

APRIL 1982 80p

# BREAKER

THE CITIZENS BAND  
RADIO MAGAZINE

**MOVE YOUR  
MIKE**

**BASE ANTENNA  
REVIEW**

**CB FOR THE  
DISABLED**

**TWO RIGS  
ON TEST**



**A NIP IN THE AIR**

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## BREAKER

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 Ad Manager's Secretary Carrie Love  
 Design by Intermedia

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LINK HOUSE PUBLICATION

The publishers of BREAKER would like to make it clear that FM CB radio is legal in this country, whether it be to manufacture, own, install or use such equipment, and it is our intention to encourage and approve of such practices. 'Bout bloody time they gave us something. . .

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Sit back and gasp with wonder when we tell you David 'sit-upon-my-knee-samurai' Leigh took the cover and centre spread with the oriental slant, as well as the fruity little number on page 48. Roger 'Prince' Phillips was responsible for the Grandstand, and I was responsible for a lot more than I care to admit.



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# Ratchet jaw

Breaker magazine is written by journalists. This might come as quite a surprise to some of you, but it's true. We'd lie about it if we could because it puts a hell of a loading on our car insurance, but we're stuck with it.

Most of the other CB journals — you probably won't have noticed them — are also produced by journalists. Or, at least, by people who know journalists. Or whose cousin's milkman used to live next door to someone whose son wrote in a school magazine.

But on the whole we have two things in common — CB and magazines. We all go about our business, scrounge drinks off each other when we meet and collect our salaries at the end of the month. There is a lower life form, who are to our profession what the hyena is to the animal kingdom. Or what the neutron bomb is to international relations. The hack (hackeratum arsilickus) is a rather pathetic creature who crawls out of dark, damp corners to sell 'news stories' to the nationals. The dailies. The scandal sheets. The lit and burn reviews.

Sometimes these creatures are employed by the newspapers — these are less harmful because they are answerable to the man who signs their expenses — and sometimes they work freelance. These are dangerous. The old adage says that a dog biting a man isn't news — but a man biting a dog is. If hacks don't get stories, they don't get paid, so they are quite prepared to cut up the dog and feed it to the man if they can sell the story.

If you remember, the press raised their ugly heads in last month's Ratchet Jaw. Now, we wouldn't like you to think we don't have enormous respect for our colleagues — fiction has always been a very good seller, after all — but when the dailies start looking at CB we get interested. And when they have a go at it to fill the space between the picture of Lady Diana and the horoscope, we get a bit annoyed. And when they drag us into it, we get bloody angry.

The popular press has an enormous readership — most local newspapers are so appalling they offer very little competition — and that gives them enormous power. Pastimes and people can be developed to cult proportions or blasted into obscurity within days. We've criticised them before for only discussing the jargon everytime they write about CB, but we must admit that they've changed their angle. They decided CB had been a flop — good shock horror sensation — so they set out to find a story that would put the message across.

Let us look at the story produced by the Daily Mail, whose usual efforts at investigative journalism amount

to re-writes of the Tory manifesto and multi-option questions aimed at determining if the paper's female readers are married to slobbs. Most of its female readers are actually married to the hacks who rewrite the Tory manifesto, of course.

Their vital offering, which appeared under the heading 'Shortage of Rubber Ducks spells end of CB radio craze', was written by a freelance hack, who decided what story he was going to write and proceeded to get the quotes he needed by telephone.

Unfortunately, not everyone said what he wanted them to. This was very inconsiderate of the people involved, but it only proved to be a temporary setback because after putting the phone down he simply sat back and made one up. As you can see, this ploy is very useful to the hack and has proved to be very popular over the years.

When the Mail's freelance hack phoned us — he didn't say he was working for the Mail, incidentally — he asked a few general questions about the state of the market. We often get these sort of calls from hacks, who are again writing stories about things they know nothing about, and we usually help them out. A hungry hack is a desperate animal and we certainly wouldn't want anything unsavoury on our conscience. Having taken up a good deal of our time, the hacks usually grunt in their customary manner and attempt to impress their readers with their authoritative information.

On this particular occasion, we answered his question about the CB market, making the point that some people had unreasonable expectations of the market and claimed it had collapsed when they didn't make the vast profits they had expected. The companies who were most serious about CB as a long term proposition were happy.

But this was quoted as: 'A lot of people thought they were going to make an awful lot of money — but they didn't. They've been left with a lot of sets no one wants to buy.'

That's what he wanted us to say. We didn't. But he wasn't going to let them stop him. He was hungry.

Makes you wonder about his other quotes, really. When he phoned he also asked what companies were in the market — good extensive researchers, these hacks — and we told him the names of some of the large firms selling the equipment. Among the names we supplied were Dixons and Halfords, both of whom have press offices with national information at their fingertips and operate as the companies' official spokesmen. Again that's not what the hack wanted.

Instead he contacted two stores, Dixons in Reading and

Halfords in Southampton.

What they said, we don't know but they were quoted as saying 'the thrill seems to have gone out of it' and 'the whole craze has gone dead'. Just what he wanted.

No disrespect to the people he spoke to but we suspect they might not be the country's greatest authorities on CB — or in a position to speak for the companies. But the hack was happy. He'd got the story he wanted and it was just what the Mail needed to fill a hole on one of their pages. Freedom of speech is vital to any democracy but tolerating hacks is a high price to pay for it.

The CB market wasn't the overnight boom some people had expected — mostly due to the Government — but it is providing good trade for a lot of companies, who considering the headaches they've had, are quite happy thank you. But don't take our word for it — here's theirs.

Transcom, who, if you believe the rumours, were pulling out of the market, told us:

'This probably started because we are withdrawing the 2000 model — it's the wrong price to do well. Our 4000 GBX will continue, and we have new sets on the way'. Not really the voice of a company in a collapsing market.

Another rumour was that York sets, which go out through Woolworths stores among others, are also pulling out of the market. Nothing could be further from the truth, as Martin Higham from Sulkin, York's importers, told us:

'This is not true. As well as our present range we are planning to import a new mobile, a handheld and a home base'.

And finally, a word from Halfords, who must be one of the largest suppliers of CB sets in the country at the moment.

Chris Wicks, Halfords' Marketing Director said: 'We at Halfords have based our sales forecasts on a total market for the first year of 400,000 units, compared to the two or three million units upon which others have been banking. Just because some areas experienced a lull immediately after Christmas doesn't mean the market has collapsed. We see no reason to revise our market forecast downwards and are continuing to update and develop our range.'

Isn't it strange how we got a completely different story from the one the Mail carried. Or maybe it isn't...

**Shortage of Rubber Ducks spells end of CB radio craze**

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# Give us a break

## The rules

So. You want to make a point? You want to write a letter? Easy, just scribble on a bit of paper and send it to the address at the front of the magazine.

But remember that we won't publish letters unless you put your name and address on them. We won't print your address if you don't want us to, but we do need it in the first instance. Otherwise, it's the bin. Very sorry indeed, but there it is. Or, in some cases, isn't.

## See Who?

Dear Breaker,  
I am known to my pals as Cee Jay from back when boys were boys and Olympia was staging the 1981 Supernational Custom Car show. I popped along to the Breaker stand and handed over some of my QSL cards. Who is this wally Richard Nichols? He couldn't read it. I can read it and I didn't even design it.

CJ  
West Drayton  
Middlesex

PPS All the best to you all and also my very good friends, Music Maker, Snoopy, Red Falcon, Super Scouse and every one else that knows me. That is definitely it. (Uncle Richard isn't with us on Breaker any more but we couldn't read it either, so it just goes to show that those dirty bits do damage your eyesight. RN is still picking out the dirty bits for dear ol' Cussem Car, of course. Don't know how he gets his guide dog in that 'vette, though.)

## Free Plug

Dear Breaker,  
I am one of the hundreds of breakers in Nottingham. We have tried several times to get a hello printed, so please can you print this hello to:

Mechanic, Ranchero, Partridge, Melody Queen, Barmy Boyle, Captain Chaos, Black Art, Pluto, Baggy Pants, Blue Oyster, General 2, Uniform, Sweet Lips and all the others.

Brer Rabbit  
Nottingham  
(That's at least 14 pints you owe us next time we're in Nottingham.)

## Like Mother . . .

Dear Breaker,  
Although we do not yet have a rig, I look forward to the moment when this happens. I agree that 'fouling on the air' is utterly unnecessary and proves a point that there are those who still cannot master the Queen's English.

I've heard the Red Baron shoot his mouth off in this area and it is yo-yo's such as him and his lady friends that give legal CB a bad name.

Is there any way in which those out to spoil a good hobby can be stopped? Incidentally, should Squadron Leader read this, KLM has now changed her handle and is known as Rebel.

Keep-up the good work with your magazine!

Rebel

Kent

## . . . Like Son

Dear Breaker,  
I would like to say that I find your mag very interesting and I especially like the corny jokes in the bottom left hand corner of page 3.

I have bought the mag since D-Day of FM rigs and reading the bits about moron breakers, here's my views on them because in the Chatham, Kent 20 we have quite a few.

Red Baron is one of them and I was using a borrowed rig, having a chat when on comes this moron using unprintable language.

In a few months time, when I have my own rig, I will be pleased to hear from other breakers.

Cannonball

Kent

(What can we say?)

## Happy Wonderer

Dear Breaker  
I wonder if HMG will give in to pressure from the other European countries, and give us the old forty channels back (26 965-27.405)? If they do, will they manufacture 80 channel rigs, when the new frequencies are still illegal on the continent?

Maybe we'll be told to throw the 40 channel FM rigs away or have them converted as we did with the AM sets.

The Jackal  
Blackpool  
(Lost a lighter in Blackpool, once. Don't suppose anyone found it? October 1976. I think it was. No? Thought not.)

## Kop this

Dear Breaker,  
I would like to say a very much for printing my QSL in November's issue. I have finally got to the end of my IN tray. I would like to say thanks to all QSL'ers who QSLed me, and a quick hello to Starbreaker, Silver Fox, Kestrel and Matchbox here in Rocktown.  
Kopper Nob  
Gwynedd

(A star is born . . .)

## Side lines

Dear Breaker,  
In reply to Mr A J Howard of Dunkinfield (February's Breaker).

I was as pleased as everyone else, when, in February '81, the Government woke up and legalised FM. Unfortunately, all we ever hear now from the FM frequencies is how much better FM is than AM and that sideband

is making FM unusable.

OK, we know you have all paid £10 for your licence, but please don't knock the good old sidebanders. The vast majority of British sidebanders stay well clear of 27.6 to 27.9. In fact, many with sideband radios have gone as far as to have the super low 40 fitted at great expense in order to get the hell away from your FM frequencies and DX in relative piece and quiet.

The mush you can hear coming from your radio is caused by our brothers out there in the US of A and our other country cousins in Europe and, unfortunately for yourself and other prospective FM users, that row is not going to disappear. It runs in 12 year cycles and at the present is rather low, so you can expect it to become a little worse as time goes on!

Strongbow  
Wigan

(A lot of sidebanders played an important role in the CB campaign, but now we've got a system — which is workable, if not ideal — some of them seem intent on screwing things up. Most sidebanders are responsible and keep out of the way, but we're back to the old argument that a few can do a lot of damage. So if you're DXing, remember that charity begins at home and stay away from the UK FM service, eh?)

## Cold comfort

Dear Breaker,  
I have been reading your December issue for 1981 and I just love it. It may seem funny for an Icelandic CB'er to be thinking about British CB law, as I am against FM and for AM. What I have against FM is mainly its limitations over long distances and lack of power when used in rough country. I live in Iceland and personally have had the opportunity to save a man's life with AM CB (7.5 watt) having tried FM (10 watt) with no contact because of the rough country.

But FM isn't all bad. I've made contacts to England on FM after having made contact on SSB and then QSY'ed to FM with very good modulation and readability and no difficulty at all.

Magnus Hlynsson  
Iceland  
(All together now, 'Freeze a jolly good fellow . . .')

## Dogbrain

Dear Breaker,  
I am writing to tell you about a very special conversation on CB. They used the K9 code because this conversation was between two dogs under the handles of Charlie and Scamp. Scamp barked and Charlie started licking the mike and barking, until Charlie was called for supper. Barker-bark.

Hawk Eye  
Barking  
Yapland

(What have we done to deserve this?)

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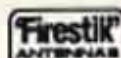
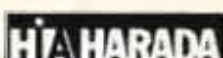


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# Lowdown

## Bondage

Bond felt shaken and stirred. He had been unconscious for six hours but it might as well have been a fortnight. His head felt like it was full of bad bourbon and he couldn't get that bitter taste out of his mouth. He realised he had been trying to swallow his tongue.

He sat up slowly and tried to get his bearings. It felt like he had stepped out from a darkened spin drier into a vat of acidic custard, but he knew that was just his mind playing games with him—besides even Ian Fleming couldn't get away with that.

He looked round the empty room. How was he to escape? He knew panic was more effective than any lock, so he smeared the first bead of sweat across his bronzed brow and applied his mind to the problem as a sculptor would put a chisel to stone. It came to him like the kick from a Leer jet—he'd use the door.

Outside life rushed through his veins as air was sucked into his lungs like cigarette smoke. A lorry coughed its way down the street. Bond coughed. Even the birds coughed. 'Must be Bradford,' mumbled Bond wryly.

His car had waited as loyally as any servant; a De Lorean Leyland parked at the kerb like a cheetah crouching in wait for its prey. Except you don't see many red cheetahs in Bradford. Bond opened the gull-wing door, slipped inside and closed the door again in one smooth, expert movement. He made a mental note to pick up his fingertips when he next visited Bradford.

Bond glanced in the rearview mirror—so far, so good. No one in sight—but he knew he couldn't afford to tempt fate. He must drive to somewhere exotic, or he'd have no chance of getting a suntan this year. But first, he must report back to Miss Spendapenny and, as usual, M had come up with the goods—a CB radio.

'But this is no ordinary CB radio, M had told him.

'This small box of tricks under the dash is a speech scrambler which distorts your voice so that no one else can understand it.'

'But that's like the telephone,' Bond had remarked before slipping behind a filing cabinet to give Miss Spendapenny a fierce one.

'Ah,' said M 'the difference is, we will have a de-scrambling unit at this end. And be careful of that vibrator, James, it's really a miniaturised tactical missile.'

Back in his car, Bond made a mental note to visit Miss Spendapenny in hospital and reached for the CB radio mike, which simply plugged into the scrambler, which in turn ran into the rig itself.

Bond on channel. Bond on... A bony knuckle rapped on the window, a few inches from his right ear. He clenched his teeth to prevent another sound leaving his quivering lips, and lowered the electric window and

wondered if he'd get a last wish. Maybe SMERSH agents didn't carry whips, anyway. The figure spoke softly, but his voice echoed round Bond's head like a drunk pissing in an empty dustbin:

'Excuse me sir, but do you realise that the UK CB licence expressly forbids the transmission of anything other than plain speech—'fraid that makes your speech scrambler illegal.'

Bond knew he only had one chance...

(cont. p65)

## Technology

New technology. Racy little phrase, that. Usually applies to computers and the like but it can be tacked onto CB too—new technology CB. Told you.

One of the slickest bits of new technology CB is selective calling, where you send an electronic blip down the calling channel which tells another rig it's being called. So far though there're very few sets around with this as standard, so if you want one you'll have to buy it as an add-on to your present set.

The Selectacall comes from Mura of London. It comes in two parts, a caller unit and a receiver, and retails for about £40. The caller is a hand held unit which you key in front of your mike to send the signal. The receiver is attached to your rig, where it will respond to show you've been called.

There are a couple of drawbacks to the system. One is that you need two callers and two receivers before the idea works, and the second is that the unit only holds eight codes. For anyone else's receiver to pick up your signal you need his electronic blip amongst your eight codes, so it's not like a phone system, where simply having a number means you can get through (or should be able to get through...). Still, it's a clever idea that works, and not just another gimmick. And what's more it's made in Britain. Beep, beep.

## Caller blind

See the silly call-ups we ran last week? Got another one. From Grimsby we have Crack Pot, 'from under the bed'. Good, isn't it? Sparkling satire this pal. Crack Pot didn't include his (or her) name or address, and after reading that we're not surprised. Anyway, if you've heard any others, drop us a line, and you never know, we might even print it. After all, we printed this one, didn't we?

## D for discount

Just a quickie. Roger D, better known for their stock of CB parts, have told us they'll give discounts on rigs for the disabled. They'll offer around £5 off a £60 rig, but if you have a chat with them they might knock off a bit more. Roger D are at 7 Thyra court, Mapperley, Nottingham (0602 265250).

## Dropping hints

Nothing like jumping on the bandwagon if you think you're going to make a bit of money out of it. Remember how everyone suddenly became skateboard experts a few years back? then disappeared just as fast? Well, there's a lot of people on the fringes of CB who are doing much the same thing and we've had all sorts of pictures turning

up in the office of the most unlikely people holding rigs and smiling at the camera.

Latest in the 'I've-got-CB-come-and-spend-your-money-with-me' stakes is Roger Burston, publican of the Phoenix in Chelsea. And we've got a damn silly picture of him with parrot on his shoulder to prove it. Where did that come from you ask? Probably started as a pimple on the parrot's bum...



## Burnt fingers

Now we know you don't use burners because they're illegal. And, anyway, they're a bit pointless because while your signal goes for miles the only people who can get back to you have to have burners too, and everyone else in between gets swamped. Not too clever, eh?

But here's a cautionary little tale about burners, and what's more it applies to a lot of other electrical equipment that's coming into the country at the moment. Live Wire (UK) Ltd sell a lot of CB equipment, and one item was the Bremi Linear BRL 200, a power amplifier. Live Wire were selling them for about £90, and they were going well—until people started returning them. In fact in two months 80 per cent of the units sold came back, so Mr Bell at Live Wire had them checked out. He was told the valves were underrated for the power the unit was supposed to take, and also the components inside the amp were badly

placed. This, says Mr Bell, meant 'after running one for about 20 minutes the front plate gets red hot—too hot to touch'. While no one was hurt by the amos, some did start sparking, and so there was a very real danger.

But it's not just that which has angered Live Wire. As Mr Bell points out, it's smarmed our business. At the moment they are looking for another make to stock, and in the meantime are replacing all the faulty units.

So what's the moral of this tale? Well, the best and simplest advice we can give is only buy electrical equipment with a British Standard mark—but since it is illegal to use a burner on British CB, you're hardly likely to find one, are you? Get the drift?

PS: We always make these dramatic gestures and then screw it up by saying 'but if you must...' This is no exception. But if you must use a burner, check it out first. We can't afford to keep losing readers in puffs of smoke—not even you naughty ones.

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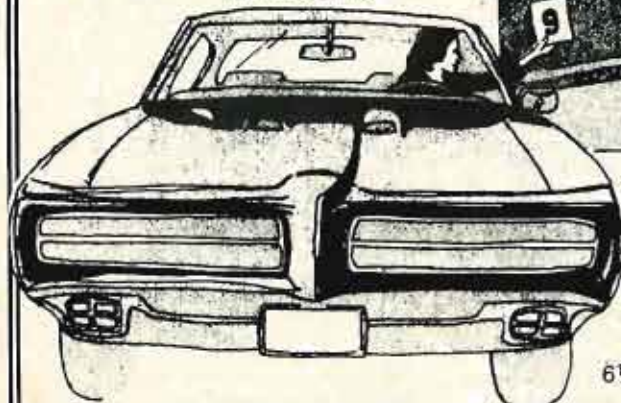
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# Lowdown

## Scoop . . . again

Would you believe it? After our DIY sound deflector in the February issue, we hear of a company that is making them in steel. King Fisher Crafts of Ukurrie, Yonder Meadow, Stoke Gabriel, down in Devon are selling the scoop in a matt black finish for £1.99 (including post and packing). Just the job for you lazy sods who can't be bothered to make one.

The scoop has a few refinements over ours, the best of which is four pads on the bottom which stop the rig sliding when you're using it at home. It's also drilled for screwing to the underside of a rig, if you don't trust the tape provided. The manufacturers say they'll be giving out instructions on how to drill the bottom of your rig without destroying the innards. Just as well really.

## Bus stops

Next time three buses come along at once after you've been waiting for one for half an hour, one of them might be the LCL CB bus. Their idea is to promote CB this year with a nationwide tour.

The bus would be a sort of mobile showroom for companies who advertise on it, but nothing would be on sale — only rigs for demonstration and leaflets and videos to promote CB.

LCL Import's Joe Rogers, the man behind the scheme, says they don't intend to make a profit and doesn't even expect the income from advertising to cover the costs of running the scheme.

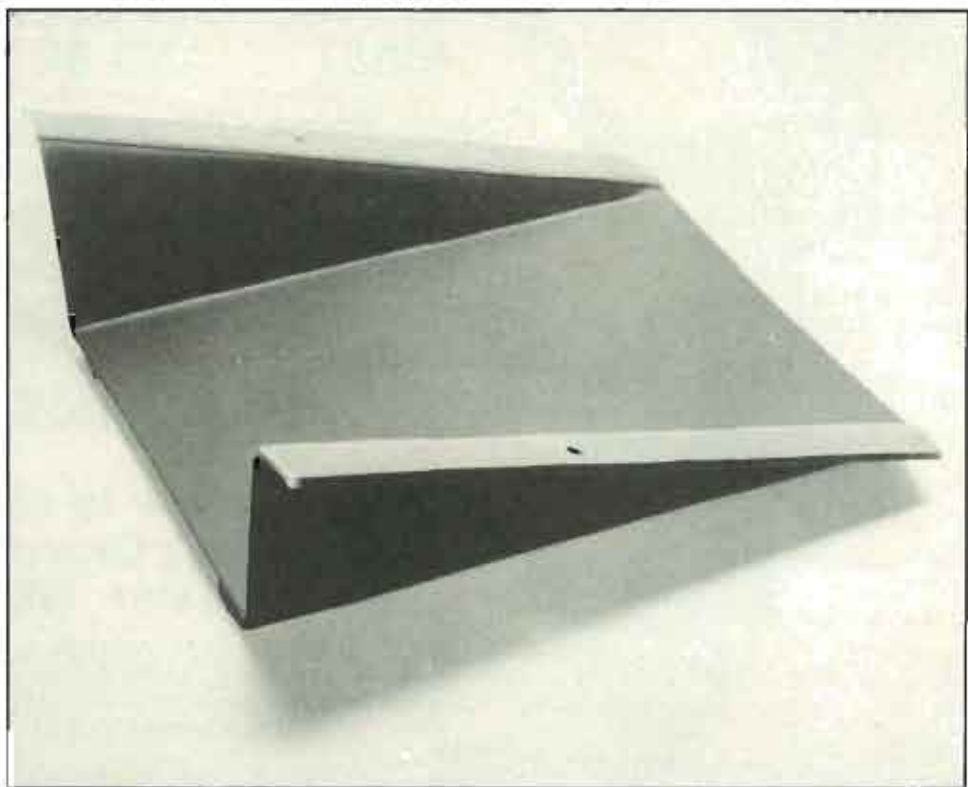
If everything goes to plan — and it depends on companies' support — you might soon see it round your way. And you might even get a free balloon.

## Grandstand drop 'em

And now for the good news. Have you heard the one about the CB company dropping their prices? And not just a special offer, a real, honest-to-goodness reduction on recommended prices. We know it sounds like someone abolishing income tax, but it's true, and what's more it's as catching as measles.

First the details of the price reductions. Grandstand have dropped the price of the Hawk to £80 (was £86), the Bluebird to £90 (£102), the Gemini to £122 (£141) and the base station to £220 (£287). The Communicator, Interceptor and Buzzing Bee models have been dropped because they couldn't meet Grandstands technical standards.

The reason for all this, and the reason it's being repeated by other manufacturers, is that the CB market is starting to establish itself. People no longer go out and buy whatever rigs they can get their hands on — they shop around for the best price. That means competition between shops and manufacturers. And when you get competition, you get lower prices. Can't loose.



## Units and volts

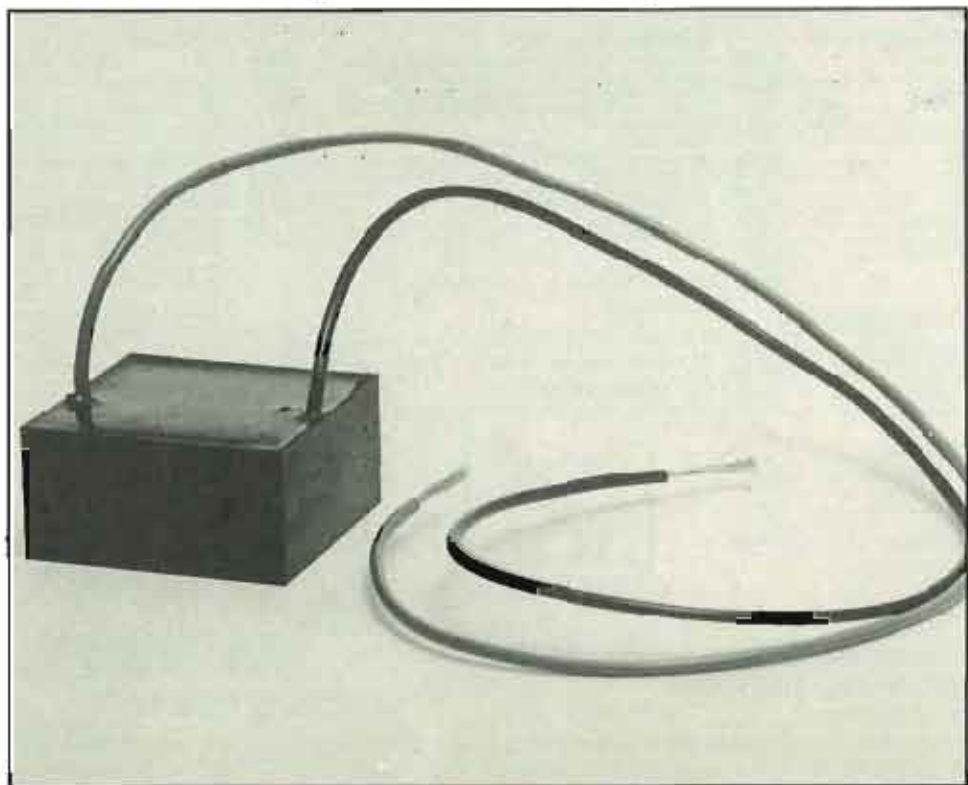
With all the home base units springing up these days, it's not surprising that some people are having trouble with their power units. After all, when you've got hundreds of power units about, some are bound to have faults.

All that's fine when it's the other man's power unit that blows up, but when it's yours, the joke turns a bit sour. Even

worse, and even more expensive, if the power pack loses its regulation it can suddenly feed your rig with a few volts more than it likes. Which'll cost you more than you like.

One way to stop this is to fit an overvoltage module, like the one available from Fremark Electronics. The unit is easily fitted across the output and will shut off if the voltage gets too

high. The unit comes with a fuse which you can fit in line, and this will blow in the same situation. By turning off the power, you will reset the trip in the box and you can continue operating, but remember to check your wiring if it should shut down. The unit costs £4.75 (including post and packing) from Fremark Electronics, Unit 1, Strattons Walk, Melskham, Wiltshire.





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BR5

# Wrappin'

## On the wagen

The Volkswagen Scirocco has been around for a long time, and during that time it's become one of the most sought after sports coupes — the new breed of open MGs and Triumphs of old.

Knowing they'd got a winner, Volkswagen have cleverly made sure it's not going to be out dated by giving it a sleek new '80s body and, also in line with the time, the new car's emphasis is on economy rather than performance. Even so, the car isn't slow. The top of the range GTI model will race you from zilch to 60 MPH in under 10 seconds and eventually reach 110 MPH, all from a 1600cc engine.

That's all very well, but on today's crowded roads the handling is probably more important, and you'll be glad to know it's just as good as the old car. Not surprising, as the suspension is basically unchanged, but it's reassuring to know you can throw the car unmercifully around corners and not kill yourself before you've made the second payment.

The new body is more roomy than the old, and apparently more aerodynamic, but after the sharp Italian styling of the earlier car you might find the rounded German shape disappointing. An odd touch is the deep rear window which is cut by the tail spoiler on the GTI — it looks like an afterthought, which is a pity on a £7000 car. And that's the rub with this car, because despite all the performance and handling and room it does cost rather a lot of money. It's true to say that there isn't another car that matches all the qualities of the GTI, but you could buy the equally fast and far more practical Golf GTI for £1110 less. But then again, just about everyone who ever bought a Scirocco did so because of the looks. It's the price you pay for style apparently. Or to be more exact, £7125 is the price you pay for the Scirocco's style.

It's not all bad news though, as the car should give you around 30 MPG, and like all Volkswagens its resale price should hold up well — more than

can be said for some of its Italian competitors. We'd certainly like to own one, but at £7125? Well, maybe we'd think twice.

## Boys will be...

Summer is fast approaching, those warm sunny weekends will soon be upon us and the time is just right for those bits of car maintenance you've been meaning to do for ages. Mind you, it's no good trying to fit a V8 into your Morris Minor without the proper tools (though come to think of it, it's probably no use trying it with the proper tools).



