

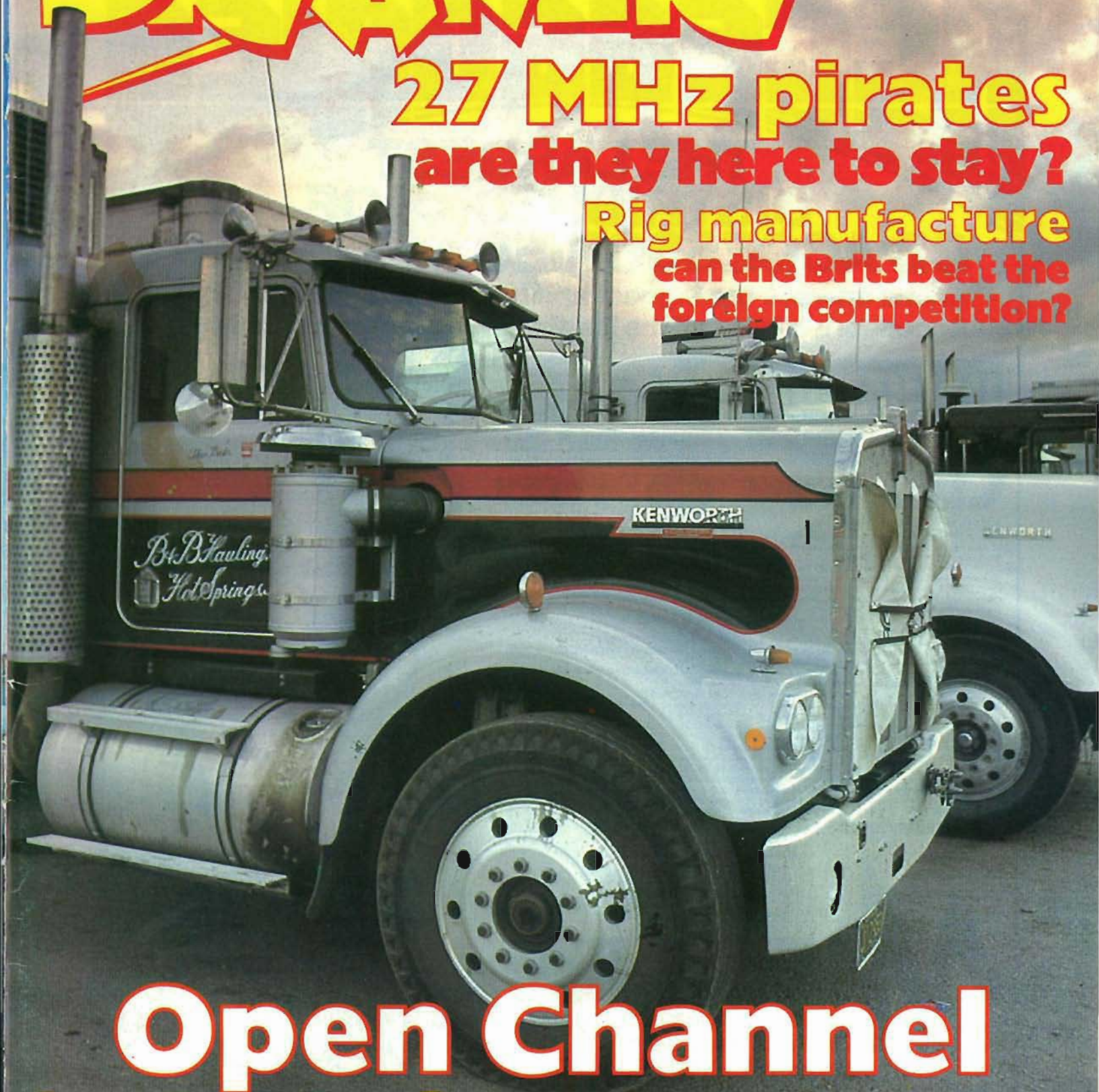
Issue no 2
80p

The Citizens' Band
radio magazine

BREAKER

**27 MHz pirates
are they here to stay?**

**Rig manufacture
can the Brits beat the
foreign competition?**



Open Channel

27 into 928 won't go

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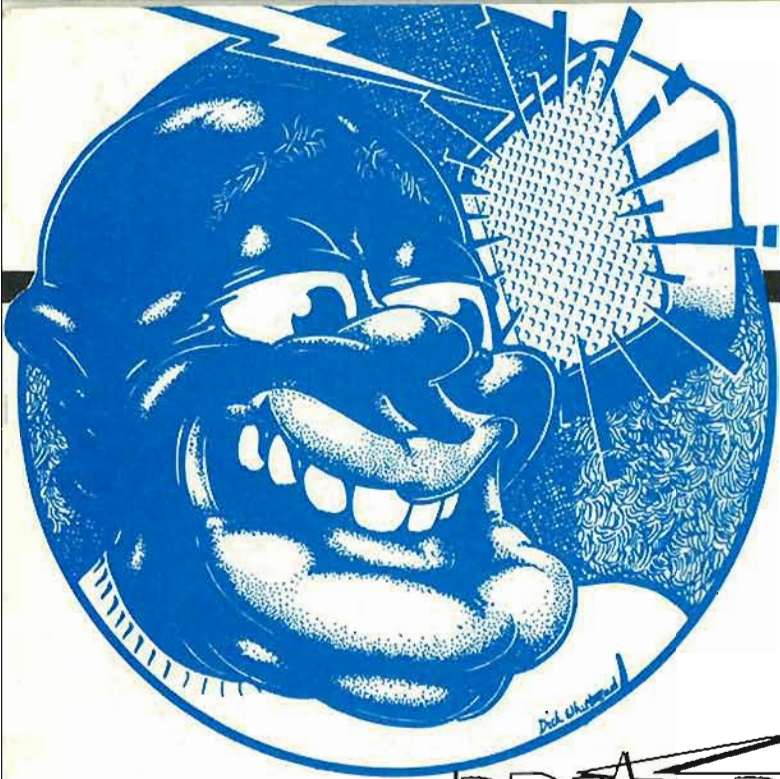
