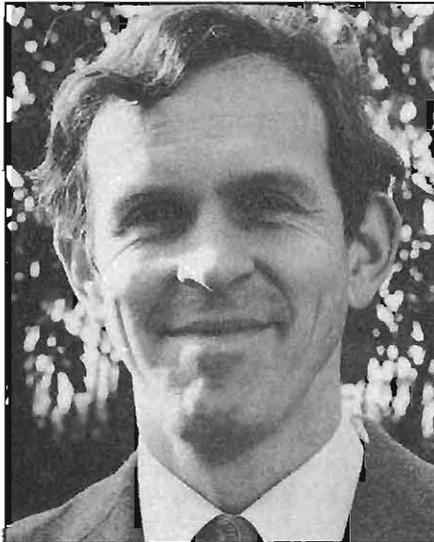
THE THEME of *CB World's* Euro-dimension has been taken up by battling Alasdair Hutton the member of the European Parliament for Scotland South.

In a strongly worded recent statement, Mr Hutton issues a warning that Britain's Citizen Band radio users could find themselves "out on a limb in Europe". Whilst the British government has made proposals to legalise the fast growing pastime, the frequency range proposed would leave British users of the sets unable to use them anywhere else in Europe. "More seriously," says Mr Hutton, "it also means that British manufacturers cannot take advantage of the entire European market. This is sheer stubborn stupidity."

Mr Hutton has complained to the Home Office and to the European Commission in Brussels. The commission has confirmed that the British move might well be illegal, and that it had warned the British of the danger of creating a new barrier to trade. Independently, the Andover 27 Club had already filed a complaint against the United Kingdom and received a file index number meaning that the complaint is worthy of consideration.

"Although there was still not complete uniformity amongst the other member States of the EEC, the differences were comparatively small."

Explained Mr Hutton, "They all operated within the same frequency range and the European Conference of Postal and Telecommunications Administration (CEPT) had made recommendations to co-ordinate the various National Specifications." (See



Alasdair Hutton, TD, MEP, Member of the European Parliament for the South of Scotland

your August edition of *CB World* for some of the twenty-six CEPT countries specifications). "Only Britain would be outside this recommendation", he added. "Just imagine the problems of drivers with c.b. in their cars or trucks trying to go to the continent and being stopped at the border; just imagine European tourists and truck drivers being faced with the same problem trying to come into the UK."

They've Twigg'd Your Rig

The indecent haste that the Home Office has adopted after years of stonewalling over the

c.b. issue now shows itself to be not, as you would hope, a final willingness to 'get it on' but verging on duplicity. Have you noticed the print date on the licence form? 7/81 it reads. The licence form Schedule paragraph 3 reads that the overall length of the antenna, excluding the mounting coil shall not exceed 1.5 metres. On the 30th July, Home Secretary Willie Whitelaw in a reply to Maj. Sir Pat Wall said that he "had the question of aerals under review and hope to announce my decision shortly". Meantime we hear that LCL Imports and Amstrad consumer products have received in bulk their c.b. licence application forms ready for distribution with their sets. Someone, somewhere has jumped the gun.

The Advisory Committee sat, but it's all secret

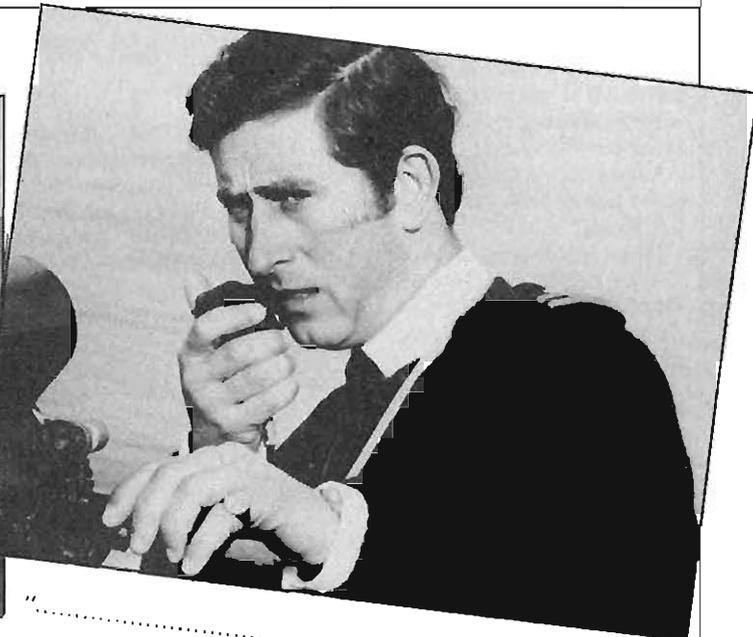
The Ministers Advisory Committee finally met at the Institute of Electrical Engineers on Thursday, 10th September at 10.30 am. Some 50 delegates turned up to be met on the steps of the I.E.E. Building by grass roots members of the UK c.b. movement urging them to try and install some sense into the Radio Regulatory Department before it is too late.

The exact proceedings of the meeting, chaired by Sir Eric Eastwood, are bound by secrecy and the writer (being a member of the committee) finds it difficult to give you a full, factual, blow by blow account of what went on. Needless to say however, a full and frank exchange of views ensued and there were some red and angry faces to be seen appearing out of the council room ●

CB CAPTION



Eyeball, eyeball.



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- (2) Coax may be cut to any length for a neat installation.
- (3) No need to cut the whip to obtain a good V.S.W.R. match.
- (4) Ease of Tuning - Tuning Rings change only the magnetic field around coil; not the physical length of the antenna.
- (5) Impedance can be controlled at 50 OHMS - shunt feed coils are always lower than the 50 OHM optimum. (C.B. sets are 50 OHMS + or -).
- (6) Straight resistive load - actually allows C.B. sets to perform better - increases wattage output of most sets.
- (7) Wide Tuning Range with a narrow bandwidth - BANDIT'S Tuning Range is approximately 26.500 to 28.000 MHz.
- (8) Lower V.S.W.R. is obtainable - 1.5-1 or less, in most applications a flat match of 1.1-1 is obtained.
- (9) 3rd. coil (bottom coil) is used for a D.C. ground - less interference from static electricity - BANDIT HEARS MORE.
- (10) BANDIT coil is completely sealed to the weather - no way for the elements to get into the coil to cause problems.
- (11) When the Home Office approves a frequency band as suggested of about 27.625 to 27.925 (in accordance with their recent documents), the BANDIT with its VARIABLE MUTUAL TRANSDUCTANCE COIL is the only antenna on the market that will get all 80 channels without any modifications. Manufacturers of SHUNT FEED coil antennas will either have to make 2 antennas to cover all 80 channels or else make the one they have so broadbanded that it will lose a good portion of its power.

For more details on the
'BANDIT' telephone or write:-

"BANDIT" ANTENNAS LTD
Tomo Industrial Estate, Creeting Road,
Stowmarket, Suffolk. Tel: 04492 2545.

OCTOBER, 1981 Monitor — 2

SUPPLIER: BROADCASTING LTD. MODEL: THE RIGALISER 99-271320



Purpose:

To provide an efficient and low cost means of enforcing the new UK c.b. specifications, in a portable unit for supply to all organisations requiring an instant check for licensable and unlicensable equipment. Users will range from Customs & Excise to c.b. retailers needing to check that they have not been supplied with 'dumped' equipment.

Operation:

The Rigalizer comprises a bandpass tuned a.m./f.m. receiver that monitors the entire range 26.9 MHz to 29.9 MHz when checking for a.m. content, but only the band from 27.6 MHz to 28 MHz when monitoring f.m. deviation. A further check is provided by a direct reading LCD frequency meter with 1 KHz resolution that operates in the range 26 MHz to 30 MHz. An option is available to extend the DFM coverage to 220 MHz at 10 KHz resolution if identification is required to extend to Private Mobile Radio and amateur radio equipment in that range.

The Rigalizer can be operated in the 'monitor' mode, where the output of the a.m. and f.m. detectors are fed to an audio amplifier, and the input is fed from an external antenna. Any station within approximately 1,000 metres can then be monitored and the frequency can then be measured directly if the station is within approximately 100 metres, depending upon c.r.p. This facilitates multichannel monitoring in 'real' time, although only the strongest signal in the vicinity will be heard. However, this is usually the one of prize concern anyway.

When checking specific equipment the operator is asked to speak or whistle into the mike, and the Rigalizer will then indicate the presence of a.m. with a continuous pulsed bleep tone, visually accompanied by a bright orange light emitting diode. A heavily modulated a.m. signal will cause the digital frequency meter to fail to read, so the

frequency should be cross checked with the suspect transmitter radiating but without modulation. If the equipment is f.m. within the permitted band, the deviation in kHz will be indicated by the LED bargraph modulation meter. The bargraph will extinguish if no modulation is present.

So, in order to prove compliance with MPT1320, the equipment must provide both the correct modulation indication, coupled with the correct frequency readout.

