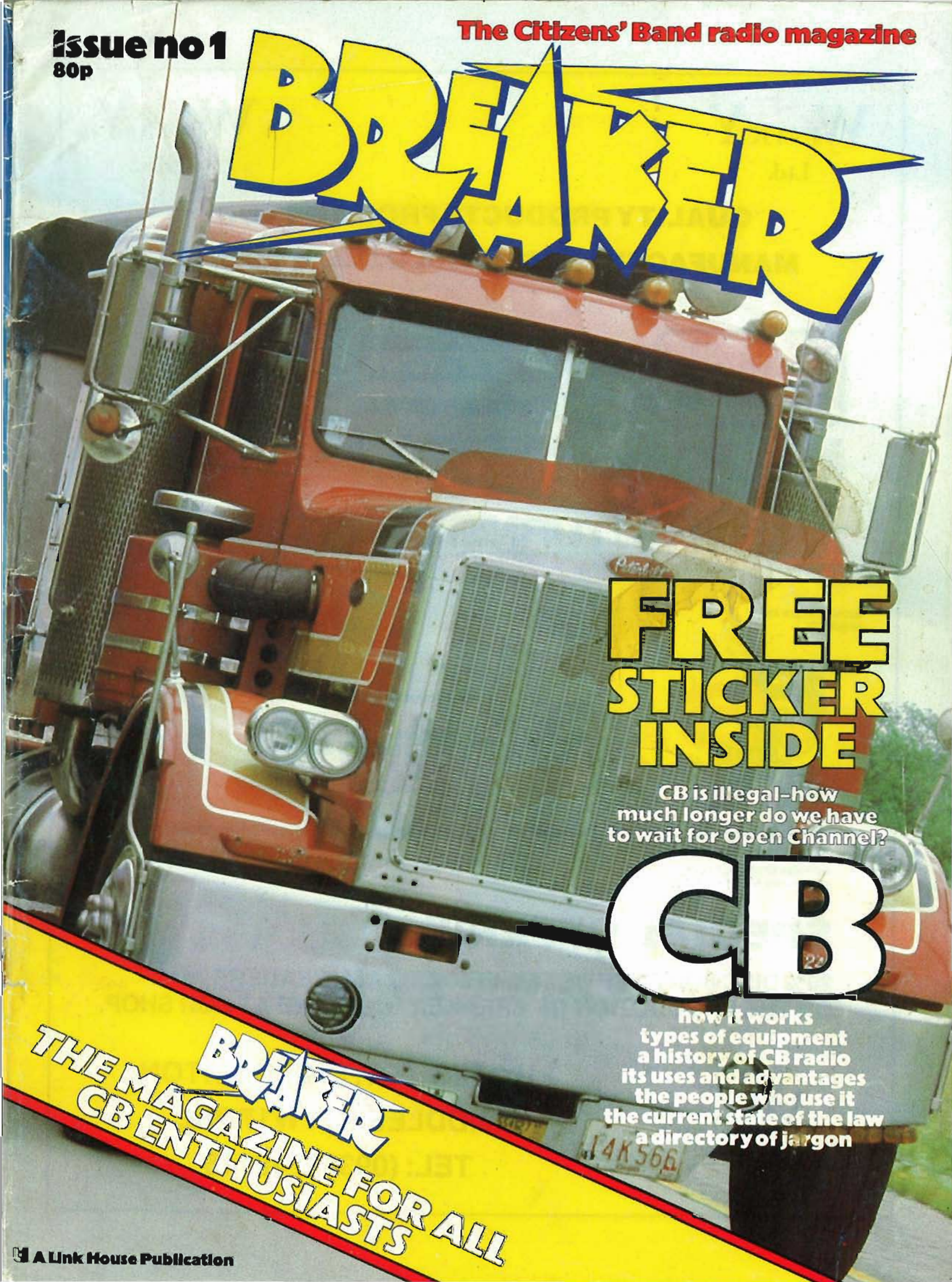
Issue no 1
80p

The Citizens' Band radio magazine

BREAKER



FREE STICKER INSIDE

CB is illegal–how much longer do we have to wait for Open Channel?

CB

how it works
types of equipment
a history of CB radio
its uses and advantages
the people who use it
the current state of the law
a directory of jargon

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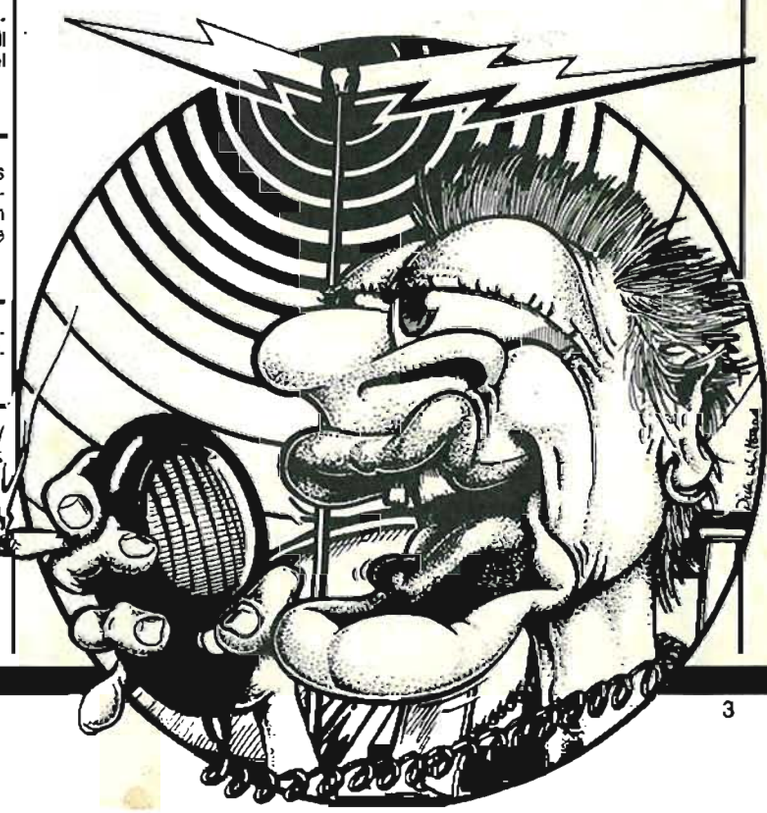
A LINK HOUSE PUBLICATION

The publishers of *Breaker* would like to make it clear that CB radio is at present illegal in this country, whether it be to manufacture, own, install or use, and it is not our intention to encourage or approve of such practices.



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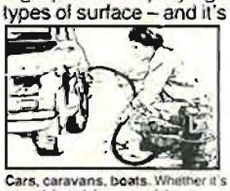

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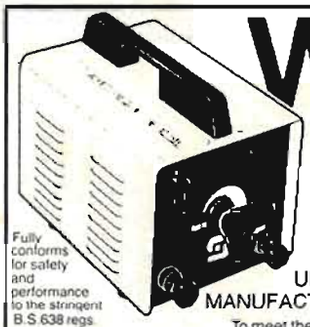

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RATCHET JAW

CHANNEL ONE

After more than a year campaigning for the legalisation of CB radio, mostly through the medium of *Custom Car Magazine*, we find that the situation has changed in a rewarding and positive way. Following the statement by the Home Secretary, Mr William Whitelaw, that the government favour the introduction of a CB facility (of an, as yet, unspecified nature) we are sufficiently encouraged to be able to bring you this first edition of *Breaker*.

Of course, CB is still not without its problems and nor, consequently, has *Breaker* been without its own.

Primarily, of course, the fact that CB is not yet legal in England has been our biggest stumbling block. It holds us up in a number of ways. The first of these, as it affects the content of the magazine, is that it can be quite difficult to test, analyse and review equipment which is not yet available. Not that there would be very much point, since you wouldn't be able to use it anyway. And since the government has said, on six separate occasions this year, that when CB is legal it won't be on 27MHz, and since 27MHz rigs are the only kind currently in mass production, there is even less point in testing them specifically.

Having said that, of course, many of the major technological advances CB has made in recent years can be applied equally well (and in some cases to a far greater extent) to the VHF service which it seems likely we will be granted eventually. So no excuse for pointing the way ahead, then.

Likewise, we make no apology for covering old ground, and re-stating all the arguments in favour of CB in the most forceful and simple way we can. There may, perhaps, be an element of vindication in reminding you of some of the more ridiculous arguments previous governments have used to thwart the attempts of pro-CB campaigners, but it's not entirely self-interest.

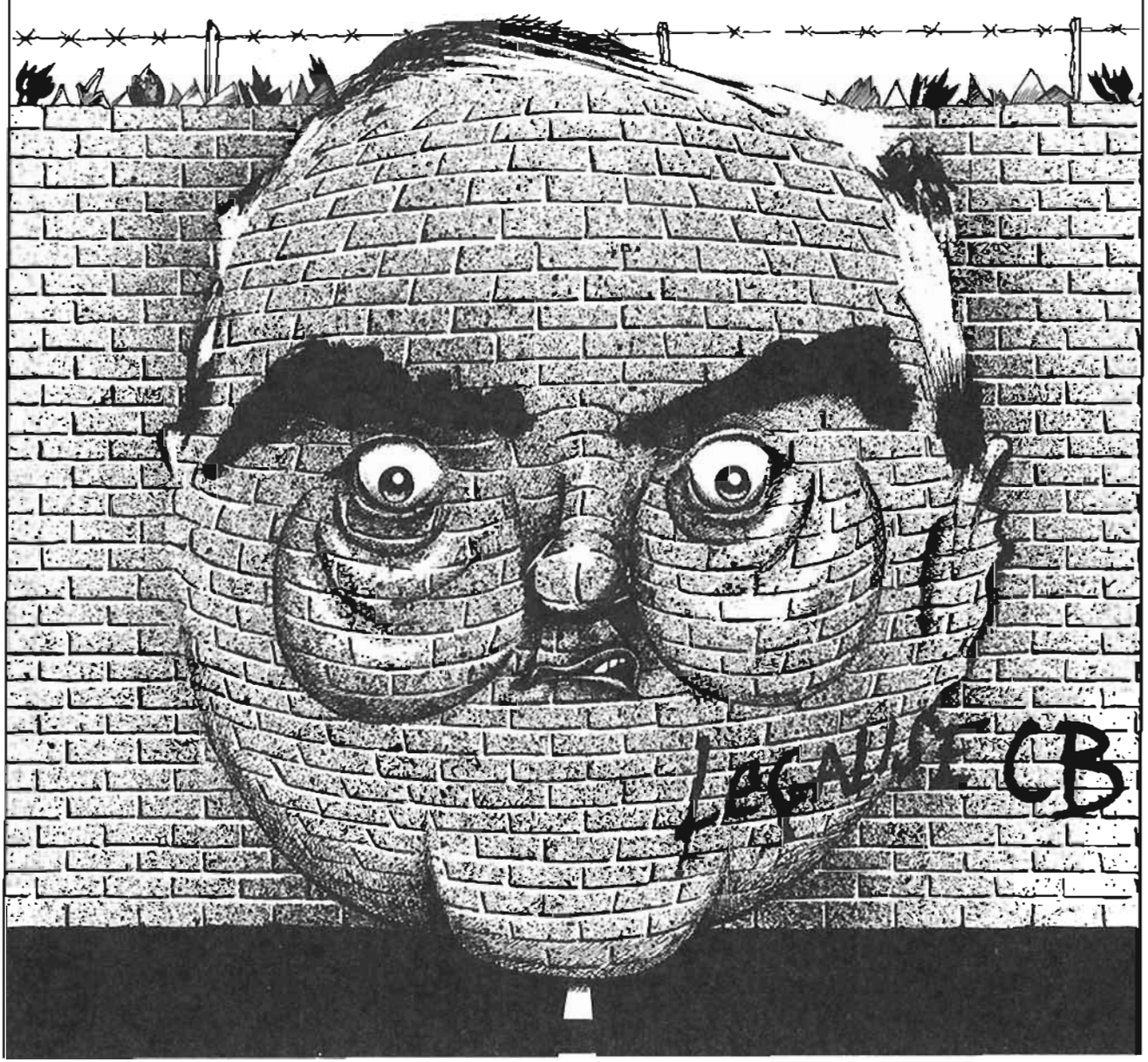
It must, in our opinion, be worth reminding you that the government position has turned a 360-degree circle once already, and we have no guarantee as yet that it won't happen again. The battle is not yet won.

On the same basis, we'd also like you to be absolutely certain that Mr Whitelaw has not said that CB is now legal, which means that all the guys currently on 27MHz are still breaking the law, and are still running the same risks. More interestingly, Mr Whitelaw has not even said that CB *will* be legal; only that he 'favours' it, and will examine the situation to see whether or not the facility may be practical in this country.

All of which means that tomorrow, or the next day, or in two years time, HMG may well find themselves 'regretting' that a CB facility is not feasible, and therefore it will not be introduced.

So don't be fooled, and most important, don't relax. *Now*, like never before, is the time to act, and in the greatest numbers possible. Now is the time to make the maximum effort towards convincing the government that CB is important to the people of this country. Action, not lethargy, is the only way to get something done, and it is you who must act. We're doing all we can, but we'll never make it on our own.

We're not asking you to break the law — in the long run that wouldn't help anyway. We *are* asking you to do as we ask, and write the letters we suggest, as well as collect signatures for our petition as soon as you can. *Only* by due democratic process will we ever get what we want — a fully operational, practical and useful CB facility in this country. And the choice of *if* and when really is yours, and yours alone. You know what needs to be done. Let's get on with it. Now. RN



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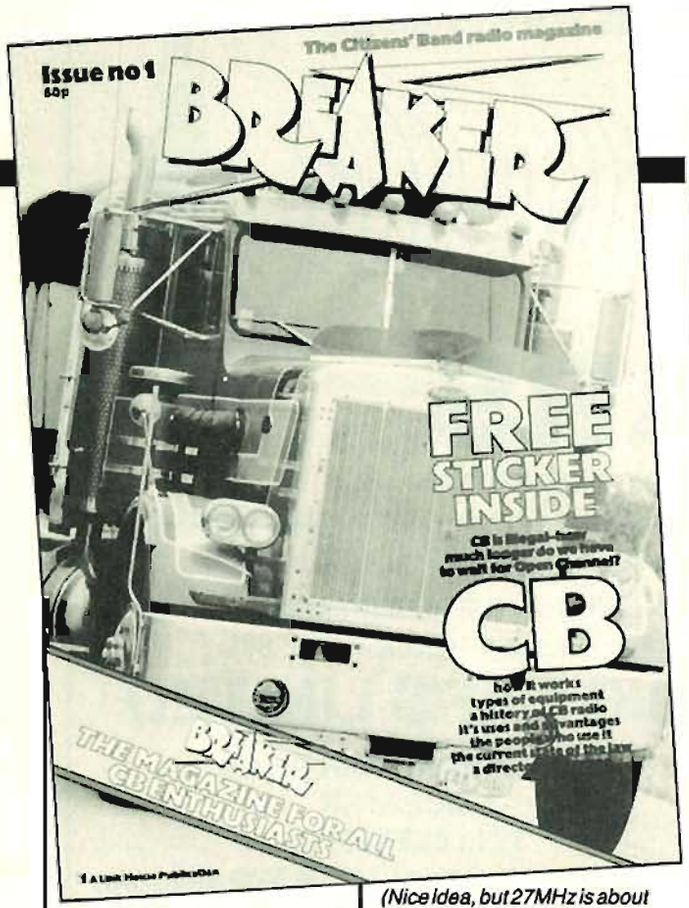


GIVE US A BREAK

A few words....

As you might imagine, it's quite hard to print a page of letters which have never been sent to a magazine which has never been published before. Therefore you probably won't be surprised to find that all the letters (which are very definitely genuine) were originally sent to *Custom Car*.

We're sure the people concerned will have no objection to our using their literary efforts in *Breaker* instead, especially as it's going to be worth two quid a throw.

Letters for the next issue will be rewarded in a similar vein (provided they're published), so off you go and scribble us your thoughts; even if we don't print everything we receive, we'd be glad to hear your views on anything connected with *Breaker* or CB.

This has been a public service announcement, also a filler. **RN**

Still small voice

Dear Breaker,
I would like to say what a disgrace the Trafalgar Square rally was. What I want to know is why Disco One didn't speak. I reckon it was because what he had to say was the truth.

Anyway, we're gonna get CB legal on 27MHz, and if they try to dump us with 2 metres we're going to fight.

I'm going breaker break now, so I'll give all the golden numbers to my good buddies out there. OK then, 10-10 till we do it again, me down, me gone, bye bye.
Confederate
BREAKER

(Nice idea, but 27MHz is about the least likely contender it seems. RN)

Breakaway

Dear Breaker,
I read an article on CB in *Custom Car* and found it to be most informative.

However, my main reason for writing is to get some publicity for 'Bandstand'—a breakaway group from the normal campaigners. We produce a monthly newsletter and at present have about 175 subscriptions, all of which have come from *Exchange & Mart* or various electrical mags. However, we now want to get the mag known in a wider field, for example, car owners etc.

If anyone wants a copy of the mag every month please write for details. (The address is on page 55 in our club roundup.)
Mark Rory
Editor, Bandstand

Legal tangle

Dear Breaker,
Just a quickie.

CB will be legal soon, right? The government in all their wisdom are putting it on 220MHz and there are at present 70 000 plus breakers using 27MHz. I think the situation speaks for itself.

The common view is that we will be allocated VHF and get the legal feeling, but keep our 27MHz rigs. In fact the majority of breakers are inclined to ignore 220 and stay AM and illegal.

Although we all want CB legalised, we want it on 27MHz like the rest of the world. Britain is an island already, let's not isolate it further.

All the numbers.
Oddball

(Yes, Oddball, but we think you're going to be disappointed. Read on and find out how and why. RN)

Petition

Dear Breaker,
My friends and I have decided to start a petition in our area to get CB legalised in Britain by 1982 and an allocation of over 60 channels. So, if everyone agrees, we should start getting names, and in no time at all we should have CB in our vehicles.

All you lot out there can help as well by getting plenty of pens and paper and collecting names now. Send your petition to the Prime Minster or to *Breaker* as soon as possible.

10-4 everyone.
DJM Thornborough
Hest Bank, Lancashire

Post haste

Dear Breaker,
Today I wrote three letters (four if this is a letter) which should be dropping on to the doormats of three people at the same time as this reaches you. The three people? A certain Maggie, a certain Willie (not mine!) and an ordinary representative of the people.

I think that every reader of *Breaker*, plus other campaigning magazines like *Custom Car*, should send letters to Maggie and Willie saying: 'Give us CB now'.

I've done it, I hope everyone else will too.
CR Woodall
Chaddesley Corbett, Worcs

Getting the ball rolling

Dear Breaker,
After reading the July issue of *Custom Car* concerning CB I duly wrote to William Whitelaw, and also to BBC TV's *Nationwide*.

I suggested to *Nationwide* that they challenge William Whitelaw to a face to face confrontation on TV. I gave them *Breaker*'s address and also told them to contact James Bryant, the CBA president.

I received a postcard from the BBC telling me that they will certainly look into the matter. I've done something, so how about the rest of you good buddies plagueing the BBC with letters? It is the only way I can see of bringing the argument into the light and letting the rest of Britain know what they are missing.
The Snowman

(If they can do it, why not the rest of you . . . ? RN)

LOWDOWN

Appearance's sake

So what's it all about, this *Breaker* nonsense? All of a sudden it appears on the bookstall, Breaker Number 1, 80p. And then what?

Much as we'd like, not a lot.

Don't go looking for *Breaker* every month from now on, because you won't find it. It is, as near as we can fix it, quarterly. If that seems to be doubtful, bear in mind that there's a lot of uncertainties in publishing this sort of thing. If it's going to work it has to circulate widely enough to get the feedback from as many people as possible, otherwise it'll just be the narrow-minded ramblings of the few, with little connection with what's happening or about to happen.

So it can't be done on a restricted or subscription only basis—we need the credibility that mass distribution gives to a magazine.

And that means we have to be legal and above board; other magazines have tried to sail close to the wind and have been withdrawn from general sale. As a publisher, we must not incite, encourage, conspire or benefit from lawbreaking in any shape or form. Producing a magazine wholly concerned with a subject which is still totally illegal in Great Britain presents more than a few problems then, and accounts for both the careful wording in certain sections of the magazine and for the fact that material for the next issue—material which can break none of the rules we've just mentioned—is a bit thin on the ground.

But be patient. Breaker Number 2 is coming, early next year. Order from your newsagent now if you want to make sure you get it when it comes.

Politicking

Thought you'd like to know this. It's old-ish, June 1978, to be precise, but it is interesting nonetheless.

It's an official Federal Government Memorandum issued jointly by the FCC, the Department of Transportation and others. It chats about CB generally, and then concludes with a policy statement:

'Because CB radio, as an in-vehicle communications system, can offer a significant contribution to safety and service on the highway, it is Federal policy to encourage its use to promote highway safety and service.'

Enlightened times we live in, what?

Which CB?

No news is good news, they say, so what does that make old news?

And this is old. But dead respectable, my word yes. Recent announcements by HMG that a CB facility meets, roughly speaking, with official approval, have been loudly hailed by campaigners as a victory for democracy, the power of the people and the result of many long hours of hard and lonely toil; honest effort justly rewarded.

We hate to disappoint anyone at all, but we are in a position to tell the truth and point out that in November '79, no less an organ than the super-neutral *Which?* magazine examined the case for and against CB and came down in favour. Although *Which?* felt the question of interference needed more investigation, the real crux of the matter was not why should CB be made legal, but why should it not?

In the face of this recommendation, which came shortly before the all-party group of MPs met Timothy Raison, how could the government have failed to make the decision they did?

Growth factors

I can hardly believe this. I mean, it just doesn't seem possible. I mean, think of it now....

But then you don't know what we're talking about to begin with, do you?

Let's start at the back, and recall that there are a number of unpleasant types currently breaking and breaking absolutely zillions of laws. Estimates of the total number of 27MHz pirates in the country are of necessity vague. Not to mention various. The Home Office, possibly from a wider knowledge than anyone else, possibly from a desire to make the subject as unimportant as possible, bring the lowest estimates of the pirate users into play. Only recently have they managed four-figure guesses.

Others guess higher, perhaps up to a total of 70 or 80 thousand users. Good grief.

When CB first came out of the closet, towards the end of 1978, hardly anybody even knew what it was. And in October of that year, *Time Out* magazine guessed the number of pirates in London as 700 or 800—double the amount they'd first suggested only a month earlier.

CB, eh? *Such* a lovely baby, but hasn't it grown into an unruly youth quickly?

Common knowledge

Got an excerpt from the *Northampton Post* here. Interesting little snippet it contains, too. Bloke by the name of Kevin Pittam gets busted for a CB offence. 27MHz gear, illegal broadcasting, all that. Sad story, and all too common.

What's interesting about it is that Mr Pittam, unlike so many other offenders, didn't get charged with evading a prohibition order, which is the same thing as smuggling, virtually, and is the easiest thing that the Home Office and/or the Excise men can nab a breaker for.

And why didn't Mr Pittam get done for evading?

Because, again unlike most others, he didn't bring his rig into the country in a false-bottomed suitcase, or 'buy it from a bloke in a pub'. Oh no. According to his statement in court, he bought it through an ad in *Exchange and Mart*.

Perhaps there's some truth in the Home Office claim that they're understaffed after all....

Arresting powers

More from the *Northants Post* (good paper, this) about CB, and even more interestingly, staff problems and shortages. Seems the Home Office aren't the only people with insufficient staff to chase up every CB offence.

Despite the *Post's* charming misapprehension that breakers are so called because they are lawbreakers, the rest of their information seems to be founded on fact.

A memo from the local Chief Constable, Mr Fred Cutting, says that Northants police officers will play no further part in assisting the Post Office to apprehend CB offenders, a fact which will bring relief, no doubt, to the 1000 CB pirates the *Post* estimates to be operating in the area around Northampton. Breakers in other areas will no doubt be curious to see whether or not this move will establish any kind of precedent which other police forces might feel inclined to follow.

Even more interesting, and far more likely to set a precedent, is the rest of the memo, which followed an Eastern Region meeting of Chief Police Officers. Questions were raised at this meeting which cast some considerable doubt on the powers of the police to stop and/or detain motor vehicles in order to detect a CB offence; even more doubtful, apparently, are police powers to seize or impound CB rigs; these powers are apparently not as wide as Post Office employees would like to imagine, said Assistant Chief Constable Ivan Forder.

Until this matter has been clarified with the Home Office, and the necessary legislation has been promulgated, Northants police will not be assisting the Post Office in this sphere of their work.

All that remains to be seen now is whether the government will promulgate such legislation quickly, or whether they will decide not to waste their time, in view of the imminent legalisation of some sort of CB facility.

Citizen's

People don't sit down and produce magazines like this unless they believe in what they're doing. It goes without saying, therefore, that we believe CB to have so many favourable characteristics and advantages for our society that it is almost certainly of more value to the average citizen than his ordinary radio, TV, hi-fi and telephone rolled into one. Such advantages are multiplied for the motorist by a factor directly proportional to the miles covered each year.

In addition CB is an exciting and rewarding recreational hobby which could give a lot of people a lot of pleasure. To put it succinctly, the introduction of a permanent and simple CB facility in this country could improve the quality of life immeasurably for millions. It could even mean the difference between life or death for many.

But all that should go without saying. People who are familiar with CB and its operation won't need us to tell them how it works or how they could benefit from its use. Anyone else who's listening — step closer, this is a beginner's guide to why CB is wonderful.

Let's start with a nasty reminder. We haven't, in this country, suffered from heavy fog for several winters now. No-one old enough to read a newspaper or watch the TV during our last winter pea-soupers will be able to forget the horrific scenes of destruction created by the poor visibility. 'Motorway Madness' was the trite cliche coined to cover the phenomenon; a comforting, at-home-in-front-of-the-silly-box-with-coffee-and-a cigarette type of metaphor which concealed the horror, played down the suffering and reduced the straightforward bloodiness of the facts to a level the public could tolerate.

We deplored the death-toll, pitied the bereaved, harangued the fogbound speeders and knew it would never happen to us, because we're much too sensible. How many of those who died in the last misty pile-up had tutted disapprovingly and reached the same conclusion while watching the previous carnage from the safety of their favourite TV chair? Tomorrow it could be me. Or

Banned

you. Or someone you love.

Suppose though, we could save you and your loved ones from the fog? Worse still, suppose we said that most of those already dead need not have died? That the means for their salvation was known to the government but was withheld deliberately? Was actually illegal?