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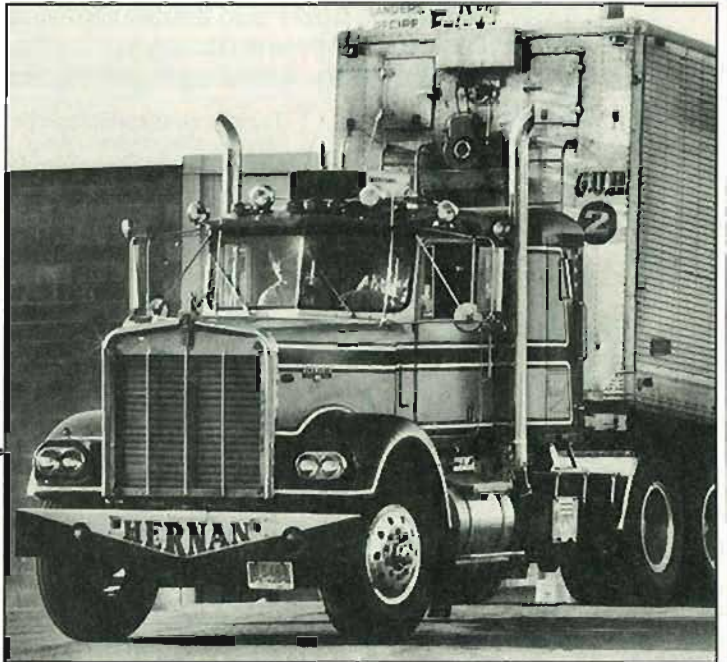
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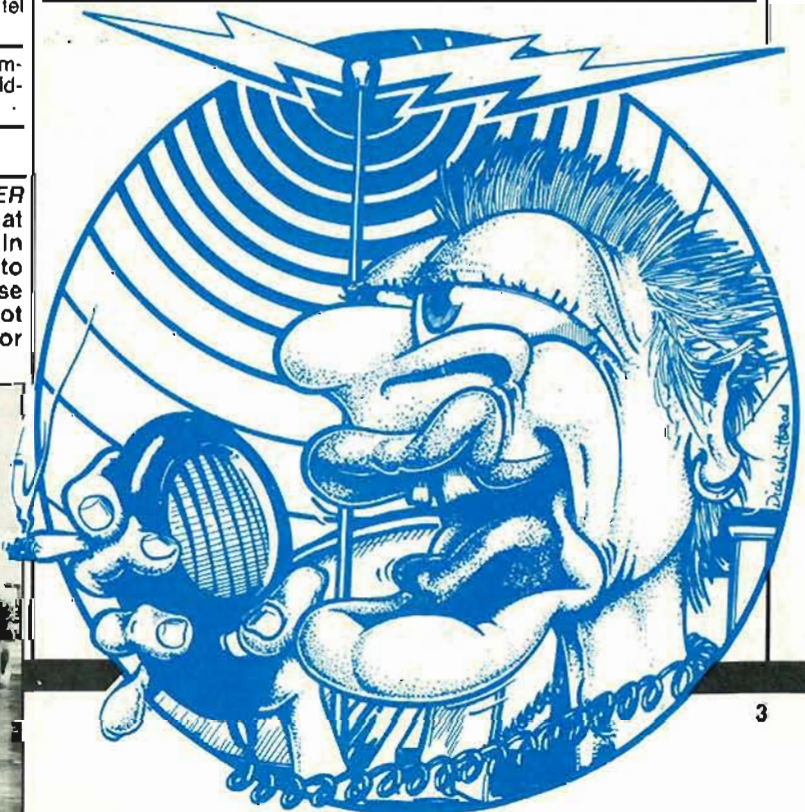
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A LINK HOUSE PUBLICATION