If the tests are carried out with the transmitter set to channel 20, then the frequency will be read as 27.791 MHz. Existing illicit equipment with f.m. and 'mid-channel' coverage may show f.m. within the permitted band, but the channel numbers will not correspond to the UK frequency requirement, eg channel 1 will read 26.965 MHz.

CB World Opinion:

It really comes to it that we had to re-write the last paragraph of the manufacturers hand out to make technical sense out of it. They actually had the channel one as 27.791 MHz and channel one 'mid-band' as 27.415 MHz. Referring to the *CB World Frequency round-up*, in next month's edition you will see that this frequency is channel one of the 'Hi' band. Despite this, let's see what the equipment does.

We found that the frequency meter started to read with an input of one millivolt over the range 27.6 MHz to 28 MHz. We also found that the readings of the frequency meter were accurate over the entire range.

We found that the deviation bargraph indicates from 27.6 MHz to 28.050 MHz. But between 27.6 and 27.7 MHz for an input containing constant deviation, the deviation bargraph was inaccurate. We were inserting 4½ kHz deviation but only getting a reading of 2½ kHz on the Rigalizer bargraph.

The amplitude modulation (a.m.) light emitting diode (LED) showed its full bright-

The "Rigalizer" CB radio monitor and analyser

1. then the frequency will be 27.791MHz. Existing illicit equipment with FM and 'mid channel' coverage may show FM within the permitted band, but the channel numbers will not correspond to the UK frequency requirements. eg Channel 1 'midband' will indicate 27.415MHz.

Specifications: Rigalizer 99-271320

power source

Internal 12v NiCad rechargeable battery
Internal 12v AA Multiline disposables
external 12v DC source via AC Jack

antenna

DC Input:
12v 100mA antenna for

ness with 35% modulation.

General:

The naming of a product is all important to its presentation. The idea that the current illegal million or so operators should be classed with drunken drivers who are apprehended by the 'Breathalizer' is a downright insult. The name 'Rigalizer' is designed to appeal to the prospective market of Police Officers trying to be Busby. Or will it be traffic wardens or even other sections of the radio community who with the aid of one of these wideband monitors acts as a 'sneak'?

The first showing of this set was on June 4 edition of BBC1's *Tomorrows World*. The fact that the manufacturers printed handout is wrong and that deviation was, on our prototype, indicating incorrectly shows just how much credence should be given to this set by the authorities.

Broadcasting Ltd., 200 North Service Road, Brentwood, Essex CM14 4SG, expected to sell at £35.00 each, complete with rubber ducky antenna.



October, 1981
MIKE-1

SUPPLIER: ACORN TRADING (CB) LTD. MODEL PRO MICRO MIKE 007.

Purpose:

To provide a constant audio output level for varying levels of speech input. It is claimed that the high sensitivity of this mike means that it can be used as a conventional mike held close to the mouth or is equally efficient at arms length. Whichever way you use it, the volume must be altered with the control knob. Avoid over-modulation as this will reduce the advantages of the 007 series. The 007 is a mike with interference deadeener for use in a noisy environment.

It is essentially insensitive to background noise where the source is more than one meter away. The model is especially suitable for c.b. equipments with built in frequency adjustment for restricting audio bandwidth.

The unit is specially sealed. It is guaranteed for life but its warranty becomes invalid if the seal is broken.

Only units with RED SEAL and RED TRIGGER are guaranteed in the UK. Seals and triggers of others colours are not guaranteed in the UK. If any unit fails to function correctly and providing the seal is RED and UNBROKEN then your dealer should replace one for one.

CB World Opinion

With a different range of inputs, output was a staggering maximum 5V peak to peak into a high impedance load.

Some degree of compression was noted but with a high level of audio input considerable distortion occurred. The main problem as with all power mikes is that you would not know what level to set except by trial and error. We found that the potentiometer adjustment took the level down to zero.

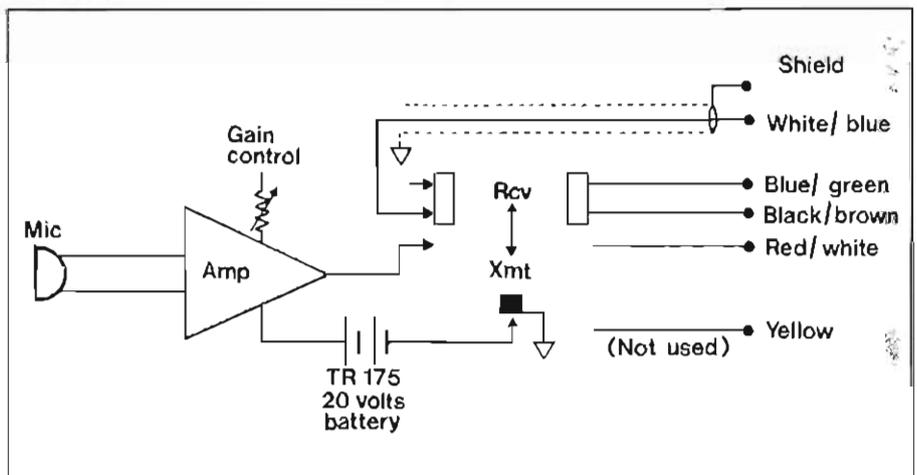
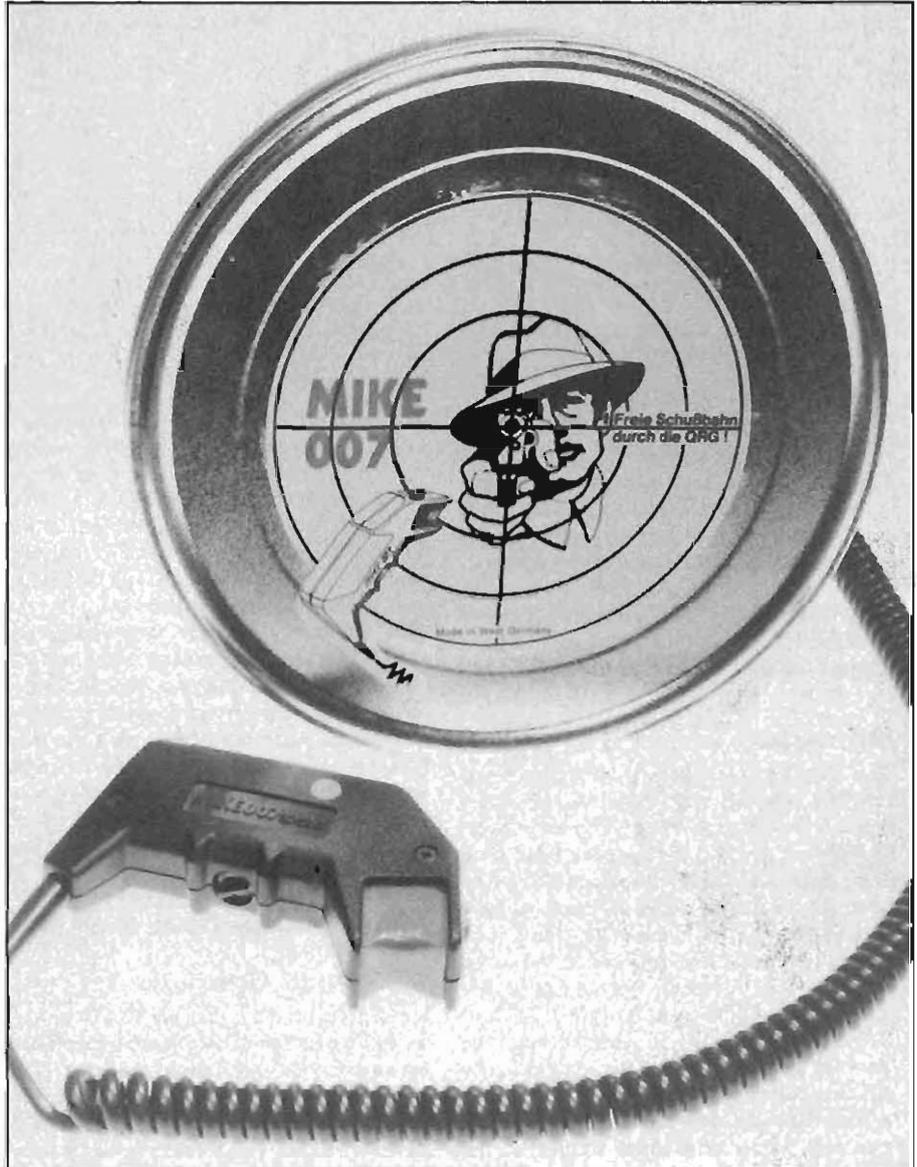
General

These Hamburg-made mikes certainly lack nothing in packaging. Shipped in foam inside a pseudo film can (shades of furtive James Bonds) its instructions are written in German (mein Gott). It uses an FET gain controlled amplifier and filter providing a response in the range 200-6000 Hz.