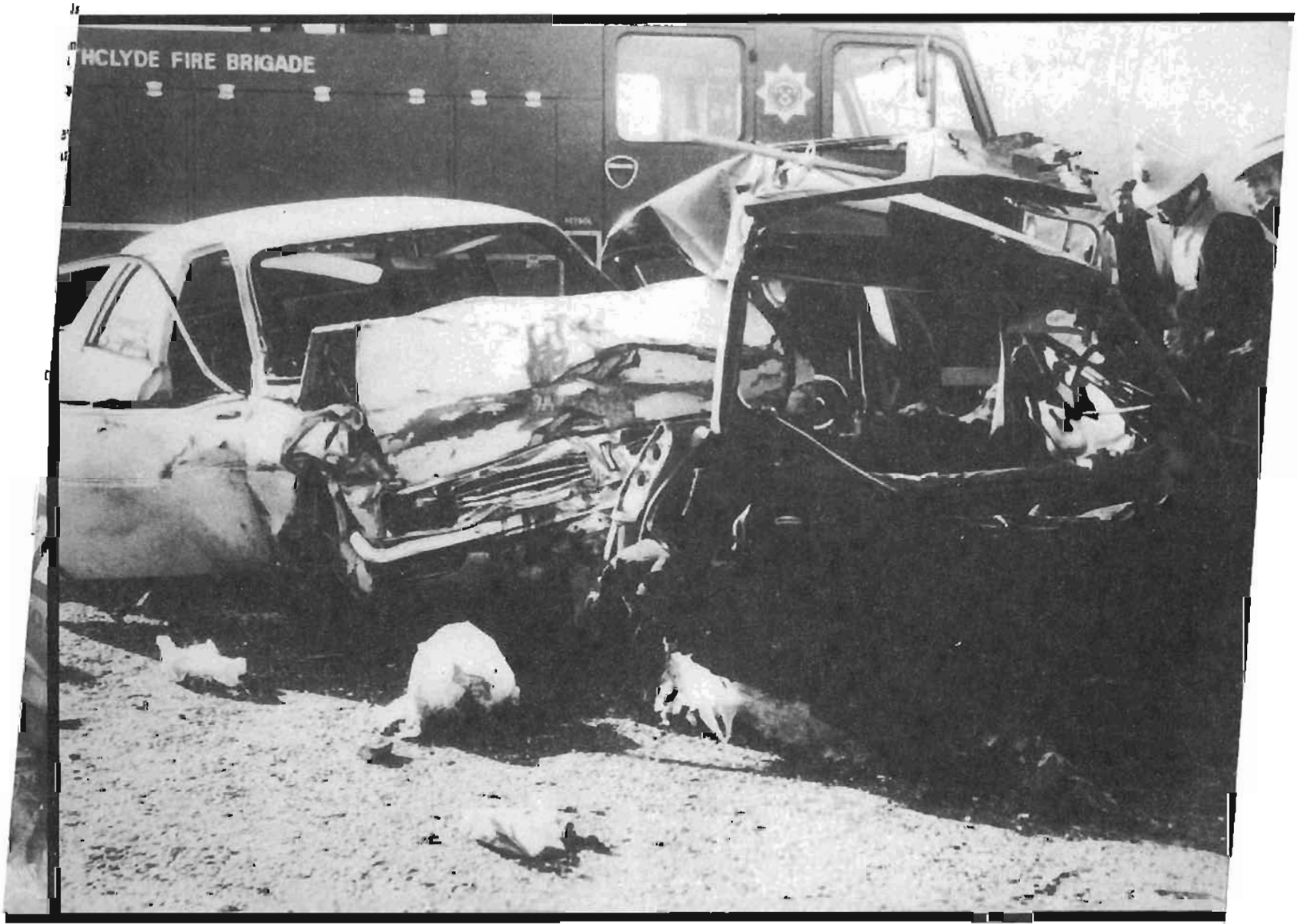
Remember, after the foggy winters we had snow. Great banked-up drifts of soft fluffy stuff like the mountains and castles you made out of bed sheets when you were young. And kids played on this snow too. Castles and mountains, snowmen, toboggans, snowballs to stuff down your collar. White, fluffy magic. Great fun and all free. But in some parts of the country, notably the north and the west, while the kids played games on top of the snowdrifts, people were dying underneath. Invisible, even to dedicated searchers. Cut off in their cars, they either suffocated, froze or died of exposure.

It needn't have happened. The means of their salvation was being mass-produced all over the world for use in countries like America and France, and also behind the Iron Curtain. But it was illegal in Britain.

There's a bank robbery in a small town in Ohio. Three armed men shoot a bank clerk — an attractive 21 year-old girl, recently engaged — in the face with a sawn-off shotgun. If she survives she'll be scarred and blind, maybe even a cabbage. When the public reads the newspapers next day public opinion will be violent in its condemnation of and hatred for the raiders; a normally apathetic group of ordinary people would willingly assist the police in their search for the three men.

But in the USA, unlike Britain, they don't have to wait until the next day, and they can help. Within minutes of the raid 20 000 people have heard the news, together with a rough description of the culprits and the make, model and licence number of the getaway car. If they see it they can directly summon police assistance within seconds, without putting themselves at risk.

The same facility has been available to



the road ahead

the people of Britain for more than ten years, yet it is still illegal.

A businessman (or a holidaying family) arrive at the town of their destination. It is the vast urban sprawl of Los Angeles, where you can drive through the centre of the city on an elevated freeway for an hour at 55mph without leaving the city limits. Strangers in town could take the wrong exit, get lost and end up miles from their destination. To a holiday party it means frustration, frayed nerves, maybe a minor road accident, certainly screaming kids. To the businessman it means late arrival, bad temper, maybe a lost order. In Los Angeles either party can be directed, step by step, junction and turn as they happen, straight on to the exact point they want, by a local who knows all the dodges and the holdups, all at no cost to anyone.

We could do a similar thing in Britain, were it not illegal.

Leaving Los Angeles, the businessman watches in horror as the only other car on the now-deserted freeway sweeps off the road — driver maybe asleep, certainly not looking where he's going — and rolls down the embankment. The businessman stops. Thrown from his car, the other driver lies on the grass, bleeding profusely from a leg wound. With no other human being in sight and the last habitation at least eight miles behind him, the businessman acts.

Within seconds emergency services are on their way. The ambulance crew know exactly where to come and exactly what they will find when they arrive. They know that they have all the equipment necessary to deal with the injuries.

The businessman, meanwhile, with no experience whatever of medical subjects, never mind first aid, is following direct, expert instruction, dealing with preliminary saving of life — ensuring that the victim is breathing and that his heart is beating and then stemming the flow of blood. His emergency measures mean the difference between life and death to the injured man, and the knowledge that the ambulance is coming changes the whole nature of the incident.

The responsible elements of the British governments, past and present, have long been aware that, in the case of injury such as that sustained in a road, industrial or domestic accident, the first couple of minutes are the most critical as far as the saving of life is concerned. They have long known that the facility to render that assistance within the critical period exists and is widely used all over the world. Yet, it still remains illegal within the UK.

In each of the situations described, there has been a solution. In each case the solution is in large-scale use, worldwide. In each case that solution is specifically illegal in Britain. In each case it is the same thing which provides the solution — one object versatile enough to cover hundreds of eventualities.

In each case the solution is a CB radio.

On the motorway CB can provide advance warning of holdups or multiple accidents — particularly valuable in fog, when the former can so swiftly become the latter — and it can, should the event actually take place, summon emergency assistance quicker than a disoriented motorist could even begin to look for the emergency telephone. CB could warn all the drivers on the motorway to avoid the accident, instruct those involved on the best way to protect their own lives and also how to give what could be life-saving first aid to the injured. Yet it remains illegal in Britain.

Snowbound drivers in Scotland and the West Country could have informed emergency services of their plight, could have been given advice on how to stay alive, could have guided rescue teams straight to the right place. Could have walked out of it using their own two feet, instead of being preceded by those very appendages on a much more tragic

journey days later. If they'd had CB. But CB is illegal in Britain.

Next time your local bank is raided and a clerk killed or wounded, you'll probably hear Shaw 'Supergrass' Taylor appealing for witnesses about two weeks later. You probably won't be able to remember where you *were* on the day in question, never mind what you saw. But if you'd had a CB in your car and had been within five miles of the holdup, you'd have heard about it straight away. You, like thousands of others, would have been looking for raiders at the time they were most vulnerable. One of you probably would have seen something. Except CB radio, in Britain, is as illegal as robbing banks.

And if you ever get lost while driving, you could ask . . . but CB radio is illegal in Britain.

Next time you're miles from anywhere and you have to watch an injured driver bleed to death because the only phone box in ten miles has enjoyed a recent visit from the local vandals, think how easy it would have been to switch your CB to a permanently-monitored emergency channel and get help.

Just remember that CB's illegal in Britain, despite the fact that the rest of the world thinks it's a valuable facility. American police estimate the number of lives saved every year by CB with three noughts at the end. Thousands.

Shouldn't we act now, before one more person has to die? Before we add one more life to the already staggering total of human beings who have been wasted because their only chance has been deliberately withheld for a period of at least ten years?

Sorry about that. Jolly morbid, but it needs to be said.

On the lighter side, of course, there are many other ways in which CB could make life a bit more pleasant. The elderly, who need never be alone; the lonely, who need never be without someone to talk to; the lost, who won't need to drive about for ages any longer; the hungry, who will always be able to find a place that's open and can have their order waiting on the table when they arrive. The list is endless, limited only by your imagination and that of other breakers in your area. We won't insult your intelligence by giving more examples, when you could easily work it out for yourself.

Scattered around the pages of this first issue of *Breaker* you'll find plenty of information on CB to get your teeth into.

Technical stuff, some of it, political involvement elsewhere, and a certain amount of emotionally-based diatribe. All of it is relevant, all of it accurate to the best of our knowledge and, we hope, all of it interesting.

For that's the other category of pro-CB argument we've left out so far. There are bound to be people who will like CB for its own sake; those who will be fascinated by it for its complexity and technology in much the same way, perhaps, as hi-fi or camera buffs get involved in pedantic arguments over which minute component best serves such-and-such a purpose.

These will be the people who will think nothing of building a 40-foot antenna tower in their back garden, or rebuilding their car entirely just to get their signal out another mile or two. It will be those people who, because of the extent of their demands on manufacturers' standard equipment, and also because of their DIY adaptions to little bits and pieces, will help push the capabilities of CB further and further, to make it a living and growing thing, subject to all the laws and whims of evolution instead of the dead tree of the airways — visibly and forcibly there, but gradually deteriorating if it changes at all.

This, as someone famous once said, could be the start of something big. Isn't it fun? **RN**

Ground

rules

basic steps...

In the same way that Dan Archer has been rattling the airwaves for millions of years with his crusty, down-home voice, without ever growing any older (although he is probably older than God really), CB has been kicking around for a good 20 years (at least in the USA) without showing any visible signs of losing its faculties.

Made legal under the Federal Communications Commission (America's answer to our Post Office and Home Office as far as the communications within the country are concerned) regulations in 1958, the CB users were given 23 channels for private communication. It wasn't for some years that demand for the facility persuaded the Federal Government to allow its use for purely recreational, or hobby purposes. The increased use of the service, especially following the fuel crises of the early '70s, brought about the introduction of a further 17 channels in January 1977.

With 40 AM channels in use and the consequent innovation of sideband, both upper and lower, which increases considerably the available channels (sideband concentrates your signal into a 'narrower' band, giving a clearer signal capable of travelling further while actually consuming less air space), American CB is booming.

The extra 17 channels meant that all the original 23-channel rigs were outdated, both on practical terms and on a technical basis, since FCC standards for the new 40-channel sets were considerably higher than for the 23-channel ones. FCC rules required that all 23-channel rigs be off the dealers' shelves by January 1978, which produced a glut of very cheap rigs on the American market, making CB available to more people than ever before.

At the same time the Japanese electronics industry, with typical inscrutability, managed to produce many thousands of sets (one Nip manufacturer alone was bashing out 365 000 a month in mid-'77), at double-cheap rates, fueling up yet another glut.

The big boom in rig sales this produced has more or less died now, but the CB market in the USA is still very strong, running at the sort of 'normal' level economists and the like would accept as predictable, given the size of the domestic consumer market for electronic hardware.

The American love affair with CB is by no means over. In fact, the advent of microchip technology is busy permeating through to the CB manufacturers right now. A whole series of third generation rigs, capable of doing everything except the washing up and making the bed, are beginning to appear; more on that later.

Meantime, back to the rest of the world. CB has many advantages over and above the sheer convenience of being able to order your Big Mac and chips before you arrive, book a hotel room in a strange town while still on the highway, and then get exact directions on how to find the place as you leave the freeway and start to wrestle with an unknown one-way system. Not that the Yanks have got many of those, but you get the picture.

Let's put CB and its very real advantages to the test on some other page. Try page 10, for a start, if you can't see

Ground rules

basic steps...

how a CB facility would help you, your granny and even that nasty flash bugger with the Post Office radio-telephone in his Ferrari who lives up the road.

Given that CB has many uses, to the private individual, to businesses and to local authorities and national governments, you can see how the service rapidly became recognised for what it was and legalised pretty damn quick on a world-wide basis. One of the few dissident nations was Australia, who turned a blind eye to CB. Perhaps as a result of their growing affiliations to America, including such palpably treasonable acts as changing their currency to dollars, the Australians began to get turned on to CB. So turned on that large numbers of sets, working on the American 27MHz system, began to make their way into Oz. In a country that size, with such vast tracts of emptiness (the outback) stretching between tiny centres of habitation (the cultural wilderness), it's easy to see that a cheap form of two-way communication between the inhabitants could have far-reaching and staggeringly beneficial effects.

Maybe because of some kind of misplaced historical allegiance to 'the British way of life', maybe because the government of the day was too stubborn to change its mind, CB remained illegal. The people of Oz are not renowned for their ability to tolerate what they might, colloquially call 'dingos' (and we might, comparatively and accurately, call idiots), especially when in a position of authority. They reacted in typical fashion. Demonstrating a fine disregard for the legal niceties of the situation, they embarked on a course of flagrant criminality and proceeded to use CB where, when and how they saw fit.

Eventually the law-breaking was on such a widespread scale that the government was left with only one course. . . they gave in and announced that 27MHz CB would, henceforth, be legal.

The result of the game was not, however, the optimum solution possible from the permutation of choices available. Therefore the Oz government must, by virtue of their failure to act sooner in a decisive fashion, take full responsibility for saddling Australia with a CB facility which was outdated, outmoded and obsolete before it was legalised.

Perhaps that's easy to say with 20/20 hindsight, but it's not hindsight. The Australians had all the information necessary to make a rational and technically sound decision well before they let themselves be pushed into a political and technological corner. To find out exactly why 27MHz is so undesirable, and how easy it would be to replace it with a comparably priced, technically superior VHF facility, cop a serious glance at page 33, and let technical whizz-kid James Bryant explain, in plain language even Benny could understand, how it all works and why.

Meanwhile, back to the plot. . . .

CB is now legal in America, Australia, Austria, Belgium, Brazil, Canada, Cyprus, Denmark, Finland, France, Greece, Holland, Israel, Italy, Monaco, New Zealand, Norway, Portugal, South Africa, Spain, Sweden and Switzerland. Some of those countries are not actually famous for their liberal regimes. Surprisingly, CB is also legal behind the Iron Curtain — perhaps the very place you'd expect it to be repressed. Yugoslavia is one such country.

There are still other countries which have no real legislation on CB — a great number of Third World countries, for example, where the state of the legislature and the constitution hasn't actually got around to recognising basic freedoms like *Habeas Corpus*, so it's no surprise to find them ignoring lesser issues like CB.

There aren't many countries, especially in the Western world, which haven't allowed CB. There are less countries which have governments that have gone to the ridiculous lengths of making 27MHz transceivers illegal to make, import, own or use.

Consult the list of countries with legal CB again. You'll spot straight away that Great Britain isn't on it. And, despite our declining manufacturing industries, we aren't on the list of Third World countries who haven't got around to CB yet. We are the people who have made it specifically, individually and totally illegal.

In the past allocation of the radio spectrum has been the prerogative of the Home Office and the Post Office (the latter being more concerned with actual licencing and the collection of derivative revenue) together, principally under the terms of The Wireless Telegraphy Act of 1949, plus later amendments and additions. It was one such addition, The Post Office Incorporation Act of 1969 which, under the cloak of making structural and organisational changes to what, prior to that Act, had been the GPO, specifically outlawed the suddenly abundant 27MHz equipment in widespread use among our colonial cousins, and in such plentiful supply from our miniature yellow friends in the romantic, but highly-industrialised occident.

The government of the day came down hard against CB. They not only decided to refuse licences for its use to any private citizen or business concern smart enough to know what it was, they made its manufacture, possession and use separate criminal offences, carrying heavy fines and even jail sentences, not to mention confiscation of the item or items in question.

This situation remained in a sort of limbo for ten years and then changed dramatically. If you're looking for a culprit, then it really has to be C W McColl. An inoffensive American crooner in the best tradition, his record, *Convoy* took America by storm, dealing as it did with the motorists' battles with a harrassed police force trying to enforce the highly unpopular, but theoretically energy-conscious motoring regulations, as well as with the new toy of the masses — CB.

Smart entrepreneurs the world over queued up to get *Convoy* released in Britain, knowing that in music, as in almost everything else (except CB), we're only ever a short step behind our outgrown and rebellious offspring from over the Atlantic. The smart entrepreneurs were, luckily for their shareholders, dead right. *Convoy* was a monster. Featuring about two chords, a simple rhythm and a catchy, repetitive chorus, it was a splendid musical dinosaur which dominated the charts for some considerable time and then, like all good, commercial songs, became

universally extinct right on cue.

Bad luck for HM Government and all who sailed in her was that the jargon employed in the song, and which caught the imaginations of the great British record-buying public, was taken direct from America's CB Channel 19 — the truckers' channel.

CB had arrived. If you'd been the managing director of a company manufacturing CB equipment for the British market (had it been legal at the time) you couldn't have spent a million pounds on advertising and done a better job of wising the Brits up to CB than C W and his song. Talk about creating demand. Pity Leyland couldn't have worked a similar trick with the Marina and so on. . . .

So, some four, maybe five years ago, CB rigs, manufactured almost exclusively in Japan and Taiwan, but purchased in America, began to filter into this country. Probably the tremendous increase in the numbers of Britons visiting America on holiday played no small part in the illegal traffic.

Gradually the minute trickle turned into a flood. There must be so many CB rigs in use and available to would-be purchasers in this country that it can clearly no longer be a bit of amateur smuggling on the part of returning holidaymakers who plan to sell the set(s) in order to defray their costs. Without doubt the contraband sets are being rushed here commercially in fairly large numbers.

Demand for a rig, despite the potential consequences at the hands of the law, is huge, and as they sell here for roughly *double* their retail price in America, profits for importers willing to take the risk are correspondingly attractive.

Despite the inherent thrill involved in doing something a bit naughty (and using a rig feels less criminal than it does naughty, especially as most users feel they have at least a moral right to the airwaves of this home of democracy) it is a reasonable enough proposition to expect that people using CB now would be a lot happier if it was legalised. Apart from the immediate relief from the threat of discovery and prosecution, it must be obvious that the full potential of the facility cannot be realised as long as users are unable to reveal their identity or location for fear of the government spooks. Likewise, many of the benefits of CB stem from its saturation coverage — to work at its best it requires as many people as possible to own and use a rig — a situation which can never arise as long as the breakers are persecuted.

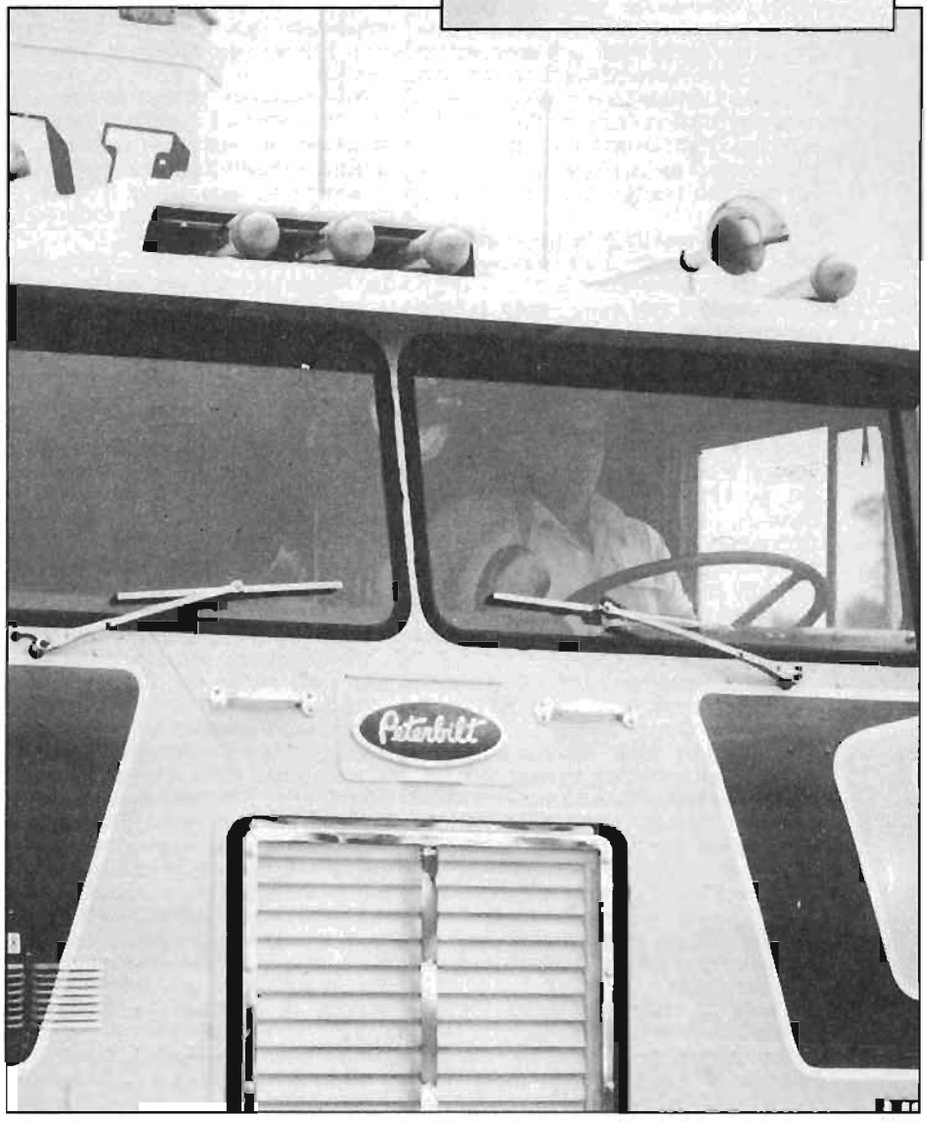
If a legal, properly administered CB facility was in operation purchasers would pay a realistic price for their rigs. This is because they would be based on the relatively low manufacturing costs alone, rather than an inflated figure pushed artificially high as a result of both scarcity and the risk of prosecution which importers are currently facing.

Other financial benefits would include those to the domestic electronics industry (the market for CB in Britain is estimated by industry supremos to be roughly equal to the multi-million-pound hi-fi market) as they begin to make and sell home-produced items, before consideration of administrative spin-offs is made. These would include the reduced costs to social services as a new industry began to employ its fairly sizeable workforce; the direct revenue the government would draw from income tax on those people; the acquisition of all that wonderful VAT on all the sets sold, together with the accessories that go with them; plus the revenue available from the licence fees. Let's face it, even the Americans pay a licence fee (currently $5 for a two-year licence), so it's hard to see our government missing out a chance to relieve the populace of yet more of its hard-won cash.

So it seems that everyone would gain somewhere along the line. Hard to see, then, why CB remains illegal in this country. There has been, it's true to say, a distinct, or apparently distinct, softening of attitude on the part of government, but appearances can be deceptive, especially the appearances of politicians.

But anyway. There's a general feeling that the recent government announcement on CB may not be the bountiful gesture of capitulation it seems to be and which several elements of the Press have reported it to be.

So let's get behind the euphoria which greeted Willie Whitelaw's Commons statement of early May and look at some history and a few of the implications. Join us after the break for 'The other half of the story so far', or 'government by Civil Servants', as some cynics prefer to see the situation. . . . RN



Ground rules ...and the pitfalls

Ah, there you are. Feel better now? Good. Got everything? You know, tea, coffee, cigarettes, extra cushions? Right then. On with the story, and enter, stage left, right and centre, Her Majesty's government.

Any government will do. Labour, Conservative, Harold, Jim, Maggie, it doesn't matter which or who. To find out why, you'll need a bit of political and constitutional background, which follows now. Anyone who knows all there is to know about the (unwritten) constitution of this country, or at least knows more about it than we do, may safely skip the next bit and come back in at the paragraph beginning 'No surprise, therefore . . .'.

The rest of us are going to ignore the subtle differences between governments formed by different Prime Ministers of the same party and concentrate on those formed by different parties. And since the Liberals haven't done too well over the past century or so, and the National Front haven't got half as much political clout as they have mouth, we're left with the Labour and Conservative parties.

This is no bad thing for illustrating our point, since they have several fundamentally different points of view which put them into two fairly easily defined categories at opposite-ish ends of a political and social scale. You might reasonably expect, therefore, that when a Labour government replaces a Conservative government, or vice versa (and, let's face it, it's hard to tell which *is* worser) that some fairly definite changes are going to take place. Especially, perhaps, over the issues on which the Opposition Party has been giving the sitting government a hard time, not to mention considerable verbal abuse in the House and a right slagging every time the media has been foolish enough to let them run off at the mouth.

A notable example of this could well be Ted Heath's introduction of VAT, which the Labour Opposition, to use a polite Parliamentary term, 'deplored' loquaciously, but promptly increased when they came to power. An exception to the rule is the case of Selective Employment Tax, which the Opposition again 'deplored' and actually abolished.

All in all though, and despite considerable amounts of ill-mannered and childish shouting, governments tend to leave well enough alone nine times out of nine and a half.

There is a fairly good reason for this. Given that there are only 600-odd seats in the Commons, and that there is little chance of the victorious party at a General Election winning by much more than a majority of a few per cent (or about six inches on Robin Day's swingometer), you can see that any government is unlikely to be able to call directly on more than about 400 able-bodied (and we do use the term in the loosest possible way) people of either gender to do their bidding.

On a similar basis of sound reasoning, plus first-class instruction from our good selves, you can see where the social, economic and political administration of a country containing some 60 million souls is going to require a few more people than are apparently available for the task. To this end, being British and capable of overcoming any difficulty whatsoever when we really can't rely on it going away if we ignore it, we invented an organisation to deal with the logistic imbalance thus created. Still being very British, we called it The Civil Service.

This nebulous phrase is frequently used to conceal all manner of things, but whatever the subject in question, the principle remains the same. For the sake of argument, and since it suits our purpose rather well, let's look at the duties of the Home Office.