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 such equipment, and it is not our intention to encourage or approve of such practices.



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AFTER

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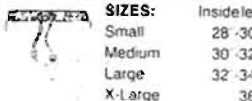
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03058 BIG RIG MOVE OVER	03035 U S A	03038 CAFRI	05054 KENWORTH	03037 CUSTOM CAR	05042 DON T BUG ME	05011 YOUR PROBLEMS OBVIOUS	03050 I CHOKED LINDA LOVEFACE

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05010 PUSSY HUNT (MONA PUSSY HUNT)	05055 PETERBILT	03012 KEEP ON THE GRASS	05048 VOLVO TRUCKS LET'S GO TO THE BEACH	07061 PANTHER BASEBALL
05050 WORLDS GREATEST ATHLETE	05047 MARIJUANA CONNOISSEUR	04007 MAD	04006 ALL RIGHT ON THE WHOLE	03059 SPACE INVADERS
07007 SHE APPRECIATES PERFECTION	07008 HE DESERVES THE FINEST	07062 PANTHER SUPERMAN	04005 MAKING BACON	03059 SPACE INVADERS

RATSWEAT -JAW

CHANNEL TWO

One of the first signs of incipient insanity is, so we believe, the unnatural habit of talking to yourself. It's worth recording at this point that talking to yourself is not only unhealthy, it's also unrewarding in the extreme and is thus not to be recommended.

All of which gave us considerable cause for concern until very recently. There were times during the production of *Breaker* number one when we were fairly sure we were talking to ourselves.

You will easily understand, then, just how satisfying it was to discover we weren't alone, and that there were people out there listening to us. We had an audience. We had readers. Once we got over the surprise we started to get that warm, sloppy feeling in our gut. Pissed again. Now that the party's over, however, it's back to work and on with *Breaker* number two.

Again we were surprised to find that number two was harder to produce than number one. After all the legal hassles involved with the marketing of a magazine which was wholly concerned with an illegal subject without getting ourselves locked up, we thought number two would be a doddle. Not so.

Trouble starts when you think that, with a few isolated exceptions, newsagents holding stocks of number one had sold them all very quickly. So quickly that people have been ringing up and writing in, trying to persuade us to part with what few sample copies we had left in the office.

They've also been ringing up and writing in for other reasons — for chat, to tell us something new, ask our advice, anything. If I'd been paid £1 for every phone call or letter we've had since the first issue of *Breaker* came out I'd be able to retire to South America. But I wasn't, so I'm still here.

The letters were nice though. We're even publishing some of them, though there wasn't room for them all, regardless of how relaxing a magazine full of only letters would have been from our point of view.

And it was very gratifying to see how many of the letters which arrived also contained the petition from issue one, some full, some with only a few signatures. Every single name we received takes us one step nearer a workable CB facility in this country. On behalf of all breakers past, present and future, we'll say thanks to everyone who helped or signed. Your efforts weren't wasted — find out all about it somewhere else in this issue.

Find out also what has been happening about 928 MHz — will it make you blind quicker than

playing with yourself? Can you store cocoa in a 928 rig without it going stale? Will the price of string go up? Who can remember how to tie knots? What happens when the string goes round corners? Can you lend me about £400 to buy a rig?

Or is there an alternative? What about 42MHz? What indeed? Who watches 405-line telly any more anyway? And if the *Forsyte Saga* was recorded in the days of 405 and the Beeb switch off all the 405 transmitters, does that mean we'll never be able to see it again? I'm still waiting for the second re-run of the third series of repeats to find out if Irene is really going to let that smelly little architect chapple get his leg over. Surely the government won't let nasty old CB radio interfere with all that?