Certainly the total gain of 46 dB appears excessive.

Acorn tell us that the T175 batteries will be available by the time you read this. Certainly those little 7V cells made by Duracell are not generally available in the shops . . . yet. The impedance of the output is 500 ohms which should be OK for most rigs, but check your rigs data first.

Acorn Trading (CB) Ltd., Unit 43, Coleshill Industrial Estate, Station Road, Coleshill B46 1JT. £25.95 inclusive p&sp and VAT. Allow 21 days for delivery.





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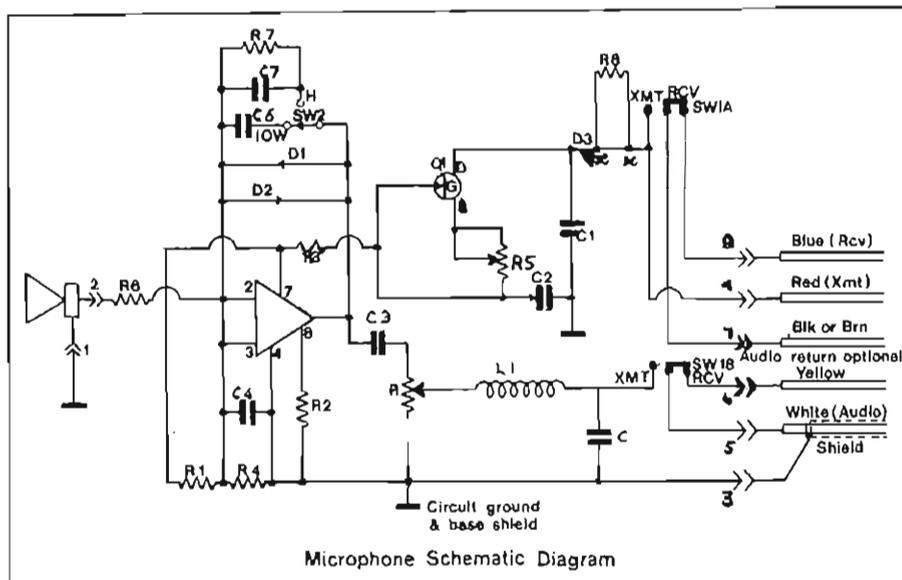
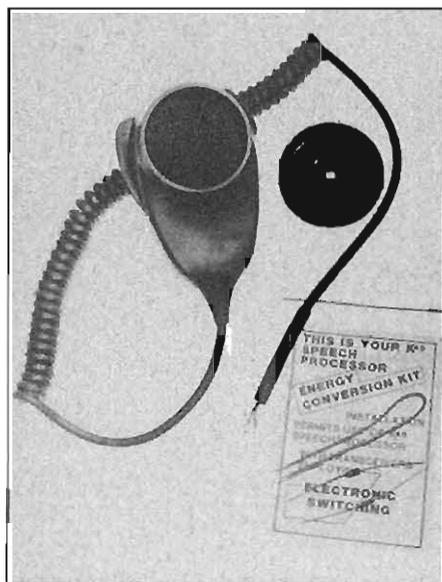
BREAKER 1-9
4-5 The Arcade, Hitchin, Herts
Tel: 0462 57826



LAB REPORT

OCTOBER, 1981
Mike — 2

SUPPLIER: ACORN TRADING (CB) LTD. MODEL: K40 SPEECH PROCESSOR.



Purpose:

With an ordinary mike, soft portions of your speech such as 'sh' or 'n' sounds result in a low audio output. Whereas the loud portions provide a normal amplitude output, dependent upon how loud your voice is and how far the mike is away from your mouth.

With a power mike, everything is amplified and hence the loud passages of your speech can become distorted if the mike is set up for correct output on the 'sh' and 'n' sounds. The loud portions then become clipped or distorted.

With a speech processor only the soft passages of your speech are amplified up to the level of the loud passages. Meanwhile, on the loud passages, the gain of the mikes amplifier reduces. The result is a constant audio output.

Other power and processing mikes are battery powered, hence as the battery runs down, the performance of the mike degenerates. Using a capacitor circuit that re-charges itself from the 'press to talk' voltage, means never having to replace a battery.

How it Works:

The heart of the K40 Speech Processor mike is a chip. This chip provides the functions of audio amplification, compression, gain limiting and voltage regulating.

Supply voltage to the storage capacitor is

fed from the transceiver (whilst in the 'receive' mode) through the red lead of the mike cable. It goes through diode D3 to charge the capacitor C1. The voltage stored in C1 is trickled into the Field Effect Transistor, Q1, which acts as a current regulator and monitors the supply of voltage necessary to operate the chip IC1. Capacitor C2 and resistor R5 work in conjunction with Q1 to establish the voltage applied to pin 7 of the chip to the proper voltage. R5 is factory adjusted to 3.8V and external adjustment should not be attempted.

The audio input developed by the high capacity ceramic insert is connected through R6 to the input of the chip.

Resistors R2, R3 and R4 together with capacitor C4 provide the necessary bias voltage to optimise the circuit performance. Gain limiting levels, as well as the desired frequency response characteristics, are automatically determined by diodes D1 and D2 along with resistor R7 and capacitors C6 and C7.

The audio output after processing from the circuit, is fed through the capacitor C3 to the output gain control R, RF choke L1 and capacitor C act as RF filters to prevent RF from the transmitter from entering the amplifier circuit.

The entire amplifier is cased in a housing designed specifically to complement the acoustic characteristics of the microphone

element. A complete RF shield of the circuit is provided by a special nickel silver coating.

CB World Opinion:

We were impressed both by the packaging, the wealth of data and the 'feel' of this mike.

With a test input voltage of 12V, our unit produced a maximum output of 1/2V peak to peak with symmetrical limiting. When the mike is switched to position 'high' the average modulation level is increased but at the expense of slightly more distortion.

This unit compressed the output with an input varying with our lab simulated equivalent of between 2 ft to 2 inches. Even with a high noise environment, output stayed within 3 dB.

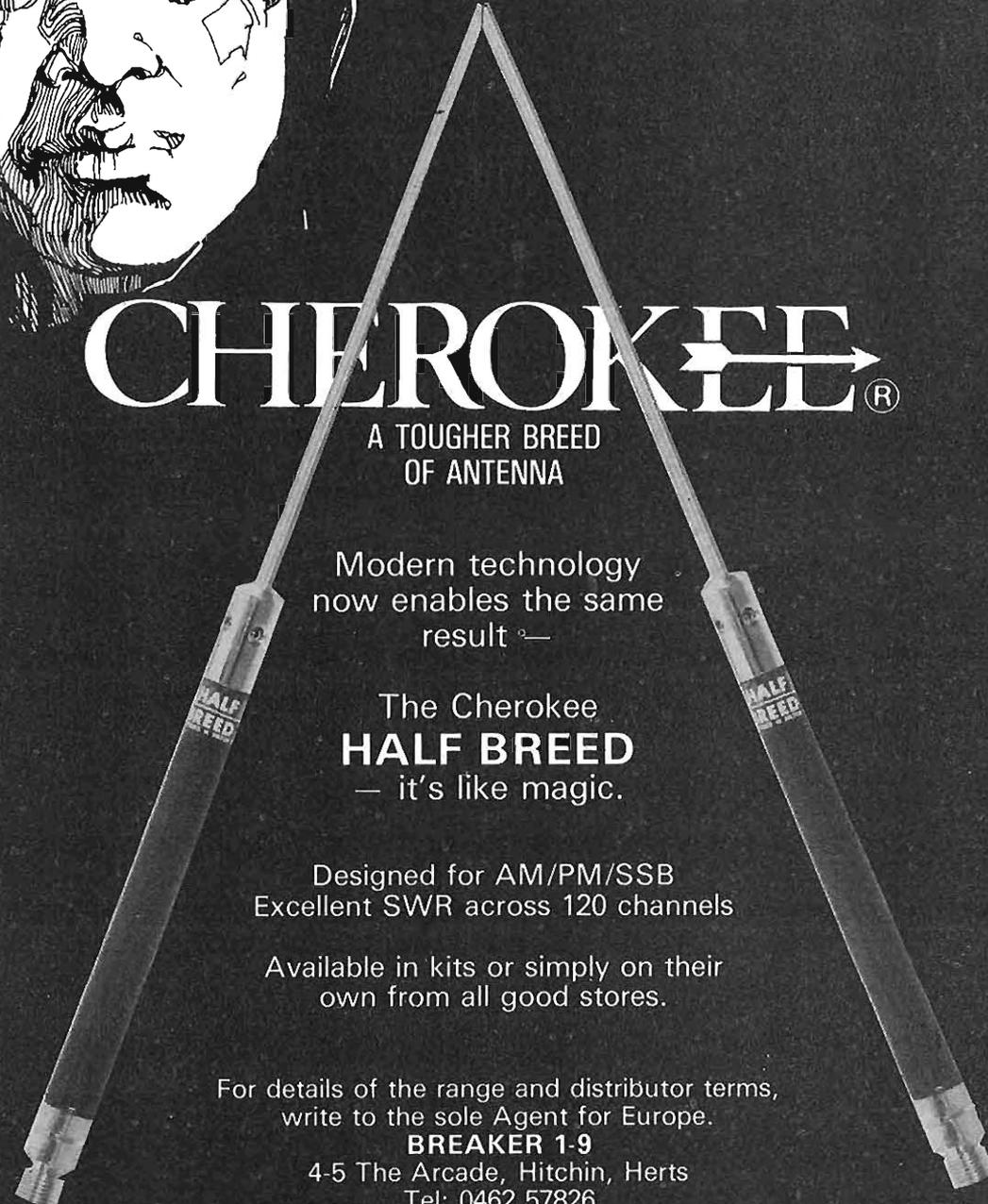
The mike comes complete with an energy conversion kit for use with rigs using electronic switching and a wiring booklet which has just about every rig available for the USA market listed.