To deal with the problems of this office, the Prime Minister will, as in all other major areas, like defence, foreign affairs, and so on, appoint a Minister to attend to the needs of this department. As a rule this Minister, along with his colleagues who have other specific areas of responsibility, form part of the PM's smallest, and most senior advisory body, the cabinet. Of course, that is very nearly irrelevant to the point we're making, except to indicate how each Minister (and remember we're concerned with the Home Secretary) might reasonably expect to be very busy with affairs of State on matters of grave national importance a lot of the time.

Consequently, the Home Secretary does not sit in his Whitehall office considering the problems that continually arise at all levels and in all spheres of responsibility with which that department is concerned. The Home Office, for example, is concerned with internal domestic security (and thus with the expedient solution of horror stories like the recent Iranian Embassy affair) as well as with controversial political issues like immigration, the 'bring back hanging for everyone except Peers of the Realm' lobby, and all the consequent problems of Law and Order, or the lack of it, plus millions of other things. Somewhere among that list you will find the allocation of the available radio spectrum, whether it be to the Radio One Roadshow, the Army, MI5 or Joe Public at 5 Railway Cuttings, Cheam, is the prerogative of Her Majesty's Secretary of State for Home Affairs. Meaning, unless we have a bloodless coup in the next few days, Willie Whitelaw.

Willie might be many things, but Superman isn't one of them. Doesn't matter if he does remind you of Clark Kent before the phone box transformation. Willie Whitelaw, like any of his predecessors in that exalted office you could name (and I can't remember any of them) cannot possibly give his attention to everything which concerns him.

Enter the villain. Or, to put it another way, that's where the Civil Service comes into the picture. Civil Servants are engaged at all levels, from the snotty little creep in the Social Security Office who can quote ten paragraphs of regulations to explain why you're not entitled to a penny, all the way to the retirement-prone but exalted (and highly-paid) Chairman of British Steel, Mr Pastry. Or Sir Charles Villiers, as he is sometimes known. There are, then, Civil Servants, and Civil Servants. The Civil Servants, the ones at the top of the pile, whose names you and I will never know, are actually quite senior members of government, although they are never required to stand in an election. They are unseen, unknown and, therefore, not answerable to the electorate. Their lack of recognition is the price they pay for the power they wield.

Because they *are* powerful. Take Willie Whitelaw. He did, some say, a smart job in Ireland, so he does know how to deal with an enraged and bomb-happy Paddy. But what does he know, for example, about the Immigration Act? Or the reasoning behind it? The rights and wrongs of our policy generally? Or specifically, as they apply to Mrs Ashwinikumar Patel, who wishes to enter this country in order to reclaim the ashes of her dear departed mother, currently in the possession of her expatriate and ex-faithful husband, last heard of living in Birmingham with a 16-year-old prostitute of Polish extraction and her 14 kids from a previous marriage to a naturalised Italian American Jew, who is high on the want lists of the FBI, Cosa Nostra and Mossad?

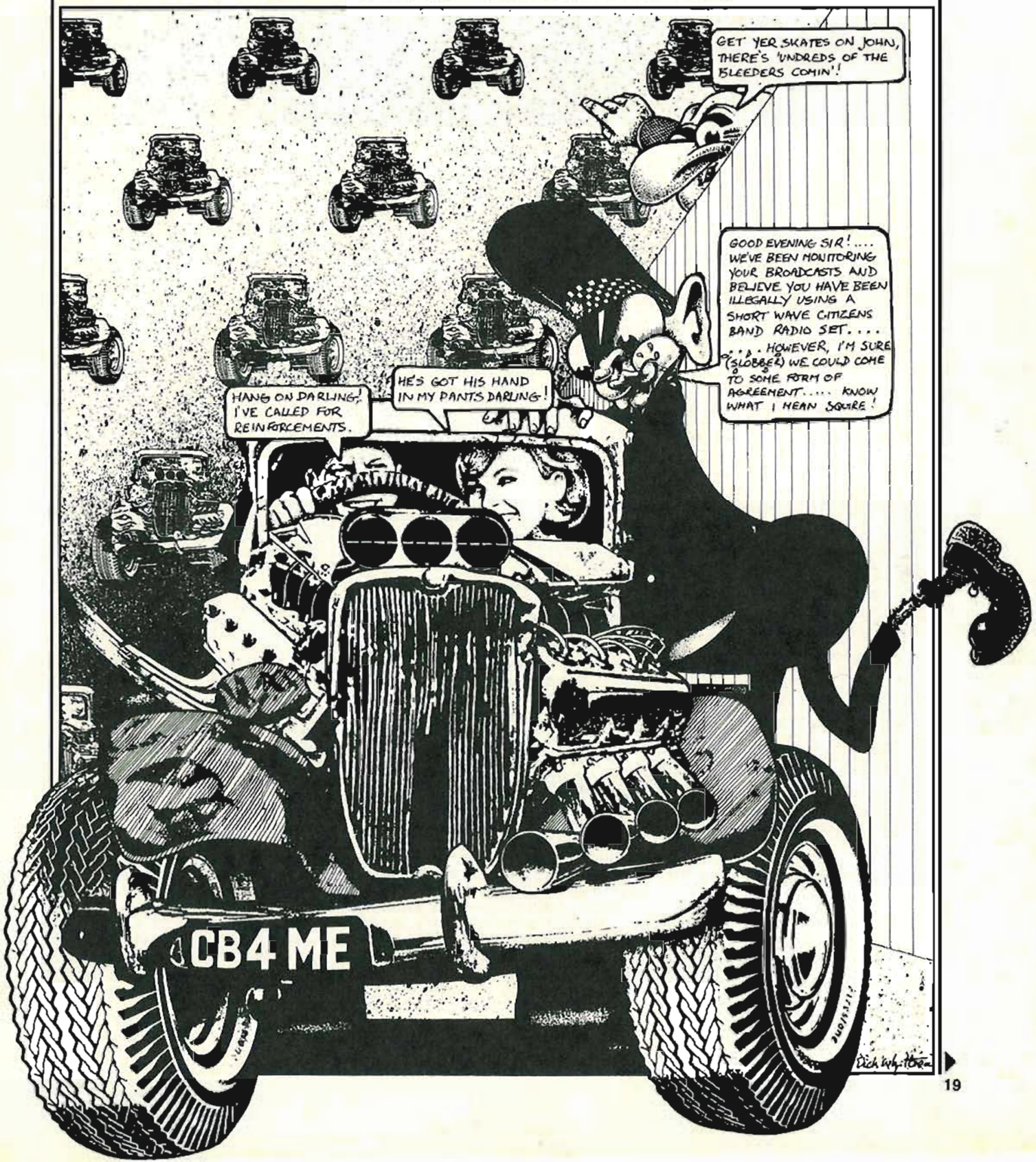
Trouble is that in gaining the wide experience and training necessary for a position of high office such as Home Secretary, our Willie may have foolishly overlooked the possibility that he might one day require word-perfect knowledge of the Immigration Act and may therefore have neglected to spend the necessary 3½ years reading up on it. Fortunately for him, his department will contain a person of just such detailed knowledge, plus

other experts in all fields for which the Home Office is responsible. As a rule, Willie will leave decision-taking on the matter of Mrs Patel, and all matters of similar ilk, to his resident expert who will make a pronouncement based on the Home Office interpretation of the law as it pertains to the facts of the case. But it's not Willie's decision — it's the senior Civil Servant who decides, although the Minister could overrule him if he wished. And he's almost certainly the self-same Civil Servant who decided on this and similar problems for the previous Home Secretary. And the one before that, and the one before that, and the one before that. Whatever the respective politics of the government at the time might have been.

Which accounts for the remarkable consistency of policy between successive governments, Labour/Conservative discrepancies notwithstanding, on all manner of things, especially those which are not major areas of public concern, or which do not regularly receive sensational media coverage.

No surprise, therefore, to find that CB is a subject which has been the recipient of a series of decided, offhand and even unreasonable government brush-offs accomplished by means of the delegation of very junior government lackeys, or reasonably senior Civil Servants who write brusque, uncompromising letters, or deliver high-handed and condescending refutations in public statements.

Indeed, the only way in which the Home Office — and therefore the Home Secretary himself — is answerable to the electorate is through the medium of the Parliamentary Question. The House sets aside a given period of time every day in order for Ministers to give answers to their fellow-Members who have questions. Since all questions must be originally posed in writing, and the volume of questions exceeds the time available to answer them, many will receive a written reply, particularly if they are on subjects which are deemed by



the government to be of little or no importance. The largest percentage of these written answers are, in fact, not written by the Minister in question, since he does not always have the time for what he might consider trivia, but are actually penned by one of the senior Civil Servants in his department. It's usually the same one, with special expertise, who answers all questions on a given subject. As he did for the Minister before the current incumbent. And the one before that, and the one before that, and the one . . . You get the picture?

Consistent, if nothing else. The fact that nearly all Home Office replies on the subject of CB to people (Joe Public and MPs alike) have been couched in the same condescending tone, is less surprising when you realise that nearly every government has answered queries on the subject of CB through the medium of letters emanating from the senior ranks of permanent Civil Servants attached to the Home Office, or by means of the Parliamentary written answer.

The queries directly addressed to the Home Office from private individuals are far too numerous to reprint or even give examples, although it's worth remembering that the Home Office Radio Regulatory Department, whose special responsibility is, unsurprisingly, the availability, allocation and use of the radio spectrum, wouldn't even speak to us on the telephone. What's more, in reply to our letter, they sent only a brief note thanking us for our enquiry and enclosing photocopies of several written answers (expressing the government put-down in a somewhat flimsy but unarguable fashion) in the hope, no doubt, that we would give up.

Written No 142
6 August, 1976
Mr Phillip Whitehead (Derby North): To ask the Secretary of State for the Home Department, if he will seek powers to make the retailing of radio transmitting equipment which cannot be legally licenced, an offence.

Dr Shirley Summerskill
The Radiotelephonic Transmitters (Control of Manufacture and Importation) Order 196\, made under the Wireless Telegraphy Act 1967, prohibits the manufacture or importation of certain radio transmitting equipment that cannot legally be used in the United Kingdom. We do not propose to introduce further legislation at present.

Written No 55
12 July, 1977
Mr Austin Mitchell (Grimsby): To ask the Secretary of State for the Home Department, what wavebands could be allocated to Citizens' Band radio.

Mr Brynmore John
There are no wavebands that could be allocated to Citizens' Band radio in this country without risk of unacceptable interference to other services.

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11 July, 1978
The Lord Tanlaw: To ask Her Majesty's Government whether they will accept a recommendation of the National Electronics Council to improve public communications by allowing individuals access to the radio spectrum for A to B communication.

The Lord Wells-Pestell
My Lords, No. We have given careful consideration to the report of the National Electronics Council on Citizens' Band radio, but remain of the view that the advantages of introducing such a service would be outweighed by the disadvantages.

Official Home Office analysis of CB, March, 1979

The Government are fully aware of the arguments in favour of Citizens' Band radio and are not blind to the useful purposes to which such a service could be put. Nevertheless, there are a number of factors which have led the Government to conclude that on balance, on the basis of the evidence at present available, they should not introduce Citizens' Band radio in this country. These can be summarised as follows:
i. Although the amount of radio spectrum that would be required to introduce a Citizens' Band radio is comparatively small, the existing pressure on the appropriate part of the spectrum is such that the Home Secretary as the regulatory authority would have to be satisfied that if additional spectrum were to be made available, its use for a non-essential service such as Citizens' Band radio could be justified in the face of competing claims from other radio services such as those dealing with safety of life, business users of mobile radio and broadcasting.
ii. The Government are not so sanguine about the social implications of introducing an open channel facility as the proponents of Citizens' Band radio appear to be. The evidence of other countries who have introduced the facility shows that its preponderant use has been for non-serious purposes and indeed that it has been used for various kinds of anti-social activity.
iii. While it is generally accepted even by the strongest advocates of Citizens' Band radio that in this country the facility should not be introduced on 27MHz — the frequency most commonly used in other countries — because of the risk of interference to other services, the Government are not convinced that even a 'high-grade' Citizens' Band radio operated on a higher frequency under stringent technical conditions (which has been advocated) would remove the problems of control and interference to other services which other countries have experienced. It would be extremely difficult and costly to enforce such technical conditions and the prospect of a small army of regulatory officials monitoring the service is not an attractive one.

We have, for your edification and delight, taken the trouble to reproduce some of the more entertaining government utterings on the subject of CB radio. If it wasn't so sad, it would be highly amusing. I bet you never guessed what a horrid thing CB radio is, did you? Bet you never knew that, like Angel Dust, LSD or poppers, CB could do the Jekyll and Hyde number on anybody. CB will turn that pimply little swat with the stammer we all took the juice out of at school, into a raving monster who would at best, start performing armed holdups at the local Sally Ann jumble sale, or at worst turn into a lurking rapist, frequenting the low areas and haunting the third cubicle from the end in the girls toilet at the local Scamps disco. Probably CB doubles your sexual appetite overnight. Might even make your willy bigger. Maybe I should get a rig a bit quick . . . .

The only serious arguments which successive governments have used to fob off the CB lobby are the two which are (a) loosely based on some factual propositions, and (b) well outside the capability of almost everyone except the Home Secretary himself to confirm or deny.

First part of the government case which holds any real sort of water, therefore, is the bit which says that 27MHz CB causes interference to radio modellers and hospital paging systems. As far as modellers are concerned, this is clearly true, but not that simple. To begin with, one of the prime factors in radio interference of any sort is proximity — the closer you are to another radio, whether it be a model control unit or an ordinary household transistor — the more likely you are to interfere with its normal functioning. Therefore if an offical police car radio, say, got close enough to a model aircraft using a completely different frequency it could send it haywire. No-one, however, has so far suggested we confiscate all the police radio equipment.

By the same token, there are a number of countries in Europe with legal CB on 27MHz. Which, if you didn't already know, is the frequency CB pirates are

using illegally at present, as well as the exact same frequency the radio-modellers are using (and have done for some time, putting precedent on their side straight away) quite legally. Unfortunately for the modellers, low-frequency signals like theirs and the European CB users are very prone to 'skip'. That is, reflection back to earth by the electrically-charged ionosphere many miles from their source (500 is easy), and much further than they are intended to travel. Which is how the Italian CB users jam the British airways nearly every afternoon, especially in the summer.

More bad news for the modellers is the fact that their radio-control models are unable to distinguish between illegal British-originated CB signals and completely legal Italian-sourced skip signals, so they crash just the same.

The argument, so the pro-CB lobby goes, is that the modellers would be better to get off 27MHz anyway, even if Britain never makes CB legal on that frequency, and moves to that end are already afoot. End of Government argument No 1 (a).

Government argument No 1 (b) is a bit more tricky, but not insuperable. This is the one that says 27MHz CB interferes with hospital paging systems (the 'bleepers' which summon doctors and administrators to the telephone, *not* the intensive-care heart machines and pace-makers as some of the more sensationalist anti-CB fanatics try to pretend) which also operate around 27MHz. Three things arise there.

First, we'll never know if that accusation is true or not, because we have no access to place supplementary questions after a written answer, and as we already know, the Parliamentary Question is our only means of access to the Home Office.

Second, even if it is true, then the hospitals must suffer as badly from international CB skip as British CB and the radio-modellers. So, if they haven't already evacuated the frequency (and who the hell put them in such a susceptible trouble-spot in the first place?) then we can only believe that either the problem is not that acute, or they are about to evacuate the frequency anyway. Also, the hospitals must suffer quite badly from interference caused by radio-control models. Another good reason for one or both to get off the frequency fairly smartly.

Thirdly, and most important, it is a fact well-known in all circles, and if not to the government, then at least to the senior Civil Servants who have been dealing with the CB lobby all this time, that the only reason the CB pirates use 27MHz equipment is that this is the only kind available to them. What the CBA and most other bodies (ourselves included) have been asking for right from the very beginning, is a high quality VHF FM facility on a frequency so far away from hospitals and model control that interference will not be a problem in any way. Which makes the official refutation of 27MHz CB at best pointless, and at worst a deliberate diversionary tactic to confuse the public and steer their attention away from the real issue.

And discussion of the real issue brings us to the only other government argument (No 2) which may have a reasonable basis in fact. First, the government speaks: 'There are no other available frequencies which can be allocated for this purpose (CB) without causing unacceptable interference to existing users.'

Hum. Bit more tricky this. It is a definite no-no which might, to the layman accustomed to the integrity of government departments, plus their detailed knowledge of the subject in hand (I mean, after all, they should know, shouldn't they? If they don't, who does?), indicates that, useful and desirable though CB might be, it's regettably a luxury for which we have no facilities, so we'll have to do without. Got along fine without it up till now, haven't we?

Mind you, we got on OK without penicillin until someone found it right under his nose, growing on a loaf of bread. Could we do without it now? And don't imagine that penicillin saves lives, so it's different. CB could save lives as well, and the worst thing is that we *know* it can and we *know* it exists, but we still ignore it. What would we do to Fleming if he had knowingly slung his miracle drug in the bin in case people using it turned into rapists or bank robbers?

But back to the lack of frequencies. The Home Office says there are none. They're in charge of frequencies, so they should know. I mean, we all know where to find Radio One, but who knows which bit of your tranny dial belongs to MI5 or the SAS? And quite honestly, although we're quite sure the KGB have all got the pre-select buttons on their car radios tuned in to MI5 in case the Archers gets boring, we think it might be slightly inappropriate for MI5 to publish their transmission schedules in The *Radio Times*.

We accept, therefore, that even if we could get the Home Office to answer questions about available radio space, there are certain pieces of information which ought to remain a secret. We do not, however, accept the bald statement that there is 'no frequency' available. At one time, when the CBA were really pushing the Home Office hard about VHF in the 220-230MHz region, they suggested using 232. 'Allocated', said the Home Office. Very true, as it turned out. Indeed, 232 was allocated. To the RAF for communication with its Bomber Command squadrons equipped with the Lancaster. The Lancaster, apart from the one still plugging on in the RAF Memorial Flight at Coningsby, went out of service in about 1955. Certainly 232 is allocated, but it hasn't been used for 25 years. The Home Office might, just might possibly, have forgotten that the Lancasters have all gone. It's possible no-one bothered to tell them. But you can't help thinking they were just being mean, can you?

Ask any radio ham — licenced, of course — just how much air space there is out there full of emptiness. Crying out to be used. And consider then, how little of it would be needed to run 40 VHF CB channels. It'd take less than a tenth of the space the BBC use to get Tony Blackburn & Co all round the country, and I bet more people would listen to their CB than Radio One.

If everything the Home Office has been saying all these years is true, why the sudden change of heart? The recent statement by Willie Whitelaw marks the most significant step forward for the CB lobby so far. The government, it seems, now accept that CB is a Good Thing, as opposed to the Bad Thing it once was (wonder how it's changed, seems just the same to us) and has said it will examine the situation with a view to taking definite steps to facilitate its introduction in this country.

Ground rules ...and the pitfalls

The full ramifications of this statement are examined in close detail elsewhere in this magazine (page 33), but the general feeling is that it may be yet another way of at least putting off, if not actually denying completely, the people of Britain their right to a bit of airtime. Certainly the statement has defused the pro-CB campaign enormously, as the delirious headlines in certain sections of the Press amply demonstrate. The fear still exists that the statement represents only the cleverest piece of politicking so far seen in the battle for the airwaves, although we must hope it is not the case.

But, lest it should be so, we must continue to press our point of view as vocally and as forcibly as possible. In fact it's probably more important now than ever it was before.

Don't just sit there. You can help. On pages 29, 31 and 32 you will find suggested letters you can send to your own MP, to the Home Office, to Willie Whitelaw, to Margaret Thatcher and to James Callaghan (we must, after all, prepare for every eventuality). We've put all the relevant addresses in, save that of your own MP. If you don't know who or where he is, go to your nearest public library and if you tell them where you live they'll give you the name and address you need. And if it's a Labour MP, don't forget to write also to your Conservative Party Club, Office or Association, and do likewise for the Labour Party if the MP is Conservative. If you write all the letters you can, and send in a signature sheet for our petition, you could well find you've spent about £3. It probably seems like a whole lot of money. Don't worry. CB could save your life one day, and then you'll feel pretty mean panicking over such a small sum. Write the letters. **RN**

Friday, June 29, 1979

MOTORING

WILL THE LATEST CAR RADIOS BE LEGALISED IN

ER DUCK ...re you read-...? Watch-out ...ack Ice and ...noky Bears on ...dges. . . .

...us? Well, that's ...e of conversation ...ould hear if ...an-style Citizen ...adio was operating ...Britain. It is ille-...re at the moment. ...rators, especially ...drivers, give them-... code names, like ...er Duck, and they ...nicknames for ...s and people they ...e.

...ack Ice' is a police ... speed trap for ...nple, and policemen ...'Smoky Bears'.

...lost American long ...ance trucks — and ... of thousands of cars ...re equipped with CB ...dios able to transmit ... to one mile in towns ...d about 15 miles in flat ...untry areas.

It is also widely used ...Australia, West Ger-...many, Italy and Sweden. Now an estimated 30,000 illegal operators in Britain are forcing the Government to consider whether CB radio should be allowed here. White-hall observers believe this is inevitable.

Warning

With CB radio trans-mitter-receiver sets U.S. drivers take delight in beating police radar and speed traps by warning all who can listen to slow down.

And the police love it because drivers do just that—and they are con-tent for traffic to slow to the nationally - disliked and widely disobeyed 55 mph top speed limit.

In Europe the argu-ments in favour of CB radio for the motorist are enormous, according to West German psycho-...ists.

...ey say, 'The motorist ...ly man in a steel ...from home,

Help at the touch of a button

BY MICHAEL KEMP

miles from his destination or stuck in a traffic jam. 'He wants to communi-cate and radio is the only way. Given the right equipment he can help society, help his driving neighbours and the police — and be safer.'

But Citizen Band radio if it comes to Britain is not going to be cheap.

Blaupunkt is Europe's only manufacturer and their compact dashboard radio, with Medium Wave, VHF and 12 CB channels costs about £250, plus up to £50 for fitting.

It is a complex piece of silicon chip and micro circuit technology that requires expert installa-tion and perfect inter-ference suppression.

It contains the unique Blaupunkt - dev...

Channel-9 HELP system that could become a life-saving emergency service throughout Europe in the Eighties.

Any CB radio operator can summon instant help by pressing a button. This automatically sends an audible horn bleep, plus a visual blip that appears in lights on the radio dial across all channels.

All CB operators receiving the Help call can press their Channel-9 buttons to tune-in to the caller.

Problems

This system alre... has been used to s... lives, help police h... motoring distress ... lems and to find ... children

CB could give ... communication ... every other motor... cared to receive ... traffic guidance ... It has got to ... only ...

CB Radio . . . you can send out an S O S, or use it to warn other drivers of police speed traps

Arthur Harad...

Is an...

WHEN IT comes ... teaching of electro... distinct from ... schools have grea... progress in capti... interest and en... both a practical ... level.

Where th... ...

Helping police costs CB radio man £900

Daily Mail Reporter

LORRY driver Leslie Ashmore was praised by police when he used his citizens' band radio to trap a gang of joyriders.

But his prompt action cost him £900 yesterday. He was fined £400 for possessing and operating radios illegally. And his equipment worth £500 was seized by the Customs and Excise.

Ashmore, 34, saw the joy-riders in a stolen van near his home in Chesterfield, Derbyshire.

He drew alongside ... used a loud-speaker ... the driver to ... But the ... try to ... road ...

dies'—CB slang for regu-lar users—named Sinbad and Snowman.

They intercepted the van, which had been stolen from a friend of Ashmore's. Police later arrested three youths.

Mr Anthony Bren... prosecuting, told ... strates at ... that CB ... quency ... were ... con...

...cal equipment and model planes.

Ashmore said later: 'I was shocked by the fin... 'If I had not ... CB radio in ... would never ... able to hel... riders ...

As Britain gets ready for Citizens' Band radio

Where a traffic jam ahead? . . . What's the weather like? . . . How CB radio could help the motorist

Could you be the next Rubber Duck?

THE chances that two-way car radios we can all use will be legalised are grow-ing better.

The Citizens Band Radio ...sociation have begun a ...s lobby of MPs ...ritain is one of the few ...ntries in the Western ...d where CB radio is

illegal. Millions of Americans find it useful for business and pleasure, and in Ohio the police reckon 500 lives a year are saved because motorists are able to summon emergency services quickly after an accident and tell each other of motoring haz-ards.

But here the 10,000 people who talk to each other on the 27MHz frequency risk raids by the Post Office and heavy fines.

The Home Office tell me that the use of the radios is illegal because it would inter-fere with other services and there isn't enough room on the wavebands.

"You know, housewives would chat to each other and arrange to meet for coffee," said a spokesman.

Obviously they have similar problems in America but they cope quite happily there. So why can't we?

The chat show on the M1

by Leslie Watkins

FEAR of being caught by the 'Smokies'—their code word for the police — is today deterring thousands of broadcasters from giving emergency help to the authorities in Britain.

...ter they are the pirates of the ... defying the law by ... Citizens' Band ... 70,000 of

'Drivers are able to warn those behind of road blockages, for instance, and summon emergency services quickly to the scene of crashes.'

Most British CB users with sets costing from £35 to £300 or more are afraid to give that sort of help. They know they will immediately become liable to prosecution and ...maximum penalty of a £400 fine ...months in prison.

from my car. For example, I got lost while driving to Harlow and put out a request for directions. Almost immediately I had some stranger putting me on the right road.'

Most of the CB transmitters in Britain are imported from the Far East and in normal conditions have a range of between 10 and 15 miles. In heavily built-up areas the range is reduced to about four miles.

They operate on 27 megahertz and the main objection is that they can cause interference with offi-... equipment such as hospital ... they're also on the same ...model aircraft and

WHAT THE PAPERS SAY

...la and Peter Gibbens on radio's appeal

...ybody listening?

... to the ...nics — as ...hysics — ...t scope for ...ring pupils' ...thusiasm at ... and academic

...s is being ...s outcome is ...in the building ...e amplifiers for ...school rock group ...show. Only a ...ave encouraged the ...mateur radio as yet ...and superior way of ...ng pupils to grasp ...er implications that ...ers, integrated cir... ...etc., will have in their

...e. ... a fact that many past

have been maintained by a radio ham descending on a parachute to earth!

Getting started in amateur radio does not require purchasing expensive equipment: an adequate second-hand short wave receiver can be bought for less than £30. Even construction kits are even cheaper and well within the financial resources of the majority of pupils.

Often these kits help to link theory to practice, and offer not just the facility of listening to radio amateurs but also the reception of many distant national stations that the average domestic radio is incapable of resolving. Simply listening around the various frequency bands is to be recommended. Regular competitions are ... wireless and elec... ...azines for best

mathematics and physics / electronics will experience no difficulty in the examination. Much harder questions arise when the licensee constructs (home-brews) innovatory equipment that may demand answers gained from in-depth knowledge of radio theory.