Or is it all nonsense? Will 27MHz ever go away like Willie believes it should? Or have we got another *Oz* boomerang on our hands? Will you throw your £150, 120-channel 27 rig into the dustbin just so you can buy a £400 928 job? Especially if you can get

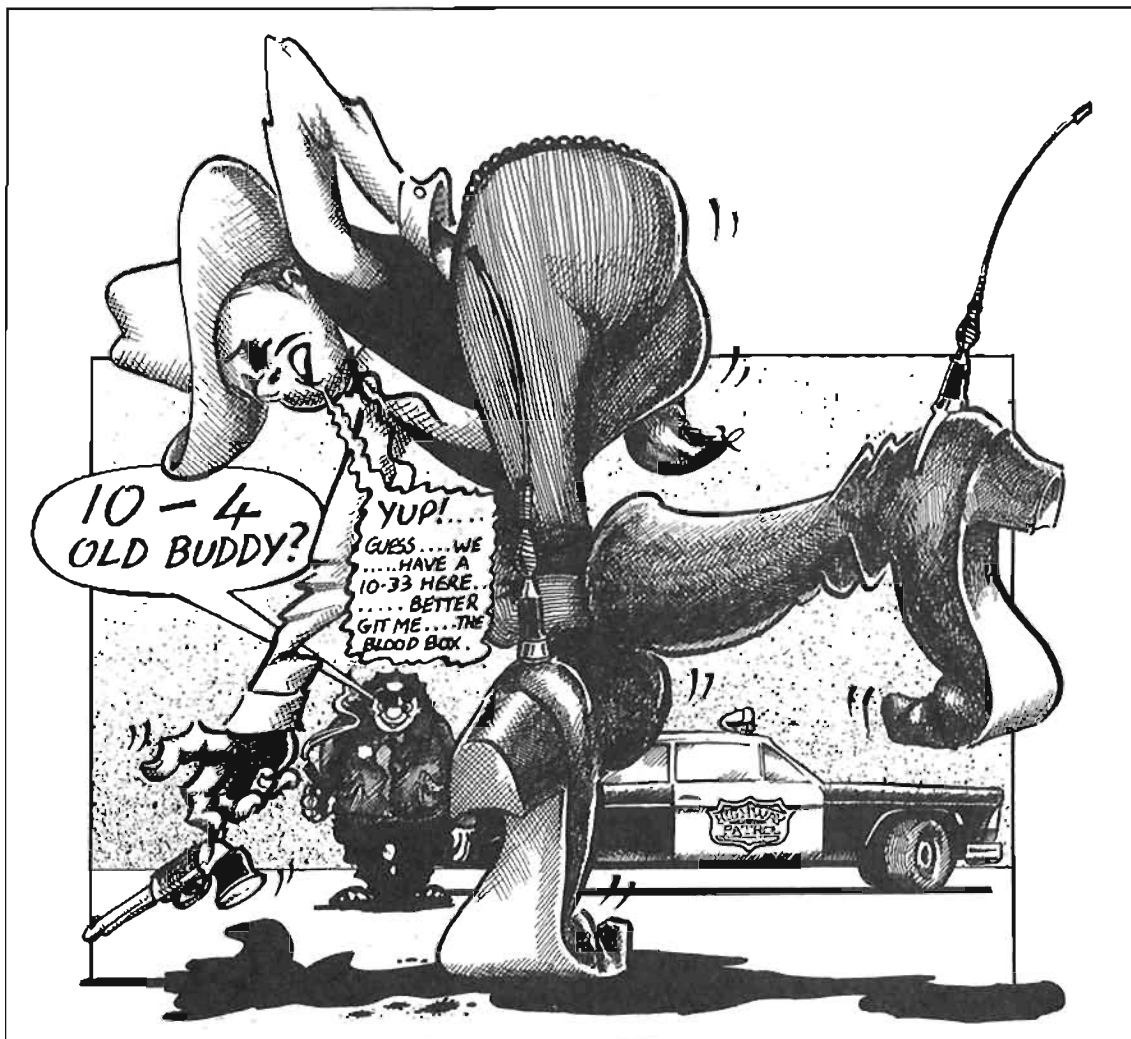
out further by shouting?