We hope that the booklet will be added to when the UK rigs finally become generally available. This was about the only fault we could find.

Acorn Trading (CB) Ltd., Unit 43, Coleshill Industrial Estate, Station Road, Coleshill B46 1JT. £26.50 inc. p. & p. and VAT. Allow 21 days for delivery.



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AVERAGE . . . ADEQUATE

About the only thing that the c.b. campaign and the Home Office has nearly been in agreement on is how far rigs should be able to get. The National Electronics Council in its report for the then Labour government suggested 10 miles or 15 km. in average circumstances. RICHARD TOWN investigates.

By the time the Home Office had issued its ill-fated consultation paper suggesting 934 MHz, the range for the (then called Open Channel) service had become an "adequate" range, not average as the NEC had envisaged.

Paragraph 1.2 of the Performance Specification MPT 1320 states that the antenna permitted by the conditions of the licence for use with the equipment shall provide an effective radiated power of 2 watts.

In our August issue "CB Antenna Design Facts" it was proved that with an antenna length of 1.5 metres, effective radiated power was being deliberately restricted to about 2 watts. Let's see whether this 2 watts erp will give you 10 miles.

Noise.

Relating signal to range, is no mean task, there being so many variables involved, however the minimum signal requirements in the absence of interference and external noise can be calculated.

For any signal to be understood, it has to be greater than the noise surrounding and

received with it. That's why receiver specifications are usually written as a signal to noise ratio thus:

$$\frac{S}{S + N} \text{ (db)}$$

So, first let's quantify the noise (N). For an ideal receiver, thermal noise is calculated by the formulae:

$$n = kTb \text{ dB below 1 watt.}$$

Where K is Boltzmann's constant =

$$(1.38 \times 10^{-23} \text{ W K}^{-1} \text{ Hz}^{-1})$$

T is the temperature of the input resistance 'K' and b is the bandwidth of the receiver in Hz.

So, with a bandwidth of 15kHz, the background noise in an ideal receiver is some -162 dB below 1 watt.

An ideal receiver cannot be achieved in practice. The calculations are made in accordance with work carried out by Ludwig Boltzmann and although taken as a usual base starting line, the assumptions also include a temperature of 300° Kelvin (+27°C) and a bandwidth of 15 kHz.

If an allowance is made for a noise factor of a practical receiver of 5 dB, and a minimum signal to noise ratio of 8 dB for f.m. reception, then the available power due to the smallest useable signal is:

$$-162 + 5 + 8 = -149 \text{ dB below 1 watt.}$$

The corresponding voltage across the receiver input is then 0.3 uV.

However, we don't live in an electrically noise free environment. Vehicle ignition, electric motors, commutators, light dimmers, thermostats all contribute to the radio noise environment.

The CCIR (International Radio Consultative Committee) Report 258-3 gives values of man made radio noise for several types of environment together with the level of galactic noise emanating from the stars. Values appropriate for the UK are:

Frequency	City centre	Rural
27 MHz	26 dB	18 dB
50 MHz	20 dB	12½dB
200 MHz	4 dB	small

Thus the 5dB noise factor of a practicable receiver has to be modified to allow for this external noise:

Frequency	City centre	Rural
27 MHz	26 dB	18.2dB
900 MHz	5 dB	5.0dB

Galactic noise varies with time of day and season although CCIR sources only put this variation down to ± 1 dB.

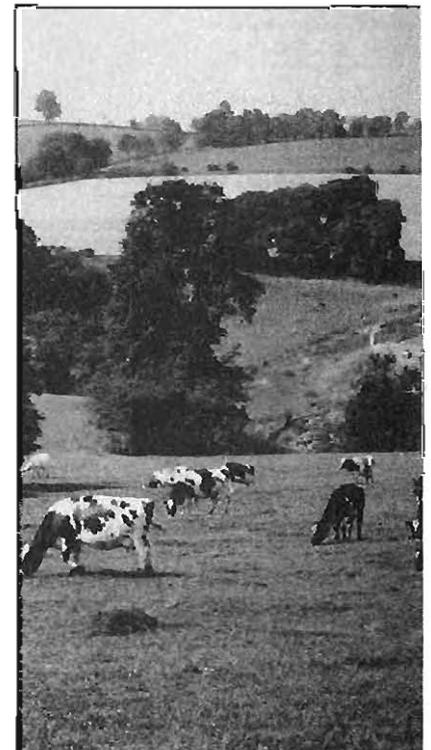
It now can be calculated that the minimum useable potential difference at the receiver input is:

Frequency	City centre	Rural
27 MHz	3.4 uV	1.4 uV
900 MHz	0.3 uV	0.3 uV

Do remember that this voltage contains both the wanted signal and the unwanted noise at a level 8 dB below the wanted signal. In practice, if either the receiver passband is less, or the



Tower blocks at Thamesmead. Why should breakers in the high rise flats operate second class c.b. just because of their housing allocations? (photo GLC)



DATE . . . MAXIMUM

receiver sensitivity is greater than the 8 dB signal to noise ratio will be greater.

With a .138 of a wavelength receiving antenna (1.5 metres long) matched to the receiver input and no feeder losses, the field strengths corresponding to the potential difference across the receiver input are as follows:

Frequency	Minimum Useable Field Strength
30 MHz City	2.1uV/metre +6.6 dB above 1uV/m
Rural	0.9 uV/metre -1.0 dB above 1uV/m
900 MHz mean	5.6uV/metre +15 dB above 1uV/m

This assumes that the receiver input circuit is the same as the transmitter output circuit and hence the impedance of the receiver input (across which the signal is developed) is 50 ohms. Again remember that the noise level is 8 dB down on these figures.

Signal

Calculating received field strength from a given output power can at best be only a generalisation since it is dependent upon the transmitted frequency, transmitter antenna height, receiver aerial height, terrain etc. However all the information available up to 1977 is contained in yet another CCIR report no 567-1.

At this point, our original definition of the c.b. service, together with the frequency chosen, together with our earlier noise calculations start to indicate the required effective radiated power.

For a one-third chance of a successful contact the maximum range (taken as 10 miles or 15 km) the Longley equation for the standard deviation of location may be combined (R.M.S. addition) with a 3 dB allowance for time variability.

The CCIR report gives graphs for experiments carried out at various frequencies. From these curves may be extrapolated the

effected radiated power required. Although not stated in the report it is appropriate to allow 15 dB for lowering the transmitter antenna from 30 metres (that used in the tests) to 10 metres.

So that's the story of the 2 watt e.r.p. limit. It is based upon a radio noise environment, an 8 dB minimum required signal to noise ratio, a maximum useable range of ten miles (15 km) and a 33 1/3% chance of successful communication.

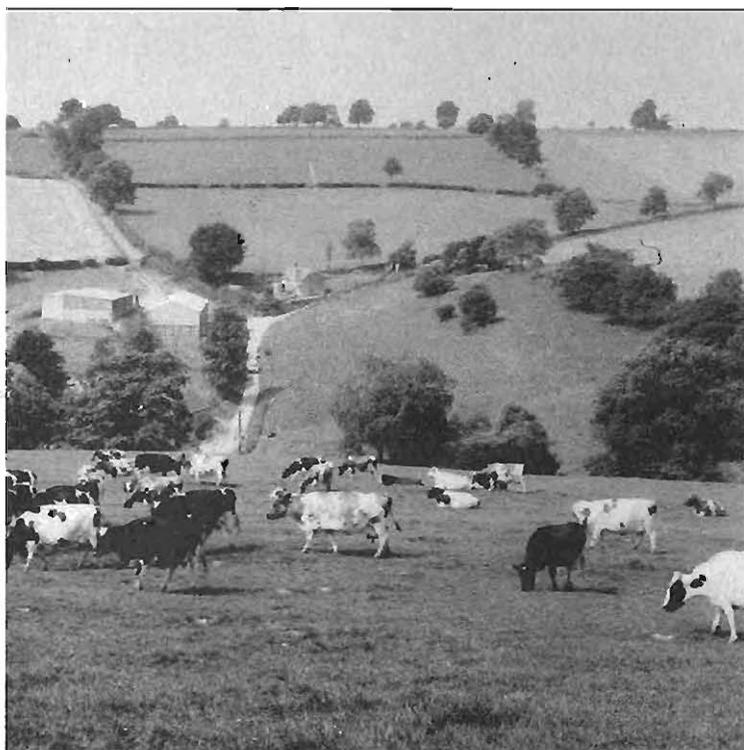
The paper shows that because of man made noise, our breakers in the towns and cities are going to be substantially worse off communications wise than are our country cousins.