Having passed the Radio Amateurs Examination, reached the age of 14 years, and being a British citizen, you send off £6.40 and your birth certificate to the Home Office. In time the applicant is allocated a personal call sign, beginning G if you set up station in England, GW for Wales, GM for Scotland, GD for the Isle of Man, GI for Ulster. The initial letter(s) is followed by the figure 8 or 4, the latter indicating that one has also passed a morse code test.

The main benefit of ... ing a G4 call sign ... that ... designed for ... international comm... can be operated ...

CB radio men get boost as two in court

by SALLY SELBY

THE JUBILANT leader of a group camaigning to legalise Citizens' Band Radio has applauded a court decision over two fans sought using equipment.

Mr. Keith Townsend, secretary of the Midlands CB Group, said he was "absolutely delighted" at the low fines and conditional discharge handed out at Solihull magistrates' court.

Before the bench were 47-year-old Dennis Webb, of Birchy Close, Shirley, Solihull, and 20-year-old Keith Cooper, of Wayfield Road, Shirley.

Both were caught after a swoop by Post Office investigators on a Shirley pub.

Cooper was charged with using a CB set without a licence and Webb with using a CB set and having it installed in his car. Both pleaded guilty.

Councillor George Hill, chairman of the bench, said Cooper would be given a one year conditional discharge and Webb a £25 fine and conditional discharge.

Rejected

Both were ordered to pay £25 each towards costs, but a prosecution call for a forfeit order on the radios was rejected.

The bench heard of prosecution fears that CB radio transmissions could interfere with model aircraft and hospital paging systems.

They were told that the Post Office radio sleuths had acted on a tip-off about a CB meeting in the car park of the Pickwick pub.

They followed Webb home in his car, while another car followed Cooper back home with the £100 CB set he had only just bought.

Webb told the bench: "There are thousands of us in this country all fighting to get CB legalised.

"In nearly every other civilised country in the world it is quite legal."

Cooper told them: "I don't consider it to be harming anyone. We are not stealing anything or hurting anyone. We are just talking."

Mr. Townsend, speaking for Cooper, said interference with hospital paging systems or model aircraft only occurred if the transmission was made close to them.

"We genuinely believe that a change of the law is imminent," he said.

"Basically, the magistrates have seen this for what it is. In other words, they obviously do not see this as a grave offence.

LETTERS

IT IS a year since my support for CB radio evoked much response in your columns. Mrs Biggam from HQ explained how nasty, even anti-social, CB was in other countries. Our Government has decided to allocate a CB band. Will not HQ turnabout?

Surely we spend too many resources fighting losing causes for other departments. I spent years of my life searching, seizing and penalising on behalf of agencies who have now changed their minds. That experience leads me to believe that we should try to protect the revenue, preventing and detecting revenue offences at source.

Cuts in staff employed at ports and airports with reduced control and deterrent have entailed increases in more expensive, inland, staff chasi... after a few of the more obvious offenders.

A year ago I believed reinstating a depleted mobile rummage crew for search of a likely ship or turnout of a likely container would serve the Department better than a hairy exercise to seize a TIR driver's CB radio on behalf of another department. Was I so wrong?

A GUIDE TO THE JARGON

WHEN CB comes to Britain's roads officially here is some of the jargon should know:

Slab equals motorway; superslab ... seat cover is a female car passen... plain wrapper is an unmarked pol... rig is radio; eyeball is meeting ... is police; hole in the wall is a tu... pregnant roller skate is a Volksw... Beetle; and treetop tall is excel... reception.

...k and white TV transmissions ...s far more suitable.

"It would suffer less from interference, which now comes particularly from high-powered transmitters used in Italy, and would also not intrude on other types of equipment."

letters

CB radios should be legal

Congratulations on your new format.

What a pity we are excitedly involved in intensive nationwide seizures of Citizen Band radios for the Home Office. CB sets should be readily available in the UK as elsewhere to save life and avert disaster. Officers like myself who make lonely visits to desolate warehouses in the early hours would welcome the chance to gain the assurance of help a CB radio would bring.

Harry Johnson
West Bromwich ...

Cause and affect

Someone somewhere, and very long ago, must take the credit for organising the first ever public protest march. Whoever he (or she) was, and whatever the cause, it was the beginning of what has become almost an institution in the armoury of pressure-groups who wish to make a point.

Aside from the disruption, it is a very forcible way of saying 'lots of people believe in this cause, and here are a few of them to prove it'.

Given that, of any total number of followers of any cause, only a percentage will turn up for a demonstration or march, it follows that the bigger that 'few' is, the more weight the cause will have behind it.

It's not very much a surprise to find pro-CB groups organising public marches in order to demonstrate their feelings, then.

What at first sight might well be a bit of a shock, is the discovery that with few exceptions, response and attendance at marches is generally quite poor. It is hard, under such circumstances to avoid the somewhat bitter suspicion that the meagre numbers at such events may well have an effect opposite to that which was intended. If a 'mass demonstration' can evoke only minimal action on the part of those people who are supposed to be in favour of CB as opposed to merely indifferent, then a government might reasonably be expected to deduce that nationwide feeling among those elusive 'men-in-the-street' is so slight as to make the issue not worth considering. Although the argument that if only two people turn up it at least proves something, even if it isn't very much, does hold a certain amount of truth. However, it is a comparatively weak platform on which to base an argument which, by definition, depends upon the support of a large percentage of the population. And the argument in favour of a radio service which, to be worthwhile and financially viable, requires as its first base the interest of as many loyal subjects as possible, does very definitely fall into this category.

It's very hard, therefore, for champions of CB radio to feel more than slightly worried about recent protest marches, let alone wildly enthusiastic.

The trend does seem to be undergoing a reversal, fortunately, and the recent rally in Trafalgar Square, at which these photographs were quite obviously taken, is perhaps a hopeful pointer to this.

Although attendance didn't actually run into tens of thousands, there were sufficient numbers of bodies there to achieve at least part of the purpose.

In the first place a reasonably large section of the constabulary was required to control the rally. Regrettably causing some of the police to miss their weekend at home, perhaps, it is nevertheless a fair indication of size and the seriousness with which the potential of the event was regarded by the Home Office. Score one for the CB brigade.

Likewise, the attendance of the police was an indication to various media outlets that something reasonably important was afoot in Trafalgar Square. Score two for CB.

It is true that you can lead a horse to water, but unless you're prepared to use two bricks you can't make it drink. By the same token, you can get media attendance at an event, but you can't guarantee that anything will ever appear in print. A lot of people put a lot of effort into ensuring that as many Press outlets as possible knew the CB rally was taking place. Score three for CB, even if only for effort.

Score four, if you will, for the CB lobby, for their good fortune on 6 July.

Allocation of Press coverage is made on a priority basis, and the hand of fate, or whatever you believe in, arranged that 6 July was a quiet day, reasonably free of death, disaster and destruction.

On a relatively news-free day, then, the antics of the banner-waving fanatics in Trafalgar Square and Downing Street was deemed of sufficient importance to gain not only a place in several national newspapers the next day, but also an acceptably lengthy spot on the sacred cow of newsgathering, the TV news.

The slight misbehaviour of certain elements of the rally, who were determined to take their protest (and their banners) into the forbidden territory of Downing Street itself, may perhaps have been frowned upon by parts of the pro-CB establishment, if such a thing can be said to exist. However, without doubt this and the few subsequent arrests, went no little way to determining the amount of public exposure the rally eventually received. Fortunately it was all, though considered illegal by the forces of law and order, of a mischievous rather than malevolent nature, and thus attracted attention but not a bad Press, and therefore, as they say in court, all goes to credit.

We may, it seems, be justified in giving ourselves a small pat on the back and calling 6 July a success, but we would do well to remember that it was a battle and not the war. Moreover, in the history of CB rallies, we should not forget that it was but one victory among many Dunkirks.

What we should be doing now is not indulging in mutual congratulations over this one success, but examining the many failures, with a view to ensuring that the next rally has all the good features of Trafalgar Square and none of the bad points of other marches.

The biggest problem which any pressure group suffers from is apathy — the many assuming that the few will do everything which needs to be done as long as the many give their tacit assent by inaction.

Example: the dedicated few, by virtue of continual effort, persuaded several reasonably well-placed people (MPs and so on) to take up the CB cause in the corridors of power. Largely, one suspects, because of this the GLC announced, quite out of the blue, that they were in favour of CB if there was a weight of public opinion behind it, and if the people of London wanted it then they would support them and even actively give official voice to the campaign. In furtherance of this end they produced some extensive documentation and canvassed the opinion of London residents. All that was needed was to write 'yes' on a bit of paper and stick it in a letter-box.

Were the GLC inundated with replies, or what? Out of a population of 12 million, or thereabouts, and in a city which has probably got the largest number of illegal CB users, the response should have been enormous. Although only a very tiny number were sufficiently opposed to CB as to actually write 'no', and the balance of opinion was in favour, the actual response to their survey was at best disappointing and at worst pathetic.

In the same way as rallies of ten people can actually damage the case for CB, so also can not responding to a poll of that nature. Or not writing to your MP, Willie Whitelaw or Margaret Thatcher.

Doing nothing is not even a neutral stance; it can be interpreted as a vote against.

Rule one, therefore: you must act.

The other reason, or main reason, that the Trafalgar Square jaunt was one of the better ones was publicity.

Not the sort of publicity it gained in the Press after the event, though that is clearly as vital as it is difficult to arrange, ▶


DRIFTWOOD TRUCKERS
SOUTH BIRMINGH
CITIZENS BAN
CLUB


SILLY BREAKERS


BREAK FOR IRON LADY
PLEASE LEGALIZE C B QUICKLY


CITIZENS
BANNED
FOR
FREEDOM
OF
SPEECH
BYE BYE
I'M
GONE


WELCOME


wyre
Forest
Breakers
Worcestershire

Cause and affect

but the pre-publicity which goes to interested parties; it's all very well to accuse people of apathy, but if they don't know what's going on and where they can hardly be blamed for not attending.

The Trafalgar Square rally received a great deal of advance publicity — posters, car stickers, envelope stickers, circulars, the lot. The CBA were even smart enough to tell the staff on *Custom Car* in time for it to get into print (don't forget that monthly magazines can go to press as much as six weeks in advance of publication). Tell as many magazines as possible — most have a news or events page into which they will try to fit information of this kind — as much as possible and as early as possible.

Part of the reason for pointing this out is that *Breaker*, as you may have noticed, carries club information (page 54) in a special section, and we'll do our best to publish any news of events or regular meetings. If you want the public to come, you have to tell them where and when and in good time.

Another part of the reason for mentioning it is that we don't think CB will be with us yet, and it is very likely that there will be more rallies like that of 6 July in London and in other cities. If we can help by printing something, we will. RN


CBA
NCLCBR
CB4 U.K
LEGALISE
ONLY ON

Copy the letter on to paper by hand, or just cut it out and sign it. Whatever else you do, stick it in the post as soon as possible.

The Prime Minister
10 Downing Street
London SW1

Dear Mrs Thatcher

Please will you act to ensure that the introduction of Citizens' Band Radio or 'Open Channel', recently promised by the Home Secretary, does not get bogged down in interminable bureaucratic delays. Experience in other countries has shown that CB saves lives - 10 000 per year in the USA. This suggests that every day we do not have CB in Britain seven people die unnecessarily. There can be no justification for allowing this to continue.

Yours sincerely

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Your sex put M or F ____
Your age ____ yrs
Your height ____ ft ____ ins (BLOCK CAPITALS PLEASE)
First Name
Surname
Address
Race/Nationality
Religion
Occupation

Do you consider yourself:
- ☐ Shy
- ☐ Extrovert
- ☐ Adventurous
- ☐ Family Type
- ☐ Clothes-conscious
- ☐ Generous
- ☐ Outdoor Type
- ☐ Creative
- ☐ Practical
- ☐ Intellectual

Do you like:
- ☐ Cinema/Theatre
- ☐ Good Food
- ☐ Travel
- ☐ Political Activities
- ☐ Classical Music/Literature
- ☐ The Pop scene
- ☐ Sport
- ☐ Do-It-Yourself
- ☐ Camping/hiking/climbing
- ☐ Voluntary Work

Dateline International Dept. BRE 23 Abingdon Road, London W.8.

Dateline

William Whitelaw is perhaps more important than anybody else; of all the letters in the magazine, this one is a must

The Home Secretary
The House of Commons
London SW1A OAA

Dear Mr. Whitelaw

I was very pleased to hear of your recent announcement that Citizens' Band Radio or 'Open Channel', is to be made legal in Britain. I wholeheartedly support this policy and hope that the discussion period will be as short as possible so that I can get on the air.

Would you please send me a copy of the Green Paper on 'Open Channel' so that I may contribute to the discussion.

Yours sincerely

The GLC has already had a favourable response from the people of London.
It's not too late to add your voice to the thousands of others.

Dear Sirs

You may be aware that the GLC has recently studied the effects of the introduction of Citizens' Band radio on the works of a County Council.

They have found that CB can ease congestion and save petrol on the roads, help the lonely and isolated (and thus help the Social Services), and save lives under a wide variety of circumstances. The Home Secretary has recently announced that CB is to be legalised after a 'study period'. As you well know, such studies can take years.

Can the Council afford to wait years for such a useful service? Should Britain allow seven people to die unnecessarily each day for lack of CB, as one study suggests is happening? Would the Council please approach the government and urge them to legalise CB speedily? As a ratepayer I am sure it will save me money.

Yours sincerely

BREAKER

STANDARD MEASUREMENT

is 27MHz right or wrong?

When CB radio was established in the United States in 1947, it used UHF frequencies around 470MHz and amplitude modulation (AM). This first CB was quite effective, but with WW11's electronic technology — valves and very large components — the equipment tended to be large, expensive and consumed a lot of power. For this reason there was relatively little 'walkie-talkie' use of the system.

The transistor was invented in the same year as CB was introduced. Within ten years it had evolved from a laboratory curiosity to a useful electronic component which could replace valves in many applications, making electronic equipment smaller, cheaper, lighter and of lower power. By 1958, however, it was not yet possible to manufacture transistors which could be used in transceivers at the UHF CB frequencies, and there was a growing public demand for transistorised lightweight walkie-talkies. The FCC therefore decided to establish a new CB service on a frequency which could make use of transistorised circuitry.

This frequency was 27MHz. For many years the 27MHz, or 11 metre band, had been an amateur band in the USA, although its use was forbidden to amateurs elsewhere in the world. Thus, when it was proposed to change the use of 27MHz from amateur to CB there was an outcry among American amateurs, even though it had been relatively under used. It was this outcry that set up the long-standing anti-CB attitude among radio amateurs. These people talk to others all over the world and, of course, the Americans were not slow to tell their overseas contacts all about the dreadful CB'ers who had taken over *their* 11 metre band.

In the USA this anti-CB attitude is dying, and there are many now who actually came to amateur radio via CB and many more who regularly use CB to talk to non-amateur members of their families. Nevertheless, there are still a number of old-timers who try to keep the old hatreds alive and they have a lot of influence overseas.

Despite amateur opposition a Class D Citizens' Radio Service was set up in the USA in 1958. It used AM and later SSB (single sideband) and had 23 (later 40) channels spaced at 10KHz intervals from 26.965MHz upwards, with occasional gaps intended for the use of radio controllers. The maximum power allowed was four watts, but stations under 1/10watt did not need a licence.

The first radios built for the new service were hand-carried walkie-talkies, but vehicle-mounted sets quickly became popular and the new service grew quickly. In the first 15 years there were one million licenced users, and probably another half million unlicenced ones. Then came the 1973 fuel crisis and the well-known CB boom which led to there being over 40 000 000 CB users in the USA by 1978.

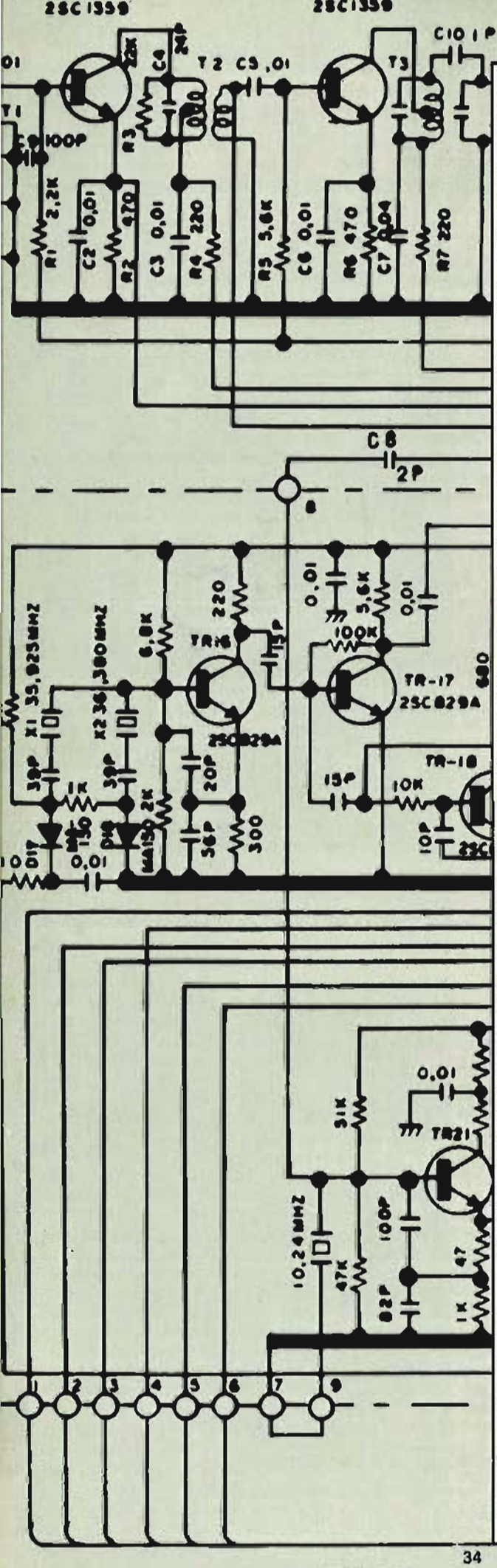
Most sets made during the boom years were 23 or 40 channel vehicle-mounted sets. The majority were manufactured in the Far East — first Japan and then, as domestic Japanese salaries continued to rise, in cheaper labour areas such as Hong Kong, Taiwan, Korea and Malaysia. The large numbers of sets sold, and various market fluctuations, led to continued price reductions so that it is today possible to buy a full performance, synthesised 40 channel AM transceiver in the USA for about $60 (£30). Even an SSB/AM transceiver with all the extras is unlikely to cost more than $200 (£100).

Of course, the Far Eastern manufacturers, having learnt to make transceivers so cheaply, looked for other markets. A few other countries had followed the USA by legalising 27MHz CB, but throughout most of the world the use of two-way radio by the general public was forbidden. The availability of the high-performance low-cost sets for the American market soon changed this. At first, smuggled American sets were used illegally by a few enthusiasts, but soon governments saw the benefits of CB and legalised it.

In doing so they made two mistakes. Both are understandable, but nonetheless tragic. The first was to believe that because the USA had CB on 27MHz that this was the only possible frequency. The second was to introduce a few 'improvements' over the American system, in the hope of creating a market for local equipment manufacturers.

The results were predictable. Far Eastern manufacturers had little trouble modifying their sets for the new markets, but today some 50 countries have 27MHz CB and yet there are no two with exactly the same standard. It is impossible to take a CB radio from one country to another and remain legal. The number of channels permitted differ, the maximum powers allowed differ, the types of modulation used differ (AM, FM, and SSB are all used for CB in different countries in different combinations) and even the type of front panel channel switch varies from country to country. There are exceptions to this general rule. Canada and the USA have coordinated their CB regulations so that Canadians can use their radios in the USA, and vice versa, without formality. The same arrangement pertains in Scandinavia.

The last exception is incredible. Most European countries signed an agreement in Malaga in 1972 which set up a common European standard for 27MHz CB (the agreement is called CEPT PR27). This was signed by all EEC countries, including the UK, and a number of others including Spain,



Greece, Switzerland and Portugal. The only problem is that many of the countries concerned have legalised CB but each has its own standard and foreign sets are not permitted. Indeed, last summer the German police were as busy confiscating and destroying the CB sets in visiting Italian cars as the Dutch police were doing to the Germans. Germany, Holland and Italy all signed PR27.

It is in the light of this total lack of standards that the CBA is campaigning for CB in Britain to be at VHF or low UHF (hereafter referred to as VHF collectively). If there were a single world standard for CB it would be sensible for this country to adhere to it, even if it were not perfect. However, since there are over 40 distinct standards, agreeing only on the use of frequencies roughly in the area of 27MHz, it seems sensible for the UK to re-think the whole question of suitable standards for CB.

Let us look at the advantages and disadvantages of the present 27MHz CB system used around the world, both from the point of view of the user and of the poor devils who have to administer it (the meanies), and compare it with VHF systems.

Range

A sweeping and misleading statement often relayed by the media is that 27MHz CB has a range of ten miles. In fact, ranges can vary from as little as half a mile in hilly country to over five thousand miles under skip conditions. The average range in flat country for an American four watt CB rig feeding a mobile antenna and communicating with a similar rig is indeed around ten miles, but case to case variation is enormous. It is safe to say, however, that unless the terrain is particularly rugged a user can reasonably expect a range of at least five miles and may well obtain up to 15, in the absence of interfering signals.

But 27MHz signals can also be reflected from the ionosphere which is a layer or layers in the upper atmosphere, from 80 to 250 miles up, that has the property of reflecting radio waves. This means that as well as ranges of five to 15 miles, one can also have good communication at a range of several hundred to several thousand miles. When skip does occur, signals from far away can cause so much interference that the range of local signals is reduced to a couple of miles, as beyond that range the skip signals become stronger than the local ones. This is a nuisance. It becomes even more of a nuisance when antisocial types increase the power of their CB stations in order to 'shoot skip' or talk over these long ranges.

Power

The power of a CB transmitter can be increased by a linear amplifier, or 'boots', to ten, a hundred or even a thousand times the legal maximum power. In all countries where CB is operative the use of boots is illegal. However, they are manufactured legitimately in many countries, including the UK, for use by amateurs, diplomatic (embassy) radio operators and short-wave broadcasters. They are therefore easily available, except in the USA, where their sale and use is forbidden.

Using a linear amplifier does not increase the range of local CB communications very much, it only helps over the longer range skip paths. But its use on a channel can reduce the range of possible local contacts over many thousands of square miles. This does not matter on the diplomatic and amateur bands because long-range communication is wanted, but on CB, which is intended as a short-range service, unwanted long-range signals are disastrous.

VHF has a range of ten miles too. Like 27MHz this actually means that under average conditions one can obtain ranges of between five and 15 miles between two mobiles. Unlike 27MHz, skip does not occur at VHF (except for a very rare phenomenon called 'sporadic E' which is the reason why every couple of years listeners to VHF broadcast stations in the UK get interference from as far away as Vienna or Warsaw). This means there is no long-range interference to short-range communications on VHF. It also means there is little point in using a linear amplifier since the increase in range it provides would only be small.

Therefore VHF has no advantage over 27MHz in range in interference-free conditions, but is less likely to suffer interference from long-range signals. In general we may expect slightly longer ranges from VHF, provided the same sort of power level is used — say five watts — but we do not have the possibility of international or intercontinental communication. Since most CB users do not want these DX contacts this is an advantage. The only range disadvantage would be in very hilly country where 27MHz can sometimes be a slightly better system than VHF.

Interference

VHF also offers a better freedom from interference, whereas 27MHz is about the worst frequency there is. Interference is of two sorts: natural and manmade. Natural interference comes from both terrestrial and extraterrestrial sources. Lightning is the commonest terrestrial source of interference, and radiation from the sun and the rest of the galaxy is the source of extraterrestrial interference. Manmade interference includes noise from automotive ignition systems, electricity distribution systems and switchgear of all sorts. Automotive ignition noise is particularly important to the CB user since so many systems are installed in motor vehicles.

Both manmade and natural interference have a peak at frequencies between 10 and 100MHz. Of course, 27MHz is right in the middle of this region, and so suffers more interference than the VHF frequencies above 100MHz.

Another problem is the type of modulation. Most 27MHz CB services use AM or SSB which employ receivers far more susceptible to impulsive interference (the type generated by lightning and motor ignition systems) than FM receivers. There is no rule specifying a VHF service must use FM or a 27MHz service must use AM (in fact Holland has FM CB at 27MHz and West Germany allows the use of either AM or FM at that frequency) but in general, 27MHz CB services use AM and most VHF two-way radio systems use FM. FM is far more resistant to interference.

Score a point for FM and, indirectly, another point for VHF.

is 27MHz right or wrong?

Another fault with the 27MHz frequency is that it causes interference to other electronic equipment. It is not all the fault of the CB transmitter though, far too many electronic gadgets, particularly hi-fi, are badly designed and suffer interference from any nearby transmitter. In some countries laws are being passed to ensure that new equipment does not incur interference of this type. However, this will not prevent interference to older equipment which is still in use. It is unfortunate that 27MHz is about the worst frequency for interference of this type and AM and SSB the worst types of modulation. FM causes very little interference (which is why Holland uses FM) and VHF, because of its shorter wavelength, is more easily screened out of equipment.

Score yet another for VHF.

Antennas

A simple but efficient antenna for transmitting from a vehicle is a piece of vertical wire one quarter wavelength long. At 27MHz this quarter wavelength is 2.778 metres (9 feet 1⅓ inches) which is rather long even for a truck, and impossible for the average car. An even more efficient antenna is five-eighths wavelength long which is 6.944 metres (22feet 9½inches) — a third of the length of a cricket pitch! At VHF, on the other hand, quarter and five eighths wavelength antennas are quite practical. At 230MHz a quarter wave is 32.6cm (12.8 inches) and a five eighths is 81.5cm (32inches). At 450MHz thing are even better: quarter wave is 16.7cm (6½ inches) and five-eighths is 41.7cm (16.4 inches). These antennas are easily mounted on any car.

For 27MHz it is necessary to use various techniques to shrink the antenna so that although the transmitter 'sees' a full-size antenna, it is actually shorter. This involves the use of loading coils which are mounted in the base or the centre of the antenna. A centre load is the better of the two, but it makes the antenna look bulky. The base load tends to reduce the transmitting efficiency of the rig (even the centre load does not do this efficiency any good).

On the whole, then, VHF antennas are smaller, simpler, cheaper and more efficient.

Score yet another for VHF.

Cost

VHF equipment is used by taxis and the police and is subject to type-approval. Many will think this means it has to be expensive. Wrong.

Every piece of 27MHz equipment has to be type-approved as well. All type-approval means is that the authorities have inspected a single set of each type manufactured and tested it to ensure it complies with the regulations. Type-approval probably costs a few hundred pounds, but the manufacturer is charged *once* only, not for each set.