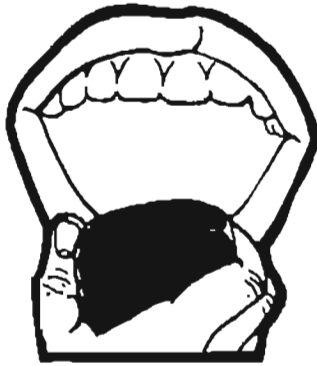
And who really cares? If the British electronics industry is incapable of satisfying the domestic market for CB quickly and at a fair price, should we, as a nation of taxpayers, allow the government to support yet another lame duck at our expense? Especially when we can see from the still-struggling Leyland experience that no amount of public loot can provide protection from our little yellow friends and their inscrutable (not to mention prolific and cheap) production lines? And even if we could keep the Japs out would it be worth it? And to whom?

If the government had any kind of sense they'd leave the ban on 27MHz gear where it is for the moment, but declare an amnesty in this country and pack up persecuting people until they've sorted themselves out and found a sensible, acceptable alternative to a situation which is now ridiculously out of hand. Also stop wasting public money chasing shadows around the country half the night. Bet they

haven't got the courage to own up and tell the country what the purge on CB has cost us all so far.

We're not allowed to tell you to carry on using 27MHz gear. It's actually as illegal for us to encourage it as it is for you to use it. So you musn't. Also, you've all got to give up smoking, drinking, going out with women (or vice versa, you naughty boy) and having a good time. RN





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BREAKER

GIVE US A BREAK

The rules

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

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

Brainwave

Dear Breaker,
I'm down to my last sheet of writing paper, my last stamp and my last envelope. If you want me to do more CB legalisation campaigning you'd better print this letter so I can use the £2 on writing materials.

I think *Breaker* is great, very informative etc etc grovel... Now that's all over I thought I'd tell you about my brainstorm — very rare for me. Why don't you send Big Boss Maggie and even Bigger Boss Willie, complimentary *Breaker* mags? On the other hand, forget it.

Well, keep going and don't stop now.

Seventy threes.
Powder Puff
Middlessex

(Powder Puff, with a name like that I just hope you're a lady...)

Sold out

Dear Breaker,
Saw the *Breaker* ad in *Custom Car*. Aaah I thought, 'kin great. At your newsagents 22 August. Rushed round on the 22nd and what do I see, bloody dozens of unsold H'IC's but no *Breaker*. Same thing happens the next day, and yours truly gives up.

Couldn't find one anywhere. Is it too far for your delivery boy to walk or what?

Creature
Pickering
PS: If you print this, a *Breaker* mag would be more useful than £2.
PPS: Also £1.20 cheaper.

(Bad luck, we've sold out. Take the two quid and lump it.)

Rallying round

Dear Sir,
I must first congratulate you on a most interesting and informative magazine. I eagerly await issue two.

Secondly, may I point out to 'Confederate' that the Trafalgar Square rally was, to begin with, a well-organised demonstration, with each speaker having their

say. It became a disgrace when a certain Mr Donovan grizzled on about how CB should be legalised on his terms alone.

Legal CB on 27MHz is, and always will be, just a dream. We can't decide the frequency, only the government can. Therefore, I ask fellow CB enthusiasts everywhere to stop going for glory and just go for CB. If everyone writes one letter to Maggie T and one to Willie W, we might have CB in 1981. Otherwise, if people follow the example set by Mr Donovan we'll probably still have naff all by 2081.

David Griffin
Bexleyheath

(2081, huh? My copy of the ten code doesn't seem to go that high.)

Mail check

Dear Breaker,
Many thanks indeed for a great magazine that you can really get your teeth into. Needless to say I have placed a regular order with my newsagent.

I have read the Home Office Discussion Document from cover to cover, fully digested its comments and promptly thrown them up again. However, I am rather taken aback by the fact that they have solicited public comments and suggestions to be sent to them. I find this rather hard to accept as they will be policing their own mail, with no assurance that our letters will even be read.

As a large magazine, can you get any firm commitment from the Home Office that all replies to their discussion document will be recorded and considered?
The Medicman
Surrey

(No. But we can guarantee that your comments, if sent to us first, will arrive in a recorded group and, more important, that your anonymity can be assured.)

Gobbler

Dear Breaker,
Great mag. Great idea. It's a pity you can only publish on a quarterly basis at present, but hopefully, with the legalisation of CB, you will be able to give us a monthly magazine.

What I really want to say is that although I eagerly gobble up every publication with even a mention of CB in it (*Hobby Electronics*, *Custom Care* etc), *Breaker* is the first mag (I'm ashamed to admit) which has really motivated me into doing something. In fact, the reason for the poor handwriting in this letter is writer's cramp. (Can you get cheap rates from the PO for posting in bulk?)