It could be argued that since our cities are more densely populated, the chance of getting a successful contact using c.b. is that much more likely. But then it is argued that since its true that they are more densely populated, its more likely that the channels are going to be congested.

Channel congestion in the inner city is one factor which has been left out of the calculations. It is in the inner city that most of the council tower blocks are to be found. And yet breakers in the inner city tower blocks, above say the second floor, will have to reduce their transmitter output power by 10dB; that's from 4W to .4 watt.

Given these circumstances, it's hardly likely that a range of ten miles will be available to them. There's enough social division in U.K. already without there being a second class c.b. society as well.

Frequency (MHz)	Median field Strength for 1kW erp Tx ae = 10m Rx ae = 1.5m Tx-Rx = 15km (db above 1uV)	Variability correction (dB)	Minimum usable field strength (dB above 1uV)	Required erp	
				(db below 1W)	(W.)
30 (City)	25.5	8	+ 6.6	+ 3.1	2
(rural)			- 1.0	- 4.5	0.35
900 (both)	16.5	13.8	15.0	14.7	29.5



Low radio noise environment. Probability of full 10 mile range is high. Being down in a valley restricted range at 934MHz. (photo Farmers Weekly)



High radio noise environment. Electricity supply insulators under test. Same effect with vehicle ignition, etc. (photo CEGB)

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Base loaded mobile antenna location

UNFORTUNATELY for the CB'er and amateur radio enthusiast vehicles come in all shapes and sizes. This means that deciding where best to put a base loaded antenna for optimum performance can present problems.

There are several basic rules which should be followed. These include:

1. Get it as high as possible on the vehicle.
2. Ensure it is centered on a metal plane.
3. Keep it clear of any vertical metal obstructions.

This means that theoretically the centre of a vehicle's roof is the best location for the antenna. Anywhere else is only second best.

With mobile antenna installations the fitter will knowingly or unknowingly be trying to obtain an omni-directional pattern of radiation. This will ensure a good radius of communication from the mobile to other CB'ers within the performance of the equipment.

If an antenna has a directional pattern then certain areas around the mobile will be able to receive transmissions whilst others will not be able to, both areas being within the overall theoretical performance range of the equipment.

It is always easier to set up and SWR an omni-directional pattern antenna rather than try to explain to each operator where to position his mobile for maximum power and range.

To explain how the fitter might obtain a good omni-directional pattern first refer to Fig. 1. This shows a plan view of a mobile with the black dot indicating the antenna location. The dotted line represents the pattern of radiation.

Because the antenna is located on the centre of the roof the resultant pattern is generally the best for most mobile installations because it contains no

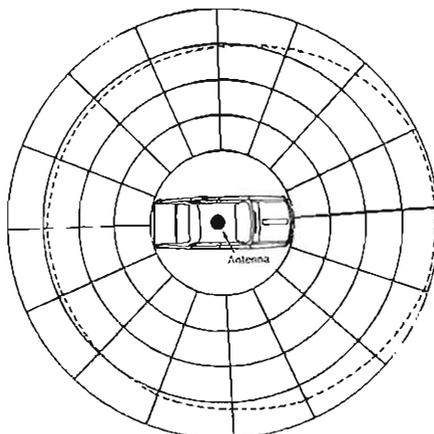


Figure 1 Horizontal radiation pattern of vehicle antenna

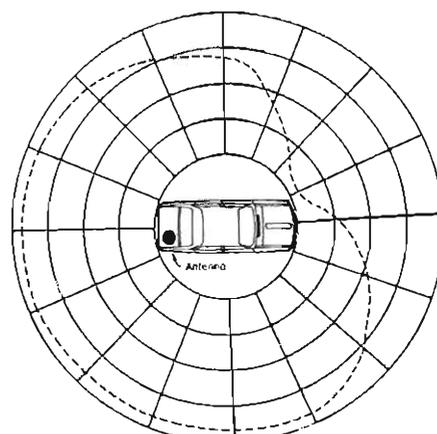


Figure 2 Horizontal radiation pattern of vehicle antenna

indentations or deep depressions. These are usually caused by physical obstructions and because the roof top generally has none the radiating pattern will tend to the omni-directional.

There are breakers who like to mount their mobile antenna on the rear wing. Figure 2 shows the radiation pattern from this location and it will be seen that there is a deep depression over the left front wing.

Mounting the antenna on a front or rear bumper is not recommended because radiationwise one-fourth to one-half of the radiation pattern will be blocked. This also concludes that it has been possible to lower the VSWR to acceptable limits to provide a useable communication system.

If the CB'er wishes to mount the antenna on the rear of the vehicle a central boot lid mount will give a workable omni-directional pattern. This pattern will lack some strength towards the front when compared with the rear. This lack of strength towards the front

is the result of interference caused by the passenger compartment roof — unless the mobile is an open top sports car.

Obviously the boot lid location is not the best but it still remains popular.

If the CB'er does not want to drill holes in his new 'X' registered vehicle or run the risk of scratching the paintwork using a magnetic mount then there are several alternatives.

Gutter mounts give a good omni-directional pattern because, by being mounted at roof level it will not be obstructed, and tend to be circular.

The more central the mount is over the plane of the metal roof the more circular the pattern will become. Try to avoid gutter mounts that locate the base of the antenna in free space at the side of the body. An 'L' shaped bracket can be used to overcome this problem by bringing the antenna inboard by several inches.

Another alternative is the wing-mounted 'L' shaped bracket. This bracket screws on



The centre of a vehicle's roof is the best location for the antenna.

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Base loaded mobile antenna location

Do not be tempted to put the antenna elsewhere just because it may look better in another position.



to the inside gutter walls of the boot or bonnet aperture. This will give the same pattern as shown in Figure 2 which, of course, has its limitations as previously described.

The actual location of the antenna not only affects the radiation pattern of the antenna but it also affects the VSWR. Because VSWR causes power to return to the transmitter and not to be radiated, VSWR lowers the pattern's radiation radius.

At all costs avoid all close vertical metal obstructions. On a central roof or boot lid mount a VSWR of 1:1 can be obtained whereas on a wing mount a 1.2:1 VSWR is possible if it is centered along the length of the wing.

A wing mounted antenna can also go as high as 3.5:1 if it is positioned too close to the screen pillars.

However, each vehicle has its own problems. Take for instance a metal box body mounted on a Ford Transit chassis or a tractive unit pulling a metal box trailer. One would think that the best place for the antenna would be in the centre of the cab roof but unfortunately the vertical front panels of the box body prohibit this.

By simply moving the antenna towards the windscreen and placing it on the centre line of the cab roof it is possible to get 99 per cent of the power radiated.

If the antenna had been left in the centre of the cab roof over 15 per cent of the power would have been lost to VSWR.

The base loaded coil makes up one half or more of the actual antenna's physical length. Shielding the bottom of a base loaded antenna has the same results as shielding half of a whip antenna.

Truckers with their luxurious sleeper cabs, air-conditioning and power horns can easily fall into the trap of incorrectly locating the antenna. Consider the cab with power horn trumpets mounted on the side of the cab roof and the antenna dead centre. Then consider an identical cab with its set of power horn trumpets dead centre on the cab roof with

the antenna placed between the two trumpets. (These could be spaced approximately four inches apart.)

The first antenna location would give a good VSWR reading of say 1.2:1 whilst the second could be 2.8:1. This means the second antenna was losing almost one-quarter of its power because the base loaded coil was being shielded by the trumpets.

Many CB'ers could be attracted by the thought of using body side mountings on their vehicles. It is possible to side mount a whip antenna and to a certain extent get away with it but this is not so for a base loaded antenna.

A base loaded antenna works most efficiently when there is a large metal ground plane underneath it and not being shielded

by any metal in a vertical plane nearby.

Fitting an antenna to a mobile is therefore not as simple as it first seems. There are many pitfalls for the unwary so before switching on the electric drill to make a hole in the bodywork reconsider the following rules:

1. Keep it high.
2. Keep it central.
3. Keep it clear of vertical metal panels.
4. Do not shield the base.
5. Keep antennas apart when more than one is used.
6. Have a large metal ground plane below the antenna unless a special antenna for non-metallic mountings is being used.