There is no reason why VHF CB sets need cost any more than 27MHz ones. Taxi equipment is different from CB in two important respects. First it must be capable of being used at any single frequency in quite a wide band, while CB is fixed-tuned on a single narrow band. Secondly, taxi radios are made in very small quantities compared with even the smallest rate of CB production. These two differences can easily account for a three to one price difference.

In Britain we have a bad habit of paying too much for electronic equipment. I am afraid that this will carry over to CB but the use of VHF will not make matters any worse — a VHF CB set can easily be made to sell at between £60 and £100, while in the USA 27MHz sets sell for between $60 and $100. Although we can scarcely point with pride to the price as a factor in favour of VHF at least we would not be at a disadvantage if we adopt it.

In one respect VHF will bring a financial advantage. If Britain adopts 27MHz the equipment will all be manufactured in the Far East. There are too many factories there ready and able to make 27MHz equipment to any desired standard for our own British companies to have a chance, but this is not the case with VHF. British manufacturers of VHF transceivers are expert and have already won a good place in the world market. When VHF CB comes they will be very well placed to do well in that market too. There are, in fact, seven firms already designing VHF CB systems for the UK market, although of course they cannot complete their designs until they know exactly what frequency will be used.

All in all it seems that VHF does offer many advantages over 27MHz. It has, of course, one major disadvantage — there are already some 150 000 people already using 27MHz. If VHF is legalised they will find themselves with expensive, but useless equipment on their hands. Unfortunately this is going to happen. Since January 1980 the government has stated six times in Parliament that it will not legalise 27MHz CB but is considering some other system. Finally on 7 May Mr Whitelaw announced 'Open Channel' but not which frequency is to be used.

What is clear, however, is that in the fight for CB we have a good chance of winning a VHF allocation quickly and a very poor chance of getting one at 27MHz. Since VHF seems to have the technical advantages as well, the Citizens' Band Association is putting its weight behind the fight for VHF.

James M Bryant
President CBA.

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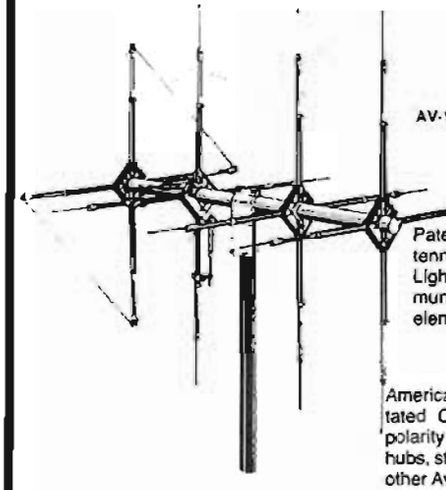

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Rigs to riches

Part of the content of a magazine like *Breaker* should be aimed at bringing you information and tests on the latest equipment so that you know the sort of thing that's about, what you might have to pay for it and how it compares with rival products.

You would be right if you thought that we might have some difficulty on that score, because we have. Since we don't know what frequency we'll be using when CB eventually gets respectable, we can't even guess at the sort of thing that will be available, what its performance will be like, or what it will cost. Bit tricky, really.

However, as long as the frequency isn't too silly, and the power restrictions too sweeping, we should be able to make some guesses, and say that whatever we end up with will very likely offer a range and quality very similar to 27MHz equipment, and probably not at too different a price.

Since most of the features on current Stateside CB rigs have been developed out of need and could be fitted to almost any type of two-way transceiver, the likelihood is that the sets we get over here will look the same, act the same (with the exception of the skip endemic to 27MHz, we hope) and will be controlled in the same way.

It wouldn't seem too far off the mark, then, if we were to have a quick glance at some of the outfits available in the States at the present time and which could easily be available here once everything is sorted out.

At the bottom of the range is the milliwatt walkie-talkie. One half of a pair which sells for less than the equivalent of £20, it's powered by a single 9volt battery of the kind in common use for transistor radios. With its two-foot antenna extended, it weighs nothing, is portable and has a minimum of controls — on/off/volume in one switch, and a press-to-talk bar on one side. Perhaps unusual for something so small and cheap, it also has a bleeper which allows another user to leave his set switched on, with the volume low, until he's buzzed. Pre-tuned to Channel 14, the buzzer is non-selective and will operate any similar sets within its 250-yard operational radio.

Dead handy on a building site, say, or on a sports field, for huntin', shootin' and fishin' types, or whatever, it lacks all pretensions, but fulfils its limited purpose more than adequately.

One step up the scale comes the larger and heavier item from Realistic. To compensate for its extra bulk and weight, and also for its longer, centre-loaded antenna, this set does a little more for a little more of your money. Radio Shack sell these in the States for around £20 each. It uses nine 1½volt batteries to enable its 3watt output to give a range of a couple of miles. Power options for this set include a set of rechargeable batteries and a mains-operated charger (£4-5-ish) or a mains adaptor which reduces to 12 volts DC and plugs direct into the side above the charging jack socket and beneath the external antenna socket. The external antenna, combined with a cigar-lighter adaptor fed straight into the power socket, will change this handset into a three-channel car unit.

Channel select is by means of a three-position switch on the front, marked A, B and C. The set in the picture, like most, is fitted with crystals for channels 9, 14 and 19, though this can be changed by someone with a little knowledge.

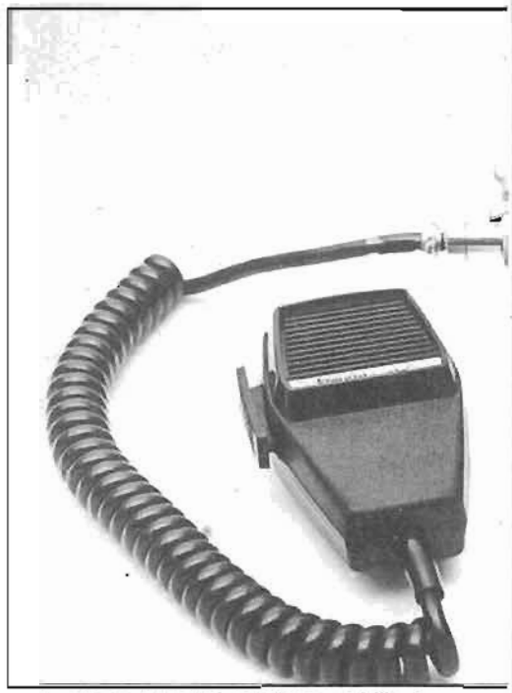
The only other controls are on/off/volume combined and squelch, on the front of the set. Altogether a neat, handy and versatile little tool for anyone who is only going to be making limited demands on his CB rig.

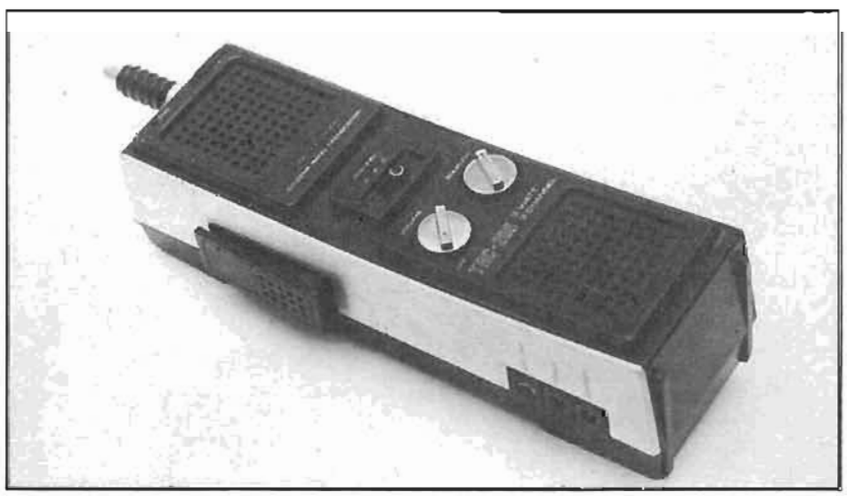
Most common of all, perhaps, are the mobile in-car units, and here we have two different kinds.

The first is standard in appearance, easily fitted, having only power, earth and antenna connection to worry about, and is sold complete with a beneath-dash mounting plate and battery-powered hand microphone all for the equivalent of about £45 - £50.

The front panel has on/off/volume, squelch, RF gain, power meter and channel select with digital readout and dimmer switch for the LED, as well as a PA option which requires a separate, external, weatherproof speaker.

Performance is exactly what you'd expect or demand for your money, and with a legal maximum of 4watts output its range under normal conditions is around 20 miles, although it can vary as it is





easily affected by tall buildings or hills, and also by the antenna in use on the car. Two different antennas will give two different performances, and even the same one will give different results when mounted on different parts of the car bodywork.

In fact, problems with the antenna — poor earth, bad siting, high SWR, feedline faults or mismatch — can affect the performance so much that it's hard to give any sort of guideline on range at all. Perfect conditions almost never happen, but under near-as-possible-perfect conditions 15 to 20 miles should be adequate.

Next on the list comes the remote unit. Costing the equivalent of about £90, this set is designed for simplicity, and also to keep the interior of the car as uncluttered as possible.

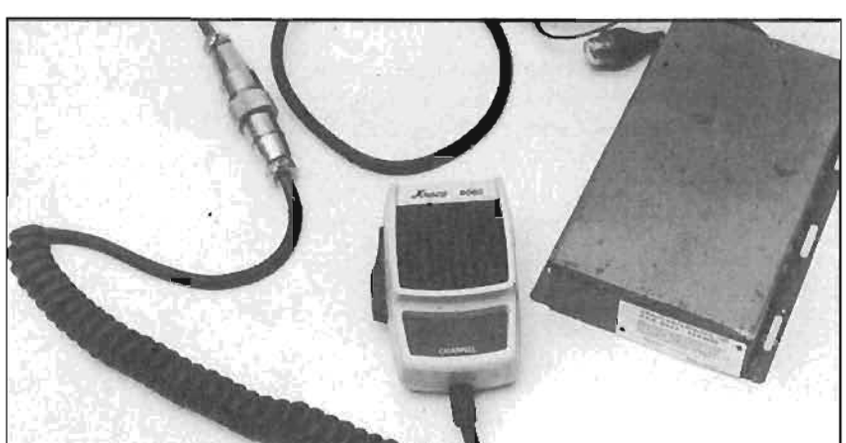
Rigsto

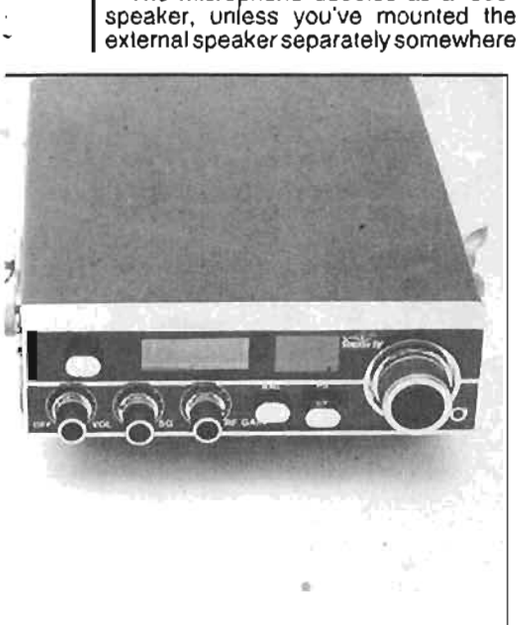
The power pack, measures approximately six inches by six inches by about one inch deep. It mounts in the boot, under the bonnet, or anywhere out of the way but convenient to the antenna and a power supply.

Included in the price is a microphone with controls mounted to a two-foot spiral cord. This can be jacked straight into the power pack, if it's close enough, or you can use the million-foot-long extension which also comes with the kit.

When it's all fitted up you have only the microphone in the car, and the rest is out of sight. Apart from being tidy, it also discourages thieves. Even if they spot it, it'll take ages to get it all out in one piece.

The microphone doubles as a loudspeaker, unless you've mounted the external speaker separately somewhere else, and it also has all the controls. On/off/volume all in one, squelch and press-to-talk are on the side, while channel select is electronic, having only two self-explanatory pushbuttons marked 'up' and 'down' respectively.





When the unit is switched on the LED readout indicates which channel it's switched to; the only annoying thing about this is that it always returns to channel 1 when it's switched off. Pressing the 'up' button sends it scooting away, and if you hold the button down it will sweep endlessly from 1 to 40 (going to channel 1 right after channel 40) forever.

A single swift push on 'up' or 'down' will cause it to move one channel only in the desired direction, so you can set it to any channel without looking at the LED, simply by pressing the button and counting.

It sounds a bit cumbersome, but apart from always being on channel 1 when it's switched on, it's very simple to operate.

Last on the list is the Midland base station. Being 18 inches wide, ten deep and about six high it's a fairly hefty piece of gear and commands a price to match. The equivalent of £160 - £180 wouldn't be too far out for something of this nature, but look what you could get.

A full 40 channels, of course, plus upper and lower sideband (120 channels in all), mic gain, fine tuning, digital readout, power meter, squelch, RF gain, distance-local, the works. This set is fitted with a standard hand microphone but could easily be used with a table-top which allows the operator more freedom to twiddle the set, take notes etc.

The range of a set like this depends almost entirely on the antenna in use — a 50foot tower with a directional beam could get some good results, but even over a short distance the improved quality of the base set over a smaller unit, which is being shaken to death and subjected to all kinds of interference in a moving car, will be easily apparent.

The fact that all the sets we've looked at just happen to operate on 27MHz doesn't mean we should ignore them. One day soon something very like them will be on the shelves of your local electrical or hi-fi shop, and probably at very similar prices. Like waiting for Christmas Day, isn't it? **RN**

riches

High-frequ
life at the top end

Hmm. Now here, as a famous comedian used to say, here's a funny thing. Here *is* a funny thing.

James Bryant has already taken the trouble to explain (on page 33) that, although 27MHz is the closest thing we have to a world standard for CB, it is not the best service available, nor is it the one he would choose or advocate.

Seemingly unconnected with this in any way, the government have said that they favour the introduction of a CB facility, but wish to reserve judgement on the frequency to be used while they look at cases and make up their minds.

Part of the CBA argument in favour of a VHF service, and perhaps also part of the reason for the governmental reticence on the subject of frequency, is the desire they seem to share for British industry to gain the maximum benefit from the opening up of what will be a brand new market area.

Now the plot thickens more than a bit. Divided into two parts, we may say that 27MHz is, as James explains, technically undesirable and, as we must all agree, financially undesirable from a long-term viewpoint, which the government and the electronics industry have not been slow to realise.

As far as the latter is concerned, the wholesale 'dumping' of cheap 27MHz sets in this country by the Japanese is not just scare-mongering, but could be very true.

The boom in CB sales in the States which occurred during the first flush of enthusiasm peculiar to all new love affairs of whatever nature, has ended. Although CB has arrived to stay in the US, the current market is for replacement rather than first-time purchase, and of consequence is running at a much lower level than, say, three years ago.

Japanese industry, always one of the quickest to grasp a new opportunity, was geared to produce a phenomenal need in the States — 10 million units in 1977 alone. Once the boom steadied it was apparent that demand for the sets was likely to be in the region of the two million which were bought in 1979. Still a huge amount, but nowhere near the previous peak. Since the curtailing of mass production following a drop in demand can take as long as setting up to meet it in the first place, it is no surprise to find two truths.

One, American CB stockists have a huge surplus which they are practically giving away in order to reduce their inventory (a regrettable Americanism) and thus ease their cash-flow. Since these same stockists have reduced, if not actually cancelled, their outstanding orders for CB units from the factory, truth two is that the factories now consist of almost silent production lines partially buried under mountains of unsold 27MHz rigs. The manufacturers would welcome the chance to unload the millions of unsold sets taking up precious space at almost any price. Manufacturing economics being what they are, the Japanese would have no qualms whatever about undercutting the price of such domestically produced units as made it to the shops in order to ease their financial burden.

And since any announcement of legalisation would spur them into action, there is no doubt that their cheap sets would be off the boat and into the shops faster than our own industry could take on the extra staff, never mind offer units for sale. The boom would be over before the first British-made set was put in its box and despatched.

Not only would this deprive our own electronics industry of a golden opportunity, it would make one hell of a big hole in our balance of payments. No laughing matter for the government or, eventually, the rest of us.

So it is a real problem.

Now this is where it starts to get really complex.

It is a fact that, despite what has been described as 'the obvious political obstacle to CB', in whatever form you may see them, pressure from proponents of the facility have been 'too strong to keep the service outlawed in Europe'. Furthermore, 'All European countries are now confronted with the choice of legalisation and are actively seeking appropriate regulations' (information from Telecom Info International).

These 'appropriate regulations' are clearly what our very own Mr Whitelaw is busy researching right now. It has previously been easy to believe that HMG are confronted with a fairly simple choice; either adopt the 'worldwide' 27MHz system (which, if not actually impossible, is certainly so unlikely as to be not worthy of our consideration) or find a new frequency for a high-grade service. The CBA has suggested 232MHz, and has been trying to convince the authorities that this is where it should be at, since the Lancaster bomber is now out of service etc.

However, this somewhat insular view, though it appears to meet all the basic needs of a CB service, is not likely to gain much credence in Whitehall.

As 27MHz proponents argue for its adoption so we can be in step with the rest of the world, so must the government take into account the rest of the world, and act accordingly. The introduction of a service on 232 seems likely not to fulfil that role.

Between 2 June and 3 July 1980, the International Radio Communications Consultative Committee (CCIR) held

ency society
l of the spectrum

a meeting in Geneva. Their purpose was an 'informal' discussion of an international standard for CB radio. Various sub-committees have already begun studying this subject on an official basis, and will submit their findings to the CCIR before the end of this year.

Whatever they decide, it would seem foolish for the government of this country to ignore it, and establish a CB service on some arbitrary frequency without regard to what the rest of the world decides to do.

The obvious problem is, of course, the fact that if we adopt any service in world use we will be subject to the same market threats from the ever-ready Japanese as we would be if we accepted 27MHz, although perhaps not quite as quickly.

Despite this, it seems the British standard will be the same as the world standard. It seems even more likely that the world standard will be based on a frequency between 860 and 960MHz, and many people expect William Whitelaw to make an announcement, even a Green Paper, proposing that frequency be adopted in Britain very shortly.

900MHz has been favoured by other European countries for some time, and the proposal is not altogether new. Aside from the fact that 900 is high enough not to suffer from skip, or interfere with existing radio users (modellers, hospitals, TV, Radio One, whatever) and although we are as capable of manufacturing cheap sets to operate it as the Japanese, 900MHz seems to have little to recommend it. In fact, 900MHz has several alarming properties which perhaps ought to be examined before equipment goes into mass-production.

Several people will probably be aware of the rumours about 900MHz transmitters already. We've heard it said that they are carcinogenic, but there is no evidence whatever in support of this theory, attractive bit of scare-mongering though it may be.

Transmitters which operate in the 900MHz band do have some characteristics which will need to be controlled though, and the word to remember here is 'non-ionising radiation'. This is not radiation as in nuclear, nor even as in X-ray, but in large doses at high power and sufficient proximity, it can be pretty unpleasant. It is definitely associated with cataracts in the eye, for example, and may even have some involvement with brain tumours.

The source of this radiation is the transmitting antenna, and provided that power output is restricted (mobile or base sets) by virtue of either distance or shielding, it should not present a problem. At high frequencies like this the use of illegal amplifiers is generally a waste of time, since the addition of a few watts will produce only negligible increases in range. Not worth the effort, basically. Which means that whatever limit is imposed on the maximum output of such a rig, it is unlikely to be exceeded, so there is nothing to worry about.

Hand-held portables are a different can of worms altogether, since the user will be unshielded and be forced to hold the antenna next to his head if he wants to use the set. Thus the problem of radiation will have to be studied very carefully, and portables will either be out of the question, or so severely limited in power as to be nothing more than toys.

A 900MHz service would already appear to be of limited use, if not actually of altogether dubious advantage.

And it gets worse.

Radio waves, though flexible to a degree, tend to travel in fairly straight lines. Put a large hill between two sets and the signals, if they arrive at all, will be weak and of poor quality. Obstacles cut down range dramatically, and in urban use tall buildings are very definitely obstacles, more than halving, for example, the range of a 4watt 27MHz rig.

At 900MHz the transmissions are very much line-of-sight, and though base-mobile communication should be reasonably effective, if you assume a base set to have an antenna raised as high off the ground as is feasible, mobile to mobile communications are likely to be of very limited range, especially if you take the probable power restrictions into account.

As an overall proposition for a CB service in this country, 900MHz is already meeting with some opposition, which doesn't seem very surprising. But whatever the outcome on that, the government would appear to be ready to hang their hat on whatever decision the CCIR eventually arrives at, and it would be futile to deny that there is a certain amount of logic in such a course of action.

Whether or not those countries which already have 27MHz CB also adopt the new world standard remains to be seen, and is in any case in some doubt. Either way, it is unlikely they would subsequently scrap their existing service, so it is on the cards that the pro-27MHz lobby in this country will continue their campaign for some time to come.

If the CCIR take as long over their deliberations on world standards for CB as we have come to expect from horses with eight legs, or whatever it is committees are supposed to resemble, then it is unlikely that a working CB frequency will be established in this country on any frequency for at least two years. It would be nice to be wrong about that, but still . . . . RN

Say it again, ham

It has long been a fact in this country that the private citizen has been allowed access to the radio spectrum as a licenced amateur.

Right from the beginning this has involved the passing of certain exams, some of which, like the need for proficiency in Morse Code, are reasonably simple. This fact stemmed originally from the nature of the early types of radio transmitters available: there weren't any. If you wanted to get on the air you built your own.

The primitive nature of early radio equipment meant there was considerable latitude for the DIY ham to construct a transmitter which was easily capable of radiating signals well outside his allocated band and cause widespread, also unacceptable, interference to many. Examinations, then, were not a form of bureaucratic hindrance, but a necessity.

Recent years have seen tremendous steps forward in all fields of electronics, not least in radio. And it is these very steps forward which are currently causing such huge controversy as now exists among users of the amateur band in this country.

Reduced to simplified form, we are talking about what many choose to term, somewhat disparagingly, the 'Japanese black box'. Packed with transistors and printed circuits, the black box has taken all the guesswork out of radio transmitters. It has made them cheap, widely available and simple in the extreme.

With their introduction came the 'channellsing' of the upper parts of the amateur band. All the licenced ham needed to do was to go into a shop, lay his money down, take home a black box, plug it in and start transmitting. Crystal channel selection means that instead of tuning your cat's whisker to a fine degree, you just press a button to hit the exact frequency you want, often to a greater degree of accuracy than could be managed with the traditional finger and dial method.

Contrary to what you might expect, this miracle of modern technology, if that's what it is, has not been met with universal approval; quite the reverse, in fact.

The 'real' hams who like to build their own sets, seem to feel that the black box involves some form of cheating on the part of the new user. Whatever, it's definitely not cricket.

Following the black box has come the age of the repeater. Essentially, this device receives the transmission from a ham radio and rebroadcasts it on a different frequency, often boosting the range — a benefit most obvious to those hams who run small, low-powered mobile sets in their cars.

London which started out with one repeater, GB3LO at Crystal Palace, now has four spread out on a geographical basis.

The advent of the repeaters has doubled the fury of the old-time amateurs, who were already incensed by the black box. They seem to feel that the service is degraded by the presence of both these innovations, and have taken steps to arrange their removal.

These steps seemed at first to follow fairly traditional patterns. Anti-repeater groups were formed to convince the authorities, by peaceful and constitutional means, that the depth of feeling against them was sufficiently strong and widespread as to warrant a change of policy.

In a free democracy this is, of course, their right; our basic philosophy does after all rest on the maxim that 'though I do not agree with what you say, I defend to the death your right to say it'.

Unfortunately, some of the anti-repeater factions seem to have overlooked this premise, or have warped it somewhat, until it goes: 'I do not agree with what you say, and defend to your death my right to overrule you'. Or similar.

In the best traditions of all pressure groups, some elements of the anti-repeater faction have become anti-repeater fanatics, to the point where they have distorted their right of free speech into a right of free speech at the expense of anybody foolish enough to hold an opposite, or even slightly different, point of view.

Let us not overlook the fact that they believe strongly in the justice of their cause. Let us not overlook either the fact that they are doing all the wrong things for all the right reasons, and that in a true democracy the end can never be allowed to justify the means, nor the means justify the end. To hold such beliefs is to lower the voice of your cause to a level which has previously only been plumbed by people who may only be accurately described as political criminals. Napoleon and Hitler are prime examples of this.

And if you think all this is getting very heavy by comparison to the nature of what disinterested parties might regard as a trivial argument, then be advised that it is not so. Some of the tactics used by the anti-repeater groups are not far removed from other pressure groups, both past and present.

It began, it seems, with the jamming on the London repeater. Open-key transmission for hours on end successfully prevents anyone using the band for its intended purpose. High-powered (and thus illegal) transmitters were employed for this. Then this reasonably simple, understandable and very nearly justifiable habit became diversified and escalated. This was partly through the frustrations of serious repeater-haters who, having met with little success, stepped up their campaign, and partly because the naughty and anarchistic element involved in jamming attracted others into the field. Others who regarded jamming as something of a sport, perhaps, and who honestly didn't give a toss about repeaters one way or another.

Jamming, by now, was going on 24 hours a day on an extremely large scale. Into the armoury came continuous interference. It is simple to set up a transmitter which constantly broadcasts a buzz or a high-pitched whistle without the need for an operator to stand over it; you can switch it on and leave it, go to work, watch the telly, go to the pub, whatever you like. And all the time you can be keeping a fraction of the band-width (or a lot of it) totally unusable.

Next came the animals. Perhaps not capable of building a set which could do that, they resorted to continuous music transmission, they interrupted people on the air with insults, obscenities and simple childish stupidity. The first sign of someone trying to use the band for its original purpose was enough to spark off a wave of infantile abuse and imagined humour. To someone irresponsible enough the attractions of the situation are apparent enough — you can spend your idle moments winding up and infuriating all sorts of people you'll never meet, simply for the pleasure of hearing them gradually lose their temper and give up in disgust.

Listen to it all today. It's just a bunch of idiots who think they're jokers. It's no wonder the Home Office is afraid of CB — look what happened to the amateur band when the black box arrived. The situation is now totally out of hand, completely uncontrollable, and has reduced to a farce a service which began with the best of intentions and certainly a very serious purpose.

It is apparent that the original purpose of the jammers is now completely forgotten also. The animals on the amateur band are now into anarchy and subversion (and that's definitely not too strong a word) for it's own sake, and not for any serious purpose whatever.

With some exceptions. There are still some people who are trying to use the repeater for its original purpose, still trying to behave responsibly and still trying to get the pleasure out of the amateur frequencies which first attracted them to it. But, they're being thwarted every step of the way.