It's taken *Breaker* to really make me realise that the sooner I do something, the sooner I'll have

a legal rig in my old breaker shaker. So up and at 'emmen — No Prisoners!
Good numbers
Clay Miller
Surrey

(It worked! It worked!)

A good cause

Dear Breaker,
Congratulations on the launch of your magazine. Until I picked it up off the shelf I knew just about zilch about CB. Now I'm really interested and can't wait to get on the air (when it's legal of course). Anyway please find enclosed your petition with 50 names on it. I hope it helps the good cause.

Keep up the good work.
Neil Hawkeford
Lichfield

(This is just one of many similar letters received. Once again, thanks to everyone who sent in a petition form with even one name on it.)

Lost

Dear Breaker,
OK! (All the good ones start like that.) I give up, where is it? Have they sold out already?
'Never heard of it' the man said. 'Wind, contact or tea?' said another.

I know there are supposed to be a lot of good buddies out there, but didn't you publish one or two for us beginners? How can I begin when I can't find the... thing to read it?

A Big 10-4.
Ian Rhodes
Ely

(As a fellow-sufferer, I sympathise. It can be really tough if you can't find it.)

Smart arse

Dear Breaker,
I think your mags so good, somebody ought to name a can of beer after it!
Bounty Hunter
Wigston

PS: Can I have £2 to buy a couple of cans?

(Look out for our great new male contact mag, to be called — 'Bud'. Also a new glamour rag which will be called 'Coors'.)

Research

Dear Sirs,
Being extremely interested in the fight for the legalisation of CB, I am at the moment collecting signatures for 'The Cause'. On asking people for their views on

this subject, as well as signatures, I find certain questions to the problems of such a service on 928MHz.

1. I have been told that this frequency is not as susceptible to difficulties (as needing line of sight) you put forward. I have spoken to persons such as hams and they seem to agree that 928MHz will go through walls, trees etc without difficulty, as indeed does VHF television in portable.

2. It seems that in order to get cataracts in the eyes a beam focusing device would be necessary, but due to the wavelength, impractical.

These items have caused certain controversy and any 10-28 would be of use!
JD Crewe
Clwyd

(Research into 928 has been progressing. A dabunk appears on page 20)

CB in sheep's clothing

Dear Breaker,
The Welsh Language Society have won their fight and are to get TV programmes which hardly anyone will understand. Does this mean that people who use CB lingo will also get their way if they threaten to starve themselves to death and/or burn down Welsh holiday homes?

A Barle
Harrogate

(Er, yakky da bach. Or, as they say in Wales, 10-4, look you.)

Outlaws

Dear Breaker,
I agree with your editorial policy regarding the frequency for Open Channel (if and when, we get it). The Lancaster Band (could I have just coined a new nickname for the British CB?) is obviously the right choice over the equally unsuitable alternatives of 11 metres and 900-odd MHz.

However, it would be very unwise to completely ignore 11 metres simply because of the fact that some 50 countries have CBs on this band, and because of the number of breakers in this country using illegally imported sets. This just won't go away of its own accord, even when the government does pull its finger out and lets us have a VHF or UHF service. It's not hard to see that we will probably end up with an Aussie/Dutch/Scandinavian situation in which the government is forced to legalise 11 metres due to their inability to control the 'outlaw' activity.

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GIVE US A BREAK

In which event, we would have two services, the CB on 11 metres, and Open Channel on the Lancaster Band, or wherever. At any rate it's clear that whether one supports 27MHz, 232MHz, 928MHz (or any 200 KHz Long Wave) now is the time more than ever to annoy your elected representatives. I don't think it's much good sending thousands of letters to Maggie, or postcards to Willie. The person to get in touch with is your MP. It's not true that the only method of access to the Home Office is the Parliamentary question. An ordinary letter from your MP to the relevant minister is just as effective, and is normally the result when you approach your MP. If you have no luck writing to him (and remember he does get lots of letters) then go and see him. Most of them hold 'surgeries' in their constituencies two or three times a month for that very purpose.
*Nigel Roberts
Colchester*

Law and the masses

Dear Sir,
Congratulations on your excellent magazine. However, I would just like to add a word on the wavelength debate. Forty channel CBs on 27MHz are flooding into this country and only just keeping up with demand. The government says it will never legalise on that channel and your magazine appears to believe it. If Willie White law hesitates for too long everyone will have CB on 27MHz anyway.