Follow the rules and the results will not be disappointing. ●

By placing the antenna towards the windscreen it is possible to get 99 per cent of the power radiated.





See you at the biggest
National Amateur Radio Equipment Exhibition
this Autumn.

Over 50 importers and dealers showing all the gear you need to get on the air as a licensed amateur... and the Radio Society of Great Britain will be there as well to advise you on how to go about passing your test.

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THE TIME: Friday, Saturday, Sunday; 23, 24, 25 October 1981.
10am-6pm Fri/Sat, 10am-5pm Sun.

THE PLACE: The Granby Halls, Leicester.

THE COST: £1 admission, refundable by certain exhibitors
against purchases over £30.

CB World DIARY

By arrangement with Charles Letts, the famous diary people, we are to sell through *CB World* a limited number of CB Diaries. These diaries would normally be sold through bookshops and main newsagents but to introduce them for 1982, Letts have agreed that we should market them through the publication. Contents include:

- How c.b. works
- SWR your c.b. radio
- Setting up a Home Based c.b. unit
- Setting up a mobile c.b. unit
- c.b. fault finder guide
- 10-code
- Q-code
- Phonetic alphabet

Plus section for your Good Buddies, their handles, their home 20s and their land lines.
£2.45 (inclusive)



To: CB World, General Sales Dept., Room 205, Quadrant House, The Quadrant, Sutton, Surrey.

Please send me copy(ies) of *CB World* 1982 Diary at £2.45 each. My remittance is enclosed for £. made payable to IPC Business Press Ltd.

These Diaries will be available towards the end of November 1981. Please send now to avoid disappointment.

Name _____

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The Editor, C.B. World,
Room 802, Quadrant House,
The Quadrant,
Sutton, Surrey SM2 5AS.

How a transceiver works — 1

BECAUSE the reader will probably be more conversant with c.b. rather than amateur radio equipment this series will start with a description of the c.b. system and then develop the theme to amateur radio equipment.

If you are unfamiliar with any technical terms used in the text then refer to one of the recommended reading books. If it is still not understood then wait until the subject of the term is covered in this series.

C.b. transceivers available on the market today are, electronically speaking, excellent value for money and when freely available in the U.K. will provide hours of pleasure to the users.

The sets are organised around three basic systems namely a.m. (amplitude modulation), s.s.b. (single side band) and f.m. (frequency modulation). It is the latter system that will be used in the U.K.

The systems are not compatible with each other so that an f.m. set will not be able to receive a.m. signals well, and similarly neither will be able to cope with s.s.b. signals.

There are however some expensive transceivers that have a.m., f.m. and s.s.b. but these will not be compatible with the f.m. frequencies proposed for the U.K.

Looking first at the a.m. system the voice energy, called modulation, is impressed on the radio frequency carrier generated by the transmitter. However in the process of combining the audio modulation and the RF carrier, new frequencies called sidebands are created. RF simply means radio frequency and frequency is the number of times an oscillation or vibration alternates to and fro in one second. One cycle per second is 1 Hertz (Hz).

The sidebands are equal in frequency to the RF carrier plus the modulating frequencies (upper) or the RF carrier frequency minus the modulation frequencies.

The greatest amount of undistorted modulation that can be impressed on the RF carrier is one half of the carrier power input. This is in fact one half of the carrier power output.

When a c.b. transceiver requires an input supply of 5 watts, the maximum amount of modulation is 2.5 watts. If the transmitter is 80 per cent efficient — the actual output power divided by the input power — there will be a 4 watts carrier output power and 2 watts of modulation divided between the two sidebands, so that each sideband has only 1 watt of modulation power.

Definitions

1. The Watt is a unit of power and is defined as the power dissipated by an unchanging current of one ampere under a voltage of one volt.

2. The Volt is the magnitude of electrical pressure or potential, number of volts $V =$ voltage.

3. The Ampere, sometimes shortened to amp, is the unit used to express the rate of current flow.

Any a.m. receiver will only respond to the energy in one sideband. It requires the carrier and other sideband to restore the signal back to audio, but only one sideband will convey intelligence. It is possible to eliminate the other sideband at the transmitter with very little audio loss at the receiver.

The result is that of the total 7.5 watts of energy put into the transmitter 1 watt of RF output power is converted back to an audio signal at the receiver.

The major advantage of the a.m. system is primarily in the fact that simple circuits can be used and therefore it is possible to design and build a good communication system at a low production cost. This has already been demonstrated by the vast numbers of cheap c.b. sets.

Additionally a.m. is the easiest system to use; it requires no adjustments other than selecting the desired channel.

The main disadvantage of the a.m. system is excessive bandwidth and prone to interference. Only one sideband is needed to transmit intelligence, but the a.m. signal has two sidebands. One takes up the space that could be utilised by another station.

Although this is no concern to the average c.b. user, the frequency band will become saturated with breakers fighting for the available channels. If the second unnecessary sideband was eliminated the c.b. frequency band could accommodate twice the number of interference free signals.

Whilst on the subject of interference an a.m. receiver is susceptible to heterodyne interference. In simple terms this is the whistle caused when two breakers try to use the same frequency at the same time.

The interfering signal strength need only be one hundredth of that of the existing signal to cause undesirable interference.

The solution is single sideband (or s.s.b.) which uses only one sideband for transmitting intelligence. By removing the carrier and second sideband at the transmitter, all the intelligence carrying energy goes into the entire signal transmitted by the breaker. The result is that transmitter output power allowed, for instance by the F.C.C., 5 watts average DC Power, is used for modulation

energy. The result is four times greater than the input power of 10.25 watts for one sideband of an a.m. signal.

Interestingly s.s.b. transceivers are commonly rated at 10 or 15 watts PEP. This does not mean 10 or 15 watts power input as PEP stands for Peak Envelope Power which when integrated over a complete cycle averages as a 5 watts power input. This means the same thing when the F.C.C. talks about 5 watts power input.

All RF energy radiated from the s.s.b. transmitter is sideband energy and because the power input of the sideband energy is four times that of the a.m. sideband input, the signal at the receiving end is up to four times stronger than that of an a.m. transmitter. The problem however is that the receiver will only give out unintelligible wittering noises which is of no use to the listener.

It is said earlier that a carrier is necessary at the receiver so that the signal can be converted back to audio. Considering a sideband receiver, the carrier is reinserted at the receiver by a separate oscillator which is part of the receiver's detector circuits. The detector however will not discriminate the source of the carrier as long as there is one.

Definitions

1. An Oscillator is a device for generating an alternating current.

2. Alternating Current (AC) is current that changes its direction of flow periodically or in cycles.

3. Direct Current (DC) is current that flows in one direction at a time and does not alternate.

Previously it was said that the s.s.b. signal only uses the radio frequencies needed for one a.m. sideband. This could be either the upper or lower sideband frequencies and therefore releases the frequencies needed by the unused a.m. sideband for another s.s.b. user. It is possible for two s.s.b. users to use the same channel without interference, one using the lower sideband frequencies and the other using the higher sideband frequencies.

The result is that if all c.b. users were on s.s.b. a 40 channel a.m. specification could provide 80 useable channels.

Other advantages of s.s.b. over a.m. include a better operational range because the intelligence carrying part of the signal is four times stronger than a.m. When added to better signal patterns because of the more sophisticated detection circuits used in s.s.b. equipment, an s.s.b. signal is the equivalent of 8 to 30 dB more effective than an a.m. signal. The result may be up to that of 50 watts input power equipment.

Additionally as there is no carrier there would be no heterodyne whistle interference if all users were on s.s.b. However any interference between s.s.b. signals sounds more like human chatter which is not so tiring or distracting. ●

(cont'd next month)

C.B. World Code of Conduct

Unless breakers follow some code of conduct, wind ups, obscene language and touting for business could cause a complete chaos on the airwaves and bring into disrepute the c.b. service that we've all worked long and hard for.

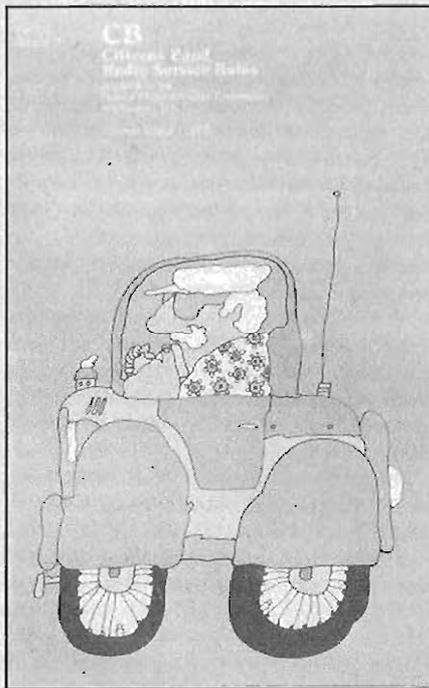
CB World is proposing a code of conduct for all new breakers to bear in mind when on channel. This is not the Editor's final recommendation but we invite readers to comment on the following broad points. Once these have been assimilated it is proposed that *CB World* forwards them to the Home Office for their consideration and possible action.