There are still also some of the very original anti-repeater groups trying to establish their prime objective — the abolition of the repeaters. Perhaps it is they who are really dragging amateur radio down into the depths, perhaps it is just the jokers who are taking their jokes too far. Whatever, stories of beatings, of cars vandalised, of petrol bombs and even gun-toting individuals (yes, really) have too much currency to be dismissed as fanatical exaggeration.

In the light of all this, who can blame the government, any government, if they are wary of introducing yet another service of similar ilk?

To be fair, it must be said that there are still plenty of people on amateur radio who go about their hobby as usual. They work their maximum 400watts (which is good enough for world-wide communications in the right conditions) as ever; they involve themselves in their competitions (winner is the one with the largest number of confirmed contacts in a given period, or the furthest-distant contact)

and their field days at weekends like the normal, respectable people that they are.

Meanwhile, on the repeaters, the strife goes on. It would be unthinkable if a similar situation was to occur once CB is made legal — imagine it on channel 9, if that were the one designated as the emergency channel in Britain. Bearing all this in mind, Home Office arguments that the need for extra staff to control a CB network take on a more than fair degree of reality — they can't control the service they've got, so they'd stand no chance if another was added to the mess.

Fortunately the people pushing for CB generally speaking have some sort of social conscience rather than just being straightforward radio enthusiasts, so it would appear unlikely that feelings about the nature of the service would ever run to those heights. But let's be honest, there's already a split of sorts between advocates of a VHF facility, and those who want to stay with 27MHz.

It would be a tragedy of enormous proportions if differences of opinion of that sort were allowed to cloud the issue in any way, perhaps to the point where they either prevented the introduction of CB or made a mockery of it once it was established.

And if that sounds like a plea for some sort of unity, you're right. That's exactly what it is. Our priorities must be clear, must be agreed and must be universally accepted.

William Whitelaw saying that the government 'favours' the introduction of CB is not a commitment. Out first task must be to get from him or his successor (God forbid we have to wait that long) a firm promise on CB.

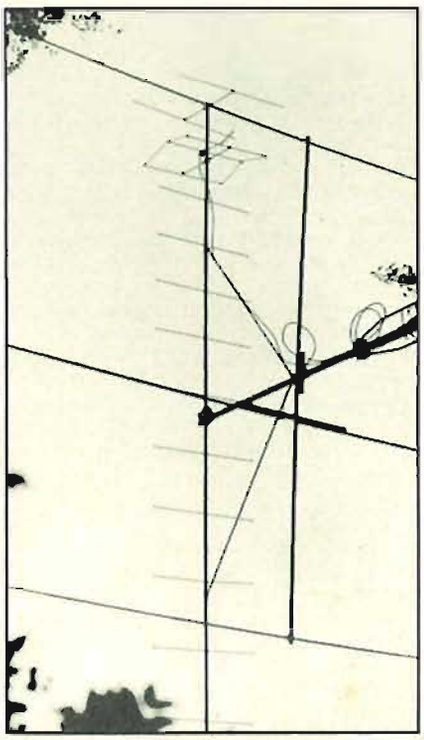
Our second priority must, then, be to get the best service available.

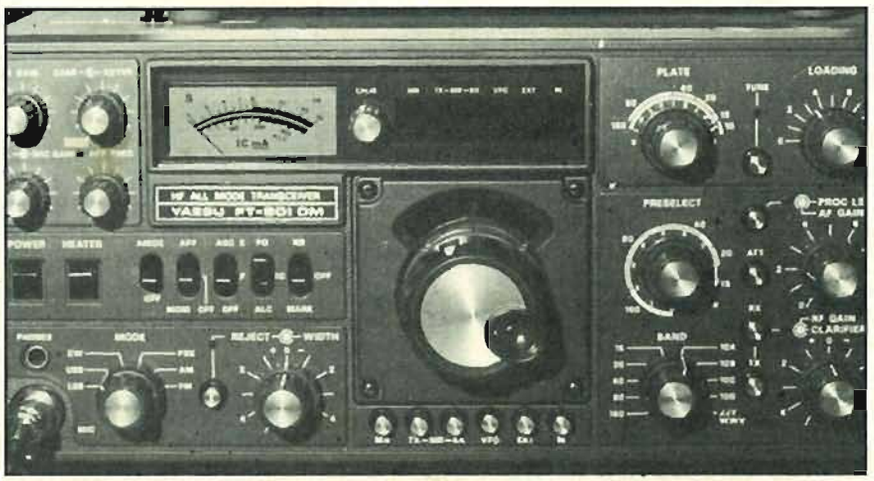
It's no good saying that 27MHz is best because it's easiest, or because everyone else has it. The only basis for the adoption of any frequency has to be that it is the best frequency for the needs and purposes of those who will be using it. And, as a point of interest, your attention is now directed to page 33, where you will discover that, although 27MHz is currently the nearest thing we have to a world standard for CB, it is a situation which is unlikely to continue.

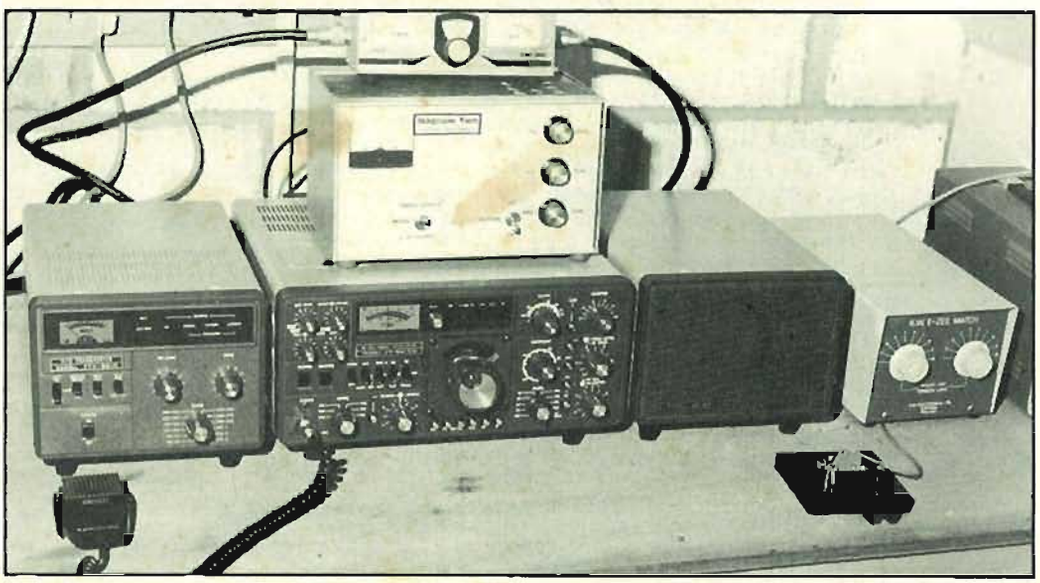
Although the CBA and others are pushing for a 232-ish CB band, it is probable that they will be disappointed also, even though they have suggested 232 on the basis that it meets what would seem to be the basic requirements of a CB facility — available, VHF, suitable for FM, technically and therefore financially feasible and, as it is an innovation, a frequency which will give British industry at least an equal chance against the yellow menace and more Japanese black boxes.

You are also commended to page 54 of this magazine. There are any number of clubs and organsations all over the country, whose purposes are to promote interest in CB, ensure its rapid introduction, and to bring together all kinds of people of like mind.

While there may be a need for some amount of anonymity, we believe that if we can bring such groups together then from understanding will come unity, and the much louder voice of large numbers of people in favour of CB. **RN**







Tuning scale

Mention CB to any group of radio control modellers and you'll be certain to start an energetic, if not antagonistic, conversation.

The majority will invariably be against CB, but around 20 per cent will be in favour, and you'll be hard put to find any 'don't knows'.

Of those who are against CB, many will at some time have suffered the effects of radio interference, with the possible resulting model loss, and will be adamant that it was due to some cowboy illegally using a walkie talkie on *his* 27MHz band. In fact it has only been over the past few years that, with the improved reliability of radio control equipment, and the increased detail kitting of models, the full effects of radio interference on 27MHz can be estimated. Although many a pilot error has been attributed to interference, there is an increasing incidence of confirmed occurrences.

This period has also seen the explosive growth of illegal CB operation in the UK and inevitably the two have been rightly or wrongly linked. Several model flying clubs in the Home Counties have reported having to abandon sessions due to persistent interference throughout the 27MHz band, much of which has been proved by the use of frequency monitors to be as a result of illegal CB operation.

Indeed, the personal frequency monitor is fast becoming a necessity rather than a gimmick to the radio-modellers. Their use has proved that there must already be several thousand active CB operators, mainly centred in the big cities, and one fears that the numbers have overtaken much hope for proper regulation. The modellers consider this an unacceptable intrusion into the heavily used 27MHz band, already occupied legally by some seventy-five thousand radio control licensees, and increasing at over a thousand a month. In the USA, Germany and some other European countries, this intrusion has made model flying impossible on 27MHz, and in some cases illegal.

To appreciate the effect interference can have on a flying model, you should know that a not unusal model can cost over £150, weigh over 10lbs, be powered by at least one one-and-a-half brake horse power motor rotating a nine inch propeller at over 12 000 rpm, causing the model to travel at over 90mph in level flight. If you combine these figures with one CB operator, a flick of a switch can convert a valuable model into a lethal missile, capable of penetrating a car roof. A recent branch of the radio control model hobby makes even that example look tame; the newer quarter-scale models are so heavy and large they are classed as full-size aeroplanes requiring a certificate of airworthiness and clearance to fly in a particular area.

It is at demonstrations and contests where models are shown off at high speed and as close as 30 feet from a large crowd that one becomes really aware of the dangers. At the Sandown Model Symposium recently it was possible to see, on equipment in the frequency control hut, interference which occasionally made parts of the band unusable. Anyone actually caught using 27MHz CB in that crowd would have been lynched on the spot.

The advice given to modellers suspecting interference from CB transmissions, or any other source, is to check their equipment for normal operation and then report it in detail to their area PO Telephone Manager's office. There are few modellers who would hesitate to do this, and several have been responsible for recent prosecutions.

But what of the increasing minority of radio-modellers who are in favour of CB? Being an active member of the CBA and a radio-modeller (whose membership of the Society of Model Aeronautical Engineers has lapsed) I count myself among this number who see CB as not so much a menace to be tolerated, but more as a possibly useful hobby aid. A legislated CB facility would be invaluable to marshals at large demonstrations, or at competitions and events such as pylon racing and cross-country soaring. It could even help relieve the frequency congestion that often occurs at large sites such as aerodromes, currently reducing the number of modellers that can operate simultaneously.

The well informed modellers advocate the use of a VHF band for CB, and the CBA suggest 40 channels somewhere between 230 and 232MHz. This would


I SAY, OLD BOY... MOST FRIGHTFULLY SORRY AND ALL THAT... SEEMED TO LOSE CONTROL ALL OF A SUDDEN, WHAT.
JAVIUZ
KREECE

be well away from other mobile users such as British radio amateurs, and the equipment could be inexpensive, easily designed, and with compact, efficient aerials. This band, allocated to the Ministry of Defence, is large (only one fifth of it being required for an effective CB) and hasn't been used for many years.

There are several advantages in using a VHF band (see page 33) whereas at 27MHz, due to skip, signal range can be thousands of miles, thus preventing other communications over a very wide area.

However, the use of VHF for a future CB in the UK is by no means the complete solution to everyone's problems. While it would provide a very effective CB, it would still leave the modellers out in the cold. A legislated VHF CB service would undoubtedly cause an *increase* in the illegal use of 27MHz for CB. Commercial enterprise will inevitably dump excess stocks of 27MHz equipment on to the market with the well-known and ambiguous 'Not licensable in the UK' stickers. Indeed, it is rumoured that large stocks of imported equipment already exist, the presence of which is, in itself, perhaps not illegal. Even if it were possible to remove all 27MHz CB usage in the UK, the radio-modeller would still face problems which may in themselves make the use of this band impossible in the foreseeable future. There are two main reasons for this, one related to the existing allocation of the band, and the other to its nature.

The 27MHz band is particularly ill-suited to modern radio-control because it is what is known as a 'free radiation' band for some industrial equipment, and other users are warned they get no protection. Indeed, it is a condition of the licence that it is granted only without protection from other users. This warning is relevant when the factory, employing some plastic welding process, next to your flying field is radiating kilowatts of 27MHz with poor frequency stability right in the middle of the model control band. There are other high power users too, radio paging being one where hundreds of watts are intentionally radiated for several minutes at a time, on spots throughout the band shared out by the PO. It pays to know the allocations in your area and avoid these spots, although it's more difficult when you're in an unfamiliar area, as monitoring the sporadic bursts of radiation is almost impossible.

The nature of the 27MHz band gives rise to the effect known as skip. This allows frequencies up to about 30MHz to be reflected from the ionosphere. The ionization is primarily due to ultraviolet sunlight, which in turn depends on the amount of sunspot activity. We are now in sunspot cycle 21, which promises to be the largest activity ever recorded, so we can expect increased interference on the 27MHz band for the next couple of years. In recent weeks I've heard Italian voice and music transmissions on a monitor close to my flying field, and others have heard CB originating from the east coast of America.

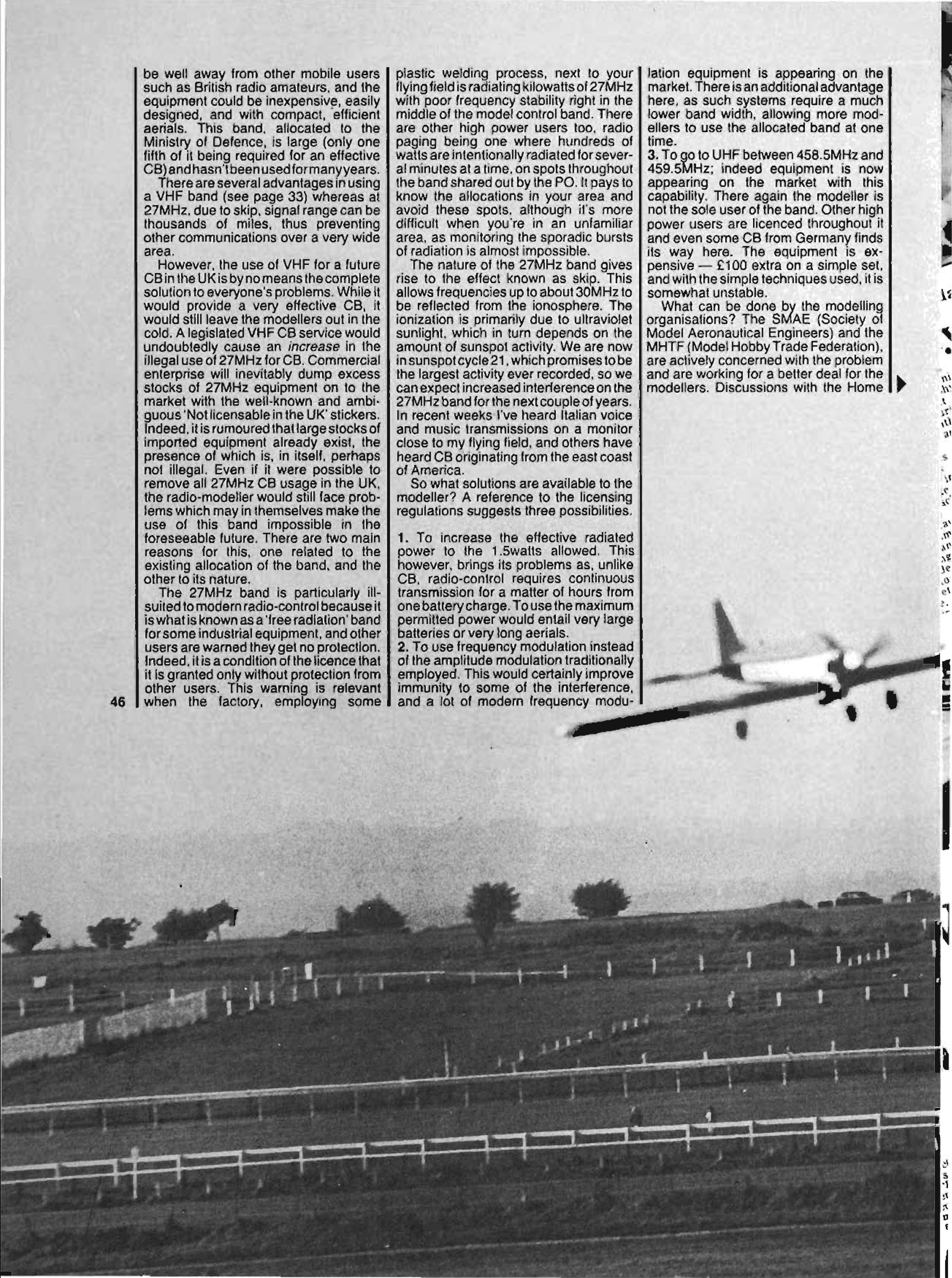
So what solutions are available to the modeller? A reference to the licensing regulations suggests three possibilities.

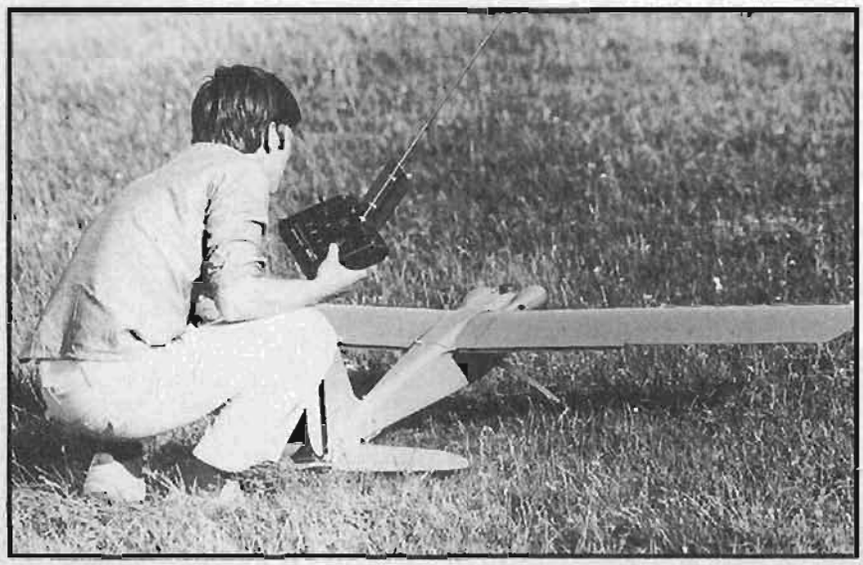
1. To increase the effective radiated power to the 1.5watts allowed. This however, brings its problems as, unlike CB, radio-control requires continuous transmission for a matter of hours from one battery charge. To use the maximum permitted power would entail very large batteries or very long aerials.

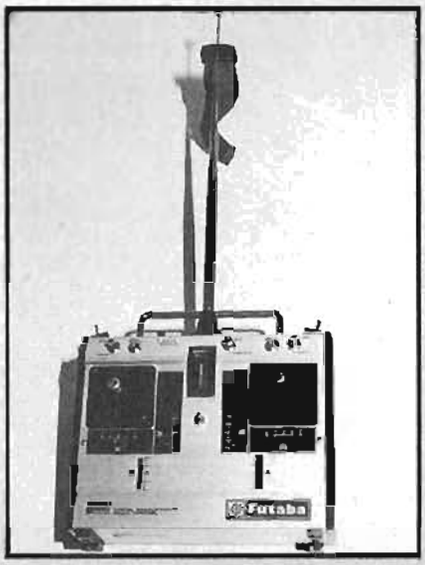
2. To use frequency modulation instead of the amplitude modulation traditionally employed. This would certainly improve immunity to some of the interference, and a lot of modern frequency modulation equipment is appearing on the market. There is an additional advantage here, as such systems require a much lower band width, allowing more modellers to use the allocated band at one time.

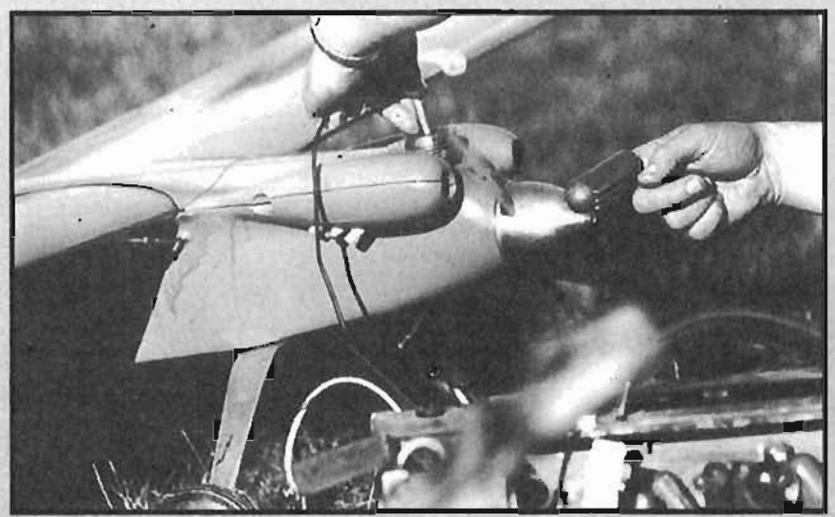
3. To go to UHF between 458.5MHz and 459.5MHz; indeed equipment is now appearing on the market with this capability. There again the modeller is not the sole user of the band. Other high power users are licenced throughout it and even some CB from Germany finds its way here. The equipment is expensive — £100 extra on a simple set, and with the simple techniques used, it is somewhat unstable.

What can be done by the modelling organisations? The SMAE (Society of Model Aeronautical Engineers) and the MHTF (Model Hobby Trade Federation), are actively concerned with the problem and are working for a better deal for the modellers. Discussions with the Home









Tuning scale

Office have shown that at 27MHz there is no chance of getting any improvement over the current situation.

There are only two frequency bands available to modellers in the UK, so the SMAE are pressing for more. The two favourites under consideration are bands at 35 and 72MHz, both being available in most of Europe and America. One of these allocations would thus help with the increased emphasis on international travel, competitions and equipment export. On simple technical grounds, the choice of 35MHz is most appropriate as it is an easy matter to redesign or adapt existing 27MHz equipment. It is interesting to relate that, possibly through the effects of people illegally using the 27MHz band, some modellers are already using 35MHz equipment (legally intended for export) in the UK.

So far, the Home Office have not offered any other band to the modellers or to UK CB operators, but they have made a suggestion which would give modellers exclusive use of the middle third of the current UHF band, and ensure that only other low-powered users were allowed to use the lower third. The upper third would be open to high power users and so unusable by modellers.

This would be a big step forward if the Home Office was also willing to distinguish between model flyers and other model-control users in order to grant licences and frequencies, but they aren't. This is not so in other countries such as West Germany, where the authorities realise the different characteristics of model flying and the control of boats, cars etc which have a much reduced chance of external interference affecting them. More important, the consequences of interference are not so potentially dangerous.

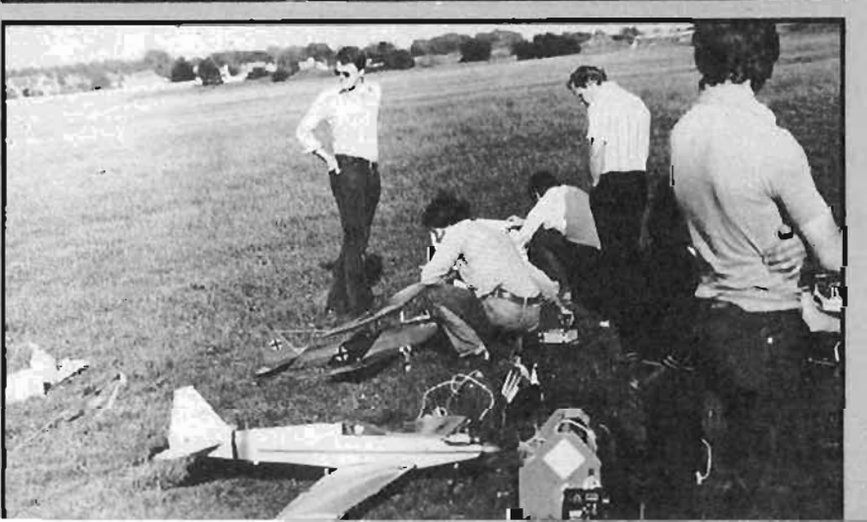
Following at least one fatal accident involving a model aeroplane and legal CB operation, the West German authorities have imposed restrictions on the use of the 27MHz band, effectively prohibiting model flying on it. Incidentally, for the same reasons which make 27MHz unsuitable for modern radio-control, the West Germans have found the use of CB on it difficult as well, and have successfully campaigned for a UHF band.

So, to sum up a rather confusing picture of interactive and sometimes contradictory requirements, a good solution to all concerned would be to allocate a VHF band for UK CB usage, and to offer the modellers at least one new and ideally exclusive band consistent with current international practice.

It is my opinion, and that of many others, that CB will happen in the UK whether on 27MHz or some other frequency, and we must ensure as good a deal for all concerned as is possible. One way to aid this is to convince the authorities that there is a large percentage of the population who are concerned about it, so it is in all our interests to ensure a large membership of such campaigning organisations as the SMAE and the CBA. By these means, perhaps we can reduce the number of occurrences of a thousand hours of work and a couple of hundred pounds flying off into the sunset.

Brian Reed

Tuning scale



RAG TRADE

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One million years CB

well, perhaps not that long, but how about the next ten years..?

Class D CB was legally introduced in the United States in 1958, ten years after the advent of the transistor. If you'd asked anyone then how they saw the future of CB, it's a safe bet their answers would have been wrong. The astronomic flood of electronics technology of the past few years is something which could not really have been forseen, and although we are more ready to believe that future developments will not only be forthcoming, but be larger and more rapid than 20 years ago, past history makes predicting the future a risky business.

But we can at least follow the progress of CB thus far, and perhaps look at new technology which is already on the streets, or just around the corner.

First of all you must realise that CB, like hi-fi or any other kind of gadgetry, has a very strong element of technical snobbery connected with it. This begins with the true demon perfectionists. You've probably met a hi-fi freak already; they're the ones who can't accept a hi-fi system which doesn't have banks of dials and controls stacked three feet high and is incapable of reproducing the sound of an LSO violinist sneezing during the final bars of 1812. To Mr Average (and if you're a manufacturer, that means nearly everybody) the sneeze isn't important. Nor is it critical to understand, use or even need all the controls. But you've got to have them. They *look* impressive. The maxim is, 'if you've got it, flaunt it'. And if you haven't got it — it doesn't matter as long as it looks as though you have.

This phenomenon applies equally to CB. There was a period — perhaps at its height three or four years ago — when electronic development was at a stage which permitted all kinds of refinements to be incorporated in small mobile rigs. In theory, all you need on a rig are a few basic controls like an on/off/volume, squelch and channel select. Dead simple, but it works. Much more impressive though, if there's a power meter built in. Also a noise limiter (ANL), noise blanker, fine tune control (delta tune or clarifier), RF gain, distance/local switch, mic gain and even tone control.