Law is based on what rules society wants on itself. The Australian government was slow to act and eventually had to bring their law into line with the actual position in the country. Governments normally say no when they mean yes anyway, so 27MHz may come, and quickly. Technically I have heard VHF is easily added on to 27MHz rigs.

Your comments would be interesting to hear on that point. 10:10 till you publish again.

*TC
Surrey*

(Our solicitors advise us that 'no comment' is the most we're allowed to say, and even that could get us into trouble.)

Outdoor pursuits

Dear Breaker,
Having read *Breaker* from cover to cover my wife and myself would like to make a few comments.

First, I would say that we enjoyed it (the mag I mean) but we have one criticism to make regarding the magazine as a whole. Although you seem to be aiming at the masses who will wish to make use of CB, you do in fact seem to be orientated towards those who wish to use it

in motor vehicles. I'm sure you must be aware of the vast amount of people who may or may not use motor vehicles, but participate in various outdoor pursuits such as climbing, camping, walking or sailing. Allowing for the fact that many combine one or more of these things the total amount of people involved is staggering, and I'm sure many will jump at the chance of some form of CB to help them enjoy even more the pursuit that they follow. Just knowing that if they got into trouble they could always cry for help, and stand every chance of getting it, can only make for easier enjoyment of their following.

We enjoy camping in reasonably isolated places, but my wife doesn't do much walking while I like to get off the beaten track for a bit of wildlife study. The trouble is that I have a dicky heart, so what a relief it will be when I can keep her mind at rest when I'm away from her. Incidentally, we are both in our early 50s and as far as we are concerned CB is not just for the young. We would like to see in future issues of *Breaker* more info about equipment and methods of use for the outdoor user, ie hand-sets, portable base stations, antennas etc etc.
*Cool Cats
Cheshire*

(Yes. We have every intention of dealing with every aspect of CB, including the ones you mention. Look out for future issues.)

Taking sides

Dear Mr Nichols,
After reading the first copy of *Breaker* I was most disturbed about the stand you take on the legalisation of 27MHz CB radio. I see no need for you to point out that most of your circulation will be among illegal CB'ers and to condemn the use of 27MHz equipment and suggest that legalisation on another frequency is best for all concerned. You sound like William White law's mouthpiece.

I understand the present problems with 27MHz. I think most CB'ers are told constantly what a nuisance they are, but I think a few truths are called for, so open your eyes you democratic endorsers of free speech and read on.

First, radio-controlled modellers. To generalise the term 'radio-controlled modellers' is all too easy. What is really meant is 'aircraft radio-control modellers'. These are the people who complain most about the effect of CB signals on their controls. In a recent interview on Radio Leicester one aircraft model flyer admitted it is not possible to directly attribute loss of control of the aircraft to CB. A lot of signals can effect control including

illegal Ham radio operators, incorrectly tuned police and fire brigade signals, not to mention failure of, or lack of skill in use of control equipment (I was told not to mention that, modellers don't!). It's all too easy to flick the wrong switch, crash your plane and use the favourite term '....'ing CB'ers'!

It may be presumptuous of me to suggest modellers moving to 40MHz or 928MHz, but they are the people who only need short range control, and will find it easier and cheaper to convert their transmitters than CB'ers. OK modellers, we know you were on 27megs first, and yes you are licensed, but please remember that even if we are forced to move to some obscure frequency, you will still have interference from foreign truck drivers, spaghetti police etc, including present illegal CB'ers who refuse to move.

Enough to modellers. The second most irritating moan is about hospital bleep systems and how we are always affecting them. Two points here: most bleeper systems have moved off of 27MHz (a hint to modellers) and, two, who in the first place assigned 27MHz to hospital paging systems? Not the Home Office or Post Office, it was their own choice.

OK *Breaker*, so you don't encourage or approve of CB radio, but remember we are the people who made it possible for your magazine to have a circulation, so don't knock us, join our fight for legalisation, hopefully on 27MHz.
*The Mysteron
Leicester*

(This is one of the anonymous letters we said we wouldn't print, but it was interesting, so we have. In case you, like this person, didn't know, I'll tell you something. It is as illegal for us to encourage, incite or profit from lawbreaking as it is to do it in the first place. If Mysteron wants to publish his name and address we'll tell the world how good 27MHz is. Deal?)

Good work

Dear Breaker,
I wish you every success in your new venture and look forward to receiving future copies.