Years went by before the F.C.C. decided to explain their c.b. rules in a readable form. These give do's and don'ts as to what to do on channel and specifically designates channel 9 as the emergency/incident channel to be used for no other purpose.

CB World does not want a delay in the provision of guidelines as was experienced in the States and is therefore taking the initiative in conjunction with our readers. It is up to you the experienced breakers to tell us what standard of c.b. *you* want to see for the new breakers.

We wish to thank the C.B.A. Reading and the Biscuit Town Breakers for starting the ball rolling. Over to you....

1. Breakers must adhere to the code of practice and band plan. If you do not chaos will result and your c.b. will cease to be useful or fun to use.
2. If a breaker has used the same handle for more than two weeks they should not change it unless they hear of a breaker in their area with a similar handle (ownership should go to the breaker who has operated under that handle longest) or they move to another area. In the event of the breaker returning to his original area for a short period, i.e. a holiday, he should continue to use his new handle and not revert to his original handle.
3. If your transmitter is causing interference you should do your best to alleviate the problem by (a) fitting filters to your transmitter, (b) fitting filters to the equipment interfered with i.e. TV, Hi Fi etc. (c) not modulating during broadcasting hours even if your neighbours are out as they may have a VCR. Seek advice from your local club.
4. Emergency communication should be given priority on all channels. If you happen upon an accident, call on channel 9 for a 10.33 (*not* Mayday). If no reply is received call 10.33 on the local breaking channel.



Citizens Band Radio Service Rules as produced by the FCC explains in simple English the rules of the game.

With the emergency station or strongest station with a phone, change to channel 9 and make the necessary arrangements for ambulance etc. Other stations that may be able to help should monitor the breaking channel unless asked to do otherwise e.g. channel 10, so that they can be easily contacted by the controlling station. Do not block channel 9 whilst offering assistance. Channel 9 can also be used to assist a motorist who is lost.

5. You must not use your c.b. equipment:
 - a) in connection with any activity you or another c.b. operator would consider to be unlawful
 - b) to transmit obscene, indecent or profane language
 - c) to interfere intentionally with the communications of another station i.e. jamming
 - d) to advertise or solicit any goods or services
 - e) to retransmit programmes from broadcasting stations
 - f) to transmit music, whistling, sound effects and the like
 - g) to transmit the word MAYDAY or any international distress signal except when your c.b. is located on a ship and you are in grave danger and requesting immediate assistance. Do not use the word MAYDAY for traffic accidents as it may be heard at sea and start off a false alarm (see section 4).
6. Breakers must not operate on the amateur bands unless they have an amateur radio licence.
7. Breakers must not make internal adjustments to their rig, i.e. 'tune them up' to put out more power. In doing this you are detuning the filters put in to stop interference on other frequencies. Most of the extra power will go out on frequencies other than the one displayed on your rig, causing interference to TVs and other radio users.
8. Use of RF power amplifiers (linears, burners etc.) should be avoided as they cause widespread interference to receivers. High gain antenna and RF pre-amps (receiving) are preferable. Breakers are reminded that it is illegal to use P.A.s on any c.b. anywhere.
9. Tests should be carried out into a dummy load or on channels 1-8. Breakers should announce their handles whilst testing even into a dummy load. Tones and blank carriers should be not more than two minutes long and should begin and end with the operator's handle.
10. Breakers should refrain from using roger bleeps and other tones because of the possibility of tone operated explosive devices (planted by terrorists) being triggered by a passing c.b.er.
11. *Use your common sense.* Do unto others as you would have them do unto you. Courtesy on the air is the mark of a good operator ●

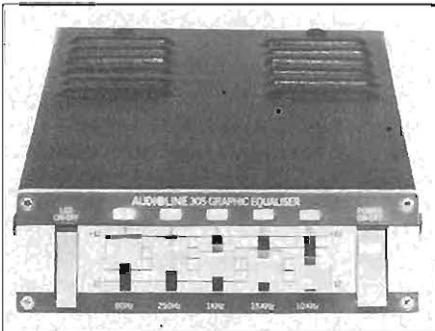
Let there be music!

A regular monthly series giving the latest information on what is available in the In Car Entertainment market. All equipment described should be readily available from your local ICE specialist. If in difficulty, contact the manufacturer direct.

HARRY MOSS

A new equaliser has just been introduced by Audioline who claim to be leaders and innovators in the field of boosters and graphic equalisers.

The 305 is a five slide 35 watt graphic equaliser which will deliver a clear 17½ watts per channel. This equaliser splits the sound spectrum into five sections which can be adjusted individually. This gives complete control from the 60Hz base area to the 10 KHz treble segment.



The new Audioline 305 graphic equaliser has five slide 35 watt equalisers which deliver 17½ watts per channel.

The unit has five LED lights which constantly flicker, indicating power output. When not wanted these lights can be switched off.

There is also a separate LED built into the power on/off switch.

The unit measures 104mm wide × 31mm long × 149mm deep.

Specification and features include: output power; 35 watts, 17½ watts per channel, 60Hz to 10KHz frequency response, 4 ohms impedance, power on/off switch with built in LED, five slide controls for 60Hz, 250Hz, 1KHz, 3.5KHz, 10KHz, five LED lights, on/off switch.

Harry Moss International Ltd.

424 Kingston Road, SW20 8LJ

Tel: 01-540 8277.

CLARION

A COMPREHENSIVE audio entertainment/information system that brings ICE standards of listening to coach passengers is available from Clarion (UK) Ltd.

The Clarion Coachliner AE 803 combines a high-quality MW/LW/FM stereo radio receiver with a stereo cassette recorder/player.

As well as playing pre-recorded tapes, the cassette unit can record and replay either mono or stereo radio broadcasts, or PA announcements and commentaries.

The push-button radio (one button each for long and medium wave band, three for FM) has a number of advanced features to improve reception, including the Clarion CZ1 noise reduction system to eliminate interference and an actuated stereo control (SASC) circuit to provide a smooth transition from stereo to mono reception in weak signal area.

Auto-reverse and lockable fast-forward/rewind controls are provided on the cassette player. The public address system includes a guide microphone and two sockets for passenger microphones.

Up to four pairs of speakers can be used with the system, which has an output of 5 watts per channel and tape frequency response of 100-10,000Hz. The normal power supply is 24 watts.

Missed radio programmes, interrupted reception and ruined tapes can be things of the past with the Clarion PE 961 combined radio/tape player.

Taking the combination of radio and cassette to its logical conclusion, the PE 961 has a programmable microprocessor allowing radio programmes to be selected in advance. Other outstanding features include all-electronic controls, Dolby noise reduction system, automatic loudness control and inter-station noise eliminator.

As many as five a.m. and five f.m. broadcasts can be pre-selected up to 24 hours ahead with the PE 961's microprocessor, ensuring that vital news, weather or discussion programmes are not missed.

F.m. listening in fringe reception areas is made possible by a CZ1 noise reduction circuit which eliminates pulsating interference, such as that from badly suppressed ignition systems. Where signal strength is inadequate for stereo reception the radio can be switched to mono, the signal-to-noise ratio being maintained by a signal-actuated stereo control circuit. For optimum reception in good or bad areas, or from local or distant stations, there is a DX/LO switch-over control.

An automatic gain control circuit adjusts the gain as a function of input; inter-station muting eliminates the problem of noise between stations, whether the radio is on self-seeking, preset or manual tuning.

Whatever kind of cassette type is used, the PE 961 will make the best of it, with a two-position tape selector for normal or CrO metal tapes. Dolby System noise reduction is incorporated to reduce tape hiss, and an automatic loudness control boosts high- and low-frequency sounds which would otherwise become scarcely audible at low volume levels.

The tape deck includes an auto reverse mechanism; fast-forward, rewind and eject by a single, locking button; and a tape pro-

jector which detects tape winding or jamming, and reverses the drive instantly to prevent damage to the tape.

Control for the volume, base/treble, stereo speaker balance and "manual" or self-seeking tuning is all-electronic, by a set of finger-light rocker buttons. The digital display doubles as a frequency indicator and a digital quartz-crystal clock, with an accuracy of ± 15 sec a month.

Since the unit does not have its own amplifier section, it must be used in conjunction with the Clarion stereo amplifier Model GA 301, giving 2 × 23 watts output power.

The PE 961 is available from Clarion dealers at a suggested retail price of £359.61 plus VAT.

Clarion Shoji (UK) Ltd.