Even trying something simpler, oiling the sun roof or cleaning the ashtrays, you can't get by without the right tools for the job.

The thing to use is a good tool kit like that being offered by Toolmail — the Heyco Expert Boy. A silly name we'll admit, but the kit offers 30 tools in high quality West German chrome-vanadium steel with a neat plastic carrying case, which makes it ideal for stowing in a car boot. Mind you, you do have to pay for it, and at £59.50 it's not cheap. Then again, you get what you pay for.

The kit is available mail order from Toolmail, Parkwood Industrial Estate, Sutton Road, Maidstone, Kent. They also accept phone orders so try them on Maidstone (0622) 683861.

## Foreign review

A little something for all you unpatriotic types who've bought foreign cars. Well, not all of you, only the ones who've got Fiats, Lancias and Renault 18's.

First the people with Fiats and Lancias. Fiat have announced an extended warranty for all their cars, which will cover them for the second or third year of ownership.

The normal guarantee that comes with the car covers you for the first year on car mechanics and corrosion. The extra cover, called Mastercover 2, also covers you for towing-in, continental use, vehicle hire if your car is off the road, hotel and travelling expenses. It is available for all cars in the Fiat and Lancia range, costing between £62 and £132 depending on the model.

Secondly, for Renault 18 owners, here's some good news from Autobooks. They've just released a workshop manual for most of the 18 series, so if you're



not sure where the thruster on the gland sprocket is, this is the book to tell you. It doesn't cover the Turbo model or the more recent two-litre cars, but then if you had either of them you'd be unlikely to be doing your own servicing anyway.

After mentioning these items, one thing comes to mind. If foreign cars are so reliable, how come they need special break down services and repair manuals?

## Fresh deposits

There's nothing like a well thought out magazine — and this is nothing like one. But even so, once in a while we get lucky and from out of the chaos a few stories appear which look like they've been planned to go together. Usually when that happens we'd call it a feature and spread it across three pages, but occasionally we like to spread little complementary pieces around the mag to fool people into thinking we knew they'd work out like that. This is one of those.

Somewhere in this issue is a feature on CB radio for the disabled, and in it there's a reference to Motability, the Government sponsored charity that helps to get disabled people on the road with reduced prices for cars and special payment schemes. And Ford have announced they're reducing the cost of their cars as supplied to Motability by reducing the deposit required. This means the deposit on a Fiesta 950 is almost halved at £147.24, and the deposit on a special Cortina two-door automatic is down by nearly a third to £941.67. The repayment period remains the same at four

and a half years.

While we're talking about Ford, we ought to mention that they're recalling 56,000 Cortinas and Capris made between May and October 1981. Apparently they've found something wrong with the steering and might have to replace a component, so if you've got one it would be worth having it checked. Mind you, there's nothing special in a recall. Most motor manufacturers have done it from time to time. The strange thing is that even if the wheels fly off when you turn on the indicators, it doesn't stop people actually buying the cars. But it's not the same with CB sets though.

We've heard of manufacturers who had some faults with early sets, because the Far Eastern manufacturers got it wrong, and when the faults were found they replaced the sets (something motor manufacturers would never do). But did it help? Unfortunately not. The word had already got round, and that manufacturer found it difficult to sell his sets again. Wonder what it is that makes people shy away from a £100 rig when they'll buy a £6000 car regardless?

## Staff car

We thought we'd bring you news of our latest staff car here on Breaker, a slightly modified Robin chassis with a twin-torbo'd, mid-mounted V12, and O to the back of the lorry in front in about two seconds. Note the unusual directional beam antenna we're using connected to 200,000 watt 1200 channel Commander Over The Top rig.

Not fooled? OK, we'll admit that we've bent the truth a bit. The car's not ours at all, in fact it belongs to March Engineering, who you might have heard of in racing car circles. They've launched the March 82G to compete in the 1982 World Endurance Championship and



the American IMSA GTP series.

The engine can be any of the likely racing motors around at the moment, and the rear suspension and gear box is designed to take up to 900 bhp. Bit like my Rover really...

We bet you're expecting us to tell you that the team uses CB radio to keep in touch with the pits. Well, they don't. Well, not as far as we know anyway, we just thought you'd be interested in the car. After all, when was the last time you heard about a car that does 225 mph. Well, apart from my Rover, that is.



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On the Oscar One, all controls are on the front panel. The main ones, the channel change, concentric volume and squelch, concentric channel nine (for instant use of the emergency channel; and Delta tune (to help pull in off channel stations) all fall easily to hand. The attenuator switch reduces transmit power by ten times to comply with the licence conditions and as a courtesy to other users.

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# Citizens' advice

Citizens Advice is Breaker's technical queries page, a sort of CB agony column. Dear Marj, and all that. Actually we haven't got enormous glasses or gaps in our teeth, but we have got a team of CB experts eager to answer your every question. Providing we pay them enough. But that's our problem because it doesn't cost you a penny — in fact, we might even send you a greenback or two, if we use yours in print. Mark your envelope 'Citizens Advice' and send it to Breaker, Link House, Dingwall Avenue, Croydon CR9 2TA.

## Bottling whine

I am experiencing considerable interference from my car alternator, which is affecting my Fidelity 2000. I've fitted a music radio suppressor and a suppressor to the coil.

Chris Morris, Dorset.  
In theory, interference on FM should only reduce the range, and should not produce noise on channel, but in practise it does. The alternator produces a whine that rises with the engine speed. We suggest you try fitting a pre-tuned wave trap to the alternator (Tandy part No 21-509) or an alternator noise suppressor to the voltage regulator (Tandy 21-507).

## Clubland

I have a friend who lives in Snarrness in Shetland and is very interested in CB radio. Can you tell us if there are any CB clubs in the Shetland Isles? B Roadley, Redditch.

You could try The Dark Island Breakers, PO Box 1, Benbecula, Scotland. But as our geography is terrible they're probably miles away from Shetland. If anyone knows of a club on Shetland, we'll pass on the message.

## Twigged it

Are there any rigs with FM USB and LSB? Also, why should twig laws be changed for FM if the range of AM and FM are the same?

G Smith, Rugby.  
There are no sets with FM upper and lower side band, although you can get sets which do have FM, AM, USB and LSB. The present antenna laws artificially restrict the range of the FM sets, but a good antenna spec would give FM set's potential a real boost.

## No damage

As a newcomer to CB I set up my Comtron and DV27 as a home base, using a biscuit tin and a ground plane while I set the SWR. Then I made the silly mistake of using the set with the antenna standing on a kitchen stool, and when I checked the SWR an hour later I found it was off the scale. The rig appears to be all right, but

could I have damaged it permanently?

D Humphrey, London.  
It seems you've had a lucky escape. Running a rig for any length of time with the SWR that high will blow the output transistors leaving you with only a receiver, but as the rig still works it seems you've got away with it. This is a good example of why you should fit an SWR meter in line permanently — and/or buy a set with an SWR safety cut out.

## Switch CB?

I've heard of a device called an Aerial Switcher, from Hythe Electronics, which allows a CB to be operated through a normal car aerial. Could you tell me if it works and, if so, how well?

Transformer, Surrey.  
We've heard of this device but not actually tested it. It allows you to SWR a normal car aerial (yes, the telescopic sort) for use with CB. Knowing what the reception of most car radios is like we wouldn't expect the Switcher to get out very well, but that remains to be seen. We also think it's illegal as you're only allowed to use a CB through a certain sort of antenna — and a car aerial is not one of them. The Home Office agree with us, the manufacturers don't. You can make up your own mind.

## Ground down

I own a Reliant three wheeler with a glass fibre body which doesn't produce a ground plane. Is there anything I can do? Also you advertise the Cobra 21X, but don't feature it in the rig guide. What's wrong with it?

M Bartlett, Bristol.  
Producing a ground plane is fairly easy. You can either buy a ground plane effect antenna, which has a special loading coil to create the effect, or you can use sheets of aluminium foil connected to the base of your antenna and earth them to the chassis. As for the Cobra 21X, take a look in the Which CB? guide.

## SWR'ing by it

I am setting up a home base using a Midland 2001 and a DV27. Is the DV27 legal, and could you go through the steps of SWR'ing an antenna?

Mark Brown, Kent.  
The DV27 was illegal, but they've now brought out a new legal version, so the answer is yes and no. SWR'ing is easy. You need an SWR meter and a patch lead (available from any CB shop). Connect the antenna cable to the socket marked ANT on the SWR meter, and the patch lead to the rig and the other socket on the meter. Turn the set on, set it to channel 20, and with the meter set on FWD, key the mike. The needle will flick across the dial. Using the calibration knob, move it until it points to the SET mark. Then set the meter to REF and

key the mike again. This will give you your SWR reading. If this is below 1.5 then it is safe to use the set. If it's not, take readings on channels one and 40 without adjusting the calibration. If channel one reads lower than 40, the antenna is too long, and if 40 is the highest then it is too short. Adjust the antenna by 1/8 inch at a time and take new readings until it's 1.5 or below.

## Sea breaks

Could you please suggest a way of setting up a rig in my yacht. It is made of fibre glass, and I don't seem to have the space for a ground plane.

Quincey, Norwich.  
There are two sides to this problem. First the rig, which should be waterproofed before installation in a boat. We haven't heard of any commercially available marine CB radios, although they are available elsewhere in the world, so you'll have to pick a sight where it's unlikely to get wet. Secondly, the ground plane. The best answer is to use a commercial ground plane kit (most CB shops will have one) and then mount your antenna as high as possible. On top of the mast seems handy.

## Disabled doubts

Being disabled and not able to get out very often, I wonder if you could answer a few questions on home base sets. What is the legal limit to the height of the antenna before the attenuator is needed? Does the antenna have to be fully above roof level for the best transmitting power? Does the antenna have to be earthed? I can't cope with a handheld mike, so would a desk power mike be all right?

EM, Suffolk.  
First the antenna height. The base of an antenna can be 7 metres (23 feet) from the ground before you need a 10dB attenuator. On positioning, any antenna that is overshadowed by a building will be directional, but as mounting the antenna above the roof will probably break the 7 metre rule, you have to choose. Do you want an omnidirectional signal, or a strong signal? The earthing of antennas is not necessary, but it is a good idea on some models. And finally, yes, a desk mike as you describe will work, but any power mike will need wiring up to a suitable plug to fit the set.

## Mr Whippy

I read somewhere that base loaded antennas are only 30 per cent efficient is this true? Also, if I put two whip on my van would it help me to get out further?

M Lawrence, Bristol.  
The present antenna specifications are very restrictive which leads to a very low effective radiated power (ERP) figure — only two watts allowed. Because

of that, running two antennas on one rig at the same time is not advisable as it will cause even greater power loss.

## .4 thought

I've got a Transcom GBX 4000 and a K40 mounted in my car. In the instructions it says I have to get the SWR equal on channels one and 40, but the best I've got so far is 1.8 on 40 and 1.4 on one. It's been suggested I use a matcher to overcome this problem.

S Owen, Wellingborough.  
There's really no problem at all. Having equal SWR on extreme channels is very nice but not necessary. Your readings indicate that your antenna needs trimming slightly, but the difference is very small and will not effect the safe use of your rig.



## The ranger

I want to use a Johnson rig home base. Could you tell me the range day and night I can expect from a legal twig?

Tim Graham, Slough.  
This is a bit like asking how long's a piece of string (16 1/2 ins — Ed). During the day you can expect about three miles in town, as long as you're not in a valley or next to a tower block. If you live on top of the tower block you can expect more. At night the range increases because fewer people are on channel and your signal can get further. In ideal conditions it's possible to reach over 30 miles, but no one down the pub will believe you.



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# HOME PRIDE

## Graded gains make finer power

When we first wrote about 'legal' base antennas back in November, there was only one available — and that wasn't in full production. Since then, interest in using CB from home has grown and we've contacted every antenna manufacturer and importer in our little black book trying to get hold of more. It seems the companies themselves have also recognised the growth in interest and there's now enough on the market for us to get together this market review.

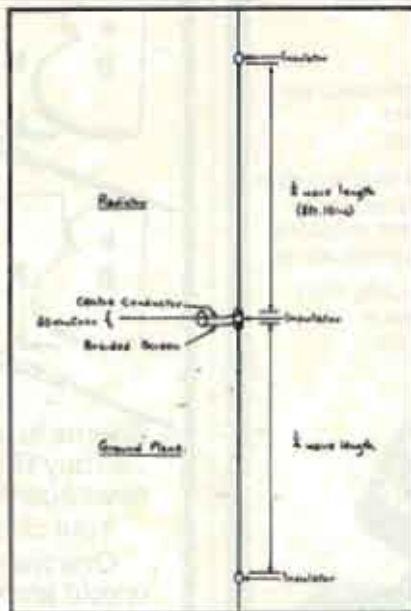
The problem with the Home Office antenna specs is that while they are very restrictive, they are also open to some interpretation and some companies are operating in 'grey' areas. The official line is that an antenna should be base loaded and have a single element rod or wire whip not exceeding 1.5 metres in length with a base mounted loading coil. And if the antenna is mounted higher than seven metres (to the top of the base load), the 10dB attenuator should be used.

But then you all knew that, of course. That 27 feet long Sigma Four strapped to your chimney is just to get Outer Mongolia Broadcasting on your FM stereo, right?

The next point to raise is the 'yardstick' of base station antennas — the  $\frac{1}{2}$  wave dipole (fig 1). This is the antenna that gain figures are quoted against — or at any rate — should be. A  $\frac{1}{2}$  wave dipole is rated at 0dB gain and any antenna that increases the effective radiated power over a  $\frac{1}{2}$  wave dipole is said to have 'X' amount dB gain. A lot of manufacturers claim gain figures for antennas of around 4dB that are end-fed  $\frac{1}{2}$  wave dipoles, but this figure is gain over isotropic (a theoretical figure). Isotropic is used because any  $\frac{1}{2}$  dipole is going to be 0dB, so don't be fooled.

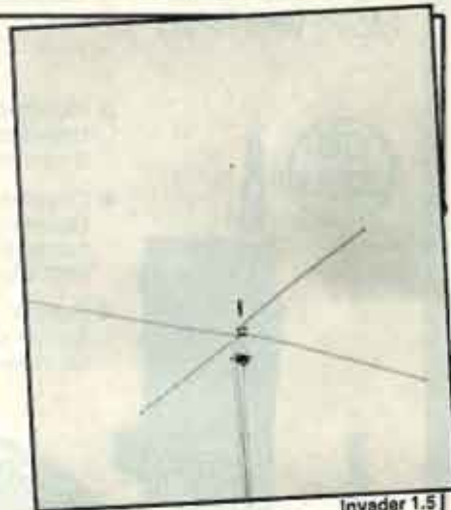
This selection of antennas, and the ground plane kit is a guide to what's around in the market at the moment, so sit back and read on...

Thanks to Ragtrader, and Gasoline Queen for their help and especially to Carol for the coffee!



Above: The basic half wave dipole, against which gain figures are quoted

Below: The popular (but illegal) 18' Silver Rod half wave from Hy-Gain



Invader 1.5

### Invader 1.5

A fairly simple design which is easy to assemble and can be used either pole mounted or with an optional extra bracket for loft installation. Rough tuning is done by reducing or extending the length of the sliding top section, and additional fine tuning by moving an impedance matching ring on the base loaded coil.

**Main component material** — rolled alloy tube

**Overall height (fully extended tip)** — 2 metres

**Length of radials** — 1.35 metres

**Method of construction** — bolted together

**Pole fixing kit** — yes

**RRP** — £25.00

**Manufacturer** — Freeman and Pardoe, Alcester, Warwickshire.

### Sceptre 1.5

The base coil and radiator are similar to the Invader 1.5 with an additional bush and three small rods near the top. The four ground plane radials extend downwards at an angle from a collar at the base of the loading coil. Tuning is as for the Invader 1.5.

**Main component materials** — seamless welded alloy tube

**Overall height (fully extended tip)** — 2.5 metres

**Length of radials** — 1.35 metres

**Method of construction** — push fit, locking with allen screws

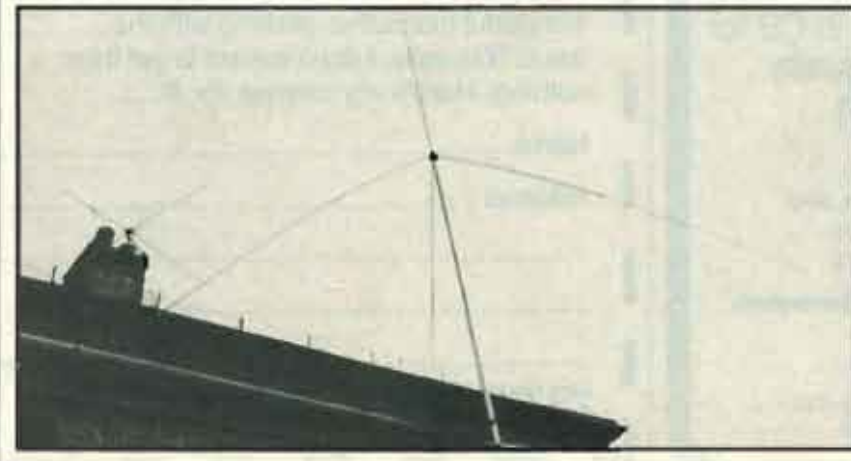
**Pole fitting kit** — yes

**RRP** — £30.00

**Manufacturer** — Freeman and Pardoe

### Alcom DPA II UK

A legal version of the very successful  $\frac{1}{2}$  wave 18 foot Alcom DPA IIVR. Coarse tuning can be done by moving the coil section slightly up and down and fine tuning by sliding the tube at the bottom in



Left: Half wave with three full length radials

or out. Everything is marked for assembly, so construction is fairly straightforward. The importers have found that the antenna works best when mounted 9 feet from the ground.

**Main component materials** — seamless alloy tubing

**Overall height** — 2 metres

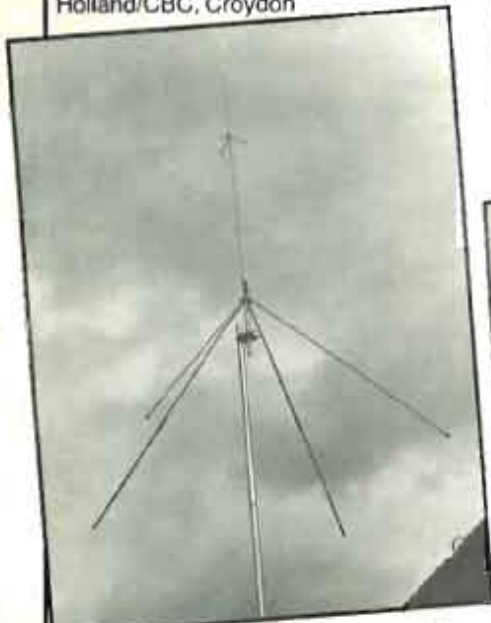
**Length of ground plane coil** — 30 cm

**Method of construction** — bolted together

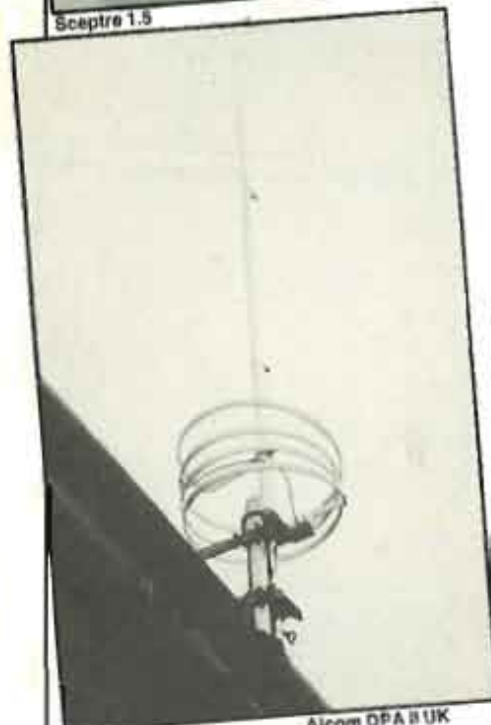
**Pole fitting kit** — yes

**RRP** — £19.95

**Manufacturer/Supplier** — Alcom-Holland/CBC, Croydon



Sceptre 1.5

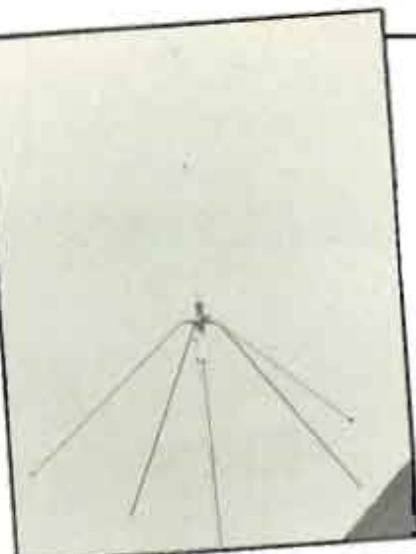


Alcom OPA B UK

### Stingray

The most complex of the antennas in this group, with an interesting tuning system. A long loop of cord enables tuning to be done on the ground with the antenna 20 feet above you. Pull one cord and the top element lowers and pull the other cord and the top element raises — clever, huh?

**Main component materials** — rolled alloy tube



Stingray

### Superlance

This is an unusual looking antenna with what looks like a fuse box at the bottom — but it isn't. Tuning is achieved by undoing or screwing up a bolt at the base of this box. Very simple and straightforward. No assembly required and this antenna can be mounted indoors or out.

**Main component material** — seamless alloy tube

**Overall height** — 1.57 metres

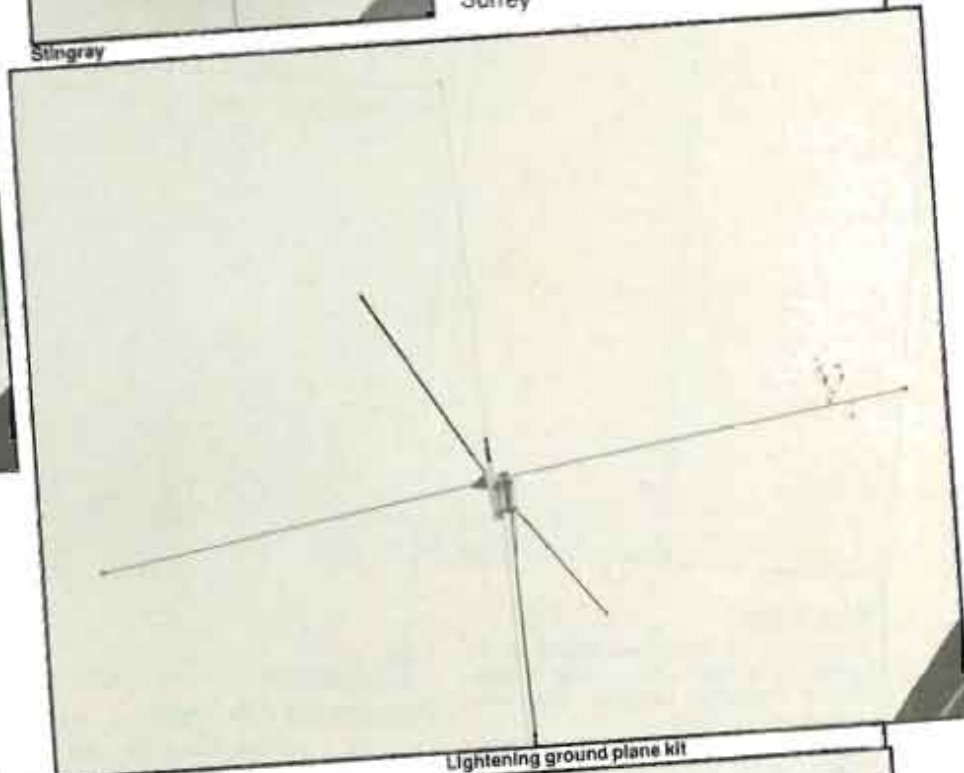
**Length of radials** — none

**Method of construction** — none, ready to install

**Pole fitting kit** — yes

**RRP** — £28

**Manufacturers/suppliers** — Ears 'n' Gears, Aylesbury, Bucks, and Rabbit Rabbit Hutch, Kingston-Upon-Thames, Surrey



Lightening ground plane kit

**Overall height** — ± 3 metres

**Length of radials** — 1.5 metres

**Method of construction** — bolted together

**Pole fitting kit** — yes

**RRP** — £45

**Manufacturer** — C-Brit, Unit 3, Wembley Commercial Centre, East Lane, Wembley

### Lightening Ground Plane Kit

A particularly well made ground plane kit compared with some. Lightening have paid just that little extra attention and used seamless alloy for the radials, making it look better (Note: base loaded antenna shown in photograph not supplied with ground plane kit).

**Main component materials** — seamless alloy tube

**Overall height** — N/A

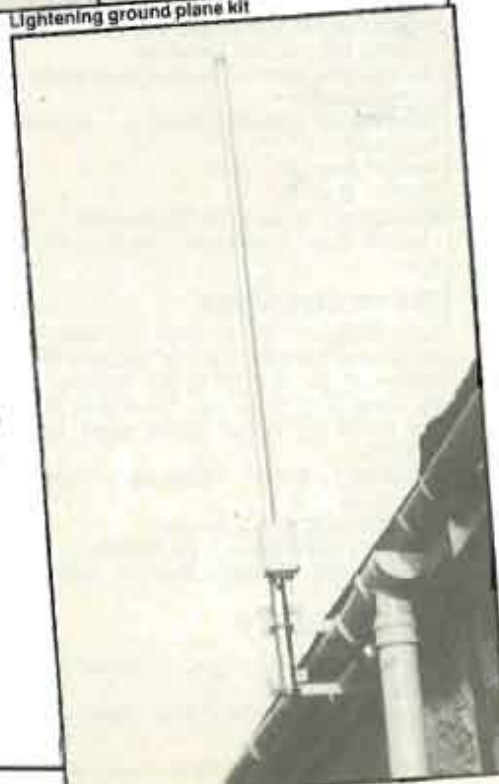
**Length of radials** — 1.32 metres

**Method of construction** — bolted together

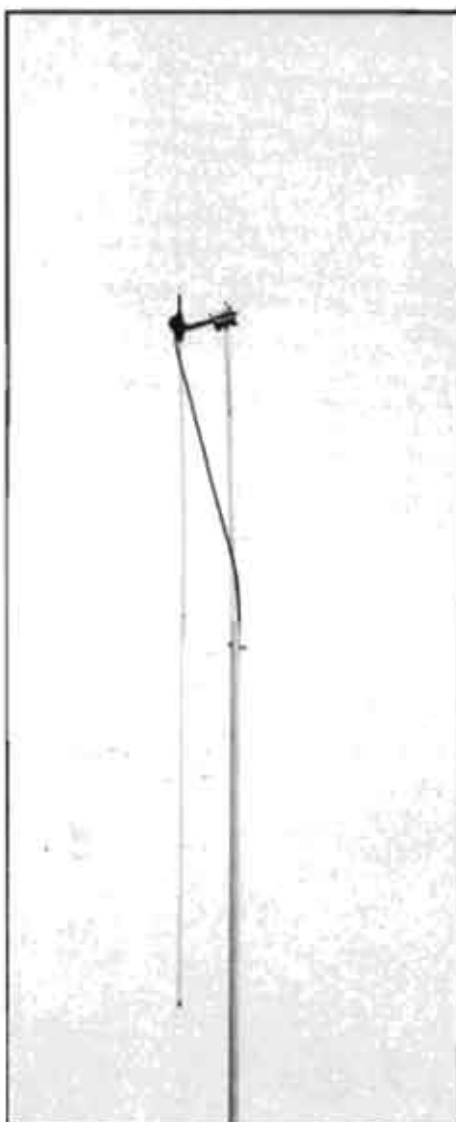
**Pole fitting kit** — yes

**RRP** — Approx £13

**Manufacturer** — Lightening Antennas, GT Engineering, Oakwood Hill Industrial Estate, Loughton, Essex



Superlance



Wot Pole

### Wot Pole

A variation on the dipole shown at the beginning of this article using a base loaded radiating element and alloy ground plane radial.

**Main component materials** — rolled alloy tube and stainless steel rod  
**Overall height** — 3.8 metres  
**Length of radial** — 2 metres (included in overall height)  
**Method of construction** — bolted together

**Pole fitting kit** — yes  
**RRP** — £14.95

**Manufacturer** — WTA Electronics, 111 Cromer Road, Hellesdon, Norwich, Norfolk

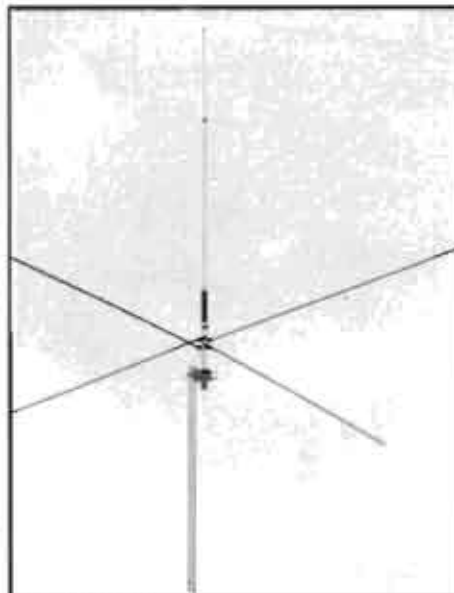
### Silver Star CB81

Very similar to the Invader 1.5 both in looks and construction, but without the option of the loft fitting kit. Tuning is by the sliding tip alone. Finish was not too good — drilled holes were not deburred.