Modern techniques mean that many of these controls can be dispensed with on the rig fascia and built in to operate automatically. The use of integrated circuitry has reduced the components of some parts of the rig by as much as 50 per cent, making them easier to build and operate, and also cheaper. Microchips have made it possible for newer rigs to check automatically their own standing wave radio (SWR) every time the transmit button is pressed, and cut off if the figure is too high. This warns the operator, via a message on the LED readout, which also serves as the channel indicator in place of the old mechanical dial.

Several manufacturers, Motorola for example, have adopted the 'clean' approach, and put everything they can inside the rig, operating automatically, and leaving only the minimum number of control functions to the operator. However sensible and functional this might at first appear, sales figures indicate that the public likes its knobs and dials up front — the technical snobbery at work. As more and more of the third-generation rigs arrive on the market, the controls for their extra functions, instead of replacing those which could be automatic, are being squeezed in alongside them.

Selective and priority channel monitoring are two convenience features which are becoming more and more popular. Priority monitoring is just that. Choose a channel — say emergency channel 9 — and instruct the rig to monitor it constantly, even though the operator may actually be working a separate channel all day long, and as soon as any activity is detected on 9 the rig will let you know. The Superscope Aircommand will beep and flash at you when 9 (or any one of the 40 available channels selected) gets busy. The Motorola MoCat employs a separate squelch control for the priority channel and will override whatever else you're doing when audio from that channel exceeds its squelch level. Clever stuff.

Selective (or memory scan) monitoring is more complex, offering greater power in a variety of ways. The Hy-gain system will, when instructed, store your favourite channel in its memory, together with volume, squelch and noise blank settings, bringing it all back at the touch of a button or audio on channel. Sparkomatic allows autoscan of all incoming traffic so you can always find a channel with some action, plus memory scan of up to five pre-selected channels. Sharp have introduced memory recall, going straight to the last channel used when the rig is turned on. Other rigs have a built-in LED or LCD clock with 12 or 24 hour time display (plus AM and PM indicator if appropriate), some of which incorporate a timer that automatically switches on the set at a predetermined time.

It's getting complicated, isn't it?

To the best of our knowledge, though, top honours go to Texas Instruments and their microprocessor, keyboard operated, SM 172 and 173 mobile and base units. This little demon does everything except make the tea, and it's not far short of that, either.

Sadly it seems that this particular piece of wizardry is no longer available; a phone call to TI at Dallas in search of more information and pictures revealed that they no longer make that sort of thing. Pity, really, because it was truly ace, not to mention an indication of exactly what the future could hold. Consider some of its features.

Very similar in appearance to the calculators for which TI are justifiably famous, and very similar in operation also, it incorporates such wizardry as a charge coupled device (CCD) filter first developed by Fairchild and now in wide use as a component in computerised airborne radar targeting systems.

The TI mobile unit (we'll ignore base installations at the moment, for obvious reasons) is hand-held, a bit like a number of newer rigs which are all controlled by knobs on the mike unit. But only a bit. The big jump for Texas is the use of a microprocessor in the handset which communicates with another one in the transceiver (which can be mounted anywhere clean and dry) at the press of a button. Remote control — no fiddling.

The unit has so many features it's difficult to know where to start, but let's try the handset.

Looks like a calculator, same size, shape and weight. Has all the usual controls, plus loads of unusual ones, operated by 20 pushbuttons, and tells the operator what it's up to via a five-digit LED readout. The usual 'push-to-talk' bar is on the right-hand side of the unit, while volume and squelch are adjusted in incremental steps up or down by two rocker switches above the pushbuttons. Oh, there's also a microphone in there somewhere.

The pushbuttons are the things that make all manner of wonderful tricks possible. The operator can select AM on either sideband (the current operating mode being indicated on the LED display) and then pick a channel in the normal fashion on the 0 - 9 numbered pads. While on sideband the all-

important fine tuning is automatic when talking with another TI unit, but manual tune via yet another pushbutton may be accomplished when talking with anyone not so lucky as to have one of these devices.

SWR is monitored automatically every time the transmit button is pressed. The transmitter is disconnected if the figure is above the danger level, thus preventing damage to the unit because of antenna mismatch or a fault in the feedline. If this happens the unit will alert the operator by flashing AAA AA up on the LED. In addition, SWR may be checked at any time simply by pressing the button marked SWR, the relevant figure being promptly displayed on the LED.

Once you've found someone to talk to on the local calling channel, TI have taken the guesswork out of finding a clear channel to go to for your chat. Simply press the pad marked CC and hold it down. The unit will scan for you until it finds a clear channel and the LED will light up with the answer. Release the CC pad and the unit returns to the channel you were using so you can inform the other breaker which channel you're off to.

If you want a busy channel — because you're lonely, nosy or need some help — just press the BC pad and the unit will scan for activity, display its location on the LED and then switch automatically to that channel.

If you think all that's clever, wait for the rest of it. Selective calling is what we have here, with up to five preset codes programmed into the unit memory. These five codes represent your five favourite breakers, all of whom will also need an SM 172 or 173.

Any operator selects a random five-figure number (and there are up to 100 000 combinations to choose from), together with mode and channel number — let's, for example, say UB 16 08642 — and enters it into the unit. That code then becomes his private number, as it were. He may then switch into 'selective' mode on channel 16, upper sideband, and monitor it constantly without hearing a dicky bird. Until someone he knows and doesn't mind chatting to decides to call him. This other someone will bash out the code number (which he'll need to know in advance) or, if he's entered that particular code into his unit memory as one of his favourite five, presses only one key. On receipt of the correct code, the unit being called automatically opens its squelch and the call connects.

You only need to be bothered by calls you actually want — any other activity on the channel you monitor will be ignored by the microprocessor in your unit.

And if that sounds very much like a version of telephone direct dialling — don't worry. That's exactly what it is.

Apart from the very practical advantages of being accessible on the air at the press of a button by a selected group of people, there's a very good reason for the TI development of this system.

In 1978 an American organisation, the International Resource Development Corporation, produced a fascinating report which mentioned CB and the telephone service in the same breath.

First, remember that telephones are activated by a digital code.

Second, recall that remote-operated phones — with a range of up to two miles from the land-line connected base station — are already a reality, available in the UK for about £300, but almost certainly getting cheaper as time goes on.

Third, you'll doubtless be thrilled breathless to know that telephone 'patches' for mobile CB users, via a cooperative base station, are already working in the States. Call someone at home and, if he's in the car with the rig on, and his base station has the necessary equipment (simple and reasonably priced), you can be quickly patched through. The system obviously works in reverse as well. Put the phone patch and the remote phone unit together, and you'll realise that it's possible to have a conversation, via landline and airwaves, with someone even though you may be in your car and your contact in the bar of his local pub. No more wasted calls, no more 'sorry, he's not in just now, can you call back after closing time'. Sound like a communications Utopia? It's coming.

The IRDC report predicted that the phone service and the CB network will eventually merge, so that by 1985 the public will be able to use cordless phones as CB base stations as well as for calls over the ordinary landline network. Recipients of such calls would only need a conventional or cordless phone, a mobile CB, or a portable or even 'wristwatch-type' CB transceiver. Beam me aboard, Scotty.

All this sci-fi stuff is actually very close at hand, especially if you consider the technical advances of the past ten years. We already accept as normal things which were unbelievable in 1975, never mind 1955. And as added fuel to your sweaty imaginations, consider this.

Most people are already aware that the CB lobby in Britain has long been pressing for a high-quality service of the VHF FM type (even to the point where the CBA said they'd prefer no CB to a skip-riddled 27MHz facility in world-wide use) which would make the tie up with telephone networks much more acceptable and feasible.

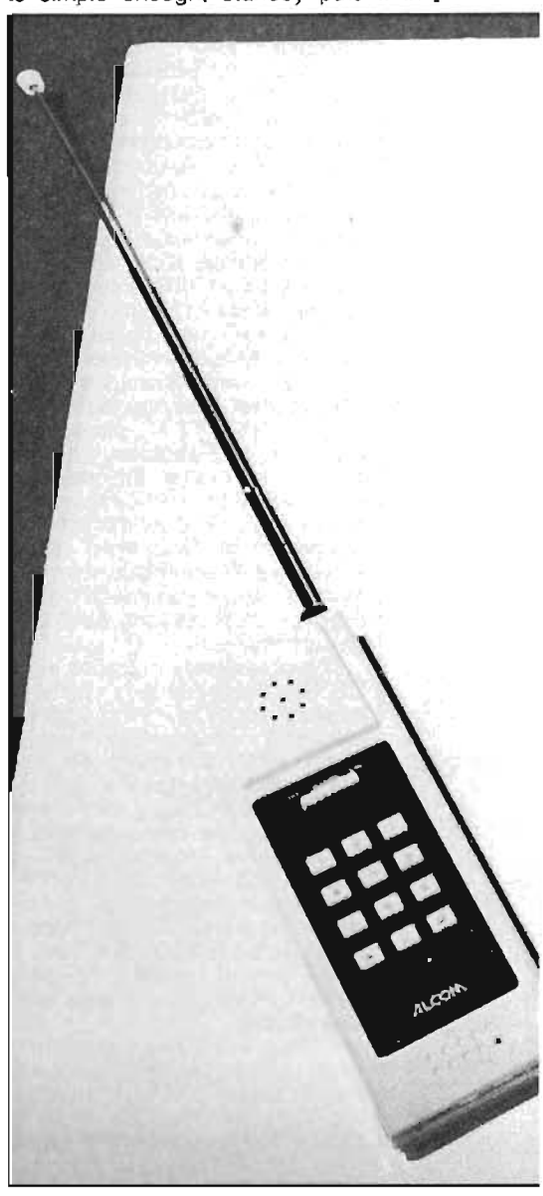
However, not so many are aware that the 27MHz frequency was only introduced in America because of the existing technical difficulties with transistors in the '50s, and that the original facility was introduced as long ago as 1948, under the heading of General Mobile Radio Service (GMRS) on the UHF (I) frequency of 467MHz, using the repeater system which has gained such violent disfavour among British Ham Radio operators. Despite the hatred the repeaters inspire in some quarters, the benefits of range they offer make long-distance communications from a mobile unit a very practical reality, while the FM signal they produce is 'clean' and technically superior to the AM signal of 27MHz Class D CB.

The existence of GMRS, coupled with the fairly recent growth of interest in the facility, goes another step towards the predicted radio/telephone merger of the future. Indeed, the apparently restrictive licence conditions, which give GMRS users only shared use of a single channel, are well suited to the operation of selective call units like the TI SM 172.

In fact, there's not much visible difference between the hand-held CB portables (and even a few handset controlled mobile rigs) and the cordless phone.

The Alcom set, pictured here, sells for around £150 in this country. It is widely available, although it is, like some of the aftermarket telephones sold in department stores, not approved by the Post Office. In fact its legality is in some doubt, especially since the only way to make a cordless telephone actually work is by means of a radio transmitter. Which must, of course, have a licence. The Post Office don't like anything connected to their phone service which has not been manufactured under licence and sold or rented by them because, they say, of the possibility that spurious equipment might result in damage to their installations and services. Recent government statements lead us to believe that the present PO monopoly is about to be dismantled, however, with the possibility that cordless phones like the Alcom could well become entirely legal.

The benefits of such a device are fairly straightforward. After a simple two-wire connection to the telephone and quick three-pin plug in to a handy mains socket, the device is ready to go. It's a two part package, consisting of a base unit, which does all the tricky stuff, including recharging the handset. This latter has three modes — off, standby and talk. Off is simple enough, standby puts it in



readiness for a call which it will signal by bleeping, and talk is self explanatory. The pushbutton dial is similar to existing Post Office pushbutton phones, and operates faster than existing exchange equipment, which means that the dialling clicks on the line go on long after you've finished pressing buttons. Once the call is connected you can swan about the house, the garden, wherever, anywhere that isn't more than about half a mile away, in fact.

It's not possible that the advantages of a phone like this one need further explanation — anyone with a tiny bit of savvy can work it out with no trouble whatever. While the cordless phone is being carried about by one person incoming or outgoing calls can be made from the normal telephone, and dialling a single digit (1 or 4, usually) will bleep the cordless job during a call, thus telling its holder that the call is for him or her, a bit like an ordinary extension.

So, with International direct-call calls from your car a realisable proposition, local weather, traffic and incident repeater stations passing information on to motorway traffic automatically as it passes by (it has to come; we have the technology . . .) and heaps more just around the corner, CB is most definitely not at the end of the road, but the beginning. **BN**

One million years CB

AIRWAVES

This is one of the hardest parts of the whole magazine. First problem has to be the lack of any kind of reliable information on club addresses — some people are just naturally reticent and shy, it seems — plus the ever-changing nature of clubs in general. Soon as you've got them anywhere near sorted out they change their secretary, meet on a different night or fall out with the landlord and go to a different pub. Not unusually, they fall out with each other and stop going anywhere at all.

Various publications do their very best to keep track of all this, and we've heard from one gentleman who's doing his best to compile an accurate and up-to-date list of all the CB-related clubs in the whole world. He'll probably end up in the laughing academy before he's finished the millionth amendment.

In the meantime, however, we thought we'd start our own ball rolling, in a modest unassuming sort of way. It is, unfortunately, a brief list; it is a beginning though, and represents a fairly wide geographical spread. At least they're not all in London, which we know by experience can be upsetting to some.

At the very worst it's an indication that there is a strong depth of feeling in many parts of the country. Most people should find there's someone not too far away who shares an enthusiasm for CB and who is actively campaigning for its legalisation; someone to whom, perhaps, you could give some help . . . .

The CBA, who are perhaps the largest and best-organised of all, can be found either at their main address — 16 Church Road, St Marks, Cheltenham, Gloucester, or at their various area headquarters around the country. CBA Scotland, 10 Manse Road, Stonehouse, Lanarks; CBA (SW), 7 Wookey Hole Road, Wells, Somerset; CBA Liverpool, 11 Hollytree Road, Wookton, Liverpool 25 and CBA Glasgow at 3 Erskine Road, Whitecraigs, Glasgow G46 6TQ.

The following is a list of other clubs, associations and groups, in no particular order whatsoever:

REACT (UK)
28 The Coots
Stockwood
Bristol BS14 8LH

The Free Broadcast Movement
BCM
Box 8033
London WC1V 6XX

CBGB
CB House
Crosby
Liverpool

Harrow and Wembley CB
1st and 3rd Wednesday of every month at the Queens Arms, junction of Palmerston Road and High Road, Harrow

10-4 Club
85 Essex Road
Walthamstow
London E17

UKCBC
32 Downbank Avenue
Barnehurst
Kent DA7 6RP
(Also the same address for the National Committee for the Legalisation of CB)

Bandstand
Flagstones
West Heath Lane
Sevenoaks

West London Breakers
meet at the Steam Packet by Kew Bridge

Preston CBC
29 Russell Avenue
Preston
Lancs

Lagan Valley CB Club
Poste Restante
GPO
Lisburn
N Ireland

Leicestershire CB'ers
c/o Modern Motoring
68 Narborough Rd
Leicester LE3 0BR

Don Valley Breakers
15 Roseberry Avenue
Hatfield
Doncaster

CB Radio Action Group
55 Dartmouth Rd
Forest Hill
London SE 23

Breaker One Four Club
c/o OK Corral
Napier Barracks
BFPO 20
West Germany

Midlands CB Radio Club
1163 Yardley Wood Rd
Birmingham B14 4LE

Cheltenham Breakers
The Crown and Cushion
Bath Rd
Cheltenham

National Committee for the Legalisation of 27MHz CB Radio
47b Stoneygate Rd
Narborough
Leicester

Weymouth CBC
Flat 1
39 St Thomas St
Weymouth
Dorset

Steel City CBC
282 Eccleshall Rd
Sheffield S11 8PE

UBA (Essex)
24 Brypny Close
Witham
Essex

Anglia Breakers Club
c/o Great White Horse Hotel
Tavern Street
Ipswich
Suffolk

CBCB Club
103 Southwood Rd
Downside
Dunstable
Beds

CB — NE
PO Box 61
Sunderland SR3 1EZ

GBA
Coronation Service Station
Middleton Rd
Heywood
Lancs

United Breakers Association
50 Gaskell St
Clapham
London SW4

UBA (NE)
53 Mayfield Avenue
Lancaster

LISTENING POST

So what's it all about, this CB nonsense? Who are all these people dashing about with radio sets in their cars? And what do they have to say to each other that's so important?

Wouldn't you like to know, eh?

Well now you can. The magic box shown in the picture connects to your car radio set in seconds — anyone who can see as far as 12 inches can follow the diagram on the box it comes in and wire it up in a trice.

Connected, but switched off, it does nothing. Switched on, it overrides Radio Neasden or whatever, and receives signals between about 25 and 35MHz. Using the tuner on your radio tunes it as normal, but your tuning dial is now 10MHz wide, if you follow. Somewhere in there is channel 14, or channel 19. You can even pre-set, once you've found it the first time, and just press a button.

Dead simple. And since it is entirely legal you can find out all you ever wanted to know about what goes on when the air gets busy without breaking the law. All for a few bob.

And, to show you how much we care, try this for a tip. To work effectively a CB antenna ought to be the same length as the signals it receives which, if we're talking about 27MHz, is slightly more than 108 inches. And if it isn't possible to have it full length, then it should be shorter in mathematical proportion in order to get the best reception.

If you buy a CB converter it will use your ordinary car aerial, but work best with an antenna nine feet high. Your car aerial won't be. But if you measured your aerial and retracted it to 27 inches, it would be a quarter-wave antenna and work nearly as well as if it was nine feet high and a lot better than if it had been 31 inches, or 35, or something. See?

Now clip out the coupon and send it to: Big Ears Telecommunications Ltd, 47b, Stoneygate Road, Leicester, together with a cheque or Postal Order for £15, which includes VAT and post and packaging.

Complete this coupon please, and post to:
Big Ears Telecommunications Ltd, 47b Stoneygate Road, Leicester

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and my address is .....

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I enclose a cheque/PO for £..... which, at £15 each, means I will expect..... of them to arrive within 21 days

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LISTENING POST

REACT Serves you on Citizens Radio Emergency Channel 9

The U.S. Federal Communications Commission and the Canadian Dept. of Communications have reserved Channel 9 for emergency messages and motorists assistance. Your neighbors who are members of the local REACT team are volunteer Channel 9 monitors. They strive to improve traffic safety by using Citizens Radio Channel 9 to:

- Report Accidents • Summon medical aid faster
- Keep traffic moving • Report road conditions
- Give road directions • Avoid being lost

REACT Objectives:

1. To assist in all forms of local emergencies by furnishing instant radio telephone communications in cooperation with proper authorities and official agencies
2. To maintain and encourage operating efficiency through proper communication techniques
3. To operate and maintain equipment at peak efficiency and in accordance with F.C.C. regulations.
4. To promote the proper and effective use of the official CB Emergency Channel 9

All users of Citizens Two
requested to cooperate tow
of the Official Emergency
cessful emergency networ
to the value of your radi
can help!

1. Confine communications
gencies and motorists ass
with FCC regulations.
2. Allow qualified monitors
calls first. If no REACT
ized monitor responds
individual.
3. If you are interested in
ice movement, contact
there is no team in
REACT National Headq
how to form a team.

Our objective is to e
cient coverage so th
monitor at any time,
ance on Channel 9.

REAC
111 E

The very vogue-ish habit of ascribing organisations a set of initials rather than using their full names can often give rise to confusion and seldom works as well as it could do.

Choices fall into the practical category — reduce your organisation's name to initials and to hell with whether they're memorable or form a snappy new name (a brevonym) — of they fall into the engineered category — first work out your brevonym, second, think of a title which corresponds with the initials you've chosen.

Neither category is particularly satisfactory, although both are common. The Radio Emergency Associated Citizens Teams (REACT) organistion belongs in the second category without doubt, but their brevonym is so singularly descriptive and apposite that they must be forgiven for the clumsy contrivance which serves as their full and official title.

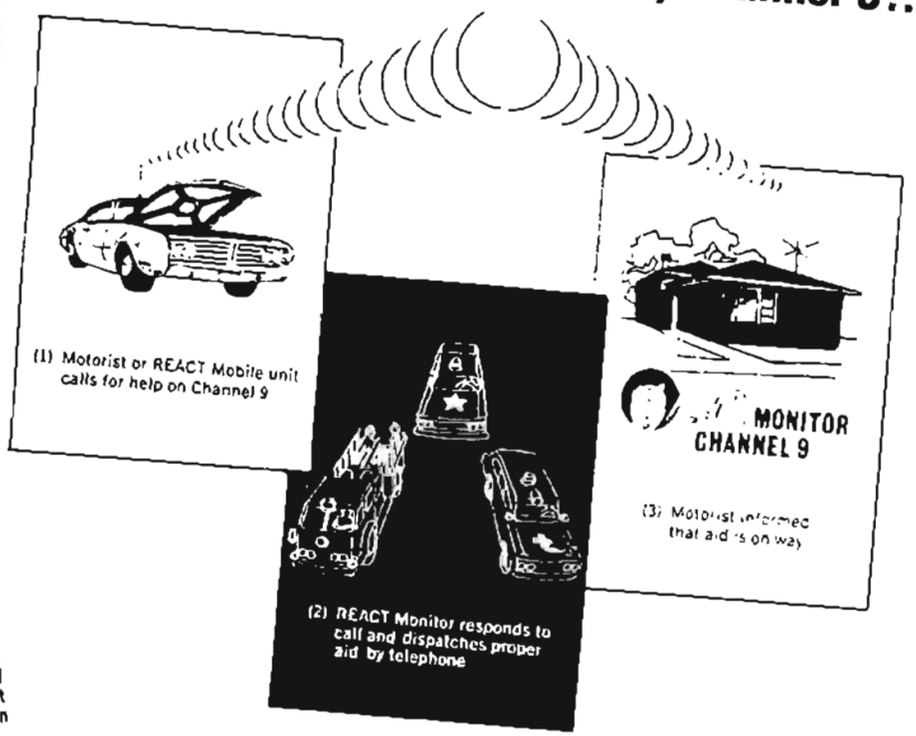
When the FCC formulated Class D Citizens' Band Radio they designated channel 9 for the transmission of emergency messages and for motorists assistance only. The theory behind this is that in any kind of emergency — domestic, industrial, national or on the road — anyone equipped with a CB radio could switch to channel 9 and immediately summon help much more quickly than it would be to search for a telephone or the village bobby.

This is a facility which is only effective if channel 9 is permanently monitored — if there's no-one listening you can shout forever and it won't do a scrap of good. Most American police forces are equipped with CB units as a matter of course and the chances are that the channel will be monitored, although there is no guarantee.

To meet what was obviously an important need came REACT. By their own definition REACT constitutes 'a full-scale volunteer civilian emergency radio service that meets the modern need to communicate . . . REACT team members, using their own Citizens' two-way radios monitor emergency channel 9 to assist the public'.

Still in their own words, the REACT objective is 'to eventually provide sufficient coverage so that you can call a REACT monitor at any time, anywhere,

When you need help on the highway... call REACT on citizens radio emergency channel 9...



Citizens Two-Way Radio is a low-cost, convenient means of providing two-way communications from your automobile to home or business. It is as simple to operate as a TV set and easier than telephone. No tests or special technical knowledge is required. Any U.S. resident over 18 years of age may apply and obtain a FCC license to operate Citizens Radio. One out of 10 automobiles is already equipped with Citizens Two-Way Radio.

REACT is a nation-wide organization of over 1,500 volunteer group totaling approximately 100,000 volunteers who utilize equipment in the Citizens Radio Service to monitor Emergency Channel 9 and provide local two-way radio communication in response to emergencies.

REACT teams are prepared to provide supplementary communications in any emergency. Effective local 2-way radio communications has proved valuable whenever normal telephone communications is interrupted because of fire, blizzard, earthquake, flood, hurricane, tornado, or other disasters.

Through a cooperative understanding between the American National Red Cross and REACT, local teams are encouraged to participate in their community's pre-disaster planning.

-Way Radio are
ward the success
Channel. A suc-
will add greatly
o equipment. You

on Channel 9 to emer-
istance, in accordance

to answer emergency
monitor or other organ-
, then respond as an

joining this public serv-
your local REACT team. If
your community, contact
arters for information on

ventually provide suffi-
at you can call a REACT
anywhere and get assist-

T International, Inc
Wacker Drive, Chicago, IL 60601

REACT

and get assistance'.

The American problem of wide open spaces and concentrated population centres means that this is a difficult aim to achieve, but it has been managed more than passably well. As a result channel 9 can save your life by rushing medical aid to you or helping you if you get lost.

The efficiency and widespread coverage available from REACT is all the more astounding when you consider the fact that REACT monitors are volunteers who help because they want to, not because they're paid to.