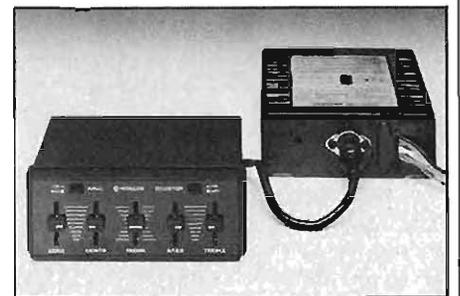
Unit 5, Dorcan Industrial Estate,
Faradway Road, Dorcan, Swindon,
Wilts SN3 5HQ. Tel: (0793) 24081

HITACHI

For the motorist keen on putting together an extremely powerful in-car hi-fi system, Hitachi has introduced a unique audio power booster kit which not only offers 50 watts total maximum output, but incorporates the remarkable automatic sound level control system.

ASLC is an advanced Hitachi development which will automatically raise or lower the volume of an in-car audio system to compensate for ambient noise levels, created by differing driving conditions. These may vary from tyres travelling on uneven surfaces to wind noise at high speeds.

Called the Hitachi DU50, the new power booster kit has an RRP of £99.90 (including VAT) and offers both two and four audio channel facilities. When powering two speakers, maximum output is 25 watts per channel. Output is eight watts maximum per channel in a four-speaker system.



This Hitachi DU 50 audio power booster offers a total maximum output of 50 watts with automatic sound level control.

Comprising two slim units — a controller and booster 'pack' — the kit is designed for connecting between an appropriate stereo radio, combined radio/cassette unit or cassette player and a set of speakers.

The controller unit is equipped with separate 'on/off' switches for both the booster and ASLC facilities. Altogether,

Let there be music

there are five clearly identified slider controls: two for selecting precise contrast and sensitivity settings for the ASLC circuit; treble and bass controls plus a fader switch for balancing front and rear outputs between four speakers. The controller's front panel has soft green glow illumination for easy location of the controls during night time driving.

The DU50's two units are both finished in matt black and are ideal for beneath dashboard mounting — a mounting kit is included as standard. The two units are supplied complete with all the necessary wiring and connectors for a four-speaker system, together with comprehensive installation instructions.

Dimensions are: Controller — 55mm high by 135mm wide by 99mm deep; booster pack — 45mm high by 120mm wide by 139mm deep. Their collective weight is 1.52kg.

Hitachi Sales (UK) Ltd.
Hitachi House, Station Road,
Hayes UB3 4DR.
Tel: 01-848 8787

LUCAS ELECTRICAL

Engine noise, road noise, wind noise, transmission noise, all increase with speed and the best a good stereo unit can do is compete.

To conquer the sound of speed every car stereo needs a little help and that is where the new LUCAS LS460 SERIES POWER BOOSTER/GRAPHIC EQUALISER/FADER enables the car stereo to reign supreme.

To achieve more volume without losing quality, more power is needed. The Lucas LS460 BOOSTER is designed to overcome speed noise, delivering an exceptionally high 50 watts peak, per channel output. This output is displayed visually by a power indicator.

Every car's interior is acoustically different so the GRAPHIC EQUALISER shapes the sound by means of separate click stop slide controls on five frequency bands, allowing the listener to adjust the sound to suit the car's individual acoustics.

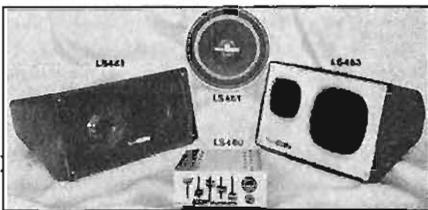
The FADER control is now used to alter the overall balance between the front and rear speakers enabling perfect adjustment for all passengers.

Producing the power is only half the story of the Lucas LS460 SERIES.

Standard speakers will simply not take 50 watts peak power.

Naturally Lucas have developed a range of sophisticated high power speakers to ensure well balanced music reproduction across the sound spectrum.

The Lucas LS461 5-inch diameter door speakers are of the high power dual cone type and suitable for use with amplifiers rated at 25 watts RMS, 50 watts peak, per channel output, impedance 4 Ohms frequency range 110Hz-16,000Hz. With a



A selection of the Lucas speakers together with the new LS 460 series power booster/ graphic equaliser/ fader.

silver grey finish and black mesh grill, these speakers will enhance the interior of any car.

The LS462 is a compact wedge shaped two way rear speaker system and combines an efficient high compliance roll surround woofer (bass) and low mass dome tweeter (treble). The speakers are finished in dark metallic grey.

Power Rating: 50 watts max.

Impedance: 4 ohms

Frequency Range: 55Hz-19,000Hz

The LS463 high power, two way shelf mounting deluxe speaker system has been designed for the ultimate 'In car sound'. These speakers are supplied in complementary left and right handed pairs and have a brushed aluminium finish to ensure an appearance to match their superlative performance.

Power Rating: 50 watts max.

Impedance: 4 ohms

Frequency Range: 50Hz-20,000Hz

All these speakers incorporate the latest advanced technology that is normally associated with high quality stereo equipment for the home.

Lucas Electrical Limited

Great Hampton Street,

Birmingham B18 6AU

Tel: 021-236 5050

PYE LTD

The Pye 2412P is a manually tuned 3-band stereo combination unit with LED stereo beacon and built-in IAC.

The unit comes with a general purpose fitting kit, a pair of speakers and full fitting instructions. It is also available without speakers.

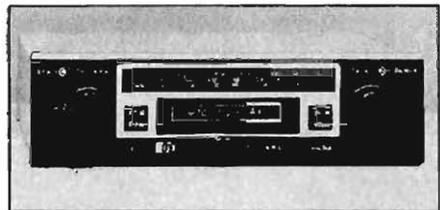
For those wanting an economically priced 2-band unit, the 2411P is available. This attractively styled unit has a manually tuned radio with softly illuminated radio scale calibrated in metres.

All the controls are easily accessible and the stereo tape player has automatic tape start with auto-stop and overriding manual eject control.

The Pye de luxe push button MW/LW Car Radio Model 4454. A high quality de luxe car radio with pre-set push-buttons, four MW and one LW, output gives brilliant sound reproduction with ample volume even under the noisiest road conditions and there's



The Pye de luxe push-button MW/LW car radio has four MW and one LW pre-set push-buttons.



The 2412 P Pye stereo car radio/cassette player is supplied with a pair of speakers and full fitting instructions.

continuously variable tone control.

Supplied complete with loudspeaker and fitting kit suitable for most popular makes of car; or the radio can be supplied alone for those who prefer to buy a tailored kit and loudspeaker to match a particular car make and model.

Dimensions: 44mm high x 176mm wide x 115mm deep. (1 3/4" x 7" x 4 1/2").

Pye Ltd.

137 Ditton Walk, Cambridge CB5 8QD.

Tel: (02205) 2781

TENVOX EP 821

The Tenvox EP-821 combination unit made by Fujitsu Ten Ltd., claimed to be the world's largest manufacturer of car audio equipment, is almost certainly the most sophisticated item of car audio equipment yet produced.

It comprises a digital clock, an auto-reverse stereo cassette deck and a built-in equalizer with fader control; all of which is contained in the one extremely eye-catching case.

The digital electronic stereo tuner has the facility for memorising no less than 14 stations and recalling them instantly via one of the seven selector buttons, each of which can be programmed to a station on both MW and FM.

The tuner also features an up and down signal seeker for the automatic search of MW or FM stations, the digital display providing a read-out of the frequency to which the radio is tuned,

Alternatively, the display can be made to show the time in hours and minutes by just the touch of a button.

The 4-track, 2-channel auto-reverse stereo cassette deck, with a CrO₂ or normal tape selector, sports a Dolby NR system for the removal of annoying tape hiss and to ensure the very best quality of sound at all times.

The play-back head is made of LTM (Life Time Metal) for reliable operation and longer life whilst the fast-forward and lockable, high-speed rewind buttons make for safer driving.

The neat, built-in graphic equaliser, with its front to rear speaker fader, allows almost infinite adjustment to the sound range by splitting it into five sections, each section having its own forward facing slide control.

Power for the "Wizard" comes from one of the two power amps, priced at £45.00 for the 40W unit (2 x 20W) and £75.00 for the 80W unit (4 x 20W). The price of the EP 821 itself is an attractive £309.50. All prices excluding VAT.

Voxson Audio Ltd.

19 Nuffield Way, Ashville Trading Estate,
Abingdon, Oxon. OX14 1RY.

Tel: (0235) 26340

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A large, stylized graphic of the letter 'S' in red and blue, with a white outline, framing the central text.A small icon of three curved lines representing radio waves, positioned above the SIRTEL (UK) LTD text.

SIRTEL (UK)
LTD

A small icon of three curved lines representing radio waves, positioned above the address text.

24 Alfric Square, Off Maxwell Road,
Woodston Industrial Estate, Peterborough PE2 0JP.
Telex: 32376 ANGTEL-G.



THE DAY OF THE CONDOR IS COMING



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Halcyon CB. 395-397 Albany Road, London SE5.