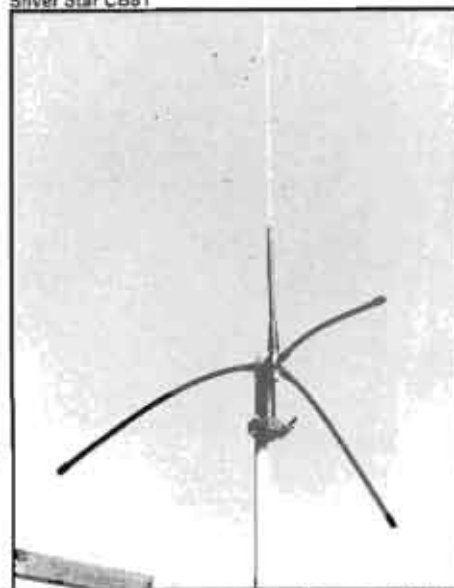
**Main component materials** — rolled alloy tube  
**Overall height** — 2 metres  
**Length of radials** — 1.35 metres  
**Method of construction** — bolted together

**Pole fitting kit** — no  
**RRP** — £25

**Manufacturer** — Aerial Supplies Ltd, Redditch, Worcs  
**Supplied by** — Ten Four Talonville, Surbiton, Surrey



Silver Star CB81



Panorama CB 27BS

### Panorama CB 27BS

Basically a ground plane kit with the popular CB27 mobile antenna fitted. Very well made but a bit expensive — although quality of materials and workmanship is generally very good from this manufacturer.

**Main components materials** — various  
**Overall height** ± 2 metres  
**Length of radials** ± 0.6 metres  
**Method of construction** — screw together

**Pole fitting kit** — yes  
**RRP** — £38

**Manufacturer** — Panorama Antennas, Putney

### Witchstick

A neat compact antenna that is exceedingly easy to assemble. The radials are solid rod alloy and screw into the base of the loading coil. Tuning is done by extending or reducing the top section.

**Main components materials** — alloy rod and tube  
**Overall height** — 2 metres  
**Length of radials** — 80 cm  
**Method of construction** — screw together

**Pole fitting kit** — yes  
**RRP** — £25

**Supplied by** — Ten Four Talonville

### Rabbit Rabbit Hutch Special

This is a combination of antennas utilising three 5/8 wave Firestik antennas (2 feet or 3 feet) as the ground plane radial and using a Cherokee as the radiator — interesting.

**Main component materials** — various Firestik

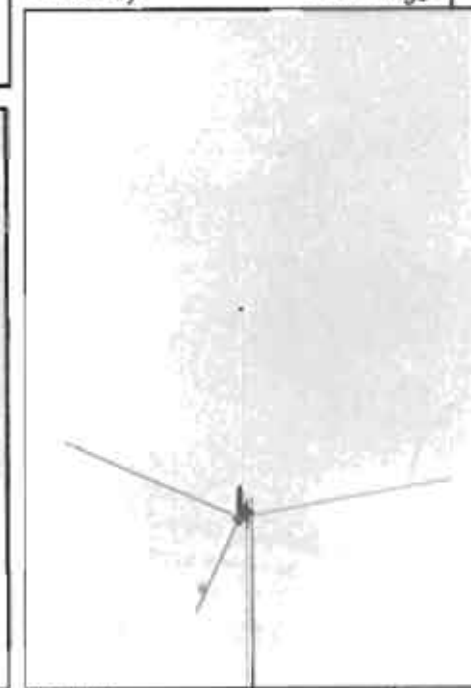
**Length of radials** — 2 feet or 3 feet

**Method of construction** — screws together

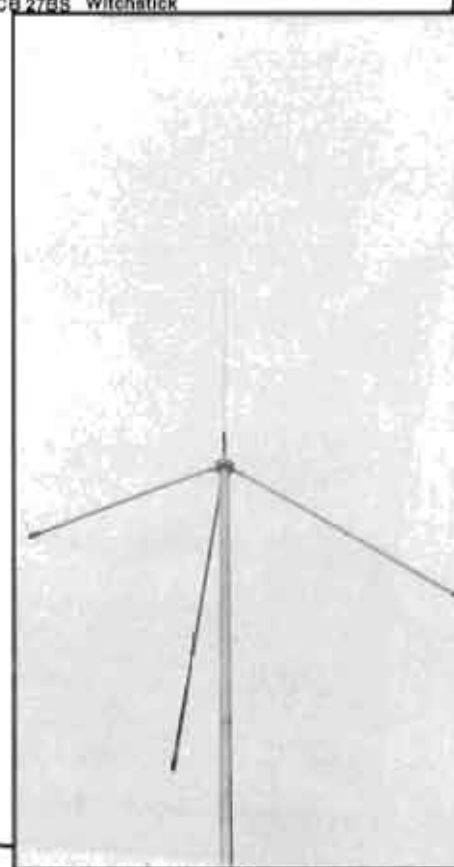
**Pole fitting kit** — yes

**RRP** — £29

**Supplier** — Rabbit Rabbit Hutch, Kingston, Surrey



Witchstick



Rabbit Rabbit Hutch Special



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# Racks against the wall

Last month we featured the little Grandstand Bluebird as our test set and this month we are going to the top end of their range to the Grandstand Base Station.

## Appearance and controls

From the first, the Grandstand Base looks like something extra special. There seems to be a confusion of knobs, switches and dials and digital displays which would seem to require a BSc in Engineering to operate, but on closer inspection, all becomes clear.

The finish of the set is satin matt black with gloss black fascia. There are LED displays for a 24 hour clock (useful for that 10-36) channel indicator and two standard meters for signal strength and SWR. There is a further window which allows the clarifier's graduated dial to be read. The push button switches under the clock display control PA, noise blanker, hi-lo power attenuator and SWR set. Toggle switches situated below them are CB on, off and auto (for clock timer) clock on/auto, sleep timer, clock time, sleep and alarm fast or

slow set, and a display dimmer. A large channel selector knob is situated under the LED channel indicator and below this the clarifier mentioned previously. The CB control knobs are for RF gain, squelch, SWR, tone and volume. Also fitted is a 1/4in jack socket, to allow the use of headphones, and a mike plug socket.

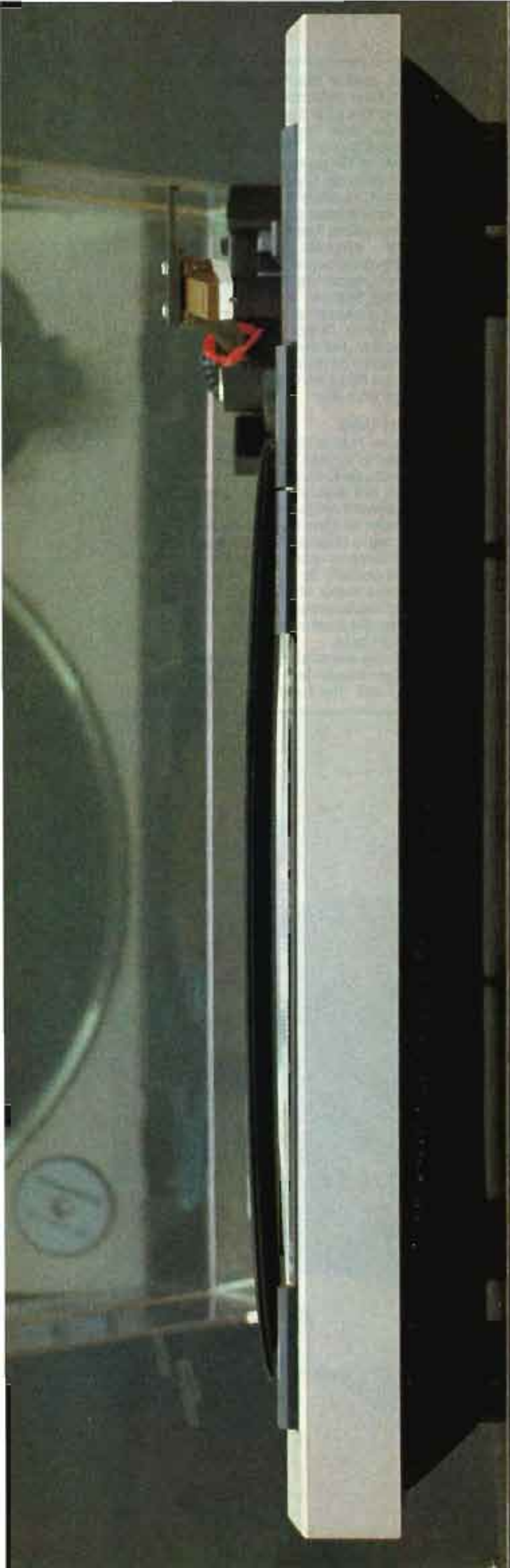
The back panel has the S0239 aerial connector, chassis mounted fuse holder, din plug connector for PA and a 5 pin din to allow taping of conversations. One feature missing is the facility for an external speaker which has not been fitted although it is mentioned in the instructions. This, we have been assured by the importers, will be fitted on the next batch of sets to go on sale.

## Ease of use

Three core mains cable is supplied connected to the set, but a mains plug is not included. Once on, with the clock set, the unit is a joy to use and the adjustment on the clarifier allows the operator to tune into those 'bleed over all' radio operators, who tend to wipe out three or more channels, and ask them politely to move. Although their voices were slightly garbled it could be understood and evidently the FM modulation was clearly audible on their sets.

At first, the alarm/sleep timer seems a bit superfluous but on two occasions on late night nets a couple of





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REPEAT: ON/OFF  
EJECT: [Button]

95.80 MHz

0:07

9

TX [Meter] RX [Meter] SIGNAL POWER [Meter]

SYSTEM BAND IM TRANSDUCER

FM/AM selector, Channel Selector, RF-GAIN, SQUELCH, SWR, VOLUME, TONE, CB 27/81, DIMMER, SLEEP, TIME ADJ, SET, POWER, MIC

GRANDSTAND

BREAKER

# Grandstand

## Model Type:

Base station

## Supplier/Distributor:

Adam Imports, Rippon Way, Harrogate, North Yorkshire.  
Contact them for details of local retailers.

## Specifications:

TYPE OF SET	NO. OF CHANNELS	SQUELCH	TO NE	RF GAIN	MIKE GAIN	PA	ROGER BLEEP	NOISE BLANKER	AUTOMATIC NOISE LIMITER	PA LIGHT	RX LIGHT	TX LIGHT	SIGNAL METER	POWER METER	DISTANT/LOCAL	CHANNEL 9 SWITCH	DIMMER	ATTENUATOR
B	40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

M: MOBILE H: HANDSET B: BASE STATION

## Findings:

	1	2	3	4	5
Overall appearance					●
Performance					●
Mike - performance					●
Mike - plug position				●	
Controls - facilities				●	
Controls - ease of use				●	
Controls - sensitivity				●	
Meter readability			●		
Speaker clarity				●	
Instructions			●		

Key: 1-poor. 2-fair. 3-average. 4-good. 5-excellent

## Summary:

The Grandstand Base Station provides a wide range of controls and good quality - but at a price. Many CB companies have announced home base units but Grandstand are one of the few to have come up with the goods.

## Breaker Data

breakers have gone off to sleep with their sets on and their mikes keyed, effectively wiping out any chance of using that particular channel for over 6 hours - one could even be heard snoring. The sleep timer switches the rig off after a set time: 1-59 minutes. The built-in SWR meter is fairly accurate and enabled a constant watch on tuning - particularly during the recent freeze.

Speaker clarity is good and can be adjusted to the individual ear with the rotary tone control and when used with earphones allows the user to pick up clearly the 'back of the box' transmissions. The microphone was excellent and virtually no improvement was noted when used with a power mike.

## Performance

As we have said many times, variables in conditions make it impossible to give an accurate comparison, but copies of up to 40 miles were made - although on S1 or lower on late night nets when the airwaves are fairly clear.

As with all the sets tested so far, the Home Office specs were met. Performance is enhanced by the use of the clarifier, which only works in the receive mode and did not alter the transmission frequency. The noise blanker was designed for high frequency interference and does not seem to be particularly useful, although should be effective when used in a room where fluorescent lights are present.

## Conclusion

The first reaction of many who saw the set was 'great, but no way would I pay £220 for a 40 channel set'. While that is a natural assumption, most people would also say they wouldn't pay £60,000 for a Rolls Royce, which after all does much the same as a Ford Cortina. The Grandstand Base is for those of you who want that little bit more from your home-base. It is a quality made product for the quality conscious and with the exception of the lack of the external speaker facility (soon to be rectified) and a microphone gain control, it is one of the most sophisticated CB sets we've tested.



Rack system supplied by Mr Cad, Whitgift Centre, Croydon.

# CB to start the professionals talking.



Our extremely stylish new CB202 mobile unit will certainly start the professionals talking.

They'll probably mention the squelch tone, the RF gain and LED channel read out. And they may go on about the 4 digit LED S/RF power meter and the transmit, receive and power-on indicators all with dimmer control.

Then of course there's the PA function, the integral speaker with external speaker jack, the PA speaker jack and 40 channels to choose from. We could go on and on.

So why not join the professionals? The complete package comes with dynamic microphone, mounting bracket and comprehensive instruction manual. And because we've had 35 sound years behind us, you'll find our experience built into every unit. That should give you something to talk over. Er... 10.10.

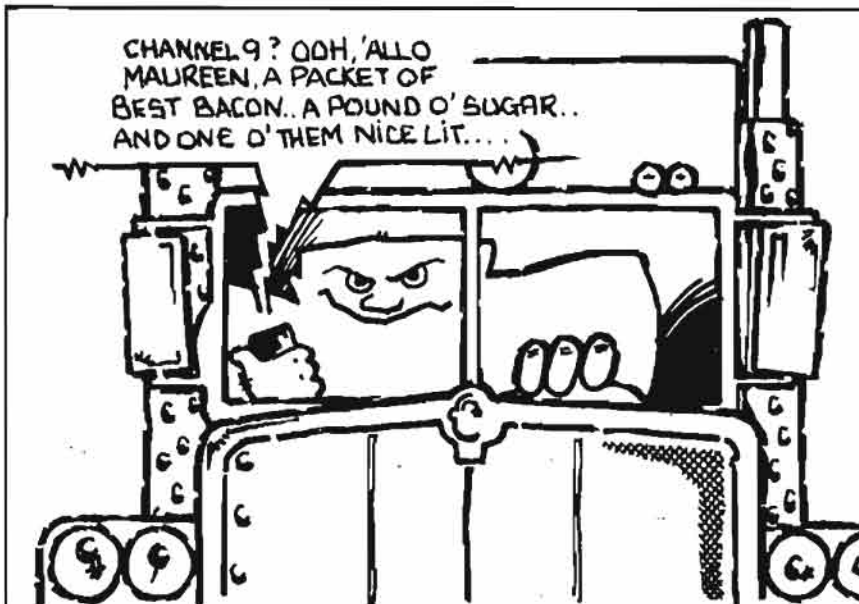
Also available: the CB201. Ask your dealer for details.



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# Channelling OUR RESOURCES



Ok, it's confession time. We admit to a little self-indulgence when it comes to putting headlines on our features. Most of you seem to find them quite amusing but on occasion they have been known to verge on the obscure. On other occasions they've verged on the rude. Ish. 'Channelling our resources' is one of our most appropriate offerings yet. Not as funny as 'Are you being interfered with?' maybe, and not as offensive as 'One off the wrist' was to one angry reader. But add CB radio to the British public and we have tremendous resources, whether to help others, or just enjoy ourselves. But unless it is channelled, it will be wasted. See? Thought it was just a stupid pun, huh? We don't just throw this thing together, you know.

So to channels, the noun. As in 'Pick a Various channels of the CB system operating in this country—in fact, it's true of CB radio worldwide—are set aside for different purposes. These usually vary according to local requirements, and we'll be looking at a few examples later in this feature, but there is one channel which is recognised internationally as the emergency channel—channel nine.

Back in the wicked old days when AM CB was the only service operating in this country, monitoring organisations were set up, on both a local and national basis, to simply listen in to channel nine in case an emergency call came through. The details of that emergency were then passed on to the relevant authorities and help was soon on its way. With the introduction of the FM system, some of the AM monitors also bought FM sets and new organisations were set up, so the practice could continue.

The thousands of monitors who now operate nationwide do so entirely on a voluntary basis. They receive no payment, very little publicity and often little or no thanks. But they carry on spending

their own time to help others by listening out on channel and simply being there if they're needed. Those thousands of monitors, with rigs and telephones by their sides, are the vital link. The resources. And that is channelled through channel nine. Get the feeling it's time for a Big B? 'Fraid so.

But there's a thorn in their side—or on the side, if you feel the need for a pun—and that thorn is the person who gets some sort of perverse pleasure out of wasting those resources by blocking the channel. We've discussed the wally before and his, her or its behaviour is still beyond us, so there's nothing we can add to the sort of people who derive amusement from such pathetic practices. What we can do is look at ways of ensuring the resources aren't wasted.

We are aware that there is a danger of encouraging these nurd just by looking at solutions, but it's a risk we'll have to take or no one will ever be able to air their views. And we're damned if some miserable little nurd with no control of his mouth is going to prevent us from saying what we want. We should also point out, incidentally, that the wally isn't the only unwanted breaker straying onto channel nine. The FM system frequencies clash with some of the high channels used by AM and sidebanders. While we don't want to get involved in any stupid fights—we've said before we're a magazine for all breakers—we would like to ask them to keep away from these channels.

Some of the more defiant, or stupid, offenders we've spoken to have said that they were there first and if it wasn't for them, legal CB wouldn't exist. This much is probably true but if you'd spent wet weekends parading up and down with a legalise CB banner, would you want to screw up the very system you'd helped to win the battle for? So before we add any more fuel to the fiery debate still going on,

could you please avoid channels 68 (FM breaking channel) and 64 (FM emergency channel) in particular because they clash with channel nine on FM. Some rigs vary slightly—with hi, hi hi, lo and lo lo—but it's not difficult to find out which channels cause the problems and stay away. You've got a lot more to pick from, after all.

Some breakers drop in on channel nine to discuss last week's OTT simply out of ignorance. They don't know channel nine is for emergency use only. It must be said they are in a minority, but if it's the first time you've heard them on channel, give them the benefit of the doubt, at least.

As we said in Ratchet Jaw last month, tracing the wallies can be difficult and the authorities can't do anything unless they can trace the offender and prove they were committing the offence. The problem is one of priorities. CB radio is not considered to be a vital service and as such it's really up to you and me to look after it. TV is considered by the authorities to be a vital service, however, and any complaint of interference will be investigated by the authorities. The problem, as we said last month, is difficult to solve. CB radio is designed to be available to anyone who wants to use it—but if one of those people decides to abuse it, it's difficult to do anything about it.

Things would be different, however, if channel nine was protected by law. If the Government said, through the Home Office who control the airwaves of this fair isle, that it was illegal to use channel nine for anything other than emergency broadcasts, they could throw the book at any offender. And the book would be that bit thicker too. Might knock a bit of sense into them.

While we appreciate that the Home Office say they are reluctant to impose too many restrictions on the use of CB radio, we suspect that they have taken that attitude to save them the bother of having to police it, rather than as a gesture to human rights. Whatever they might think about CB—and from what they've said in the past we all have a pretty good idea—they surely must see that channel nine is a vital service. And it should be protected.

Let's look at the position now. The only legislation covering the use of CB radio is displayed on the back of the licence and the only points relevant to the protection of this vital emergency link are:

'All transmissions, other than selective calling signals or digital transmissions designed solely to identify the transmitter, shall be in plain speech only.' This is designed to prevent the wallies whistling, farting, playing music etc.

'No transmission which is grossly offensive or of an indecent or obscene character shall be sent.' This is really self-explanatory.

The code of practice, drawn up by Natcolibar and other interested parties in conjunction with the Home Office is well and good as far as it goes — but that's not far enough. The sentiments expressed, and the points made, are all very sensible and valid. But it is a suggested code of practice and apart from coverage by the CB magazines, what efforts have the authorities made to get the message across? Good question — shame the same can't be said for the answer. For those of you who missed it in *Breaker* the first time around, here's the bit that applies to channel nine again, with a comment or two from us. And even if you did see it the first time around, it's worth reading again.

#### EMERGENCIES AND ASSISTANCE

**At all times, and on all channels, give priority to calls for help. Leave channel nine clear for emergencies.** If you have to use it (for instance to contact a volunteer monitor service) get clear of it as soon as you can.

**If there is no answer on channel nine,** then call for help on either channel 14 or 19, where you are likely to get an answer. **If you hear a call for help, wait.** If no regular volunteer monitor answers, then offer help if you can.

**There is no official monitoring organisation for monitoring CB** and no guarantee that you will always be within reach of a volunteer monitor. CB is not a substitute for the 999 service.

#### CHOICE OF CHANNEL

**Respect the following conventions:**

**Channel 9:** Only for emergencies and assistance.

**Channel 14:** The calling channel. Once you have established contact, move to another channel to hold your conversation.

**Channel 19:** For conversations among travellers on main roads. Give priority to the use of this channel by long distance drivers to whom it can be an important way of life.

**Other:** You may find that particular groups in particular areas also have preferred channels for particular purposes.

Right, so that's the bit that applies to emergency calls and monitoring and you're back to a Breakerite droning on again now. The code is all good common sense and can't be repeated enough times. But it's not law.

The first rule is vital — always give priority to emergency calls. Whatever channel, however trivial the requirement might be, whatever the circumstances. Help needn't just be matters of life and death. Some monitors believe this to be the case but we start treading on dangerous ground if we expect people to analyse the importance of a call before deciding how to get help. Something relatively minor could develop into a fullscale emergency. Channel nine is for making contact with someone who can help you. Once you've made contact, you can move to another channel, but breakers must be able to turn to channel nine in the first instance.

The fact that there is no official monitoring group is another point worth repeating because some people in some organisations believe they are God's gift to humanity. We respect the work they are doing and we are grateful for it but we detest bickering between groups as to

who was first, who is best, who has got the biggest willy and so on. It's a waste of time, money and could one day waste a life. Ideally there would be just one monitoring group and if the Government had introduced CB when it should have done about five years ago, maybe that would be possible. Unfortunately that wasn't the case and we are left with a number of groups operating locally and nationwide. No one group can claim any rights to anything over the rest, and there's no way everyone from all the other groups will up and join one of them just because they say they should. If all the groups carry on doing their job, assisting other monitors if required and putting the troubled breaker first, there's a good chance that the better organised group will prove to be the most attractive and will eventually attract the majority of monitors. Maybe several groups will continue to operate. Either way, the worst thing that could possible happen is that two monitors, from 'opposing' groups, should squabble over an emergency call. When that happens, all the good work done for and by CB will be wasted.

Going back to choice of channel, the code suggests respecting 'the following conventions' — including the use of channel nine only for emergencies and assistance. Conventions aren't good enough — it needs law. Not surprisingly, this is an opinion shared by the largest monitoring groups. Vic Bull of REACT told us:

'This is something we have discussed with the Home Office and we're glad you are helping to put the message across. Channel nine should be free at all times. We operate on a rota basis and we don't even use channel nine to hand over to the next monitor — we use the telephone.'

'If we come across anyone chatting on channel nine, we ask them once to leave the emergency channel. If they don't go, we simply ignore them because no monitor should get into an argument on channel nine. But all the time they are there, the channel is out of use.'

'And we would remind people that putting out an emergency call on channel nine, which is then passed on to the authorities, is just the same as making a hoax telephone call — against the law.'

Norman Raven, of THAMES, said: 'Our aim is to provide a 24 hour monitoring service across the country and if channel nine is being used for anything other than emergency purposes, it prevents us from doing that.'

'Channel nine should be protected by law — as it is in the States — and channels eight and ten should also be covered.'

The Home Office, who even at this stage seem reluctant to talk at any length about CB radio, say they have no plans to protect channel nine by law. They pointed out the conditions of use printed on the licence and the code of conduct and repeated the 'we don't want to impose too many rules on the users' line. Wish they felt the same way about antennas.

Their main argument is that it is no use creating laws which can't be enforced (titter, titter) but isn't that rather a defeatist attitude?

If thousands of people are prepared to give up their own time to provide a unique

service, which is capable of saving lives which would otherwise be lost, shouldn't the Government do their bit? It isn't possible to monitor all 40 channels on a national basis — and we're the last people who want to see that happen — but couldn't all police stations and police cars have rigs installed to monitor channel nine? They do in the States and it feeds the emergency calls straight through to the official emergency services and acts as a deterrent. And surely just the fact that it is illegal would act as a deterrent to most of the wallies.

We don't like to keep pointing at the US whenever we need an example but they have had CB radio since 1958, so they have encountered all the problems. And enjoyed all the advantages. The authorities over there recognise the value of channel nine and the monitors. The Ohio State Highway conducted a survey with REACT in the USA and concluded:

'Volunteers who are dedicated to service, trained and willing to help others in effective communications techniques can be the backbone of a workable emergency and motorist assistance service.' A major contribution to road safety, as one of our former police chiefs might say.

British monitoring groups have generally received a good response from the services on a local level but the Government still seems unable, or at least reluctant, to do the same.

The FCC regulations covering the use of CB in the US, are a distinct contrast to the UK guidelines. There are pages and pages of tiny type covering every aspect of the service. We're not suggesting such extensive rules are applied to our system but the US rules do protect channel nine by law. They state:

**(3) The frequency 27.065 MHz shall be used solely for:**

(i) Emergency communications involving the immediate safety of life of individuals or the immediate protection of property, or

(ii) Communications necessary to render assistance to a motorist. The following priorities should be observed in the use of 27.065 MHz:

(i) Communications relating to an existing situation dangerous to life or property, ie fire, automobile accident.

(ii) Communications relating to a potentially hazardous situation, ie car stalled in a dangerous place, lost child, boat out of gas.

(iii) Road assistance to a disabled vehicle on the highway or street.

(iv) Road and street directions.'

Those excerpts from the FCC regs offer protection to channel nine by defining exactly what it may be used for. It helps to ensure that when assistance is needed, it can be sought. Don't we deserve the same?

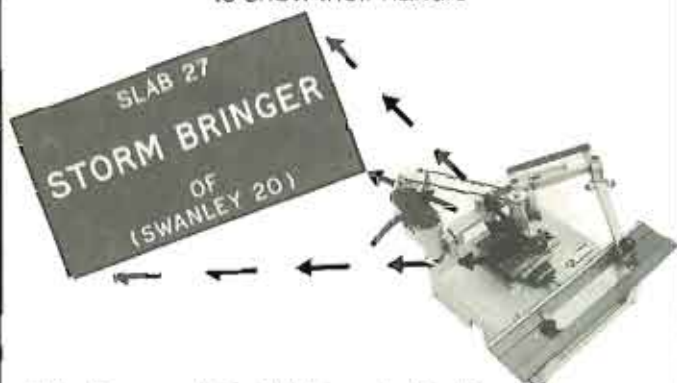
They are some of our thoughts on channel nine, together with some of yours. We'll be saying more on the subject in the future and we suspect you will too. And if you want to say it to us, try this address:

Channel nine, Give us a break, Breaker, Link House, Dingwall Avenue, Croydon, Surrey.

If you want to say it to the authorities, we can send letters on for you, or you can send them direct. Just so long as they get the message.

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"Grimm, that's what it is", agreed the brothers as they sat down to breakfast together. "We've done just about everything before; animals, witches, the lot. This frosted bat's wing tastes horrid in snake venom. Why can't we just have cornflakes like everybody else?"

"Atmosphere, pea-brain. It's to help us get in the mood for writing all these stupid fairy stories. And speaking of which, isn't it time you got into gear and did something? I've written the last three all by myself."

"And much good they were", snorted the smaller brother, absently scratching a wart. "Sleeping princesses, glass slippers and ugly sisters. Where's the meat in that? Where's the selling power, eh? What we need is something raunchy. Something with speed, sex and violence. Not

enchanted forests and fairy castles. People will think there's something wrong with you."

Big brother paused from applying his mascara. Looking around the edge of his mirror he sneered across the table. "Well perhaps if you didn't stop out all night with those goblins you'd come up with a sensible idea for a change. One without gas masks and rubber capes."

Picking an errant newt's leg from between his teeth the wizened gnome opposite laughed triumphantly. "I have", he cackled. "I have." So saying he reached into his strained and pungent jerkin. "This", he screamed, "this will sell and sell. This has got the lot. They'll never be able to resist it. Never mind poisoned apples, spinning wheels and elves or fairies. Try reading this...."



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# SAWN-OFF SHOGUN

Provisionally called the Samurai, the Shogun is a transceiver from a new company on the CB market, Sunrise Products of Japan. We got hold of their first rig in the country. This is what we thought of it.