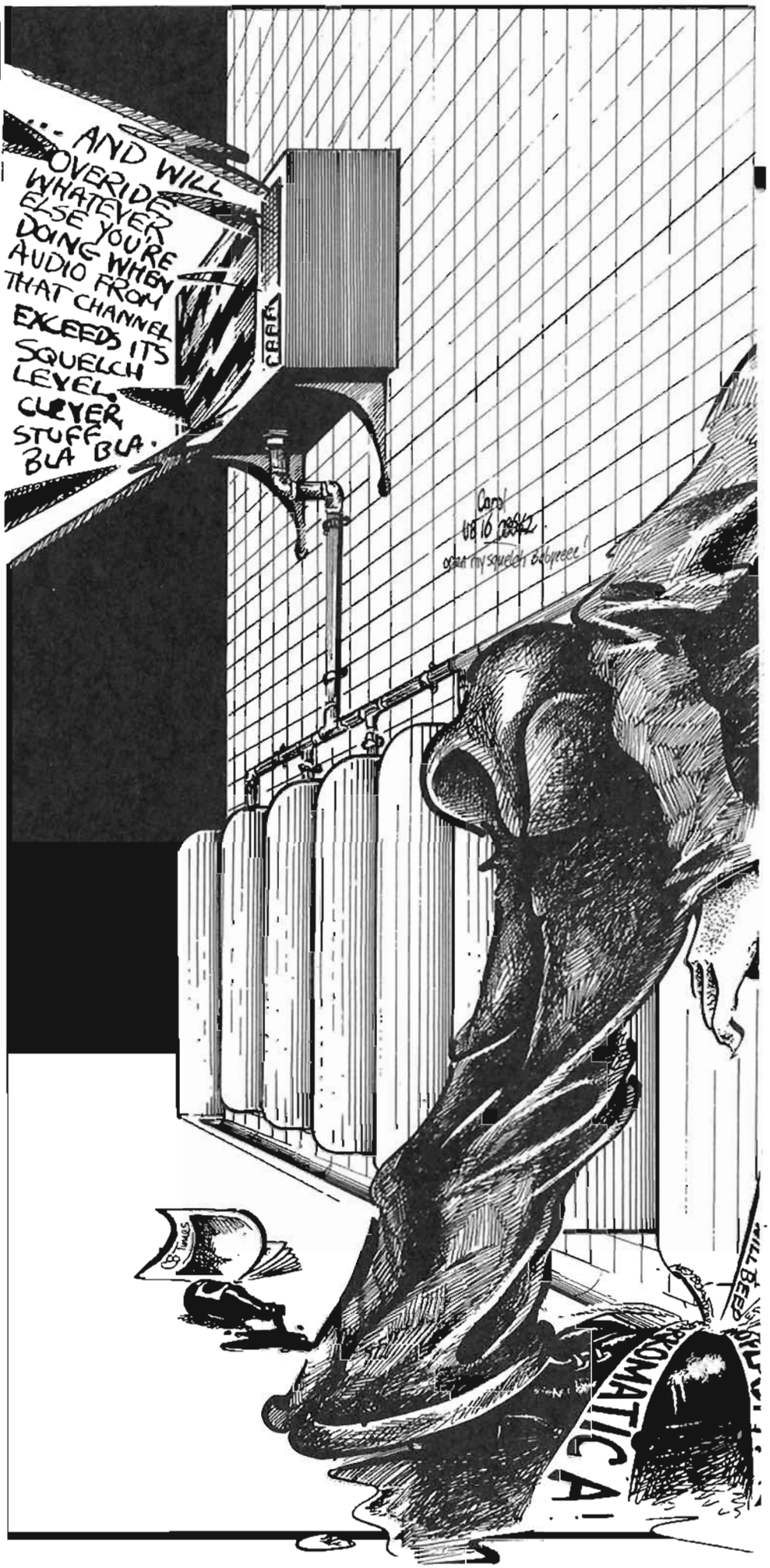
Against first expectations, they're not regarded by American authorities simply as do-good busybodies who ought not to interfere, but as well-trained radio operators who can keep cool in an emergency, apply common sense to unusual situations and who play an important role during many times of crisis. Officially approved by the FCC and other Federal agencies, their help is often sought by emergency services, even on occasions when they have not been directly involved to begin with. Their record of achievement is a long one, and they view it with pride, justifiably pointing out the occasions when it has only been their presence and prompt action which has saved a life.

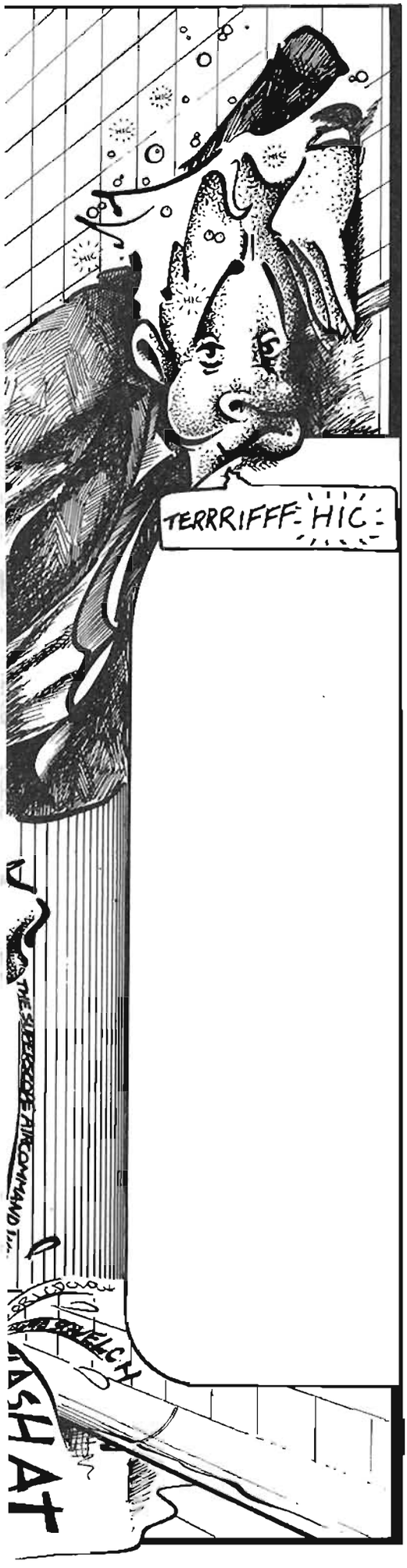
During incidents designated as major disasters — like an air crash — the REACT teams have summoned aid, cleared traffic for emergency vehicles, directed other motorists out of the area and avoided the log-jam of vehicles which would have hindered rescue operations, you name it.

Having established their operations in America, REACT is now an international organisation, with branches in almost every country which has a legal CB facility and also in some which do not. In fact, there is a REACT team in this country already waiting for the time that they can establish a legal network and commence their enormously valuable work here. If you are interested in becoming a part of REACT when CB is legal in this country you should get in touch with:

Ivan Francis
REACT (UK)
28 The Coots
Stockwood
Bristol BS14 8LH

Breaking point





Probably the first thing about CB which most people notice, and possibly the thing which at first glance is its most attractive feature, is the slang used on the air.

Originating in the USA as it does, it uses many words initially unfamiliar to Europeans, but is so unique that this perhaps doesn't matter. For example, while we in Britain might call the police cops, old bill or similar, American slang revolves around derogatory terms like pigs or the filth. American CB slang, however, calls them Smoky Bear, which is abbreviated to either Smoky or The Bear, and is somewhat independent.

English-speaking breakers tend to follow the Stateside example to a large extent, although what you might like to call 'local variations' do take place.

In Britain some of these reflect what novelists like to call the phlegmatic (or spit-bubble) characteristics of our wunnerful island race; thus to a British breaker a removal van would become a relocation consultant — a long-winded abbreviation, but accurate enough. Similarly, American terminology is adapted and/or improved to suit the different circumstances existing on our side of the Atlantic. While the Yanks may call their Interstate highways superslabs, we all know that there is only one superslab over here, running from London to Leeds. And, since the Americans rate full-strength incoming signals as wall-to-wall, it's no surprise to find Brits calling the overpowering mixture of static and jumbled chatter from Italy, which dominates the channels during the afternoon, wall-to-wall spaghetti. Statesville, of course, while suffering skip like everyone else using the lower frequencies, has not got the same sort of problem, so that phrase doesn't exist in their jargon.

Anyone getting on the air for the first time might well find the slang confusing, although a couple of hours listening to the conversations on a busy channel ought to clear up most doubts.

A great deal of the chat is based on the original '10' code used by US law enforcement agencies and on the subsequent and adapted unofficial 10 code of the American CB fraternity. We've reproduced for your benefit the official 10 code. Read carefully — we might ask questions later.

Also reproduced is the even more unofficial '13' code. This is another American drollery which is not in wide use, and we can't honestly recommend its use. However, since CB protocol prohibits the use of obscene language, the ability to request the odd gin-sodden bucket-mouth to naff off by numbers has considerable appeal.

As an added bonus we've taken the liberty of compiling a list of current CB jargon. It is by no means complete and, like all active and growing organisms, is subject to constant change and alteration, but that's half the fun after all.

JAW JACKING FOR BEGINNERS

Ace — CB'er with powerful transceiver, big antenna, and bigger ego
Advertiser — marked police car with flashers going
Affirmative — yes
Amplifier — device to increase signal strength
Antenna — aerial to which transceiver is connected
Back — replying
Back door — last vehicle with CB in line of two or more (convoy) or, the road behind
Back door closed — rear of convoy covered for police
Back off — stop transmitting, or slow down
Back off the hammer — slow down
Background noise — noise heard with the desired signal
Backside return trip, also **backstroke, flip flop**
Back to you — answer back, also **come back, come on, take it back, bring it back**
Ballet dancer — swaying antenna
Band bender — single sideband user, also **sidewinder**
Barefoot — operating a CB within legal power limit
Barefoot mobile — mobile CB rig with no extra power
Base station — CB operated from a fixed location
Basement — channel 1
Beam — highly directional antenna
Bear — policeman, also **kojak, smoky**
Bear bait — speeding vehicle without CB
Bear cave — police station
Bear in the air — police helicopter or aeroplane
Bear report — where are the police?
Beat the bushes — lead vehicle looking for smoky
Beaver — female
Between the sheets — sleeping
Big circle — North Circular Road in London
Big switch — CB rig's on/off switch
Bleeding — interference from adjacent CB channels
Bleeper breaker — a coded bleep signifying the end of a transmission
Blessed event — a new CB rig
Blood bank — ambulance, also **meat wagon, blood box, kicker, persuader**
Blow the doors off — pass
Bodacious — good signal
Boots — linear amplifier or other illegal signal booster, also **hot wire, socks**
Bootlegger — unlicensed CB'er
Bounce around — next trip through
Bra buster — bosomy woman
Breaker — CB'er who wants to come in on a channel
Breaking the needle — transmitting powerfully
Bubblegum machine — any vehicle with flashing lights on top
Bug out — leave a channel
Burner — RF power amplifier, often with a power output well in excess of 100 watts
Bust — getting caught
Button pusher — person who pushes his microphone button without talking, thereby causing interference and preventing others from using the channel
Call sign — assigned station identification
Camera — police radar, also **Kodak**
CB — Citizens' Band radio
Checking your eyelids for pinholes — extremely tired
Check the seatcovers — look at the females in a car
Chick — woman, girl

Breaking point

Chicken choker — poultry lorry
Chicken coop — weigh station for lorries
Cleaner channel — channel with less interference
Clean cut — unmodified rig
Clear out — final transmission
Colours going up — policeman turning on lights atop patrol car
Coming out the windows — perfect reception
Convoy — line of lorries in regular CB contact
Copy — to understand or receive transmission
Copying the mail — listening in on a signal, or receiving a clear signal
Covered up — interfered with
Cradle baby — CB'er who's afraid to ask someone to standby
Darktime — night
Don't feed the bears — don't get a speeding ticket
Down and gone — turning off CB
Drop the hammer — accelerate, top speed
DX — long distance transmitting
Ears — CB radio or antenna
Earwig — listening in
Easy chair — CB vehicles in middle of a CB convoy, also **rocking chair**
Eights and other good numbers — best wishes
Eighty-eights — love and kisses
Eyeball — face-to-face meeting
Eyeties — Italians
Feds — government inspectors
Find a clean one — switch to channel with less conversation
Fingers — a channel-hopping CB'er
Five — transmit the numbers 1-5 to establish signal strength
Five by five — strong signal, also **kicking out five**
Flappers — ears
Fog lifter — interesting CB'er
Folding camera — police car equipped with Vascar
Foot in the carburettor — police following
For sure — that's right
Four — yes
Four Roger — message received
Front door — lead rig in line of two or more lorries
Get horizontal — go to sleep, go to bed, also **hit the hay**
Go back — talk again
Going down — getting off the air
Go juice — fuel, especially diesel, also **go go juice**
Goldie locks — mobile business woman
Good buddy — another CB'er
Goodies — CB accessories
Good lady — feminine equivalent of good buddy
Good numbers — best wishes
Goon squad — channel hoggers
Got my eyeballs peeled — I'm looking
Go to 100 — head for rest-room stop
Grass — side of the road or median strip
Guarantory — definitely
Ham — amateur radio operator
Hammer — accelerator
Handle — CB'ers nickname
Happy numbers — S-meter reading, especially a five or maximum output reading
Harvey wallbanger — reckless driver
Hole in the wall — area of poor strength signal
Home port — residence location
Hot pants — smoke or fire
How am I hitting you? — how well do you receive my signal?
Hung up — CB'er who won't leave set
Idiot box — TV, also **one eyed monster**
In the grass — parked
Jaw jacking — conversation
Keep your nose between the ditches and smoky out of your britches — drive safely and look out for speed traps
Keyboard — controls on CB
Land line — telephone
Lay an eye on — see
Let the channel roll let others use the channel
Lettuce — money
Load of VW radiators — empty lorry
Mail — overheard conversation
Man in blue — policeman
Mayday — distress call (10-34)
Meanies any anti-CB authorities
Mike — microphone
Mobile — vehicle with CB
M-20 — meeting place
Move — in motion
Mush — noise masking or interrupting the signal
Negative contact — no answer, also **negative copy**
Negatory — no
Oil burner — car with smoking exhaust
On the peg — legal limit
On the side — standing by or parked
On channel — on the air
One time — short contact
Open — as on channel
Other half — wife or husband
Over — through transmitting
Overmodulating — incoming voice is muffled or whistling
Over shoulder — behind
Pavement princess — roadway hooker or prostitute
Peanut butter in ears — not listening to CB
Pedal to the metal — accelerate
Picture box — radar, also **Polaroid, portrait painter**
Piece of paper — speeding ticket
Plain wrapper — unmarked police car
Play dead — stand by
Positive — yes, affirmative
Press some sheets — get some sleep
Pressure cooker — sports car
Pull the big one — signing off for good
Putting an eyeball on — looking at
Putting on — signal strength put out
QSL card — postcard confirming a radio communication contact
Quick trip around the horn — scanning all CB channels
Ratchetjaw — CB'er who talks too much
Radio check — report on the quality of transmission
Relocation consultants — moving vans
Rig — lorry or CB transceiver
Ringing your bell — someone's calling you
Rock — crystal, the tuning device set to allow CB transceiver to receive specific channels
Roger — yes, OK
Roger rollerskate — car going more than 20mph over limit
Rollerskate — small car
Rubberbander — new CB'er who doesn't know the language
Rubber stationary — static, not moving
Running barefoot — operating without a burner or boots
Salt-shaker — salt spreading truck
Seatcover — woman in car
Savages — CB'ers who hog the channel
Set of dials — CB rig

Seventy three — best wishes
Shake the trees and rake the leaves — first vehicle in a convoy watching for speed trap, the last vehicle looking for anything moving in from the rear
Shaking the windows — signal loud and clear
Shot gun — police radar device that looks like a rifle or, seat next to driver
South — call
Skip — stations heard from great distance
Sky wave — radio wave reflected from the ionosphere
Slammer — prison
Slave drivers — CB'ers who take control of a channel
Slider — illegal CB device allowing transmission on unauthorised channels
S-meter — signal strength indicator
Smoky dozing — police in stationary car
Smoky on the ground — police out of patrol car
Smoky on rubber — police moving
Smoky town — London
Souped up — rig running illegally high power
Spaghetti — Italians
Sparky — electrician
Split your sides — transmit on single sideband
Squawk box — CB radio, also **tin can**
Stepped all over you — interrupted
Stereo — loud and clear
Stinger — antenna, especially a centre or top loaded model
Stroller — CB'er with walkie-talkie
Struggle — trying to break a channel
Sucker — CB rig on the service bench
SWR — standing wave radio
Swindle sheets — trucker's log book
Take it down — move to specified lower channel
Take it up — move to a higher channel
Ten code — abbreviations used by CB'ers to minimise air time
Ten four hundred — drop dead
Ten pounder — excellent radio
Ten Roger — message received
Thin — very weak signal
Thirty-12 — 10-4 three times
Threes and eights — best regards
Throw a fit — use linear amplifier
Throwing — transmitting
Throwing nine pounds at me — strong signal reading 9 on S-meter
Tighten up on the rubberband — accelerate
Toilet mouth — CB'er who uses dirty language
Trip — strong signal
Turkey call — intermittent tone generator
TVI — TV interference
Two-wheeler — motorbike
Undressed — unmarked police car, or CB not using linear amplifier
Walked all over — overpowered by stronger signal
Wall to wall — everywhere, or powerful signal
We gone — just listening
Wear your bumper out — follow too closely
What are you pushing — what are you driving? What kind of CB?
Wheels — mobile CB
Whip — long antenna
Willy weaver — drunk driver
Wind jammer — long winded CB'er
Work 20 — workplace
Wrapper — colour of car
Wrinkle — uneven transmission
X-ray machine — police radar
You got it — go ahead
YL — young lady
Zoo — police headquarters

THE TRUCKERS CODE

Advertising — marked police car with lights and/or siren
Affirmative — yes
A four Roger — yes, OK, message received
Air bear — police in helicopter
Airborne smoky — any type of police aircraft
All clear — no police in sight
Baby bear — rookie policeman
Back — back to you, over
Back door — last lorry in convoy
Back 'em down — reduce speed
Back door closed — last lorry watching for police or traffic from rear
Back out of it — stop transmitting
Back off on the hammer — slow down
Backstroke — return trip
Backyard — the road behind you
Barefoot — legal CB without added power
Basement — channel 1
Base station — a fixed transceiver that's not mobile
Bear — policeman
Bear bait — speeding vehicle
Bear cave/den — police station
Bear in the bushes — speed trap, police hiding
Bear report — report of police locations
Bear trap — radar in operation
Beat the bushes — lead vehicle goes fast to draw police out of hiding
Beaver — female
Beaver patrol — looking for females
Bedbugger — furniture van or driver
Between the sheets — going to bed
Big switch — on/off switch of CB radio
Big 10 — an enthusiastic acknowledgement
Blow my doors off — a vehicle passed at great speed
Blocking the channel — interference
Bobtailin' — running a tractor without a trailer
Bodacious — signal loud and clear
Boob tube — television set
Boogieing — out on the town
Boulevard — expressway
Breaker — CB'er who cuts in on a channel
Break for smoky report — permission to use channel for police report
Breaker broke — request to use a channel
Breaking the needle — clear signal
Breaking up — unclear signal
Bring it on back — request for return transmission
Bring it on — it's OK
Brown bottles — beer
Brush your teeth an' comb your hair — police radar ahead, slow down to limit
Bucket mouth — CB'er who talks too much
Buddy — another CB'er
Bug-out — leave channel
Bumper jumper — a tailgating vehicle
Bumper lane — passing lane
Bye bye — finished transmitting
Cactus juice — alcohol
Camera — police radar unit
Cash register — toll booth
Catch you on the backside/backstroke/bounce around/or flip-flop — talk to you on the return trip

Breaking point

CB — Citizens' Band radio
Chase car — additional police car used with stationary police radar car
Check the seatcovers — look at car, woman in car with her skirt pulled up
Chew & choke/choke & puke — restaurant
Chicken coop — weigh station
City peddler — local truck, not long distance
Clean — no police in sight
Clean shot — no police in a specific area
Clear — transmission ended, sign off
Clear & rolling — transmission ended and moving
Come back — return transmission
Comic books — logbooks or logsheets
Common carrier — lorry that carries for anyone who pays
Convoy — two or more vehicles travelling together and communicating with CB
Copy — understand
Country Cadillac — pickup truck
Deadhead — to run empty
Diarrhoea of the mouth — CB'er who talks too much
Doin' it to it — travelling at full speed
DoT — Department of Transportation
Down and gone — sign off, stop transmitting

10 CODE

This official code adopted by the Associated Public Safety Communications Officers, Inc, is strongly recommended for all CB communications where a coded transmission is desired.

10-1	signal weak
10-2	good signal
10-3	stop transmitting
10-4	affirmative (OK)
10-5	relay (to)
10-6	busy
10-7	out of service
10-8	in service
10-9	repeat
10-10	negative
10-11	on duty
10-12	stand by (stop)
10-13	existing conditions
10-14	message/information
10-15	message delivered
10-16	reply to message
10-17	enroute
10-18	urgent
10-19	in contact
10-20	location
10-21	call by phone
10-22	disregard
10-23	arrived at scene
10-24	assignment completed
10-25	report to (meet)
10-26	estimated arrival time
10-27	licence/permit information
10-28	ownership information
10-29	records check
10-30	danger/caution
10-31	pick up
10-32	units needed specify number/type.
10-33	help me quick
10-34	time

13-CODES

Put-downs, or just plain insults, are spreading across the airwaves. This collection is from S-9 Magazine, Port Washington, NY which is almost as old as CB.

Good copy

13-1	All units can copy you and think you're an idiot
13-2	Yes, I copy you, but I'm ignoring you
13-3	You're beautiful when you're angry
13-4	Sorry 'bout that
13-5	Same to you
13-6	OK, so I made a mistake
13-7	If you can't copy me it must be your fault because I'm running 3000 watts

Operators

13-20	Is your mike clinking or are your uppers loose again?
13-21	Are you being paid by the word?
13-22	Lady, is that your voice or did you install a steam whistle?
13-23	If you had spoken for another 30 seconds you would have been eligible for a Broadcast Station Licence
13-24	You make more sense when you're smashed
13-25	Some of the local operators and I have chipped in to purchase your rig from you. Have you considered stamp collecting?
13-26	Next time you eat garlic speak farther from the mike

Technical

13-40	Your signal sounds great, now shut off the set and give me a land line so I can find out what you want
13-41	Either my receiver is out of alignment, or you're on channel 28
13-42	Either my speaker cone is ripped or you better try it again when you're sober
13-43	That was a beautiful 10, try it with your mike connected
13-44	I love the way your new rig sounds, now I know why the manufacturers discontinued that model
13-45	Your transmitter must have a short-circuit because there's smoke coming from my loudspeaker
13-46	That's a new antenna? I could get a better signal out of a six-inch piece of damp string
13-47	What a fantastic signal — give me a few minutes to bring the mobile unit to your driveway so I can copy your message

Sidebanders

13-50	Can you slide that thing down 250KHz?
13-51	You've tried the upper sideband, you've tried the lower side, you've even tried both sides — hope you're satisfied. Now will you go QRT so we can use the central slot?
13-52	Only good thing about hearing you on single sideband is that with only one sideband you're only half as offensive as you were on AM
13-53	Attention — AM station on centre slot: just because they won't talk to you on your own channels, what makes you think we'll talk to you here?

PETITION

If you are in favour of the general campaign to introduce a CB facility of some acceptable kind in this country as soon as possible you can help by signing our petition and collecting as many other signatures as possible.
A petition to the government is a reasonably sensitive political document. Please sign it only once, and please don't try to help by inventing false names or forging the signature of someone you know. When you have collected as many names as possible please return the form to us,

Breaker
Link House
Dingwall Avenue
Croydon CR9 2TA

To The Home Secretary

We, the undersigned, hereby petition Her Majesty's Government to introduce legislation to allow the use of a two-way radio system in this country similar to that known as 'Citizens' Band Radio' which is permitted in the majority of western nations.

We appreciate that the Home Secretary has already said the Government are in favour of such a facility, but we feel that the frequency of 928MHz as proposed is totally unsuitable for a facility of this kind and we would urge the Government to reconsider this as swiftly as possible.

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Note to signatories: we will feel unable to pass on any forms which contain anything other than single legitimate signatures. If we suspect misuse of any kind we shall automatically invalidate the entire form.

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We carry a wide range of C.B. equipment in our shop covering everything that you could ever possibly need. If you live in the London area our shop is open from 9.00—5.30, Mon-Sat, and we're just 1 minutes walk from Borough tube station. If you can't get in to see us send **25p** for our catalogue of C.B. and Trucking goodies. We can send most things by post and below you will find a few special mail order offers to celebrate the first issue of BREAKER magazine.

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Our famous Busby T. shirt really puts the message over. It usually sells for £3.50 + P&P but we're offering it for only **£3.25 inc. P&P.** We use only top quality American shirts and they are available in black, navy blue and red. When ordering don't forget to give your chest measurement.

QUICK RELEASE C.B. MOUNT

This is the ESSENTIAL accessory when you want to be able to remove your rig quickly and easily. The mount is in 2 sections: connect one part to the radio and install the other part under the dashboard or wherever is most convenient. Attach the power leads and the aerial and that's it, when you want to remove your rig, just slide it out. These mounts usually sell for around £10 but we are offering them for only **£6.95 inc. P&P.**

SUPER C.B. OPERATOR TRUCKERS' CAP

Get ahead of everyone else with our great cap offer. Caps are available in black, navy blue, red and yellow and come complete with a high quality embroidered badge on the front. Our caps are guaranteed to fit almost any head and have an adjustable strap at the back. Special BREAKER price **£2.95 inc. P&P.**

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There are so many C.B. books available now that we have decided to offer only the three best.

THE BIG DUMMY'S GUIDE TO C.B. RADIO is an excellent book covering every aspect of C.B. It has all the information you need to know when buying a rig, when installing one and when actually using one. The best book at the best price **£2.95 inc. P&P.**

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Use our D.I.Y. sun-strip kit to display your handle. It comes in green and measures 68" x 4", big enough for car, van or truck. When ordering print the name that you require on a separate piece of paper and we will send you the letters which you then stick onto the strip. Sun-strip **£1.59**, letters **12p each.**

C.B. EQUIPMENT

Whatever kind of antenna you're looking for, we've probably got it in stock, and at really competitive prices. D.V. 27's from **£9.50**; twin truckers from **£25.00**; electric retractibles from **£27.00.** Unfortunately, a lot of antennas are too long to send in the post, but most other items — no problem. Just send us a cheque or postal order and you'll have the goods in a matter of days. If you require any information do not hesitate to 'phone and we'll be happy to help. If you have Access or Barclaycard we can take your order over the 'phone, just ring 01-403 1717.

P.A. Speaker **£12.95**
S.W.R. meter & power meter **£14.95**
Extension Speaker **£12.95**

ATTENTION ALL CLUBS

As well as supplying the best in C.B. equipment and accessories, we are able to supply clubs with all kinds of personalised clothing such as T. Shirts, sweat-shirts, caps and jackets, all at very reasonable prices and with quick delivery. Please write or 'phone for further information. We also give a discount on most C.B. items when you produce your membership card.

To: Truckers' Paradise, 10 Marshalsea Rd; London S.E.1
Please send me the following items, for which I enclose a cheque/or postal order for the sum of £ .....

	Quantity
Special offer T. Shirt size	@ £3.25 .....
Quick Release C.B. mount	@ £6.95 .....
Super C.B. Cap	@ £2.95 .....
Red . . . Yellow . . . Blue . . . Gr. . . . Blk. . . . D.I.Y. Sun Strip	@ £1.59 .....
(Please enclose additional slip with your slogan PRINTED in block letters)	
Letters for Sun Strip	@ £0.12 Each . . .
Big Dummies Guide	@ £2.95 .....
Slanguage Language	@ £2.50 .....
C.B. Bible	@ £0.75 .....
Sew on patches — please fill in the quantity of each badge that you require against the relevant number below	@ £0.70 . . . /£1.75 . . .
1 . . . 2 . . . 3 . . . 4 . . . 5 . . . 6 . . . 7 . . . 8 . . . 9 . 10 . . . 11 . . . 12 . .	
Extension speaker	@ £12.95
P.A. speaker	@ £12.95
S.W.R. meter & power meter	@ £14.95

NB — we are sorry to say that we are unable to accept Irish cheques or postal orders. Whilst we are happy to send goods out of the British Isles, please phone and check what the extra postage costs will be.

We can accept post or telephone orders on Access or Barclaycard

All prices include V.A.T. & P+P.

If you don't want to cut your copy of **BREAKER** send your order on a separate piece of paper.

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