## Appearance and Controls

First impression of the Shogun is of the compactness of the front panel and the rig itself measures just 6 $\frac{7}{8}$ " (w) x 9" (d) x 1 $\frac{1}{2}$ " (h). The finish is the traditional wrinkled satin matt black case with a matt black plastic front panel. LED bar meters are positioned above the controls for transmit RF output power (in red) and signal (in green). Three position switches for PA/CB/Noise blanker, Hi/Med/Lo Tone, and delta tune are situated beside three rotary knobs for volume/off, squelch and RF gain. A rather superfluous green LED operates as a transmit indicator, which when lit is overshadowed by the power output bar meter.

The green digital channel display is rather small, but quite readable from a normal driving position. However, it is advisable to mount the set in a normally shaded area as the green displays tend to wash out more readily than red in high

ambient light. The large channel selector is the standard rotary type but when being operated with the thumb and index finger of the left hand the LED digital indicator is obscured. The mike plug is on the left hand side and our feelings on this point are well known from previous tests in *Breaker*. The rear panel has facilities for PA and external speaker (both 3.5 mm jack socket), SO239 antenna connector and an additional socket for selective call, which will be available as an optional extra, probably by the time you read this.

## Ease of Use

The controls are extremely smooth and have a positive action. Once one gets used to the set it is quite pleasant to use with the exception of the problem mentioned with channel display and selector. The LED bar indicators are easily read in low light from the normal driving position. The noise blanker was fairly effective but tended to desensitise the set so weaker signals disappeared—handy for those of you too lazy to suppress your vehicle!

The microphone was exceedingly poor on the set we tested and most

copies obtained reported that although the signal strength was good the modulation was very poor. The speaker clarity too was suspect and tended to be rather muffled—even in the high tone position and this was improved by using an external speaker. These two faults could be attributed to the fact that the sample sent to us was serial number 820001 and the first off the line. We hope to bring you an update on our findings when we have used a production model.

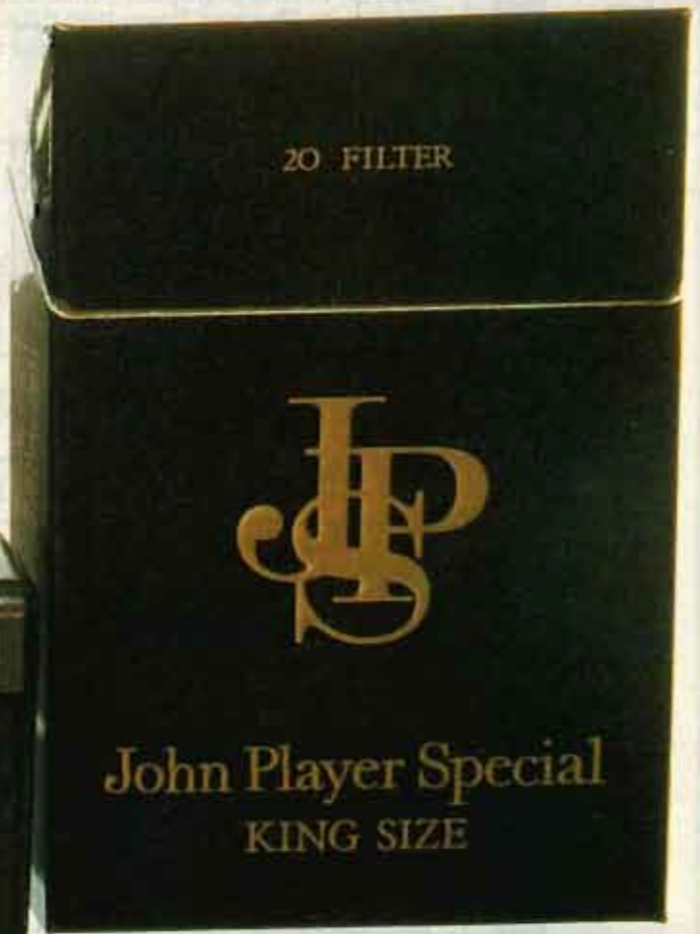
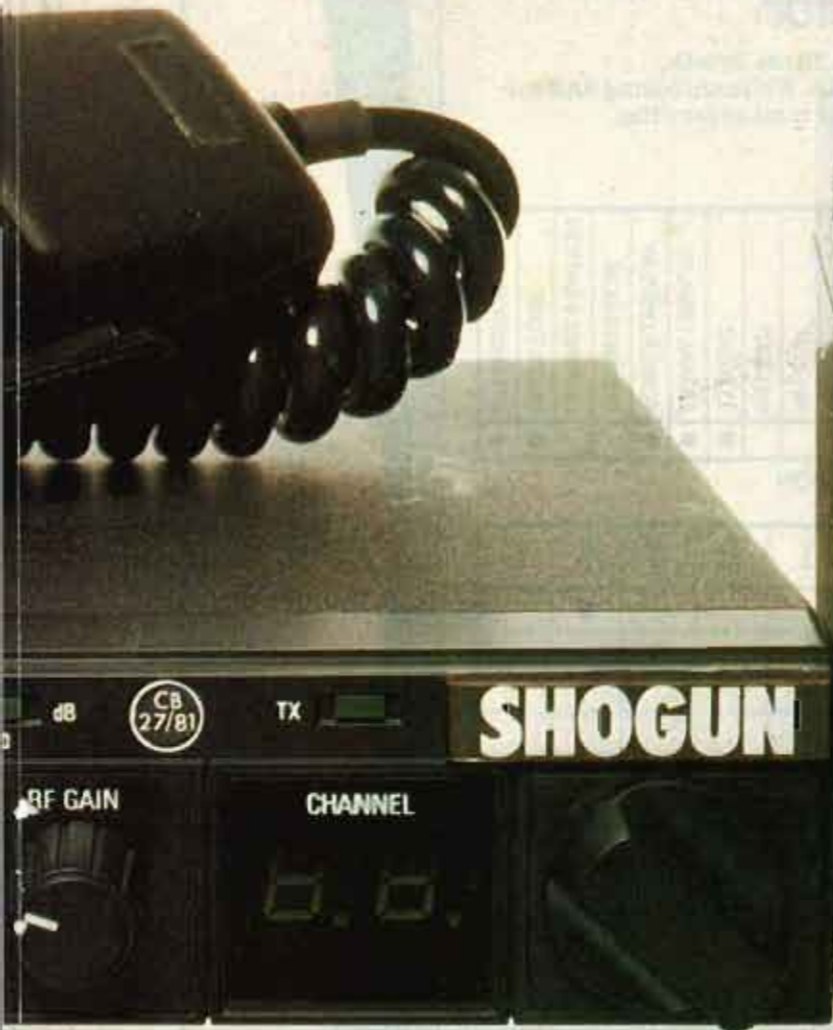


**BREAKER**

10-MVA2  
MU30H2







### Performance

The set was within Home Office specifications but our sample did not have the 10dB attenuator mentioned in the advertisements. The company assures all production models will, however. As the set was with us only a few days, it would be unfair to comment on range as conditions during the period of the tests were far from ideal and most operators were complaining of the lack of range.

### Instructions

Again because it was a pre-production model no instructions were provided.

### Conclusion

A neat, compact set which was easy to use, spoilt by the obscuring of the digital display when changing channel. In low light signal strength readings were easy to take and the RF power indicator with one LED per watt is a good idea. At

£99.00 inclusive it does seem a bit pricey for what you get but for those lacking space it could move very attractive. The selective call facility adds a nice touch.



## Sunrise

### Model Type:

Shogun

### Supplier/Distributor:

Sunrise Products-Japan, Colliers Farm, Frieth, Henley-on-Thames, Oxon RG6 6NR. Write enclosing SAE for details or see press advertising for mail order offer.

### Specifications:

TYPE OF SET	NO. OF CHANNELS	SQUELCH	TO NE	RF GAIN	MIKE GAIN	PA	ROGER BLEEP	NOISE BLANKER	AUTOMATIC NOISE LIMITER	PA LIGHT	RX LIGHT	TX LIGHT	SIGNAL DISPLAY	POWER DISPLAY	DISTANT/LOCAL	CHANNEL 9 SWITCH	DELTA TUNE	ATTENUATOR
M	40	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

M: MOBILE H: HANDSET B: BASE STATION

### Findings:

	1	2	3	4	5
Overall appearance				●	
Performance			●		
Mike - performance	●				
Mike - plug position	●				
Controls - facilities					●
Controls - ease of use				●	
Controls - sensitivity			●		
Meter readability					●
Speaker clarity	●				
Instructions	N/A				

Key: 1-poor, 2-fair, 3-average, 4-good, 5-excellent

### Summary:

The Shogun is one of the most attractive rigs on the market and useful to anyone with limited space. In practice, however, the compact design can make it awkward to use. Maybe it's just us. Most of the problems we found can be attributed to the fact that the rig we tested was a pre-production sample. At around £100, there'll be plenty of takers.

## Breaker Data



# The First Moves

Regular readers of Breaker will know we did a feature on CB radio for the disabled a while back. People who don't read Breaker every month won't know, so we're telling them: A while back we did a feature on the disabled and CB radio. Sadly, at the time we had to say that very little was being done. The authorities weren't interested, the disabled were left on their own. Now, only a few months later, we're glad to say that some people have started to act and things are looking brighter. The position is far from perfect, but things are improving...

There's no doubt that many disabled people can gain a great deal from CB radio. It can allow the housebound to get out and about on channel, it lets the able-bodied and the handicapped talk on even terms and it can provide help when it's needed. The benefits people normally get from CB radio apply even more to those whose mind is willing, but whose flesh is weak.

But there are problems. While the disabled stand to gain the most from a rig, they are often in a poor position to pay for it. This may seem strange when we live in a welfare state, but at the moment the departments who control the purse strings do not see CB radio as a priority. There are two sides to the problem: the licence and the rig. Taking the licence first, the Home Office, whose responsibility it is, say they have considered free or reduced licences but have rejected the idea. Their reasons are that different rates for licences would not fit in with their organisation, and that if some paid less some would pay more. In any event, it would take an act of Parliament to get such a scheme off the ground, which would take a long time, so there's little hope of cheaper licences.

The next question is who can pay for the rigs? The Department of Health and Social Security are in a position to pay for CB equipment for the disabled, but they have no intention of doing so. They do not see rigs as necessary for a disabled person (we suggest they think about that one again) and say they don't have the money for such a scheme — a common answer among the authorities.

Local authorities are included too. Under the Chronically Sick and Disabled Act 1970 (Section 2) local authorities are

bound to give any disabled person whatever's necessary for them to live. This would include, for instance, a ramp outside the house of someone in a wheelchair, but it is up to the authority concerned to say what is necessary, and they can also charge for any service they give. We haven't heard of any authorities who have given out CB equipment, which is not surprising as budgets are very tight at the moment. Money gets in the way again.

But some people are interested in CB radio. Motability is the Government-sponsored charity that supplies cars to the disabled. Any of the 200,000 people receiving the mobility allowance from the Government are eligible to apply for a car under the scheme, and in the past three years over 14,000 people have been helped. As Motability are interested in the disabled's motoring, it's not surprising that they've become involved in CB radio, but Tom Petzal, Fund Development Controller for Motability says there are some difficulties.

'We are very interested in this area, but the organisation problems are very complex, more complex than people realise. Any system would be based on a variety of discounts from a variety of suppliers,' he told us.

If Motability can get the sort of discounts they are looking for, the rigs would be offered as an extra on the cars provided, and so would have to be paid for, but this would be at a low price and under Motability's special long term payments. We have to point out though, that this is just an idea by Motability and no sets are being offered at the moment.

But it's a hopeful sign for the future that such a large organisation is at least considering taking advantage of the huge benefits of CB radio.

## Keeping in touch

Touch Disabled CB Radio is that rare thing, a charity devoted to giving CB radio to the disabled. To be perfectly accurate, it is not yet a full charity, but it grew from a registered charity and has applied for charitable status in its own right.

Touch want to provide any disabled person with the long term loan of a rig, antenna and a licence in return for a small deposit. The idea is that if the person in question has a stake in the set they will return it when it's no longer required, allowing someone else to use the set, and also it will stop people applying just because they are getting something for nothing. At the moment the deposit, which is immediately returnable, is £25.

The scheme has met with a good deal of success — more than was expected, in fact. The charity buys the sets from the trade at special prices, and they would like us to thank the trade for their help. Even so, Touch still have to find the cash to pay for the sets, and this is done through CB clubs, social clubs and donations from firms. The response has been such that they may well have to review their fund raising as it is not adequate at the moment.

Touch have also asked us to say that



The Breakerphone from Binatone could be one solution to a disabled person's difficulties. It can be operated with one hand, and features electronic channel change and easy-to-move buttons. One problem is that all the controls are on the small side — too fiddly for some disabled people?

because of the demand they've got a backlog of applications, but all will be dealt with in time. Through their connections in the trade, Touch are able to offer a number of conversions for various disabilities. The sets are usually Rotels (their flat rotary switches are suitable for artificial hands), but they can be converted to voice or touch control, and Touch have various other ideas in the pipeline.

At the moment they are very busy. They've got rock artist Ian Dury interested in becoming a patron (he is partially handicapped) and are now getting bulk orders from other charities. The Slough Disabled Association and the National Association for the Physically Handicapped have been in touch, which would mean orders of 200-300 sets, so it's no wonder Touch need more money. To help with this, they demonstrate CB equipment for various groups, and they've also found the general public very helpful. In the words of Barry Powell, Touch's General Secretary, 'no one has turned us away'. It's nice to hear.

And the result has been a new outlook on life for some disabled people. Barry told us of a 17 year old girl who for the first time could talk to people without them knowing she was disabled, and without her having to suffer the patronising attitude we so often present to such people. A 45 year old woman now talks to people outside her own house for the first time in years — these are the real benefits that CB radio can bring.

## Adaptions for the disabled

While there's a lot of ideas around on how to set up rigs for the disabled, you'll find practical help more difficult to come by. The ways in which a rig can be adapted are as varied as the disabilities themselves, and anyone who's taken the back off a set will know there's a lot of bits and pieces to play around with — but how can you make the best use of the set's potential? You need someone like John Dorrington.

John is a qualified engineer (he hates the name 'rig doctor') with wide experience in industry, mostly in the computer field. Nowadays he works as a repair engineer for the Hammersmith CB Centre, which is where he became interested in adapting CB sets for other uses. The Hammersmith shop was one of the shops approached by Touch CB who were looking for sets at trade prices, but they got more than that. John set his mind to the problems of the disabled and came up with a number of ideas which could be cheaply fitted to CB sets.

The first idea was a voice operated transmit button. Many disabled people would find a normal push to talk button hard to manage, especially when mobile, so this clever device removes the need to key the mike button. All you do is speak into the mike, and, as the signals go down the wire this circuit realises you're speaking and puts the rig into transmit mode. When you stop talking the rig reverts to receive, but a clever part of this design is that it ignores silences of up to

half a second, so gaps between words don't switch the set onto receive. The circuit is easy to make (for someone interested in practical electronics) and is made up from standard electronic components, which keeps the cost down. Installation is up to you. The circuitry and the relay are small enough to fit inside the rig, or you can have it remote in a small box. John reckons he can fit these to any set for around £15, but any disabled person going direct to him can have it done for around £10. And, of course, the adaption is available through Touch.

But John's ideas don't finish there. Other adaptations have come through Touch suggesting something and John coming up with the hardware, and they range from the very simple to the very complex. The simplest conversion is to remove the normal round knobs and put flats on instead, which makes them easier to grip. It also helps if the knobs are mounted away from the front of the set, for the same reason. Going on from there, John is working on a channel indicator for the blind. This would use a row of six pins which would pop up in a certain order for each channel, something similar to the braille system. Like all of John's adaptations this makes use of signals already present in the set, which makes fitting easier and cheaper.

Another idea is an automatic channel 14 switch, which could be a conversion of

the existing channel nine switch or a separate fitment. Some people would object to removing the channel nine switch, but John believes that few people use it and a 14 switch is much more practical.

The last, but by no means the least, of John's ideas is a channel scanner. This could work in a variety of ways, but the system as planned would have an adapted mike with a second button on it next to the mike key. By pushing the second button the rig would scan through all the channels, staying on each one for about five seconds. When it got to an occupied channel it would lock onto it for 30 seconds, which would give the breaker time to see if he was interested in the conversation. If he was he would tell the set to stay on that channel by keying the mike once, which would stop the scanner. If he didn't like the conversation the scanner will continue after 30 seconds, or whenever he hits the second button. This could be fitted to a mobile or to a home base mike, which with its large transmit key, is ideal for people who have difficulty gripping.

As we've said, although John is involved in work for Touch, he is also interested in selling his work in his own right, so if you're interested in his ideas you can contact him at the Hammersmith CB Centre, 216 King Street, Hammersmith, or phone 01-748 6982.



Above: Push button controls and slider switches make the Tenvox from Voxon easy to use. The channel change is electronic, and as many controls as possible have been incorporated into the circuitry. This still leaves the problem of the handheld mike, and fitting a home base item is the best idea.

Below: All Rotel sets have large, flat rotary knobs. This fact, and the space between the controls on the basic sets, means that the sets can be managed by people with a weak grip. Having flat rotary controls is particularly helpful.

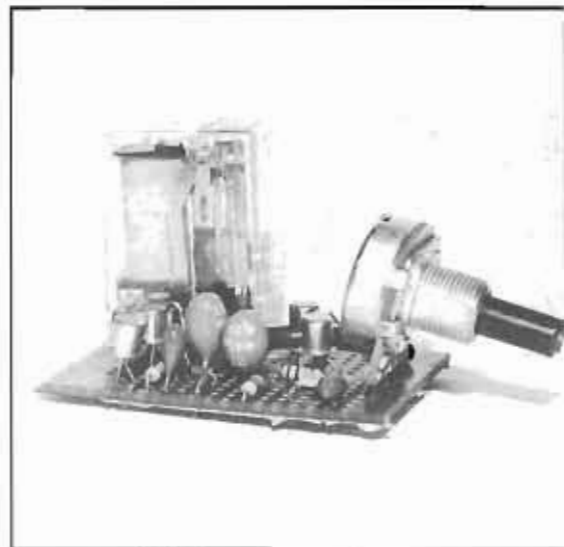




Home base mikes are the answer if you can't grip a mobile mike. Notice the mike on the left has had its round rotary control replaced with a flat sided knob.



The rotary knobs on this AudioLine rig have been replaced with flats. They also stand out half an inch from the face of the rig, making them easier to turn.



The components of John Dorrington's voice operated transmit button. It can be . . .

## Dealers and discounts

**LCL Imports**  
Units 1-4 Enterprise Trading Estate  
Brerley Hill  
Dudley  
West Midlands  
Dudley (0384) 262141

Things aren't easy for small businesses just now. And small firms in the CB industry can find it a very hard market — those that do well, do very well. But those who don't . . . don't. More than a few have come and gone over the months we have been producing *Breaker* and there are more on their way out. A sad fact, but a fact just the same.

So, given that things are difficult, a lot of firms who would like to give a discount to the disabled simply can't afford it. They buy the sets in at trade price and that's what the supplier wants, whatever they sell them for. Unless, the supplier happens to be LCL Imports.

LCL Imports are prepared to supply rigs to retailers at a reduced price, so the discount can be passed on to the disabled breaker and the retailer keeps his profit. If the retailer wants to discount a bit more himself, that's up to him, of course.

LCL is a big company, who import and distribute their own brand products all over the country, so they have come up with a method of organising help for the disabled and elderly. They are currently setting up a national association, which will be open to the handicapped and the elderly, whether through CB clubs or on an individual basis. And able bodied breakers will be welcomed as volunteer helpers on the trips and projects they are planning.

LCL estimate that there are about 1 1/2 million people eligible for such an organisation. It will be non-profit making but a charge will be made to cover the cost of badges, newsletters, administration and the like.

We'll bring you more information when

we can but in the meantime, if you are disabled, or know someone who is, contact LCL and they will bring you up to date with the latest developments or put you in touch with a local club prepared to help out with installation of CB equipment.

The company is also developing a keyboard-operated rig for the blind which will incorporate a speaking channel indicator. We hope to bring you more news on that in the near future.

Other firms offering discount schemes are:—

**Exeter TV and CB Service**  
182 Cowlick Street  
Exeter

Phone Exeter 75861  
The owner, Les Gay, is offering 10% off to all disabled breakers.

**T-Bird Electronics**  
17a Mill Lane  
Welwyn

Herts  
Phone Welwyn 4159 (day) Welwyn  
Garden 31888 (evening).

For £90 this firm will supply a rig and all the accessories. They will fit sets supplied locally, but as sets now go mail order all over the country they can't fit every order.

**Treble Three CB**  
68 Milner Road  
Brighton

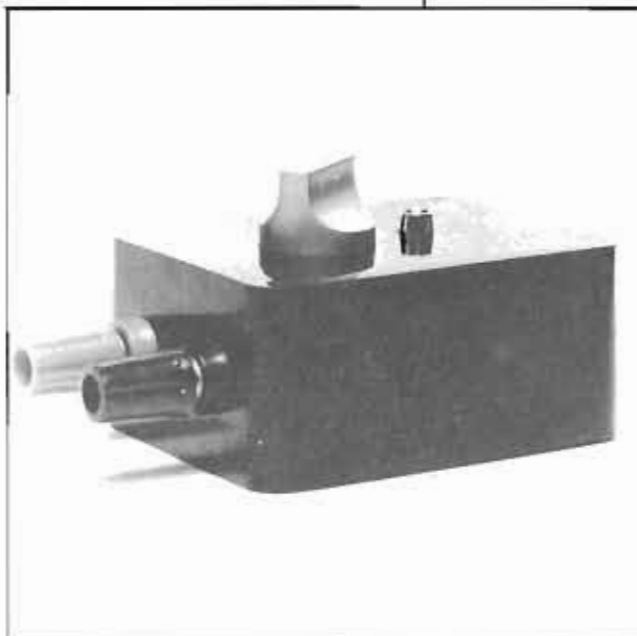
Phone 0273 672409  
This offer is 5% off any rig in the range (including Cobra, Unicace, Fidelity, DNT and H-Gain) and free fitting in the Kent-Sussex area.

**Disabled on Channel Society**  
4 Harold Road  
Braintree  
Essex

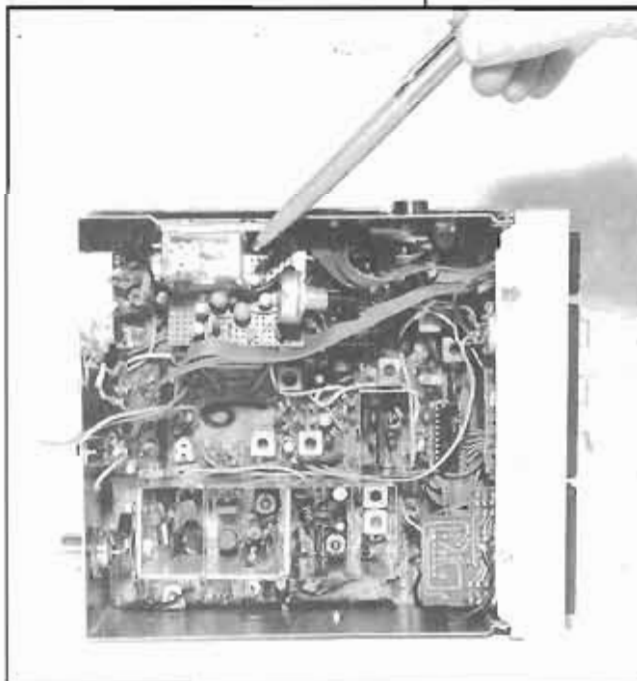
Phone 0376 21181  
A society dedicated to raising funds for disabled CB radio users. Members come mainly from local clubs, but wider support would be welcomed.

**IJD Anderson**  
101 Gilbertson Road  
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Advice and a full service with a 20-30% discount depending on the rig.



fitting remote in a small case . . .



or inside the rig.

# Putting it to rights Mike Socket's moving story

It's all to do with the genes — the way creatures inherit various characteristics from their parents. The Breaker DIY mike conversion is the brainchild of a certain technical adviser and was conceived after a little intellectual intercourse with necessity, who, as we all know, is the mother of invention. We could say it's child's play, and we wouldn't be kidding, but it can be a bastard getting the connections right . . .

Right, smartarse intros out of the way, we'll first look at the problem before setting out to solve it. Most rigs, as you will have noticed, come into this country with the mike socket on the left hand side as you look from the front. This is because, although they are designed to comply with the UK specs, the actual casing is often as used by US and European sets. It means that the manu-

facturer doesn't have to retool his machinery to produce them, which in turn means a saving to the importer/distributor. Who passes it on to you naturally.

The fact that this does wonders to bolster up our falling economy is no comfort to you when you come to mounting the set, however. If you drive a left hooker or can mount the rig on the right hand side of your right hand drive car, there's no problem. Trouble is, most people would prefer to mount the rig in the centre of the dash and left hand drive cars frighten the poop out of your passengers. The result is that the mike cable is pulled across the front of the rig, obscuring the fascia panel and disturbing the controls, which on some sets are ultra sensitive. Enough to strain the patience of the most virtuous sort — and enough to make us chuck it out the window. Since the rigs we use aren't ours to chuck, we looked for some way of solving the

problem — and found it. Notice how the tension is building up here? Got you on the edge of your set, huh? Hope you weren't on the loo . . .

If you're an awkward customer, and judging by the letters and phone calls we receive about 50 per cent of you are, you might want the rig in the centre — in a slick console, perhaps — and the mike socket over to the right of the steering wheel. We can solve your problem too.

Like all the best ideas, the solution is simple. Maybe one or two of you have already come up with something similar. Well, tough, because we're taking all the credit now and soon the world and his buddy will be moving their sockets.

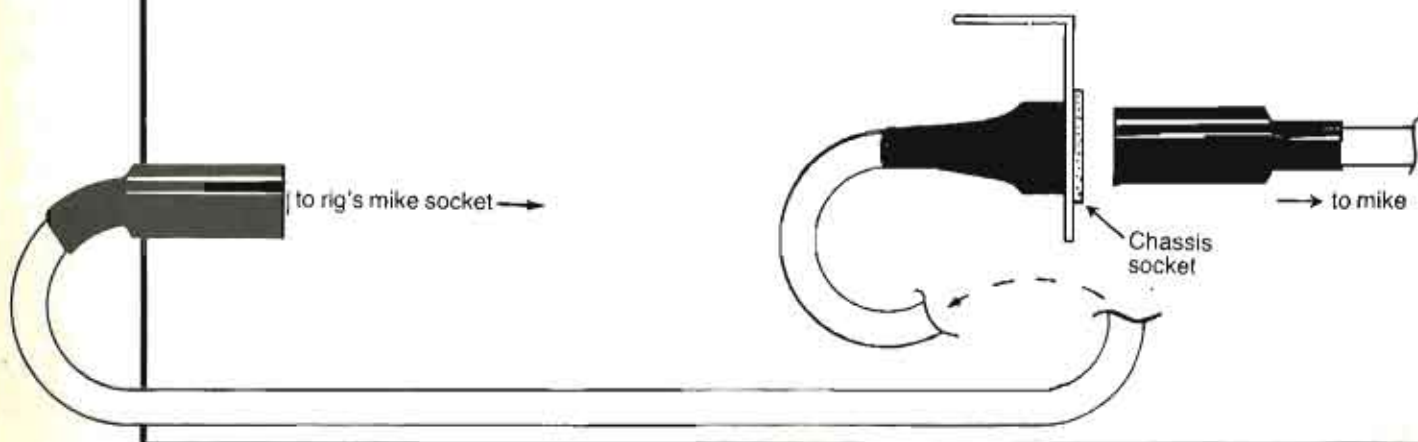
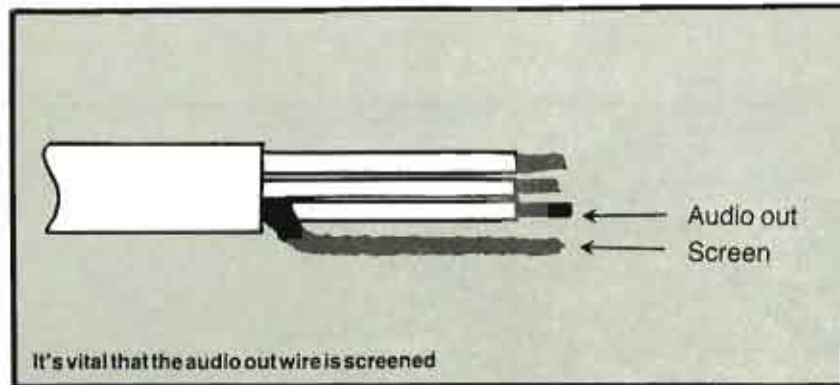
The conversion, which shouldn't cost you any more than a couple of quid plus your labour, simply moves the socket to wherever you want it — but without having to tamper with the set.

## Parts required:

- 1 x mike plug (same as on your mike).
- 1 x mike socket (chassis mounting, as on your rig).
- 1 x one metre (or as required) of three or four core individually screened cable — at least one core should be screened.
- 1 x 'L' shaped bracket (optional).

## Connections

If you read the January and February issues of *Breaker*, you will have seen the mike plug connections for various sets and if yours is one of those, half the work has been done for you. If not, you will have to remove the back of the mike and find the wire running from the mike element to the plug. One goes to the



screen (usually blue) and the other (usually red) is connected to the centre position of the switch.

One side of the switch doesn't normally have a wire connected, and the wire connected to the other side of this centre runs back to the outer plastic casing and is wrapped around by the screen. This wire can be any of several colours and is the 'audio out' lead, which carries your voice from the mike to the rig. It's important that this wire is screened because without it you'll suffer all sorts of interference problems.

So, once you've identified this wire, trace it and the screen back down to the plug and note the pin positions or numbers — also note which pins the other wires are connected to.

Carefully strip back the outer casing of the screened cable you have bought, locate the screened wire and solder it and the screen to the corresponding pin numbers on the socket. Solder the other wires to the socket and note their colours, so you can connect them to the corresponding numbers when you solder on the plug. Use insulation tape to cover the connections.

If you are using the 'L' bracket — to mount the mike on the right of the set, for example — mount it in the desired position and fit the chassis mounting socket. If you are dash-mounting the socket, a hole will have to be drilled to flush mount it.

Once fitted, route the cable away from



The complete lead with four pin plug and socket



**BEFORE:** Most FM rigs have the mike socket on the right, which means the mike cable is pulled across the front of the set if it is mounted in the centre of the car

any possible high radiation wires, such as ignition etc), down to the mike plug socket on the rig, allowing 2½ inches extra for the plug so the wire is not too taut. Solder the wires, as for the socket, onto the plug. Plug in your mike and it's finished in time for a Sunday lunchtime pint to avoid Jimmy Saliva's Old Record Club.

#### Supplier

The cable is fairly easy to get hold of, if you know what to ask for. It's 5mm four core PVC individually screened 7/0.1mm plain copper stranded conductor. All the parts we used were supplied by Hampton Court Electronics, Hampton Court Bridge, Surrey, but any good electrical supplier should come up with the goodies. The cable is Radio Spares stock number 367-577, incidentally. How helpful can we get?



**AFTER:** Our DIY conversion brings the mike socket round to the right of the rig — or anywhere else on the dash. The cable would be run neatly behind the set when installed

BREAKER

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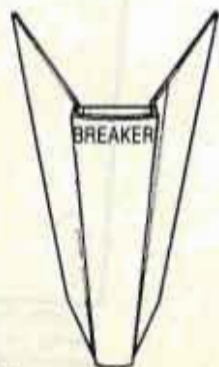


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# High Society

## Waiting for the 934 from Westminster

We've been saying for some months now that we'll soon be bringing you news of rigs working on 934MHz (remember that?). This month is no exception. Although we can, perhaps, afford to be a little more optimistic and hint vaguely at something appearing next month. Maybe. Or not. All depends on the companies who are producing the goods. Or not. But there's nothing mystical about 934 — our telephone number's got lots more digits — so until we can actually break into someone's workshop and carry out some tests, we thought we'd ask a Technical Writer to dash off a few projected words of wisdom. Will it take off as quickly as it was forgotten? Will it really warm meat pies at one hundred paces? He came up with the following thoughts, but said it would 'probably be best for my reputation if I don't appear under my real name.' He was, of course, assuming that we wanted to use his name. Or that someone will have heard of him. And the funniest thing of all is that he's expecting to get paid. He'll learn . . .

Someone brought a very odd rig into our workshop the other day. Don't ask me where he got it from, or what he uses it for, or any other awkward questions, but it came from sunny Australia, and it looked very odd. The channel numbers weren't upside down or anything like that, but the works inside were weird. It worked not on 27MHz, but on 470MHz — the Australian UHF (Ultra High Frequency) system.

I hear tell that my friend and a few of his mates, equipped with similar rigs, were enjoying good, clean copies around town with no skip or interference or bleed-over. This is not really surprising, because the frequency isn't used for anything here yet. It's actually on TV channel 21, though, so when the fourth channel comes on the air at the end of this year they will either have to give up or face the wrath of dismayed TV viewers all over town.

There is nothing magical about 27MHz when it comes to establishing a CB service. People can talk to each other on frequencies from 1MHz to 1000MHz, with varying degrees of success. The main reason that CB was eventually established here on 27MHz was because it could be got off the ground quickly using standard manufacturing techniques, aeriels and accessories. Apart from that, 27MHz has very little to commend it. If you want to work DX stations round the world and round the clock, technically you'd be much better off on a lower frequency. And if you don't, you'd be far better off on a higher one.

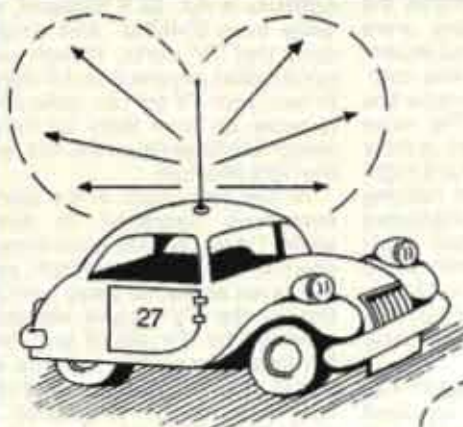


Fig 1: How 8 into 25 will go. An aerial the same length as a 27MHz twig will concentrate power in a narrower beam, increasing the effective radiated power (ERP) from 8 to 25 watts.

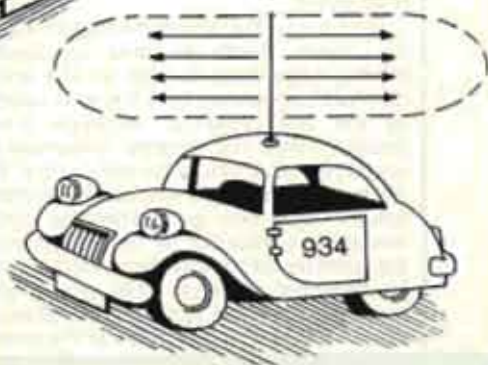
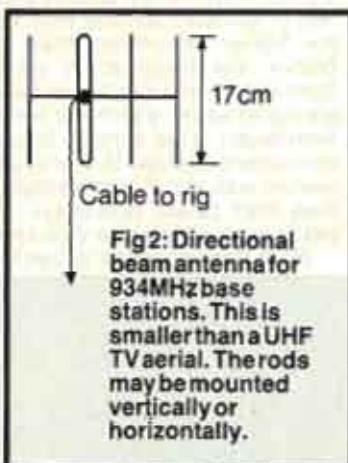
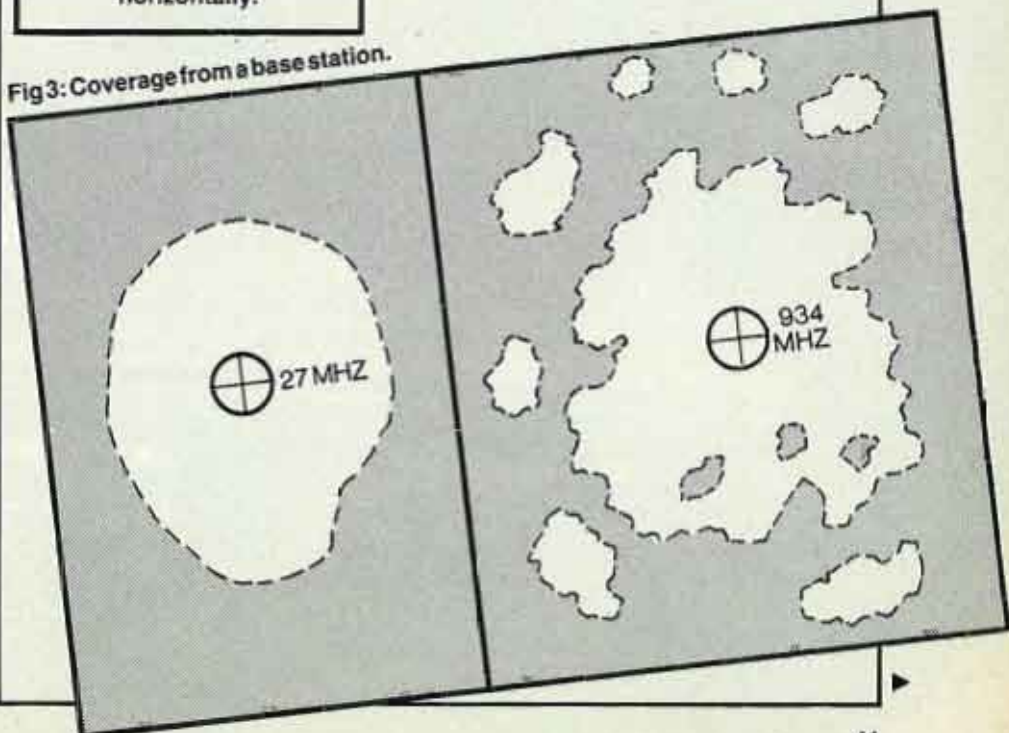


Fig 2: Directional beam antenna for 934MHz base stations. This is smaller than a UHF TV aerial. The rods may be mounted vertically or horizontally.



Now about the time when our lords and masters were slowly beginning to wake up to the fact that CB was not going away, they published a little pamphlet titled 'Open Channel — a discussion document'. Why they decided to call it Open Channel is not exactly clear; perhaps the connotations of CB were thought to be too immoral for the expression to be used on Government-paid-for paper. Anyway, the frequency put forward for this service was around 930MHz. Most of the discussion which arose from the Open Channel document was so hysterical in its opposition, and so adamant that 27MHz (and AM at that) was the be-all and end-all of CB, that any merits the proposed system might have were wholly ignored. It was derided as expensive and useless. The range was compared unfavourably with two cocoa tins linked by a piece of string. The more generous of the self-appointed pundits around at the time suggested that it might be almost as good as a set of flashing headlights. The cost was estimated (often by enthusiasts who had mortgaged their wives and children for a room-full of sideband gear) as hopelessly expensive for anyone to be able to afford it. In short no-one wanted anything to do with it.

Eventually, the Government gave way to various pressures and legalised 27MHz equipment, though on FM and different frequencies from the ones used by the AM breakers. Although this decision was not exactly universally acclaimed as a victory for democracy, it did mean that people who went out and bought legal rigs got something that worked at a price not far removed from the sums demanded by the black market for American gear (in other words, at least twice what it cost in the States). What went almost unnoticed at the time

was that the Government also simultaneously legalised 934MHz equipment, working on almost exactly the frequency proposed in the Open Channel document. Now, forgetting all the hysteria, is a frequency of 934MHz any use at all for CB? If you got your hands on a 934MHz rig, what would it perform like? Are UHF frequencies totally useless?

Most of us have at some time or other seen one of these new-fangled things with a screen and a few knobs on the front, known in the trade as a telly. Most of us probably don't know that depending on where we live, TVs work using frequencies between 470 and 860MHz. 860MHz is not, as it happens, very far away from 934MHz. And no-one can deny that TV works, though just what good it does anyone is up for discussion. In fact, your TV set can quite often pick pictures up from thirty or forty miles away, with an aerial on the roof pointed in the right direction.

At one time, back in the days when everything happened in black-and-white, TV was broadcast on frequencies down as low as 41MHz, which, as it turns out, is not all that far away from 27MHz. But as the TV people needed more channels for ITV, BBC2 and colour, so the frequencies used went up and up, first to around 200MHz, and then to the UHF band everyone uses today. TV sets did not, however, get grossly expensive, and in fact they actually work better on the higher frequencies than they did before. For instance, in the part of Scotland where I lived when I was a kid, we could never watch the tennis from Wimbledon in the summer because the ionosphere decided that what we really wanted was a lot of buzzing and squiggly lines from Spain. Nowadays, they get perfect reception all the year round.

What has happened is that technical

progress has made it possible to make a UHF TV receiver just as cheaply as a VHF one, while the BBC and the IBA have put up a vast network of big and small transmitters so that only a few people in very remote areas of the country can't get TV on a fairly simple and cheap aerial. So if 860MHz will work for TV, and work pretty well at that, will 934MHz work for CB? Yes it will — with a few ifs and buts.

934MHz signals at UHF don't like going round corners, and they get blocked by hills and buildings quite a lot. On the other hand, they get reflected and scattered by even quite small objects. Moving a 934MHz aerial around only a few inches will make a big difference to the signal you receive, as you may pick up a better pattern of waves from all the reflections that are bouncing around. To sum up the situation, 934MHz will be generally less good than 27 for mobile-to-mobile work, better than 27MHz for neat hand-held rigs, and will provide a similar range from a base station, with some surprising 'quirks' depending on your particular location.

Let's tackle each of these possibilities in more detail. First, a mobile station. Externally, a 934MHz rig need not look much different from a 27MHz one, and the volume squelch and channel switches are likely to work in a familiar way. The rig will be stamped CB 934/81 instead of 27/81 and the channel digits will only go from one to twenty before starting at one again. It is likely that in due course, manufacturers will be able to make stable and reliable 40-channel 934MHz rigs, and the Home Office specification is written in such a way that this could be

Below: the Reftec 934 rig from RF Technology Ltd. One of the first designs for 934MHz and what's more it's British.



possible one day (though not quite yet).

Your existing 27MHz aerial and SWR meter will be no good at all for 934MHz. You will have to buy a new aerial for the UHF rig. You won't need to buy an SWR meter, however, because you won't need one. Aerials for 934MHz will be tuned in the factory to the right frequency and will not need any tinkering with afterwards. They will also be much more efficient, because the very short wavelengths involved will make it possible to develop aerials with gain.

An aerial with gain means that in certain directions it puts out a concentrated beam of power, more than an ordinary aerial can muster. So if you put the legal maximum of eight watts of power into a 934MHz aerial, you could end up with (again legally) twenty-five watts of effective radiated power (ERP). A mobile aerial about the same length as a standard 27MHz twig can do this by concentrating the power in a narrow beam (Fig. 1). Of course this power gain is not free — no-one has invented an aerial which actually puts out more power than goes in — and the apparent gain arises because the power is focused in one direction (straight out), which is useful, instead of sending it upwards, which is pointless. This is one bonus 934 aerials can offer — to get a 27MHz aerial to perform the same sort of trick it would have to be about 60 feet long!

So you drive about with 25 watts of power beaming out from your antenna. 934MHz waves bounce off any object greater than half a wavelength or so long and half a wavelength at 934MHz is about 17 centimetres (seven inches), so anything metallic and at least that length can scatter 934MHz signals around. This scattering about of the signal has an effect on mobile signals known simply as 'mobile flutter'. As the car moves about in a complex pattern of reflected waves arriving from all directions and with varying strengths, the signal received will vary very rapidly. Once you start getting almost out of range on 934MHz, this effect means that at one moment you will be getting a nice strong signal giving you perfect copy, the next the signal may be so low that all the rig can produce is noise. As the car gets further and further away, this fluttering noise will eventually break up reception so much that copy will be impossible. Mind you, if you stop the car and move it literally inch by inch into a favourable position, you will be able to keep in contact with a base station whose signal would otherwise be too fluttery and broken up to copy. But another mobile will still be fluttering, because of the motion of the transmitting aerial.

So the actual range of mobile-to-mobile contacts on 934MHz will be limited to the point where the fluttering of the signal makes copy unreadable. In built-up areas this is unlikely to be much more than 4 or 5km (about three miles), while in really dense urban areas it may be much less. In open country a much greater range will be practicable (934 likes line-of-sight paths) — something like 15km (10 miles) may be achieved, while from a hilltop the horizon (or just beyond) will be the limit. And that could be thirty or forty miles away. So hilltop copies on 934MHz are likely to be at least as rewarding, in terms of distance, as those on 27MHz, though in built-up areas

the range from a car will be less good.

Looking now at base stations, many interesting possibilities arise. The range of a base station on 27MHz is generally much better than a mobile rig because the aerial can be mounted much higher up. On UHF this effect is very much more pronounced — try pulling the aerial out of your TV and sticking a piece of wire in the aerial socket and you'll see what we mean — and you can legally use a beam aerial (Fig. 2) to point your signal in any particular direction you want. The beam aerial shown concentrates the signal towards one particular compass point, though you can if you wish use an aerial similar to the one described for use on the car if you simply want all-round coverage. An aerial which doesn't favour one direction against another is called an 'omnidirectional' aerial.

Again there's no messing about with SWR meters or the like — you just buy the aerial, wire it up, and off you go. There is one source of trouble, though. You can't use any old grotty cable with 934MHz equipment. On 27MHz the amount of signal lost in the cable is usually so small that you wouldn't notice, unless you have a very long run indeed. However, the loss of the same bit of cable at 934MHz is about twenty times worse. This means that in order to lose as little power as possible in your cable, you will have to use quite thick, substantial (and expensive) lead, even for very short runs. You might well be spending more on the cable than on the aerial itself.

The range from a 934MHz base station will cover about the same area as the range from a 27MHz station — more if you're high on a hill, less if you're stuck in a valley — but instead of being a smooth ring round the station, your coverage on 934 will be very irregular at the edges. There will be odd black spots, which you won't be able to reach no matter how hard you try, and there will also be surprising patches of coverage much further away where the geography is more favourable (Fig. 3). One thing which will be better on 934MHz is the level of interference. 'Skip' effects are totally absent on 934MHz, so there is no chance of interference from foreign countries. Very occasionally, when an anticyclone has just left the vicinity of the UK, you may experience an effect known as 'tropospheric ducting'. This will mean that signals may be carried up to 250 miles away through a channel created by layers of cold and warm air in the lower atmosphere. However, this effect will be mild and infrequent. 99 per cent of the time communication will be absolutely reliable and stable at all times of the day and night and whatever the weather or season.

By using beam aerials directed at each other, you will be able to set up point-to-point links (for communicating between work and home, say) with quite low power, a fair degree of privacy, and little chance of being interrupted or disturbed by other breakers. The directional nature of the aerial, plus the limited range, means that congestion of the channels is likely to be much less of a problem than on 27MHz. Another thing which you can do in order to make the most efficient use of the new band is to exploit the polarisation effect produced by an aerial on UHF. If you look at UHF TV aerials, you will see that some of them

are mounted vertically (with their rods upright), while some others are mounted horizontally (rods lying flat). In the UK, vertical polarisation is used for relay stations, and horizontal polarisation for main transmitters. By mounting your aerial with rods vertical, you will be able to get good copies from mobile and hand-held operators. The aerials on cars and walkie-talkies will be vertical for purely practical reasons. On the other hand, if you wish to talk to other base stations, fitting a horizontal aerial will enable you to talk to other stations who are horizontally polarised with much less interference from mobiles or portables. Again, this useful technique is impractical on 27MHz because of the difficulties of mounting large aerials horizontally (especially when you consider the ground plane).

Finally, 934MHz is a much better frequency than 27MHz for hand portable sets (though 220MHz would be much better still). The reason for this has to do with the size of the aerial. On 27MHz, any aerial much shorter than a metre long is very inefficient at transmitting or receiving, because its length is very short compared to a wavelength — the wavelength on 27MHz being about 11 metres. The wavelength of 934MHz is only 35 centimetres, which means that an aerial only a few inches long will be very efficient. So instead of ridiculous units with clumsy and awkward telescopic aerials three or four feet long, 934MHz portables will be able to use tiny 'rubber duck' aerials.

As with all 934MHz equipment, the cost of these units will be high, at least to start with. You are not likely to be able to get any 934MHz gear for less than £200 a set for some time to come. If the market is large enough, though, costs will fall. Plus the general advances in transistor manufacture and so forth will tend to make electronic equipment, including UHF CB rigs, become cheaper in real terms as time goes on. However, with a budget of at least £200 per set, and the need for much more scrupulous construction techniques when using UHF, it is likely that all 934 equipment will be of a much higher standard of quality than some of the flimsy and sometimes downright shoddy apparatus available for 27MHz use — particularly on AM. Although the gear will cost more, it will have more lasting value and will be less likely to fall apart or blow up. Plus it might even (shock gasp) be providing work for people in this country, instead of the Far East.

So, all hail RF Technology Ltd., for producing the Reftec 934 rig. Even more praise will probably be forthcoming if they can see their way clear to sending us two.



# Which CB? —the rig guide

Well, here we are again. Another round up of what's new in CB. Another collection of weak jokes, spelling mistakes and coded references to Russian agents working within the British Intelligence.

It seems that some people don't read the papers, because despite being told that the CB market has collapsed they keep bringing new rigs onto the market. Perhaps they know something the national dailies don't. Perhaps we all know something the dailies don't.

One of the most interesting of the new rigs comes from Midland — the Ready Rescue. It's a design that's been popular in the States for some time, and although it's expensive, it is very neatly put together. The rig is the size of a handset, and comes complete with a rubber duck and mag mount antenna in its own carrying/storage case. The idea is that it's used by people who wouldn't usually use a rig, so it can be stored in a car boot in its case. When it's needed (break down, accident etc) you take it out, plug the power lead into the cigarette lighter, put the pre-SWRed mag mount on the roof (or use the rubber duck), and then call for help.

If your emergency is a flat battery, or if your car doesn't have a cigarette lighter, you could be in trouble. Anyway, it is very easy to install and gives you the full 40 channel, four watt output that you need. For £92 though, you might think you can do better elsewhere.

And now a bit of nostalgia. Remember the days of the Empire? When half the world map was coloured red? When the sun never set? Well, nowadays it's the rising sun of Japan that rules the air waves, but there are still a few outposts of Empire left in CB, one of which is the Mega Tracker. Yes, it's the rarest of all things, a British built rig, which puts it in a very select little club with the Voxon, the



BRAND NAME	COMPANY NAME AND ADDRESS
AMSTRAD	1-7 GARMAN ROAD, LONDON N17
BARRACUDA	ALL HALFORD STORES
BINATONE	BERESFORD AVENUE, WEMBLEY, MIDDX
COBRA	MURA, 295/297 HIGH RD, WILLESDEN, LONDON NW10
COLT	SHELL POST LTD, 183 THE ROCK, BURY, LANCS
COMMTRON	TURMANN MODELS, UNIT 2, GOVERNMENT INDUSTRIAL ESTATE, UNION MILLS, ISLE OF MAN
CYBERNET	GOODMANS LOUDSPEAKERS LTD, DOWNLEY ROAD HAVANT, HANTS
DNT	RADIOTECHNICS LTD, GROVE VIEW, BEL ROYAL ST LAWRENCE, JERSEY
FIDELITY	VICTORIA ROAD, N. ACTON, LONDON
GRANDSTAND	ADAM IMPORTS, LIVESSEY ST. SHEFFIELD
GREAT	BRITANNIA LTD, NORTHERN RD, SUDBURY, SUFFOLK
HAM INTERNATIONAL	25 BUCKLAND ROAD, LEICESTER
HARRIER	ALL DIXONS STORES
HARVARD	HARRIS OVERSEAS LTD, 14-16 THAMES ROAD, BARKING
INTERCEPTOR	CHELSEA CB CENTRE, 73-77 BRITANNIA RD, FULHAM, LONDON

MODEL	TYPE OF SET	NO OF CHANNELS	SQUELCH	VARIABLE RF GAIN	MIC GAIN	DELTA TUNE	SWITCH	VARIABLE	TONE			P.A.	ROGER BEEP	NB	AHL	AUTO NOISE FILTER	SWR METER	INDICATOR LIGHTS			METER		MIKE		PRICE (Approx £)	OTHER FEATURES		
									P.A.	ROGER BEEP	NB							R.X.	T.X.	SIGNAL	POWER	FRONT	SIDE	SWR SAFETY CUT-OUT			DISTANT-LOCAL	STANDBY
900	M	40	•	•				•									•	•							70	LED SIGNAL STRENGTH		
901	M	40	•	•				•	•	•						•	•	•						•		80	LED SIGNAL STRENGTH	
GT868	M	40	•	•	•			•																		70		
HB940	M	40	•	•	•	•		•									•	•	•					•	•	90		
Longranger	H	1/2	•																							80		
Speedway	M	40	•																							80		
Route 66	M	40	•														•	•	•	•	•					90		
5 Star	M	40	•	•	•	•		•																•	•	100	INT/EXT SPEAKER	
Powerbase	B	40	•	•	•	•											•	•	•	•				•	•	100		
Breaker phone	M	40	•	•				•									•	•								110	CHANNEL SCAN	
21X	M		•																						•	79		
295	M	40	•					•																		80		
Nato	M	40	•	•																						130	80 CH AM FACILITY	
Beta 1000	M	40	•																							60		
Beta 2000	M	40	•	•		•		•									•	•	•	•						75		
Beta 3000	M	40	•	•			•	•																	•	120		
HF-12/13	H	3	•																							48		
HF-13/40	H	40	•																							82	AVAILABLE 1982	
M40	M	40	•																							85		
B40	B	40	•																							95		
1000	M	40	•																							60		
2000	M	40	•	•	•		•	•																	•	•	80	
Interceptor	H	2	•																							29		
Communicator	H	40	•																							69		
Buzzing Bee	M	40	•	•													•	•	•	•	•					75		
Hawk	M	40	•	•	•																					86		
Bluebird	M	40	•																							102		
Gemini	M	40	•	•				•		•																120	LED DISPLAY	
Base Station	B	40	•	•		•		•									•	•	•	•						250		
GT 858B	M	40	•					•																		65		
Explorer	M	40	•					•																	•	75		
Mariner	M	40	•	•			•	•	•	•	•						•	•	•	•				•		110		
Hercules	B	40	•	•	•		•	•	•							•	•	•	•	•					•	•	180	
WT1	H	2	•																							25		
WT2	H	40	•																							70		
CB	M	40	•																							60		
CBX	M	40	•	•	•	•		•									•	•	•	•					•	90		
HQ	B	40	•	•	•		•										•	•	•	•					•	•	150	
020	H	2																								25		
400M	H	40																								80		
410T	M		•	•				•																		80		
402MPA	M	40	•					•																		80		
420M	M	40	•	•	•			•																		100		
Interceptor	M	40	•	•													•	•	•	•					•	80		
TC400	M	40	•	•	•		•										•	•	•	•					•	95		
Remote	M	40	•	•				•									•	•	•	•					•	125		
HB600	B	40	•	•	•		•										•	•	•	•					•	180		

# Which CB? -the rig guide

Reftec and the sets that Turmann Models make on the Isle of Man.

The price is about £90, and for that you get a well equipped set with volume, squelch, mike gain, dimmer, PA and roger beep. The fascia shown is a prototype, and the facia finish will probably be changed when it gets into production. The makers say that as it's built and designed in Britain, spares, repairs and service will be better than foreign competitors. We'd like to think that as it's British, it wouldn't break down in the first place.

And now for some foreign news. Domicrest Fancy Goods Ltd are importing a rig called the Convoy 1. For under £80 this Japanese built rig offers a set with volume, squelch, channel change, attenuator, and PA. They claim to set new standards of slimness with this rig, but looking at the picture we can't see

what they mean. Domicrest are at 31-37 Hoxton Street, London N1.

Much more interesting is the President home base, the KP 77. It's got all the little goodies you want, such as mike gain, RF gain, tone, dimmer, Rx and Tx light, and a PA. Now what use a PA is on a home base is debatable, but if you set up a loud speaker by your front door you can always shout at the postman or scare the mother-in-law when she comes to stay... maybe it does have its uses after all. More info is available from Connections, Furrow Way, Cannon Lane, Maidenhead, Berks. Oh, and by the way, expect to pay around £140.

Harvard have got another two channel handset. The Ten Four Convoy operates on 14 and 30 and retails for about £30. It's got volume, squelch, battery check light and call tone. There isn't really a lot else to say about it, apart from the fact it looks quite good, which may persuade you to buy it despite its silly name.

And there we are, finished for another month. A word of thanks for me for writing it, Martin for not throwing it in the bin, and a special thanks to all the companies who keep coming up with the goods.



BRAND NAME	COMPANY NAME AND ADDRESS
JOHNSON	STAR WAREHOUSE, CAMDEN GOODS DEPOT, CHALK FARM RD, LONDON
JWR	JOHN WOOLFE RACING WOOLFE HOUSE, NORSE ROAD BEDFORD
LAKE	TURMANN MODELS, UNIT 2, GOVERNMENT INDUSTRIAL ESTATE, UNION MILLS, ISLE OF MAN
LCL	LCL IMPORTS, 101 DIXONS GREEN, DUDLEY, WEST MIDLANDS
LOWE	LOWE ELECTRONICS, CHESTERFIELD RD, MATLOCK, DERBYSHIRE
MAJOR	UNIT 2, STATION YARD, WILBRAHAM RD, FULBORN, CAMBS.
MANOR	MANOR NATIONAL GROUP, OXFORD RD, MANCHESTER
MIDLAND	PLUSTRONIX LTD, HEMPSTALLS LANE, NEWCASTLE UNDER LYME, STAFFORDSHIRE
RADIO 88	88 LONGBRIDGE RD, BARKING, ESSEX
RADIOMOBILE	GOODWOOD WORKS, NORTH CIRCULAR ROAD, LONDON NW2 7JS
RANGER	MODUX, 29a EASTCHEAP, LETCHWORTH, HERTS
REALISTIC	ALL TANDY STORES
REFTEC	NORTH HERTS CB, 8 MELBOURNE ST, ROYSTON, HERTS
ROTEL	2-4 ERICA RD, STACY BUSHES, MILTON KEYNES, BUCKS
S & M	QUEEN STREET, HAVERHILL, SUFFOLK
SHOGUN	SUNRISE PRODUCTS, 8a WEST SMITHFIELD, LONDON EC1
SIRTEL	24 ALFRIC SQUARE, WOODSTON INDUSTRIAL ESTATE, PETERBOROUGH
STEEPLETONE	CROUGHTON, BRACKLEY, NORTHANTS
SMC	SOUTH MIDLAND, SM HOUSE, OSBORNE RD, TOTTON, HANTS
TENVOX	VOXON AUDIO, NUFFIELD WAY, ABINGDON, OXFORDSHIRE
TRANSCOM	1-12 MARKET STREET, BRACKNELL
UNIDEN	WALLACE TELECOMMUNICATIONS LTD, GREENCOAT HOUSE, FRANCIS STREET, LONDON SW1 1DH
WR ELECTROTEK	33 GROVE STREET, WANTAGE, OXON
YORK	FROM BOOTS AND WOOLWORTHS

MODEL	TYPE OF SET	NO OF CHANNELS	SQUELCH	VARIABLE RF GAIN	MIC GAIN	DELTA TUNE	TONE		ROGER BEEP	NB	AML	AUTO NOISE FILTER	SWR METER	INDICATOR LIGHTS			METEH	MIKE		SWR SAFETY CUT-OUT	DISTANT LOCAL	STANDBY	CH9 PRIORITY	HEADPHONE SOCKET	DIMMER	AUTO SQUELCH	ATTENUATOR	PRICE (Approx £)	OTHER FEATURES
							VARIABLE	P.A.						SIGNAL	POWER	FRONT		SIDE	SWR										
Johnson	M	40	●	●				●						●	●	●											44		
M2	H	40	●											●	●	●										●	75		
DIPLOMAT	B	40	●	●					●		●			●	●	●					●	●			●	194	SELECTIVE CALLING		
Manxman 850	M	40	●															●								45			
Manxman 950	M	40	●	●														●								50			
2740	M	40	●											●	●	●	●		●							80	CHANNEL FREE LIGHT		
Communications	M		●	●				●	●	●				●	●	●	●				●					95			
TX40	M			●	●	●							●	●	●	●	●								●	70			
2000	M	40	●																						●	68			
3000	M	40	●	●	●	●		●						●	●	●	●								●	76			
4000	B	40	●		●	●								●	●	●	●		●		●	●			●	115			
5000	M	40	●	●	●	●		●						●	●	●	●				●				●	84			
Kestrel	M		●	●				●	●	●				●	●	●	●					●				99			
Handset	H	3													●											60	BATTERY METER		
2001	M	40	●					●						●	●	●	●									70			
3001	M	40	●	●				●	●					●	●	●	●				●					80			
4001	M	40	●	●	●			●	●					●	●	●	●		●			●				90			
Viper 88	M		●	●	●									●	●	●	●								●	70			
201	M	40	●												●	●	●		●							90			
202	M	40	●	●				●	●				●	●	●	●	●				●	●				120			
PE Ranger	P	2-6	●												●											70	PORTABLE UNIT		
TRC 1001	H	40	●												●				●						●	120	BATTERY METER		
TRC 2000	M	40	●	●	●			●						●	●	●	●								●	100			
TRC 2001	M	40	●					●						●	●	●	●								●	80			
TRC 2002	M	40	●					●						●	●	●	●								●	70	AVAILABLE 1982		
934	M	20	●										●	●	●		●									200	934 MHz		
RVC 220	M	40	●											●	●	●	●									70			
RVC 230	M	40	●	●				●						●	●	●	●								●	80			
RVC 240	M	40	●	●	●	●		●	●					●	●	●	●		●		●	●			●	90			
Anglia	M	40	●	●	●			●		●							●									N/A			
Shogun	M	40	●	●	●	●		●	●					●	●	●	●									99	LED READOUT		
Searcher	M	40	●					●						●	●	●	●									40			
SCB IFM	M	40	●											●	●	●	●									103	LED READOUT		
Oscar-One	M		●		●										●		●			●					●	85			
	M	40	●											●	●	●	●				●				●	96	CHANNEL SCAN		
CBX 2000	M	40	●												●	●	●								●	70			
CBX 4000	M	40	●	●				●	●	●				●	●	●	●				●				●	90			
Unlace 100	M		●					●						●	●	●	●								●	80			
Unlace 200	M		●	●	●			●	●					●	●	●	●					●			●	100			
	M	40	●											●	●	●	●		●		●				●	120			
881	M	40	●					●						●	●	●	●									70			
883	M	40	●	●	●	●		●						●	●	●	●				●	●			●	90			

# Fruits of their labours

The colour pic opposite is a sneak preview of the Interceptor TC 400. As you can see from the finish, it is a pre-production prototype but it has a couple of features which will set it apart from the rest. Plus it's British designed. And the strawberries? Well, it's a long story. You see, our photographer phoned and said, 'You're not planning a feature on jamming the airwaves, are you?' We weren't, but you know how temperamental these artists can get...

We last featured the Interceptor sets in our October issue last year. Or rather we featured artists' impressions of their rigs because the designs were still to be finalised. Since then, we've seen their TC300 come on to the market (look out for a *Breaker* test of that soon) and the TC400 pictured opposite should be with us sometime in the Summer.

Back in October they also gave us details of two other sets, a remote and a home base unit but we're unlikely to see those for sometime yet.

Like most of the rigs venturing into this country, the Interceptors are (and the other models will be) made in the Far East, in this case Korea. But the difference is the importers, Parkington Ltd, and the UK distributors, Chelsea CB, didn't just call in a manufacturer, buy rigs off the shelf and stick their own labels on them. The TC300 and the TC400 have been developed by Bernard Rawlings, Parkington's technical director, in association with Chelsea and the Korean manufacturers.

It's taken a long time and a lot of backing and froing, but they assure us it's all been worth it. They were aiming

up-market and judging by the appearance of the sets, they've achieved it, although we can't speak for the performance of the rigs until we've tested them ourselves.

In the meantime, we can give you a rundown on the TC 400, which features one or two items you won't have come across before. Probably the most useful features, which are also common to the TC300, aren't designed to impress the neighbours, because they are out of sight, but they might save your set. Two circuits are built into the rigs to protect them against bad SWRs and cross wiring. But no one is going to operate the rig with a high SWR reading, right? And no one would be stupid enough to wire the power supply to the wrong terminal, would they? Well, yes, it happens. It's usually done by accident, sometimes out of ignorance. Either way it's easier done than you think, and can do a great deal of damage, so it's good to see a manufacturer has come up with some protection.

Looking at the fascia of the TC400, opposite, you'll notice a few other features not found on many rigs around at the moment. Most obvious is the digital clock. Providing there's room on the rig this is relatively easy for the manufacturer to build-in and it can be very useful. Another idea to be found on the TC400, and some of the other new-style 'second generation' rigs, is the push button channel selection — one for up and one for down. It makes the front panel look much neater and once breakers have got used to them, they should prove very popular. An added feature of the Interceptor controls is that they are repeated on the mike — another idea we hope to

see more of. They're also a boon to the disabled, of course.

Power and signal strength readouts — again common to many of the new design sets — are in the form of LED displays. They may not be calibrated as accurately as some meters, but they are much easier to read in the car.

The other controls on the well-appointed TC400 are more conventional and include volume, squelch, RF gain, tone, mike gain and transmit and receive lights. Parkington also hope to develop some form of selective call for the set before its launch — either as an integral part of the unit or as an optional extra.

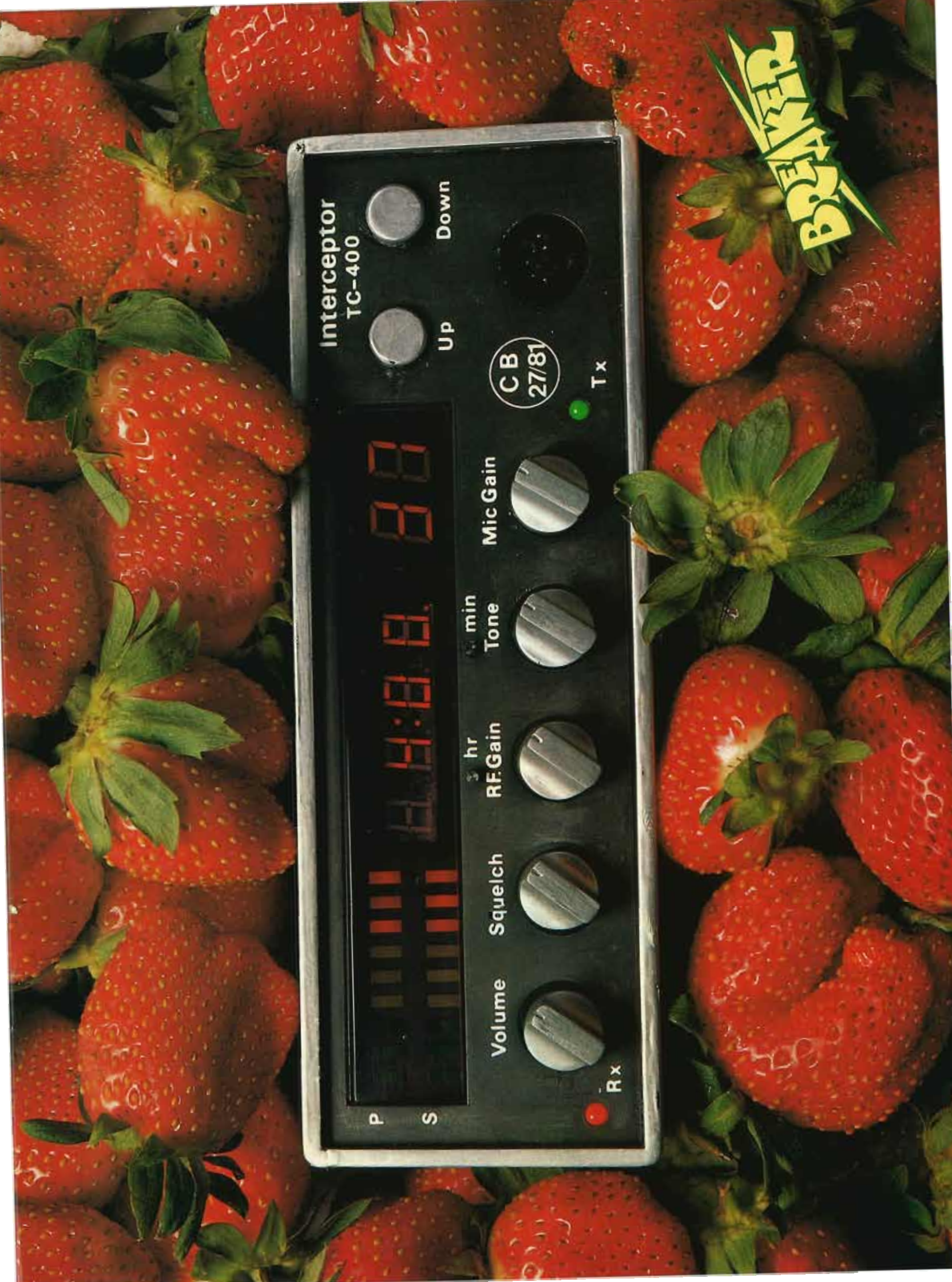
The TC400 is likely to be priced at around £140 which, considering its spec, seems sensible. And if it lives up to the company's claims of performance, it could be in big demand. One thing which Parkington are determined about — they don't intend to get involved in the cut-throat world of price cutting. Their range is being carefully developed to appeal to breakers who want up-market equipment, from the set down to the packaging, and they see the CB market in the long-term.

The remote-control unit — with the business end sealed in a box and concealed in the boot of the car, or wherever — and the base station are still on the stocks and will be introduced as and when they feel the market is ready.

And they are also one of the few looking at the 934MHz frequency, which looks like it could be the big money spinner in the long term. If you want to contact the Chelsea CB Centre, you'll find them at 73-77 Britannia Road, Fulham, London SW6 (tel: 01 731 0027).







Interceptor  
TC-400

Up Down

CB  
27/81

Tx

14:08.88

P S

3 hr 10 min

Mic Gain

Tone

RF Gain

Squelch

Volume

Rx

BREAKER

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I enclose cheque/PO for £ \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

Post code \_\_\_\_\_ B. \_\_\_\_\_

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# Easy as QSL



Welcome back to another Easy as QSL. I've quite lost count of the number of friends I have made throughout the world, but suffice to say that during the Christmas period I received nearly 600 cards from you all. Many grateful thanks.

One fellow breaker — can't really call him a QSLer — has written demanding an apology for printing his name and address. The gentleman in question is Mark Palmer G8IQV, who likes to be known as Puff The Magic Dragon. He has had QSL cards printed, but doesn't want anyone to know in case we all go round his house and help ourselves to his equipment. Sorry, Mark, if I have inconvenienced you, but I don't quite see your point in having CB-QSL cards printed. And if anyone wanted your address they would only have to look up your call sign in the RSGB call sign book, or look in the Maidenhead telephone directory. Still, that's your wish and I apologise for raising your fears.

Back to the more pleasant task of looking through this month's QSL. Every month I ask you to do me a favour — and this month is no exception! First, I would like to ask you all to drop a card to a rubber-bander QSLer, a miniscule laddy from up there in Scotland. He is David Grant (63 Durward Rise, Dedridge, Livingston, West Lothian) and would like to start QSLing, but would like to see some QSL cards, so that he can get some ideas for his own cards. I've sent him a package of QSL cards, but I am sure he will appreciate some more from you all. Sea Witch, alias Judith Simpson, a disabled breaker (61 Meadow Lane, Northallerton, North Yorkshire DL6 1RX), writes to say she is at home all day with only her CB as company. Let's get those cards in the post to show her how our big QSL Breaker family cares. Jonathan Bayles, Boxcar Willie, writes from The Knoll, One Unders Avenue, Darlington, Co. Durham, and would like to swap QSL with other Breakers, but respectfully asks for a SAE as his budget is very limited. I know exactly how you feel, Jonathan.

No doubt some of you are thinking about your holidays, and I know for some of you it will be Sunny Spain, and in particular Benidorm. If you are going over there, be sure to drop in and see British Concorde members John and Rita Cooke, who run the New Life Tavern about a quarter of a mile from the bullring. A special welcome will be given to Breaker readers. If you would like to write/QSL first, their postal address is PO Box 218, Benidorm, Alicante, Spain. A new British Concorde Club card in from 70BC071C Whiskey Charlie (alias John Rigby of 219 Garforth Street, Chadderton, Nr Oldham, Lancs OL9 6RG) and an English International DX Club card in from The Honey Monster, EI 367 (David Shepherdson of 3 Tarn Villas, Cowpasture Road, Ilkley, West Yorkshire LS29 8RH).

Had a call from The Duke — Jim Glavin, president of Big Ben DX QSL Club — who is taking his good lady, Marion (The Duchess), to meet the president of the Barong Ball QSL Club of Indonesia, I'm sure we'll all be pleased to hear of your trip and what transpires, Jim. Heard from a new club just forming, to be known as the Anglo American Magna Carta International Sidebanders. Membership is the highest I have heard of

(£9), which is probably due to the huge, intricate rubber stamp. But if you are still interested, the address to contact is Coronation House, Tolcarne Road, Newquay, Cornwall.

Tony Yorke writes from PT Design of 6 Keswick Street, Bradford, Yorks BD4 8PX. He has started producing some very nice and inexpensive QSL and eyeball cards known as the 'Mushy Pea' series, and at £7.50 for 200 (their minimum quantity) I envisage seeing a lot more mush! Drop them an SAE for full details — well worth a stamp. Incidentally, whilst on the subject of QSL cards, I have just received the proof for my new Medicman QSL from Andy Cookson, President of Papa Bravo International DX and QSL Club (PO Box 48, Preston, Lancs), and I am looking forward to seeing the finished article — especially as this is his first run of full colour cards! Time you read this, they should be delivered, so send me a SAE if you would like mine plus a selection of others kindly sent in by Easy as QSL readers.

Nice letter and QSLs from Don and Mandy Egerton of 13 Lyncroft, Albrighton, Wolverhampton WV73QJ, who have incorporated the Albrighton Coat of Arms on their QSLs. Looks super. They also sent details of an Italian QSL Club they just joined, and they report a good package for £5 from: CW Maniago Radio Group of PO Box 99, Maniago 33085 Friuli, North Italy.

Heard from Chris Ayers (12 Arma. Wksp. REME at BFPO 36), who prints some excellent colourful QSLs with some unusual ideas. If you really want something different in QSLs drop Chris a line. Bill Coopland 1 PB 140, BB 582, 1UK996, 70BC494, WDC315, HC380, obviously a compulsive club joiner (well done, Bill) writes with five different QSL cards from 226 Rock Street, Pitsmoor, Sheffield. Nice to see such a QSL addict. Clever design QSL from Brian (Exile) Harries of 25a, Elaine Grove, London NW5 4QH. Basically it's a Union Jack (always well received abroad) with his QSL club details. Nice one, Brian. Diamond Lil, Jackle Avery, writes from Allern Farm, Tamerton Foliot, Plymouth, Devon. I recognise her card as a Derwent Press production — very tasteful with silver and red British Isles outline design. One you might have seen comes from Sugar Daddy — Bernard Broughton of The Paperweight Centre, Leg O' Mutton, Yelverton, Devon PL20 6AD. Not only is he a member of most of the forces Amateur Groups, but he has published a secret '99' Code on the back of his QSL. Great fun! Dennis 'John' Smith sends his new personal QSL, which illustrates the Flying Mercury, so I think we have an ex-Royal Signals radio boffin here! Nice QSL from Anne Davidson of 107 Redhill Road, Northfield, Birmingham B31 3ND. Her multi-colour card shows the Rotunda in Birmingham town centre, land of the famed Ansells Brew 11. Thanks for the nostalgia — I lived up there a few years ago and miss the friendly people. Great folk!

Club card of the Diesel City Breaker Club in Peterborough was sent in by DC28 Nickolas Vjestica (PO Box 126, Peterborough, Cambs), so drop him a QSL for his card and details of the club if you are interested. A nice thank you letter in from Eric Cooper, alias Johnny Red, 70BC 292 (28 Wordsworth Ave, St.

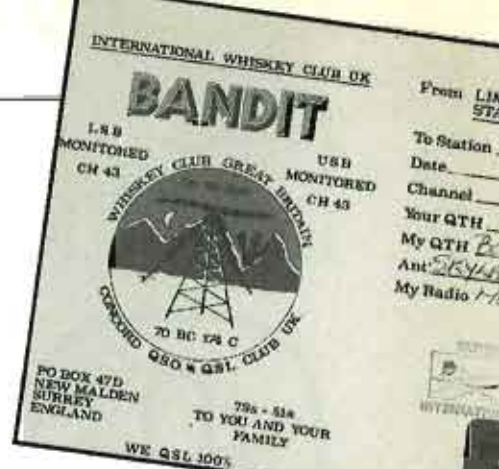
Marks, Cheltenham), for all the cards he has received from Easy as QSL readers since his mention in December issue of *Breaker*. He will have replied to you all by now, so he welcomes any more cards, especially from newcomers to QSLing. Papa Bravo member Ken Wheeler (The Red Lion) QSLs from 72 Birkdale Drive, Savick, Preston, and confirms he still QSLs at least 100%, if not more, so test him out! Scarface (142 Rawling Road, Gateshead NE8 4QT) asks for British QSL contacts, and promises an immediate return on all cards received — even if it is second class mail, he says.

Great to hear from my old friends Alan and Margaret Greathead, of Tree Tops, Park Lane, Forton, Lancs. Those of you who have followed these columns during the past months will recall Alan is a very courageous breaker who, although disabled and suffered badly with ill health last year, is now back into the swing of things. All your cards and letters helped him tremendously, knowing that others were caring. Super to see you in evidence again, Alan. I am sure he would welcome some more QSLs to keep him occupied. Alan and Margaret also mention our super CB grandad over there in Rhode Island — dear Arthur Brodeur, who took time out to write a long letter of encouragement. Regulars to this column will know Arthur well. Incidentally, Arthur loves personal photographs, and if you would like to contact him and his lovely wife Florida write to them at: 6 Mt. St. Charles Avenue, Woonsocket, RI 02895, U.S.A.

Michael writes from 18 Pine Walk, Surbiton, Surrey, and would like his name included so that he can start QSLing. Kindly drop him a QSL to start him off. The Biker (Dave Ward) sends his new card, and says he has been made really welcome by the East Mayo International DX-QSL Group. That's quite a number of good reports we have received about that club — must be good! Dave is also a member of Bravo Bravo Charlie CB DX Club Boston, which he recommends. Their address is 82 Clark Court, Boston, Lincs. Perhaps the most exciting QSL this month is the new one from The Jackal, Brian Warnaby of Rossmere House, Catcote Road, Hartlepool, Cleveland. He has had some really magnificent QSLs printed by the top American printers Sundown, and Brian is the First British Sundown I have seen — unless, of course, you know different! Really excellent colourful card, Brian, and something to be proud of. The Deep Diver sends his QSL from 15 Lower Rea Road, Brixham, Devon TQ59UD. He has a little rhyme on his QSL, but this one is for adults only please!

Pickled Onion (Kevin Dewing), well known to regular readers, sends a new card printed by the QSL Centre at Amber Hill, Boston PE20 3RQ and asks if Easy as QSL followers can send a card to a good friend of his — Helga, PO Box 244, Station L.D.R., Laval, P.Q., H7N 4Z9, Canada. She runs an unusual QSL club, so send off for details.

Malcolm Fisher of Aughnish, Ramelton, Co. Donegal, Ireland, writes with details of the Irish Rover International DX Group, currently with a membership of about 40. They are looking for new members to make it a truly international club. Drop Malcolm a QSL and you will receive full details of the club. Also from



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862

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Ops.  
Donald & Mandy  
Egerton




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73's & 51's TO YOU AND YOUR FAMILY.

100%

ATION

FROM

al"

- |                      |   |
|----------------------|---|
| Gerald Laird         | 20 Loughview Gardens, Coalisland, Co. Tyrone, N. Ireland. |
| Adelard Hetu         | PO Box 723, Woonsocket, Rhode Island 02895, USA.          |
| Harold Knornschild   | Hofer Str 27, 8671 Selbitz, West Germany.                 |
| Erik Lemieux         | 6733 Smoke Tree Ave, 29 Palms Cal. 92277, USA.            |
| George Mohler        | R6 Box 238, Jean Street, Kankakee Il. 60901, USA.         |
| Buti Rudiono Kasmito | PO Box 1053, Jakarta, Indonesia.                          |
| Cyril Palmer         | 158 Lake Road, Belmont, AK9, New Zealand.                 |
| Irene Patterson      | Box 655, Pictou, NS, BOK 1H0, Canada.                     |
| Art & Rose           | PO Box 33, Grahamsville, NY 12740, USA.                   |
| Mark Cavanagh        | PO Box 12-814, Auckland, New Zealand.                     |
| Warwick Donaldson    | PO Box 13-553, Auckland 6, New Zealand.                   |
| Toon Renmans         | Naamsesstr 118, 3000 Leuven, Belgium.                     |
| Michael              | PO Box 7, 7950 Chievre, Hainaut, Belgium.                 |
| Elly Louter          | Arn Jacobsstraat 11, 4051 AN Ochten, Netherlands.         |
| Markus               | Burgenstrasse 86 (Near Linz), 4020 Leonding, Austria.     |
| Ada                  | Leeghwaterstr 99, 4382 JM Vlissingen, Netherlands.        |
| Ralph P Stoutt       | 1224 Brookside Ave, Maryville, Tenn 37801, USA.           |
| Supersonic           | PO Box 71, 8400 Oostende, Belgium.                        |
| Max Spranger Jr      | 2932 Lake Drive, Fairview, MI 48621, USA.                 |
| J. M. Tesselaar      | Pleviersstraat 7, 1742 AK Schagen, Netherlands.           |
| De Witte Golf        | Hazendyk 83, 7544 ZJ Enschede, Netherlands.               |
| Michael Jaschewski   | am Musebieter 39, D 5952 Attendorf, West Germany.         |
| Ken & Ariel Olson    | PO Box 79, Huttonville, Ontario, Canada L0J 1B0.          |
| Arthur Hyza          | PO Box 33, Orahamsville, New York 12740, USA.             |
| Martin               | C/O Chris Wood, 6/4 Jahn Str, 3250 Harmelin 1, Germany.   |
| Jos                  | PO Box 82, 5660 AD Geldrop, Netherlands.                  |
| Nelis Guido          | A. Wellensstraat 20, 2610 Wilrijk, Belgium.               |
| Mary                 | Madlavollen, N 4040 Madla, Norway.                        |
| Marwin Davies        | PO Box 63, Rivers, Manitoba R0K 1X0, Canada.              |
| Christiaens          | Kreketstraat 81, 2710 Hoboken, Belgium.                   |

Ireland is a card of the Irish International Radio Group (PO Box 50, Waterford, Ireland). Nice card, but I personally am getting very agitated at seeing clubs with their calling channel slap bang in the middle of the FM legal frequencies. So far, this month, I have noticed over a dozen of them — and some of them are British clubs. Please move to a clear frequency. One club, who at the moment shall remain nameless, is within a cat's whisker of FM Channel 09, the emergency frequency. How disappointing. I always thought sidebanders were a little more caring than that, and perhaps it's just an oversight, but something must be done. And quickly please.

Well that's my moan for this month, back to the post. Laurence PO Box 27, Ballymena, Northern Ireland) is a member of the Antrim County Sidebanders and has an amusing new QSL he would like to swap. Deputy Dawg — alias Arwel Jones of Cronglywd, Cerrygydrudion, Clwyd LL21 0RS, Wales — sends two QSLs, both printed by the County Press at Bala, Gwynedd. First time I have come across these printers, but they produce a nice card. Scottish DX Club member Roxy Music (David of PO Box 19, Rutherglen, Glasgow G73 5PB) sends a great QSL selection. Always did love the bagpipes David. Details of a new Scottish club in from Tom and Margaret who have formed the Bonnie-Galloway DX Club. Address is PO Box 1, Creetown, Newton-Stewart DG8 7HJ, Scotland and their club channel is 27.695 LBS. Not Very Clever — another one right in the middle of legal FM! Card with a nice greeting in from George Stephen Jnr (4 Shore Street, Cairnbulg, Fraserburgh, Aberdeenshire), who wants to swap world-wide, so go to it!

Overseas now to Holland. I have mentioned 'De Zeemeermin' QSL Club before, but they have recently sent me a very interesting envelope, which contained one QSL. Not unusual you might think but this is only a part of a set of six QSLs from different club members which form one giant QSL when all six are collected and placed together — a sort of QSL Jig-saw. A really novel idea, and I understand Big Ben DX Club are considering it. Should be interesting. The club card I received was from Zilveren Carina, Tulpstraat 104, 4711 HJ St. Willebrord, Netherlands. One of your QSLs will get her sixth of the jig-saw, plus the addresses of the other five QSLers.

Before we close this month, I have just received a copy of the new Australian CB magazine, CB Focus, which is similar to the now defunct CB Action that sadly closed some months ago. If you would like a mention in this magazine write to Garry Morosoff at the Swagman QSL Club, Box 43, Bulleen, 3105 Victoria, Australia. My thanks to Pual Dunster of the Australian International QSL Club (PO Box 855, Fremantle 6160, Western Australia) for providing this lead. I see Britannia Sidebanders membership fee is £15, so the Anglo American is not so dear after all, but it's still a lot to pay. Thanks once again for all your cards. Keep them coming and you should get a mention. You can write to me, The Medicman, at 187 Walton Road, East Molesey, Surrey KT8 0DY. Enjoy your QSLing and I'll catch you next month.

THE MEDICMAN

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# Airwaves

The response to our club call has been a bit frightening. You quite often hear in magazines that they've had van loads of mail, but as we sit here surrounded by the mountains of coupons we can tell you, this time it's true. It took Cuddley Claire 20 minutes to get back from the coffee machine this morning, and a ragged cheer went up from our corner of the office as we spotted her rounding the last peak of mail bags. We've started sending up scouts into the foot hills though, and the list will be up dated, never fear. Right, on to the business at hand.

**Green Acre Breakers** have sent us a telex. Are these people flash, or what? It looks like they've been out and about raising money again, this time to buy a blood scanner for the Aberdeen Maternity Hospital. So far they've got £200 from a sponsored disco/fancy dress affair and a sponsored sing at a local hotel (which sounds like it was something worth missing). **Freddy Flintstone** says they're doing it to show people that CBers care, and we're not going to argue with that... **The Westcliff Breakers** have got a smart little news letter, but we just hope some of the things they've included are a bit exaggerated. Also their history of breaking doesn't seem quite right to us...

**Band Town Breakers** come from Brighouse in Yorkshire (remember the Floral Dance. Terry Wogan? Yes, thought you might). Well, apart from that they seem quite normal, and anyone is welcome to their meets with no fees required... **Pirate Breakers** don't go around making people walk the plank, you'll be glad to know, but they do hold regular meets down in Rhydyfelin, Mid-Glamorgan. They also raise money for charity. It's enough to make Captain Kid turn in his grave... **The Prestige Breakers** from East Acton, London are open for new members, but with a name like that you probably have to turn up with a gold plated rig in your Roller... **A quick** mention for the **Billingham Breakers**. Anyone is welcome to their meetings...

**The Corn Grinders Club** have changed their Committee because **Yorkie Bar** is leaving the area. A visit to one of their eyeballs (address is in the list) will tell you more... **A quick** competition. The winner will receive a rare, valuable prize — 200 copies of a certain CB magazine not called *Breaker* — just right for making papier-maché. All you have to do is tell us where **Smokey Town** is. What, no takers? Well, we'll have to tell you. **Smokey Town** is Salford, and the **Smokey Town Breakers** meet there in the **Flat Iron Hotel**. We're nothing if not informative... **The Foxtrot breakers** come from **Finchley**, and you'll be glad to know that there's no fee for joining them. One thing though, they do have a collection for **Help a London Child** at every meeting. No jokes about killing a social worker, please... **With** a name like **South London Associated Breakers 27 AM**, you expect them to be anti-FM, but the club supports all CB while fighting for the FCC frequencies. They have their own sideband group and support Thames. Address is in the list...

**Grantham** was voted Britain's most boring town, so when we got a letter from **Grantham Breakers Association** we knew we were in for a treat (snore). Actually, **Crazy Lady** wrote us a very nice letter and pointed out we'd put **Grantham** in the wrong county.

**3 — Oh Breakers**  
c/o 33 Hereford Close  
Linthorpe  
Middlesbrough  
Cleveland

**7YBC (Severn Wye Breakers Club)**  
c/o Oak Close  
Chepswold  
Meet fortnightly at Three Tuns

**9 Plus 30 Club of Hershams**  
meet Tuesdays at  
The Star  
Hershams  
Surrey

**10-36 Club**  
meet Mondays at  
Calcot Hotel  
Calcot  
Reading  
Berks

**27 Club**  
Every Monday at  
Saxon Tavern  
Southend Lane  
Catford SE6

**39 Breakers Club**  
c/o R Corrie  
268 Hardgate  
Aberdeen AB1 6AD

**10-59 Breakers Club**  
meet Tuesday at  
Glasbridge Club  
c/o 106 Bosworth Road  
St Helens  
Merseyside  
WA11 9HQ

**27-81 Breakers Club**  
c/o 5 Dalton Close  
Hayes  
Middlesex  
meet every Monday at  
Greenwood Arms,  
West Whitton Ave,  
Northolt  
Middlesex

**A12 FM Breakers**  
meet Sundays at  
The Countryman, Victoria Road  
Chelmsford

**A78 CBBC**  
c/o 17 Main Street  
Largs  
Ayrshire  
Scotland

**Alre Valley Breakers Club**  
53 Albert Road  
Saltaire  
Shipley  
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**Airwave Breakers**  
Every Monday at  
The Plough  
Badminton  
Bristol

**All Breakers Club**  
190 Evelyn Street  
London SE8

**AM & FM Breakers**  
meet Sundays at  
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**Anglo American MC Internat.**  
**Slidebanders**  
c/o Coronation House  
Tolcarne Road  
Newquay  
Cornwall TR7 2NQ

**Anglia Breakers Club**  
c/o Great White Horse Hotel  
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meet Mondays at  
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Bernard Street  
Edinburgh

**Associated Breaker's Club**  
c/o Dial Electrics  
528 Lever Edge Lane  
Bolton  
Meet Monday nights  
Aquarius Club, Bolton

**Association of Maghull Breakers**  
c/o 69 Vetch Hey  
Netherley  
Liverpool  
Merseyside

**Attic Breakers Club**  
12 Jameson Road  
Bridlington  
East Yorks

**Avanti Breakers Club**  
c/o Post Office  
Newton of Falkland  
Cupar  
Fife

**Back Road Breakers**  
Alternate Thursdays at  
Liberal Club  
Garstang  
Nr Preston  
Lancs

**Band Town Breakers Club**  
meet Tuesdays at  
The Grove Inn Motel  
Euand Road  
Brighouse  
West Yorkshire

**Banff Breakers Club**  
meet Mondays at  
Royal Oak Hotel  
Banff

**Banger Town Breakers**  
PO Box 45  
Haverhill  
Suffolk

**Banjo Breakers**  
c/o 14 Kingsway Trailer Park  
Tower Road  
North Warrimley

**Barley Breaker's Club**  
Alternate Wednesdays  
Barley Shiel  
New George Street  
Plymouth  
Devon

**Barry Cow Breakers Club**  
meet Wednesdays at  
Barley Mow  
St Margarets Ave  
Ward End  
Birmingham 8

**Barnet Breakers Club**  
Meet at British Legion Hall  
Brookhill Road  
East Barnet  
Herts

**Barrier Breakers**  
Every Wednesday at  
The Railway Hotel  
Nottingham

**Barry Breaker's Club of Wales**  
Meet alternate Sundays  
Hotel International  
Barry

**Barwell CB Radio Club**  
5 Mayfield Way  
Barwell  
Leics

**Basildon Fortune Breakers**  
Association  
meet 1st & 3rd Thurs of month at  
The Barn  
Basildon

**Beechcombers Breakers**  
Association  
c/o 3 Thursby Road  
Highcliffe  
Christchurch  
Dorset BN23 5PA

**Beech Breaker's Club**  
Mowbray Road  
South Shields  
Tyne and Wear

**Beechwood Breakers Club**  
c/o 14 Sandholes Street  
Paisley  
Scotland

**Beech Breaker's Club**  
Every Sunday evening at  
Blacksmiths Arms  
Thornwood Common  
Nr Epping

**Berlin Breaker's Club**  
Meet fortnightly at  
The Wasserturm  
Spandauer Damm  
Berlin

**Big Eyeball Breakers**  
Every Thursday at  
The White Hart  
Devonshire Hill Lane  
London

**Big H Breakers**  
c/o Ardencaple Hotel  
Rhu  
Dunbartonshire  
Scotland

**Big Top Breaker's Club**  
5 Council Villas  
Mellon Ross  
Barnetby  
South Humberside

**Big Wheelers Association**  
35 Alexander Court  
Lansbury Park Est.  
Caerphilly  
Mid Glam  
Wales

**Billingham Breakers Club**  
meet alternate Wednesdays at  
Billingham Breakers Club  
Billingham Forum  
Billingham  
Cleveland

**Binley Breakers**  
c/o Shop Steward  
Broad St Old Boys Club  
Brandon Road  
Coventry

**Blacult Town Breakers**  
PO Box 123  
Reading  
Berks  
(send SAE)

**Blackpool Breakers Club**  
c/o ADS Electronics  
239 Dickson Road  
Northshore  
Blackpool

**Boomerang Breakers Club**  
Meet at White Lion  
Moulton  
Northampton

**BOS Club**  
c/o Wernon Arms  
Spondon  
Derby

**Border Breakers Club**  
c/o Cathedral Garage  
Weybread  
Harleston  
Norfolk

**Boston Breaker's Club**  
Bramble Country Club  
218 Christchurch Road  
Bournemouth  
West Parley

**Bottle City Breakers**  
31 Farm Road  
Clock Face  
St Helens  
Merseyside

**Bottsford CB Association**  
c/o 8 Spusby Road  
Scunthorpe  
Sth Humberside

**Bourne End Breakers Association**  
Fridays at  
The Fire Fly Pub  
Bourne End

**Bournemouth Independent**  
Breakers Association  
Every Tuesday  
Coach House Motel  
Ferndown  
Dorset

**BP Breakers Association**  
19 St Helens Avenue  
Frimby Maryport  
Cumbria

**Bracknell Breakers**  
Every Sunday at  
The Bridge House  
Wokingham Road  
Bracknell  
Berks

**Braithwell Rig & Twig Club**  
Every Tuesday  
Braithwell WMC  
Sth Yorkshire

**Bramley & District Breakers Club**  
c/o Charles Angel  
2 Nansen View  
Bramley  
Leeds  
LS13 3QE

**Breakaway '81**  
Every Friday night  
The Plough  
South Ockendon  
Essex

# Airwaves

Simple mistake. Anyone could have done it. Trouble is, we did . . . The Bramley and District Breakers have changed their address, because they've appointed a new chairperson. Check the list for details . . . Barmy Cow Breakers aren't a bunch of sexists who like to call women names. They got the name from a pub where they meet (The Barley Mow, if you're interested) and they've been up to all sorts of things. They've got regular discos, held a sponsored swim to kit out two disabled people with rigs and they are planning great things for the summer . . . The West Glamorgan Breaker's association changed their address but didn't tell anyone. Well, they didn't tell us anyway. Well, not until just now. The new address is in the list now . . . We've had a note from the Post Office about CB-NE. Apparently they've no longer got the post box as listed and so mail is being returned. We're taking them out of the listing, but if anyone knows the new address, do let us know . . . Dead End City is the handle for Clacton, and if you've ever been there, you know why. Still, the local breakers club has really taken off since legalisation with new members and money donated to charity, and they could be set for big things in the summer . . . A call for help from a lady breaker. The AM and FM Breakers in Manchester are dominated by men, and the ladies feel discriminated against. Any ladies out there know the answer? . . . The Garden of England Club have moved their meeting place, and also tell us that channel 17 is being used as the marine channel. Any more news on that? . . . Once upon a time, there was a club called the Moray Breakers Club, but they are no more. Nowadays they're called the Sawmill City Breakers. No cutting remarks from us . . . From Scunthorpe, news of the White Elephant QSL Club. They operate AM-SSB and the USB 50 as the club channel . . . And finally an attempt by a club to come first in our list, the 7YBC. It's not just a contrived name, it comes from the Severn Wye Breakers Club, who are based in Chepstow. Did they make it to the top? Check the list to find out.

Bangers. No, not the firework type, the good old bangers-and-mash-sort. Wouldn't think they had much to do with CB would you? Well, that just shows how much you know doesn't it? And that you didn't read Airwaves last month.

Banger Town is Haverhill in Suffolk, so called because there's a sausage making plant nearby, and the Banger Town Breakers Club was formed in early 1981. They were just a few local breakers meeting in a pub then, but the membership soared so fast that they out grew three venues. Nowadays they've got 400 members and meet every Wednesday at Haverhill Rugby Club, where they get up to all sorts of naughtiness. They hold discos and raffles, and once a month they hold a games night and nominate a 'Breaker of the Month' who gets a shield.

Like most clubs they raise money for charity, and they've been quite successful. A sponsored walk raised £250, and this was presented to LAMP H, a local association for mentally and



Above: Haverhill breakers Ken Westley and Eric Bausor presenting a cheque for £250 to a local charity for the handicapped.  
Below: The Hawk and the Pirate held a sponsored modulation for 72 hours to raise money for this stereo in a local hospital.



physically handicapped people. Two breakers (Pirate and Hawk) held a marathon modulation for 72 hours — just hope they had something interesting to say to each other — and the club reckon this is the longest illegal radio transmission in the world. Although Radio Caroline might have a few words to say on that. Anyway it was quite long enough, and the money went toward buying a stereo system for the children's ward in the local hospital, when their record player died of old age. Money was also raised by auctioning items donated by breakers and other well wishers.

And that's not all. A young man who was disabled in a road accident was given a Jumbo rig out of club funds. This is probably a good point to say that the club supports AM and FM, which explains the Jumbo, and that all breakers are made welcome. The club's discos have had varying amounts of success, but the weekly meets are always packed out, and the Rugby Club lays on food at reasonable prices. End of commercial.

Like a few other clubs, they broadcast a news bulletin on Sunday nights at 10pm on channel 30. It goes out on AM and FM, and keeps the breakers who can't get to the eyeballs in touch with club events. The club are also trying to organise separate meetings for junior members, so they don't get left out of activities, and they are also hoping to get a junior disco off the ground.

Finally we must mention the club logo. It's very neat, very clever and professionally done. It gives the club a real touch of class to have something like this to represent them, and just to show they're not sitting on their laurels they're having it redesigned for the next print run. Should be worth seeing.

**Breaker One Four Club**  
c/o DK Conal  
Napier Barracks  
BFPO 20  
West Germany

**Breaker 21 Club**  
meet Fridays at  
The Greyhound Inn  
Brierfield  
Nelson  
Lancs

**Breakers Town CBC**  
Every Thursday  
c/o The Stanley Club  
Stanley Road  
Carshalton  
Surrey

**Breakers Yard CBC**  
Every Monday at  
St Helier Arms  
Carshalton  
Surrey  
Tel: 01-669 5441

**Brieket Breakers Club**  
c/o Watford Component Centre  
7 Langley Road  
Watford  
Herts

**Bridgetown Breakers Club**  
Meet at Phoenix Social Club  
Heale Road  
Hull

**Bristol Breakers**  
120 Beaulon Road  
St George  
Bristol 5

**Bristol CBC**  
14 St Peter's Rise  
Headley Park  
Bristol  
BS13 7LU

**Brook Breakers CB Club**  
Every Wednesday at  
Badger in the Brook  
Shrebrook  
Mansfield

**Broadland Breakers Club**  
First Sunday at  
White Swan  
Stalham Norfolk

**Bromsgrove Breaker's Club**  
PO Box 5  
Bromsgrove  
Worcs.

**Brown Bottle Breakers**  
c/o The White Horse  
Norton Road  
Theltham  
Diss  
Norfolk

**Buckingham Breakers Club**  
35 Addington Road  
Buckingham

**Buggen Bandits CB Club**  
On channel 13  
BFPO 25

**Burns Breaker Club**  
c/o Braehead Hotel  
Whitliss Road  
Ayr  
Scotland

**Bury CBC**  
c/o CB Paradise  
69 Northgate Street  
Bury St Edmunds  
Suffolk

**Byron CB Radio Club**  
Byron Hotel  
Ruislip Road  
Greenford  
Middlesex

**Ceketown Breakers Club**  
Every Sunday at  
The Queens Hotel  
Pontrhycton

**Caillon Hill Club**  
c/o M Murphy  
1F2, 79 Coshan Road  
Edinburgh  
EH3 5AW

**Canary City Breaker's Club**  
Meet first Tuesday of month at  
Ebenezers Freehouse  
Salthouse Road  
Norwich

**Canyon Breakers**  
meet Mondays at  
Sportsdrome Club  
Bolsover  
Chesterfield

**Cardiff & District Breakers**  
c/o 15 Stacey Road  
Roath  
Cardiff

**Carlton & Langold United Breakers**  
Thursdays at  
Langold Hotel  
Lar gold  
Workshop  
Notts

**Carpel Town Breakers Club**  
c/o Stuart Priest  
Flat 2, 3 Lorne Street  
Kiddleminster, Worcs

**Carrick CB Club**  
Tuesday night at  
Carrick Hotel  
Maybole  
Ayrshire

**Castletown Breakers Club**  
29 Graigwen Crescent  
Abertridwr  
Mid Glamorgan

**Castle Breakers**  
c/o Rose & Crown  
High Street  
Tonbridge  
Kent

**Cathedral City Breakers**  
c/o 2 Barryman Court  
Wells  
Somerset

**CB 007 Breakers Club**  
Tuesday nights at  
The Windmill Club  
Rotherham

**CB 4900 Club**  
BFPO 15  
West Germany  
Call on channel 15

**CBGB**  
CB House  
Crosby  
Liverpool

**Central 27 Breakers Club**  
Alternate Tuesdays at  
The Bruce Inn  
Nr Landmark  
Springkerse Road  
Stirling

**Central England Breaker's Association**  
Meet on Tuesdays at  
Staffordshire Volunteer  
Collingwood Road  
Bushbury  
Wolverhampton



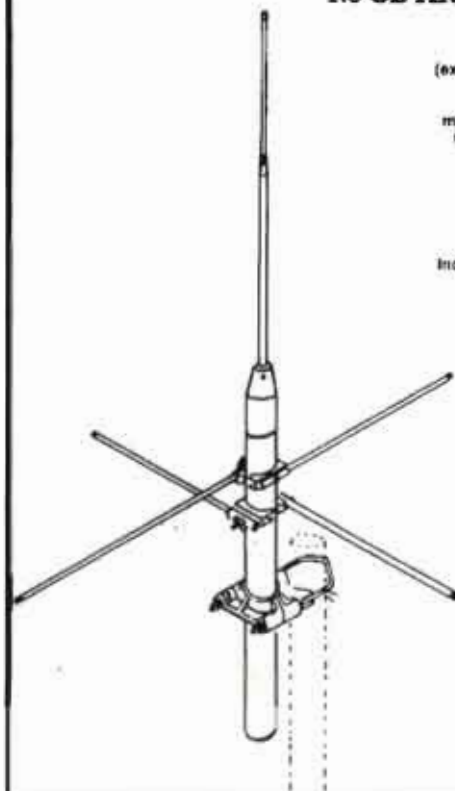
<p><b>Charlie Sierra Five-O Club</b> meet Sundays at The Plough Capel St Mary Ipswich Suffolk</p> <p><b>Charlie Uniforms Klub</b> c/o 202 Manchester Road Thornson Lodge Huddersfield West Yorks</p> <p><b>Chespo Breakers Incorporated</b> c/o 3 Stanley Road Maghull Liverpool L31</p> <p><b>Cheesy Breakers Club</b> 116 St Christopher's Drive Caerphilly Glamorgan</p> <p><b>Cheltenham Breakers Assn</b> 6 Pitville Crescent Cheltenham Or: The Crown and Cushion Bath Road Cheltenham</p> <p><b>China Town Breakers Club</b> c/o 54 Oxford Road Perkhull Stoke on Trent</p> <p><b>CHUB Club</b> c/o 103 Roseberry Gardens Cranham Upminster Essex Meet Elm Park Hotel Hornchurch</p> <p><b>CIA/BBC</b> Every Thursday The Magpie Sunbury on Thames Middlesex</p> <p><b>Circle C Breakers</b> c/o The George Hotel Crawkern Somerset</p> <p><b>City Circle CB</b> Bedford Green Horseferry Leeds</p> <p><b>Clog Town Breakers Club</b> 33 Pendle Court Astley Bridge Bolton BL1 6PY Tel: Bolton (0204) 50046</p> <p><b>Clogtown Claypit Breakers Club</b> Aquarius Club Halden Street Dean Bolton</p> <p><b>Clouds Hill Breakers Club</b> c/o 15 Purbeck View Bovington Camp Dorset</p> <p><b>Club 14</b> Every Thursday at Spotted Cow Wilkesden High Road NW10</p> <p><b>Club Breakaway</b> c/o 123 Hasler Road Canford Heath Poole Dorset</p> <p><b>Club CB</b> c/o The Club Fram Road Turbridge Wells Kent</p> <p><b>Clyde Coast Breakers</b> c/o Island Hotel New St Stevenston Ayrshire</p> <p><b>Clydeside Breakers</b> meet last Sunday of month Golden Pheasant Hotel Linwood Paisley</p> <p><b>Clydeside Breakers</b> Supporters Club 62 Rosemount Crescent Canstairs Lanarkshire</p> <p><b>27 Coastlines Breakers</b> PO Box 24 Rhyd Clwyd North Wales</p> <p><b>Coastline Breaker's Club</b> Meet every Wednesday at Wash and Tope Le Strange Terrace Hunstanton Norfolk</p>	<p><b>Colditz CB Club</b> c/o Greenway School Doncaster Road Southmead Bristol</p> <p><b>Copy Cats Club</b> The Manager Martholme Grange Altham Accrington Lancashire</p> <p><b>Copy Copy CB Club</b> meet on Mondays at George Inn Morden St Helier Arms Carshalton</p> <p><b>Corn Grinder's Club</b> The Pheasant Inn Windmill Street Brill Bucks</p> <p><b>Cottonmount Breakers Club</b> Alternate Tuesdays at Cottonmount Arms Mallusk Newtownabbey N. Ireland</p> <p><b>County Area Breakers Club</b> 4 Corbet Gardens Ardersier Inverness</p> <p><b>Country Town Breakers Club</b> Angoria Baptist Street Penygroes Caernarfon Gwynedd</p> <p><b>Cowal Breakers</b> meet every second Sunday at Kingarth Hotel Dumoon Argyll</p> <p><b>CREST Leeds</b> Every Tuesday The Gate Hotel Karlmere Avenue Leeds 14</p> <p><b>Crews Breakers Club</b> 1 Main Road Crewe Cheshire</p> <p><b>Cromwell Breakers</b> c/o The Winning Post Market Deeping Peterborough</p> <p><b>Cuckoo Breakers</b> c/o 61 Llanfach Road Abercarn Gwent NP1 5LA</p> <p><b>Cuckooland Breaker's Club</b> PO Box 2 Pericuik Scotland</p> <p><b>Dare Breakers Club</b> c/o The Yagibowen Hotel &amp; Country Club Llwydcoed Aberdare Mid Glamorgan</p> <p><b>Dark Island Breakers</b> c/o D18 002 PO Box 1 Benbecula Outer Hebrides Scotland</p> <p><b>Deed End City Breakers Club</b> c/o St Olives Grove Road Clacton-on-Sea</p> <p><b>Delta Breakers</b> Sundays at Invicts Co-op Sports Club Burnham Road Dartford Kent</p> <p><b>Den Breakers Club</b> c/o 38 Down Field Way Chaddleswood Plymouth Devon</p> <p><b>Derwent Valley Breakers</b> 10 Prospect Terrace New Kyo Stanley Co Durham</p> <p><b>Deveron Valley Breakers Club</b> Turnit Aberdeenshire AB5 7PQ</p>	<p><b>Double Barrel Breakers Club</b> meet Tuesdays &amp; Fridays at Commercial Hotel Blackburn Road Church Lancs</p> <p><b>Diamond Breakers Club</b> Diamond Jubilee Club South Kirkby West Yorkshire</p> <p><b>The Diamond Breaker's Club</b> c/o 16 West Close Stevenage Herts</p> <p><b>Didcot and District 27 Club</b> Meet first and third Sunday of the month at The Rio Hadden Hill Nr Didcot Oxfordshire</p> <p><b>Ditch Breakers</b> Meet every Monday at The Railway Hotel Netherfield Nottingham</p> <p><b>Dinnington &amp; District Breakers Club</b> Alternate Wednesdays at The Squirrel Dinnington</p> <p><b>Dixieland Breakers</b> PO Box 25 Grimsby South Humberside</p> <p><b>Doctor's Cure Breakers</b> Meet in the Legion Healing Grimsby</p> <p><b>Don Valley Breakers</b> PO Box 41 Doncaster South Yorks</p> <p><b>Dorset Nob Breaker's Club</b> c/o 3 Barr Lane Burton Bradstock Bridport Dorset</p> <p><b>Dragon Breakers Association</b> c/o 70 Florod Ligwy Moeleir Anglesey Gwynedd</p> <p><b>Driffield CB Association</b> c/o 22 Haworth Walk Bridlington East Yorkshire</p> <p><b>Dukesville Breakers Assn</b> 23 Foster Street Workshop Notts</p> <p><b>Eagle Breakers Club</b> c/o 76a Penn Hill Avenue Parkstone Poole</p> <p><b>Earthquakes City Breaker's Club</b> DL 71 Roitham Record Regent House Roitham</p> <p><b>East Antrim CBRC</b> PO Box 4 Antrim</p> <p><b>East Coast Breakers Assn</b> c/o The Tartan House Frasier Nr Colchester Essex</p> <p><b>Eastern Counties Open</b> Channel Club c/o Everards Hotel Comhill Bury St Edmunds Suffolk</p> <p><b>Edinburgh CBRC</b> 22 Rose Gardens Edinburgh EH8 3BR</p> <p><b>Elite Breakers</b> The Father Thames Albert Embankment London SE1</p> <p><b>Essex Breakers Convooy Club</b> c/o 67 Nobles Green Road Southend Essex</p> <p><b>Essex Citizen's Band Club</b> 24 Bryony Close Witham</p> <p><b>Essex CMB 2XF</b> Tel: Witham (0378) 613532</p> <p><b>Falkirk and District Open Channel</b> PO Box 15 Falkirk Scotland FK1 1AA</p>	<p><b>Farnborough Area Breakers</b> Every Thursday The Oasis Club Alexander Road Farnborough Hants</p> <p><b>Fish Town Sea Bees</b> Meet at Big Wheel Grimsby S. Humberside</p> <p><b>Fistral Bay DX-QSL Club</b> 11a Edgecumbe Avenue Newquay Cornwall</p> <p><b>Five Bridges Breakers Club</b> c/o Barfield Oakville Road Heddon Bridge West Yorkshire</p> <p><b>Five-O Breakers Club</b> c/o The Sports and Social Club Moore Lane Newton Aycliffe Co Durham</p> <p><b>Five Pools Breaker's Club</b> c/o The Old House at Home Bakedown Kidderminster Worcs</p> <p><b>Fleet Town Breakers Club</b> c/o 26 Mell Road Tollesbury Essex CM8 6SP</p> <p><b>Filton, Urmston &amp; Davy Hulme</b> Good Buddies Assn PO Box 2 164 Corn Exchange Buildings Manchester 4</p> <p><b>Flying Horse Breakers Club</b> meet Thursdays at The Pegasus Craddock Street Whitmore Reans Wolverhampton</p> <p><b>Forest Park Breaker's Club</b> c/o 1 Tor Street Stoke on Trent Staffs</p> <p><b>Forfar and District Breakers Club</b> Meet every Monday in Slag Hotel Forfar</p> <p><b>Forth Valley Breakers</b> Burns Inn Kerroway Fife</p> <p><b>Fosseway Breaker's Club</b> c/o The Rugby Club Slow on the Wold Glos</p> <p><b>Foxtrof Bravo</b> meet Mondays and Fridays at Joiners Arms Ballards Lane London N3</p> <p><b>Freedom Breakers International</b> 11 June Street Boote Liverpool Merseyside</p> <p><b>Frog and Nightgown</b> Breakers Club c/o Amberwell Pottersheath Road Welwyn Herts</p> <p><b>Gainsborough Breakers</b> Association Marshalls Sports and Social Club Gainsborough Lincs</p> <p><b>The Garden of England</b> meet Mondays at The Bulls Head Royal Parade Chislehurst Kent</p> <p><b>Give Us A 9 Club</b> Every Tuesday at Hand in Hand Boxhill Surrey</p> <p><b>GK 13</b> D5130 Gailenkirchen West Germany</p> <p><b>Glasgow CBC</b> 361 Halfhill Road Glasgow G33 4RY</p> <p><b>Golden Gate Breakers Club</b> c/o The Deva Restaurant Cliff Road Dovercroft Harwich Essex</p>	<p><b>Golf Whiskey DX Group</b> meet 1st Friday of month Rose &amp; Crown Walthamstow London</p> <p><b>Good Buddies Club</b> Alternate Wednesdays at Halfway House Hotel Kingseat Fife</p> <p><b>Gower Breakers Club</b> PO Box 12 Swansea South Wales</p> <p><b>Gramplan Breakers Club</b> 59 Jasmine Terrace Aberdeen Scotland</p> <p><b>Granite City CB Club</b> 92 Forest Avenue Aberdeen Scotland PH 322073</p> <p><b>Grantham Breakers Association</b> c/o 19 Heathfield Road Grantham Lincolnshire NG31 7NJ</p> <p><b>Grass Court Breakers Club</b> Every Sunday at The Wagon &amp; Horses Haydock St Helens</p> <p><b>Green Acre Breakers CB Club</b> c/o Benlleys Bar 47 Heiberkirkgate Aberdeen</p> <p><b>Guildford City Breakers</b> Tuesdays at The Cannon Portsmouth Road Guildford Surrey</p> <p><b>Gwent Breakers Club</b> Meet every Wednesday at The Gladiator Malpas Newport</p> <p><b>Halfway Breakers</b> 12 Mool Lane Downton Salisbury</p> <p><b>Hangmans Breaker's Club</b> Meet on Thursdays at The Stallordshire Knot Birmingham Road Wolverhampton</p> <p><b>Harrow and Wembley CB Group</b> 26 Greenway Kenton Middlesex</p> <p><b>Haverhill Breakers Club</b> PO Box 45 Haverhill Suffolk CB9 8JU</p> <p><b>Hayling Breakers TX 10</b> Every Thursday The Rose in June Hayling Hants</p> <p><b>Hazzard County Breakers</b> c/o Oakshaw Hall School Wynd Paisley Renfrewshire</p> <p><b>Hazzard County Breakers Club</b> 22 Radcliffe Avenue Chaddesden Derby</p> <p><b>Hazzard County Breakers Club</b> Meet first Tuesday of month at Fleet Country Club Surrey</p> <p><b>Heart of Oak Breaker's Club</b> Fellham Road Ashford Middlesex</p> <p><b>Helenburgh and District</b> CB Club c/o Ardencaple Hotel RHU Dunbartonshire Scotland</p> <p><b>Hereford 14 Club</b> Meet every Monday at Crystal Rooms Hereford</p> <p><b>Hereford Breaker's Club</b> 17 Munton Fields Ropsley Grantham Lincs</p>
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# Airwaves

<p><b>Herts CB Radio Association</b> PO Box 37 Potters Bar Herts</p> <p><b>Highland Breaker Club</b> PO Box 39 Inverness</p> <p><b>Hillbillies</b> Meet every Friday at The Friend at Hand West Wycombe Road High Wycombe Bucks</p> <p><b>Hornblower Open Channel Club</b> c/o 65 North Street Flipon North Yorkshire</p> <p><b>Hucknall Welfare Breakers Club</b> Hucknall and Linby Miners Welfare Portland Road Hucknall Nottingham</p> <p><b>Huddersfield FM Breakers</b> meet Tuesdays at The Commercial Inn, Paddock (approx 1 mile from town centre) meet Mondays at The White Horse Leeds Road</p> <p><b>Hunters Heath and Orchard Town Breakers</b> c/o Tally Ho Inn Broach Heath Tenbury Wells Worcs</p> <p><b>Invitation Breaker's Club</b> Every second Sunday The Yorkshire Dragon Malby Cleveland</p> <p><b>Ile of Man CB Club</b> PO Box EV 77 Douglas IOM</p> <p><b>Ironstone Breakers Club</b> c/o 16 Lunedale Road Sourthorpe South Humberside</p> <p><b>Journeys End Breakers</b> Alternate Thursdays at Escrick Social Club York</p> <p><b>Junior Breakers Club</b> Scout HQ Clifford Bridge Road Coventry 1st Thursday every month</p> <p><b>Kent and Essex Breaker's Association</b> Every Tuesday at Orsett Hall Orsett Essex</p> <p><b>Kent and Essex Breakers</b> 24 Mill Lane West Thurrock Essex</p> <p><b>Kingdom Breakers Club</b> c/o 41 Gleneagles Avenue Glanrothes</p> <p><b>King's Lynn Breakers Club</b> c/o Cellar Man Victoria P.H., John Kennedy Road King's Lynn</p> <p><b>King's Norton CB Club</b> Poste Restante GPO Lisburn Northern Ireland</p> <p><b>Kintyre Breakers Club</b> Sudown Tarbert Argyle</p> <p><b>LA Breakers</b> Unit 13 Carlton Industrial Estate Hawthorn Avenue Hull</p> <p><b>Laker Town Breakers Club</b> Every Tuesday at The Cornish Man Hotel Wythenshawe Manchester</p> <p><b>Langtown Breakers</b> c/o 145 Kathrine Crescent Kirkcaldy Fife</p> <p><b>Laverock Breakers</b> c/o 12 Wilson Street Larkhall Lanarkshire</p>	<p><b>Lazy K</b> Lima Kilo Radio Club PO Box 55 Portladow Northern Ireland</p> <p><b>Legal Breaker's CB Club</b> 56 Playstool Road Newington Sittingbourne Kent</p> <p><b>Leapool Breakers Club</b> c/o Maid Marion Hotel Coppice Road Arnold Nottingham</p> <p><b>LEBC (Castle Breakers)</b> Pete Beilby c/o 189 Derby Road Long Eaton Nottingham</p> <p><b>Leicestershire CBers</b> c/o Modern Motoring 68 Narborough Road Leicester LE3 0BR</p> <p><b>Leighton Buzzard CB Club</b> c/o Coombe Drive Eastcote Ruislip Middlesex</p> <p><b>Lennox Breakers Club</b> 4 Lismore Crescent Oban Argyll</p> <p><b>Leslie Breakers</b> Mondays at The Leslie Arms Cherry Orchard Road Croydon</p> <p><b>Lighthouse Breakers Club</b> c/o 15 Woodstock Road Salisbury</p> <p><b>Lima Bravo DX Group</b> PO Box 11 Oban Argyll Scotland</p> <p><b>Log Breakers</b> Every Monday at Log Cabin Royal Oak Pub Wainall Notts</p> <p><b>Lorn Breakers</b> PO Box 11 Oban Argyle</p> <p><b>Loth County Breakers</b> Meet every Tuesday at Pete's Paradise Windermere Cumbria</p> <p><b>Lower Rhondda Breakers Club</b> c/o 40 Birchgrove Street Porth Rhondda Mid Glamorgan</p> <p><b>Lowestoft Jolly Breakers</b> 10 Viburnum Green Lowestoft Suffolk</p> <p><b>Maidenhead Official Breakers</b> Thursdays at The Prince Albert King Street Maidenhead</p> <p><b>Mansfield Area CB Club</b> c/o James Maude Social Club Forest Road Mansfield Notts</p> <p><b>Market Town Breakers</b> PO Box 2 Ashford Kent</p> <p><b>Marine Breaker's Club</b> c/o 89 Rothesay Road Goaport Hants</p> <p><b>MCBRA</b> 85 Allens Lane Pelsall Walsall West Midlands</p> <p><b>Meon Valley Breakers</b> 4 Lawrence Road Fareham Hants</p> <p><b>Mersayside 27 Club</b> 34 Mickfield Road Liverpool 15</p>	<p><b>Mexico City Breakers</b> The Old Masons Arms High Street Mexborough Yorks</p> <p><b>Mid-Kent CB Club</b> c/o The Orchard Spot Spot Lane Bearstead Maidstone Kent</p> <p><b>Midlands CBRC</b> Unit 2 72 Oval Road Erdington Birmingham</p> <p><b>Midlands CB Radio Club</b> 85 Allens Lane Pelsall Walsall West Midlands</p> <p><b>Milktown Breakers</b> Meet every first Sunday Vanity Fair Bradford Road Huddersfield</p> <p><b>Milton Keynes City Breakers</b> c/o 2 Buckfast Avenue West Bletchley Milton Keynes</p> <p><b>Molesay Open Breakers</b> c/o Royal Oak 337 Walton Road East Molesay Surrey</p> <p><b>Monkey Town Breakers</b> c/o Victoria Hotel Church Street Heywood Lancs</p> <p><b>Monklands Breakers Club</b> c/o 78 South Commonhead Avenue Airdrie Lanarkshire Scotland</p> <p><b>Moonbase Alpha Breakers Club</b> c/o 2 Newton Road Billinge Nr Wigan, Lancs</p> <p><b>Moonlight Bay Breakers Assoc.</b> c/o The Great Harry Walsash Hampshire</p> <p><b>Moray CB Breakers Club</b> c/o Gearchange 40-42 Moss Street Elgin Morayshire</p> <p><b>NACB</b> Every Thursday at The Commodore International Nuthall Road Nottingham</p> <p><b>National CB Union</b> PO Box 123 Reading Berkshire</p> <p><b>National Committee for the Legislation of 27MHz CB Radio</b> 478 Stonegate Road Narborough Leicester</p> <p><b>National Federation of Licenced Breakers</b> 142 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Worksop Notts S81 7QA</p> <p><b>Northampton Breakers Club</b> Wednesdays &amp; Sundays at The Needle Northampton</p> <p><b>North Sea Breakers</b> c/o 27 Zena Street Glasgow</p> <p><b>North Tees Breakers</b> c/o Club Fiesta 395 Norton Road Stockton on Tees Cleveland</p> <p><b>North Walsham Breakers</b> c/o Bankside Lower Street Southrepps Norwich Norfolk</p> <p><b>North West Breakers</b> c/o Ballygomartin Drive Ballygomartin Road Belfast 13</p> <p><b>North West Breakers Assoc</b> c/o 8 Longhill Walk Moston Manchester M10 9NT</p> <p><b>North West Leics Breakers</b> PO Box 10 Coalville Leics</p> <p><b>Norwich Social Breakers Club</b> 72 Silver Road Norwich Norfolk NR3 4TD</p> <p><b>Ocean Boulevard CB Club</b> PO Box 8 Bangor Northern Ireland</p> <p><b>Open Channel CBC</b> 17 Coronation Street Preston</p> <p><b>Open Channel CB Club</b> 17 Coronation Street Blackburn</p> <p><b>Out of City Breakers</b> Every Tuesday Southall Working Mens Club Belgham Sheffield</p> <p><b>Outwood &amp; Stanley Breakers Club</b> c/o 17 Auty Crescent Stanley Wakelield West Yorks WF3 4PA</p> <p><b>Over Wyre Breakers</b> Every Thursday Fernhill Hotel Park Lane Prestall Nr Blackpool</p> <p><b>Paradise Breakers Club</b> Meet alternate Mondays at The Bearmount Park Estate Shiremoor Tyne and Wear</p> <p><b>Pandle CB Supporters Club</b> 110 Barkerhouse Road Nelson Lancs</p> <p><b>Pennine One Nine Club</b> 29 Legrams Avenue Lidget Green West Yorkshire BFD7 2PP</p>	<p><b>Pensioners Inn Breakers</b> meet Wednesdays at Harehills Labour Club Florence Street Leeds 9</p> <p><b>Peterfield United Breakers</b> Every second Monday The Square Brewery Peterfield Hampshire</p> <p><b>Pershore CB Radio Club</b> c/o The Royal Three Tuns Pershore Worcestershire</p> <p><b>Pigs Breakers Club</b> c/o Formula 1 15 Holmes Avenue Raunds Northants</p> <p><b>Pirates</b> Meet every Thursday at The Mill Halfway Sheffield</p> <p><b>Pirate Breakers CB Club</b> c/o 67 Oak Street Rhydnyfen Pontypridd Mid Glam</p> <p><b>Platow Breakers Club</b> Every Monday Phoenix Club Grange Road London E13</p> <p><b>Popular Breakers Club</b> 29 Puttenham Road Sherfield Park Chineham Basingstoke</p> <p><b>Prestige Breakers Club</b> meet Wednesdays at The Goldsmiths Arms East Acton Lane East Acton London W3</p> <p><b>Pudsey CB Radio Club</b> 54 Harley Drive Swinnow Leeds</p> <p><b>Purbeck One-Nine Club</b> Every other Tuesday at The New Inn Church Knowle Dorset</p> <p><b>Quaker Breaker Club</b> c/o Waggon and Horses East Street Saffron Walden Essex</p> <p><b>Queen Adelaide Breakers</b> meet Mondays at Queen Adelaide Pub Kingston Road Ewell Surrey</p> <p><b>Quiet Breakers Club</b> 8 Wedgewood Road Cheadle Stoke on Trent Staffs</p> <p><b>Rainbow Breakers</b> c/o PO Box 58 Cookstown Co. Tyrone N. Ireland</p> <p><b>Rayleigh Breakers Club</b> meet on Fridays at Rayleigh Weir Public House Rayleigh Essex</p> <p><b>R &amp; B Club</b> PO Box 4 Stranraer Scotland</p> <p><b>REACT UK</b> 10 Buckingham Way Sharnford Leicestershire</p> <p><b>Red Cat 14 Breakers Club</b> c/o Red Lion Derby Road Sandiacre Derbyshire</p> <p><b>Redhill Radio Breakers Club</b> c/o The Ram Inn Mansfield Road Redhill Nottingham</p> <p><b>REM</b> c/o 68 Chapel Street St Helens Merseyside</p>
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<p>Rhine Cuppers CB Club On channel 13 BFPO 40</p> <p>Rhonda Breakers Club 35 Shady Road Gelli Rhonda Mid Glamorgan</p> <p>Rhythm and Blues Club The Bell Hotel Botesdale Nr Diss Norfolk</p> <p>Richmond &amp; District Breakers Friday nights at Black Horse Richmond</p> <p>Ringway Sideband Club Every Thursday at Benchill Hotel Wythenshawe Manchester</p> <p>River City Breakers Club c/o 36 Worcester Road Bumham-on-Crouch Essex</p> <p>River Exe Breakers c/o 149 Willycombe Village Road Exmouth Devon</p> <p>Riverside Breaker's Club Every Friday at the Redcroft Hotel Bo'ness West Lothian Scotland</p> <p>Riverside Breakers c/o 1 St Luke's Grove Humberstone Grimby South Humberside</p> <p>Road Apple DX Club UK SAE to Hobart RA 68 c/o Top Ear London Road Eaton Socon Hunts</p> <p>Rolling Stones Breaker's Club The Moss Cottage Nottingham Road Ripley Derby</p> <p>Roman City Breakers Club c/o 29 Keston View Whiteley Bath Avon</p> <p>Roman Road Breakers Tuesdays at Galway Arms Harworth Nr Doncaster</p> <p>The Rooftop Breaker's Club Every Wednesday at the Gambola Balfon Woods Nottingham</p> <p>Roxton Breakers Club 56 The Lane Wyboston Beds MK44 3AP</p> <p>Royal T Breaker's Club c/o 3 Manse Street Tain Ross-shire</p> <p>St Neots Breakers Club Every Thursday at St Neots Working Mens Club Hardwick Road Eynesbury St Neots</p> <p>Saddleworth Breakers Club Every Monday at Well Li Pub Saddleworth</p> <p>Sandwell Area CB Club 4 Baldwin Close Twidale Warley West Midlands</p> <p>Sandy City CB Breakers Club c/o 56 Poulton Road Southport Merseyside</p> <p>Saundersfoot and District Breakers Club 14 Ryelands Place Kilgetty Dyled SA68 0UX</p> <p>SCANHB c/o The Woodman Nuthamstead Herts</p>	<p>Sawmill City Breakers Club PO Box 3 Elgin Morayshire</p> <p>Scottish Truckers Club c/o 3 Common Crescent Bridge of Allan Stirling</p> <p>Scillonian Breakers Club The Secretary 2 Trinity Cottages St Marys Isles of Scilly</p> <p>Sedgefield Breakers Club c/o 4 Pine Ridge Avenue Sedgefield Co Durham</p> <p>Seven Towers CBC 15 Carnuff Drive Ballymena Co Antrim</p> <p>Sewern City Breakers Club c/o PO Box 2 Shrewsbury</p> <p>Severnside Breakers c/o 51 Templeway West Lydney Glos</p> <p>Sierra Hotel DX Club c/o 20 Grangefield Avenue Rossington South Yorkshire</p> <p>Singing Wheels CBC c/o 2 Grenfen Cross Tavistock Devon PL19 9ER</p> <p>Shannock Town Breakers c/o 15 Birch Grove Sunway Park Sharnham Norfolk</p> <p>Shaw and District Breakers PO Box 2 Shaw Oidham</p> <p>Sheaf Valley BC c/o 27 Ashberry Gardens Sheffield</p> <p>Shustoke and District Breaker Alternate Tuesdays Shustoke Village Hall Shustoke Birmingham</p> <p>SLAR 27 PO Box 71 Sidcup Kent</p> <p>Smokey Town Breakers Club Flat Iron Hotel Salford Precinct Salford Manchester</p> <p>Smoke Town Breakers 103 Diamondale Road Arbroath Angus Scotland</p> <p>SOEST UK CB Set Channel 11 2nd Friday and 4th Saturday of the month</p> <p>Southeast &amp; District c/o 310 Station Road Westcliff-on-Sea Essex SSO 0OZ</p> <p>South Birmingham CB Club Meet fortnightly at Solithull Civic Hall Solithull Birmingham</p> <p>South Side Breakers c/o Jean Armour Bar Shawlands Glasgow</p> <p>South Side Breakers PO Box 8 Castletown Isle of Man</p> <p>South Somerset Breakers c/o 19 Vincent Street Yeovil Somerset</p> <p>South Tees DX Club c/o 73 Tawney Road Eaton Middlesbrough Cleveland</p> <p>South Wales Action Teams 16 Lanelay Park Talbot Green Pontyrcun Mid glam</p>	<p>South Wales Big 10-4 Club 139 Mansell Road Mansellon Swansea</p> <p>South Wales 10-100 Artists Club Tuesday nights at The Landing Strip Swansea</p> <p>South Wales Federation of Breakers c/o 74 Beech Court Giffach Bangor Mid Glamorgan</p> <p>South West Lancs Breakers Club c/o 14 Combbrook Holland Moor 2 Skelmersdale Lancs</p> <p>Stag Town Breakers Club Every Thursday at Courtfands Social Club Thorpe Road Bellamy Road Estate Mansfield Notts</p> <p>Steelton Breakersways c/o 12 Keeby Road Scunthorpe South Humberside</p> <p>Stour Valley Breakers c/o The Red Lion South Street Maringtree Essex</p> <p>Stourport-On-Severn Breakers Club Every Sunday at The Old Anchor Stourport</p> <p>Strangeways c/o 5 Ashbrook Road Dagenham Essex</p> <p>Studley Breakers c/o Studley Arms Studley Green High Wycombe Bucks</p> <p>Summer Wine Breakers Every other Thursday at the Burnage Working Men's Club Holmlith</p> <p>Sundowners CB Club c/o 7 The Crescent Loansdale Morpeeth Northumberland</p> <p>Swan Valley Breakers c/o 133 Waiders Road Chesham Bucks</p> <p>Swindon CB Club 23 Albeck Close Toot Hill Swindon</p> <p>Tango Foxtrot Charlie International DX Group PO Box 14 Haywood Lancs</p> <p>Taunton Deane CB Club c/o 19 Trinity Street Taunton Somerset</p> <p>Tayside CB Club c/o 271 Fintry Drive Fintry Dundee</p> <p>Telford CBC Tel: Telford 603474</p> <p>Teat Valley Breakers Club PO Box 27 Andover Hants</p> <p>Thames Area Breakers c/o 81 Villas Road Purstead SE 18</p> <p>Thames Valley Breakers c/o 18 Brunswick Street Reading Berks</p> <p>Thamesdown Trancivers Every Monday Swindon Town Football Supporters Club</p> <p>Three Feathers Sidebanders c/o 269 Ball Road Llanrumney Cardiff</p>	<p>Timber Town Breakers Club c/o Holly Hill Cottage Valley Road Cinderford Glos</p> <p>Toadown Breakers Club Meet every Sunday at Bridgend Inn Howey Nr Llandrindod Wells</p> <p>Tunbridge Wells CB Assoc Monday evenings at the Robin Hood Tunbridge Wells</p> <p>TURBO c/o 16 Mendip Way Downley High Wycombe Bucks</p> <p>Tweed Valley Breakers Club c/o 72 Beech Avenue Galashiels</p> <p>TWINS c/o 5 Nuthatch Drive Earley Reading Berks</p> <p>Uckfield Breakers Club c/o Kin House High Hurstwood Uckfield Sussex</p> <p>UK International Radio Group PO Box 13 Long Eaton Nottingham</p> <p>Untouchables 299 Manchester Road Kearstley Bolton Lancs</p> <p>Uttoxeter Breakers Club c/o 32 Goldhurst Drive Lower Tean Stoke-on-Trent Staffs</p> <p>Walsall CB Radio Club c/o 6 Central Close Blowich Walsall West Midlands</p> <p>Waterbabes Breakers Club c/o 17 Furzey Road Upton Pools</p> <p>Wellingborough Breakers Club Wednesdays at Dog and Duck pub Wellingborough</p> <p>Wessex Open Channel PO Box 108 Melksham Wiltshire</p> <p>Wessex Glamorgan Breakers Assn 25 Plass Newydd Baglan Moors Port Talbot West Glamorgan SA11 7DF</p> <p>Westcliff Breakers Club PO Box 39 Westcliff-on-Sea Essex</p> <p>West London Breakers Tuesdays at White Hart Southall</p> <p>West Glamorgan Breakers Association meet Tuesdays at Green Stairs Club Aberavon West Glamorgan</p> <p>West London Breakers Meet at the Stearn Packet by Kew Bridge</p> <p>West Somerset Breakers c/o 5 Penion Court Minehead Somerset</p> <p>Weston Breakers Club 33 Lower Church Road Weston-super-Mare Somerset</p> <p>Wetherby DX 27 Club c/o Deane Croft Wetherby West Yorks</p> <p>Weymouth CBC Flat 1 39 St Thomas St Weymouth Dorset</p>	<p>Wheatnut Breakers c/o 18 Easedale House Summerwood Road Isleworth Middx</p> <p>White Cliffs Breakers Assoc PO Box 13 Dover Kent</p> <p>Whisky Valley Breakers c/o 4 Tamdhu Cottages Knockando Morayshire</p> <p>White Elephant GSL Club PO Box 20 Scunthorpe South Humberside</p> <p>Whitemountain Breakers Club c/o 2 Glebe Cottages Huggate York</p> <p>Wicky Brick Breakers Club c/o 1 Crescent Road Tilehurst Reading Berks</p> <p>Wickrath Breakers On channel 14 4050 Mönchen-Gladbach 4</p> <p>Windy City Breakers c/o 19 Lochlubo Crescent Barhead Glasgow</p> <p>Wirral CB Assn Meet every Monday at Riverside Restaurant New Brighton</p> <p>Woking Centre Breakers c/o Jovial Sailor Ripley Surrey</p> <p>The Wolfpack Breakers meet Wednesdays at Hounslow Football Club Danbigh Road Hounslow Middlesex</p> <p>Woodpecker DX Group c/o Ken (Group Co-Ordinator) PO Box 39 Hereford HR11 2YL</p> <p>Worth Valley Breakers c/o 8 Carlisle Street Parkwood Keighley Yorks</p> <p>Wye Valley Breaker's Club c/o CB Centre 106 East Street Hereford</p> <p>Wyre Forest Breakers 19 Chawson Piek Chawson Estate Droitwich</p> <p>Yorkshire Elite Breakers Fairway Inn Briely Shafted</p> <p>Young Aldershot Area Breakers Meet every Wednesday Oddfellows Hall, 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# TWONG

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**THUDERIN' TOCKSTAPS!** SEE HOW RAG DOLL'S BLEATING! SEE HOW OUR HERO, TWONG, LIES MOTIONLESS AT HER FEET! SEE HOW THE BIG SLEDGE-HAMMER PROPS UP OUR HERO'S HEAD! SEE THE LAMP IT LEFT WHEN IT WENT UP, SIDE HIS HEAD, LAST MOUTH... SEE? RAG DOLL DONE IT, SEE? S'THERE!... SEE?!



ALSO, SEE HOW THE GRUMLINS SEE IT ALL ALSO, SEE...?!

HEY, LOOKIT, YOU GAVYS! THE CRAZY DAME DONE HIT THE LOOKIN' WANDS HIS HEAD! MEBBE HE'S KILT! NOW, EH?

YEAH! NOW US' CAN GET IT ON, EH?

TOO RIGHT! LETS GET THE OTHERS AN' DO IT!



PRETTY SOON, CEEBEERS ALL OVER THE COUNTRY ARE HAVIN' GRUMLIN TROUBLE! COS' GRUMLINS DO IT ANYWHERE!...

**FAZZZ!**



... AN' GRUMLINS DO IT LOTTSA TIMES....

COME AWAY, JOU, YOU'LL GO BLAND!



... AN' GRUMLINS LAY LOTTSA TACKY EGGS THAT GUM UP YOUR PAWES...



.. AN' GRUMLINS TALK REAL DIRTY...

BLART! PUTYACKS! WEE-WEE AN' STOTTY CARES!



THIS IS ALL MY FAULT!

I GOTTA REVIVE MY HERO, TWONG! ONLY HE CAN RID US OF THE GRUMLIN PLAGUE!



HEY, YOU GAVYS! HELP ME GET MY HERO TO A HOSPITAL! HE NEEDS HELP!

WE SHORE DOAS! SOME 'KIN HERO!

CARRY



AW, C'MON! AT LEAST GIVE ME A HAND UP!



SHRIEK!

BOY, WE SHORE GIVE HEZ A GOOD HAND UP, LEROY!

WE SHORE 'ILF DID, MARVIN! CHEERS!

CHEERS!



HMM! MORTALS MAKE SMALL SACRIFILE TO THE GODS! NAMELY ME!

HEY, LEROY! THE LOOKY WORE UP AN' SWIPED MY KILU BEER!

ME TOO, MARVIN!



AH! TWONG FEEL BETTER NOW! WONDER WHERE RAG DOLL AT!

OKK! OKK! OKK!

C'MON, MARVIN! LETS GIVE THE LOOKY SOME BIG HITS!

WITH YOU, LEROY!



RAG DOLL TOO LATE! NEWCASTLE NECTAR ALL GONE! NOW TWONGS GONNA GO PEE!



TWONG! COME BACK! THE GRUMLINS ARE WIPIN' OUT ALL THE C.B. RIGS IN THE COUNTRY! Y'GOTTA STOP THEM!

WUH! TWONGS NOT CARE! HE LIKE GRUMLINS! TWONGS NOT GIVE A WILLY 'BOUT C.B. NEITHER! S'THERE!

TWONGS GOING BACK TO THE KHAZI! TWONGS GOT SOME NEWCASTLE NECTAR HID THERE!

... BUT THE GRUMLINS, HAVNE CHOOSEN TWONGS KHRAZI TO SWARM IN...

ARGH!



MY HERO! YOU'RE GONNA FIGHT THE GRUMLINS! YOU'RE SO BRAVE!

**KREEGAH!!**

TWONGS NOT WANT GRUMLINS PEE'N! IN HIS NECTAR! TWONGS FULLA WRATH! TWONGS GONNA FIGHT!

DIDDYBUM... DIDDYBUM... DIDDYBUM...

WOW! EXCITIN' EH? IS OUR HERO GONNA BEAT THE GROTTY GRUMLINS? WULL C.B. GET WIPED OUT IF HE FAILS? IS YOU GONNA WANT A WHOLE MOUTH TO FIND OUT? EH?... EH?... NEITHER WOULD I.....

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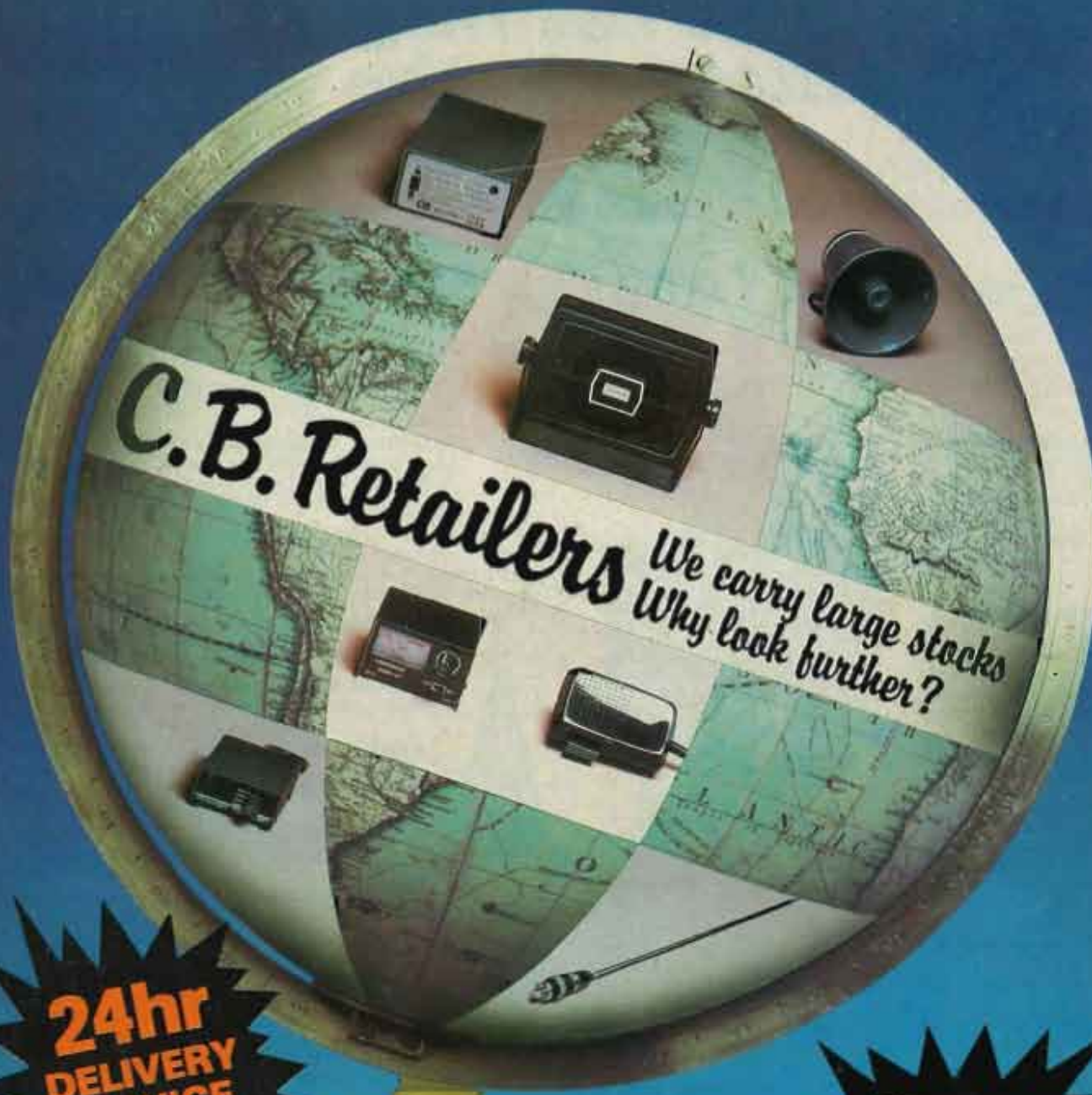
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