As yet I am not an operational breaker due to the illegality of CB, but I am a member of one of the '999' emergency services and really look forward to the day when CB is legalised. You see, I could have done with the assistance of a rig in my car on many occasions, for

unfortunately, I am prone to coming across incidents in the remotest of areas where access to a public telephone is not possible.

However, I am not completely acquainted with CB regarding what the government is doing and would appreciate advice on how to keep up-to-date with the proceedings. I have spoken to my local MP who personally agrees with the advantages of CB, not only for the motorist but also the old and lonely, and I will be typing a few letters to the Prime Minister as well.
*D Longworth
Bolton*

(Don't worry. When it happens it'll be NEWS you'll know.)

Use and abuse

Dear Breaker,
As I see it, one or both of two things put some people off the idea of CB radio: one is serious, the other trivial.

Let's take the serious one first. There are those who expect obscene language to be used on the air, or that CB will be used by prostitutes and the like, or that it will be a Godsend to criminal and/or subversive elements. It is difficult to see how these objections can be overcome, or the airwaves reasonably and effectively, but unobtrusively, policed. Possibly the forfeiture of the rig in addition to any other sentence, might deter muck-mouths and crooks, but I think abuse and misuse is something everyone must fight.

The trivial point is this: for every person turned on by CB language, there may be at least one turned off. I know it's a whole new folk-culture which has grown up in a mere 20 or 30 years and it can be fascinating, but let's tell the world that the advantages and benefits of CB are just as real if you use the Queen's English as they are if you talk pure CB. Maybe a little more long-winded, but just as real.

In conclusion, I can't imagine anyone choosing 27MHz as an operating frequency. The only thing in its favour is that so many people already have it. Let's plump for a sensible frequency and try and persuade (or bribe) everyone with 27MHz to change too.

*Dennis Powell
Essex*

(The way the prices of 900MHz gear are shaping up, bribery might be the only way . . .)



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Secrets

We had a letter. From, er, 'somewhere in England'. Seems that in this place the local heavies are short of cars, so they hire them, slap on a mag-mount, plug a mini-rig into the fag lighter, and whizz off into the night arresting people. All jolly good fun, but not without problems.

Bad luck for the heavies is the news that one of the geezers in the car-hire office is a breaker, and every time the plods hire a car, or cars, he gets on the air with make, model, colour and registration number.

The plods are still wondering why everybody waves to them as they cruise about on their rightful occupation . . .

Performance parts

A long time ago there was John Woolfe Racing. Nice, efficient firm living in Bedford, bringing in Stateside performance gear. No probs. Then one day they get a mass raid from the meannies. Seems they had a whole bunch of extremely naughty radio sets in their possession, not very many of which could be found when the heavies came looking.

But that was, as we said, a long time ago. JWR are still in Bedford, at Woolfe House, Norse Road, Bedford and Staples Corner on the North Circular in London. They don't have naughty radios any more, but they have got a complete range of 'Mr CB' accessories. And for complete, read complete. Antennae, PL 259, swivel mounts, low-pass filters, alternator filters, hot line filters, suppressors, replacement stinger whips, base coils, halo booster loops, you name it, they've got the lot.

As a walk-in supermarket for all the accessories you'll ever need, you couldn't ask for more. JWR have already got themselves a fine reputation in the performance parts business, and if they go into the CB market with the same thoroughness then we'll all be better off.

Harrowing news

Yet another shop dedicated full-time to the sale of legally imported and tax-paid CB accessories has opened. This time it's the Citizen's Band Radio Centre at 331 Kenton Road, Kenton, Harrow, Middlesex.

A full range of hardware and literature is available — they even sell *Breaker*. The staff are sufficiently technical for most people's needs, so if you have a problem they can probably flog you the test gear to sort it out, the bits to correct it and help you along the way.

They're also selling this Bone Fone thing — you know, strap it (fit being an AM/FM radio) to your

chest and feel it as well as hear it. Originally this thing, like so much other fad rubbish, was a Californian device destined to help and amuse joggers, who could have heart attacks and cramp to music. It seems to be a decidedly unpleasant device, intended to encourage people to go jogging, and as such it ought to be boycotted if it proves impossible to make it actually illegal. Anything which encourages people to take off most of their clothes and run about in public until they drop from exhaustion is clearly socially undesirable, and someone ought to prove that it causes cancer or some similar obnoxious disease as quickly as possible.

Action . . .

. . . is what it takes, and there's been some in Redditch, unlikely as it might seem.

The Redditch area CB Club held an open forum which was well attended by members of the public. They were given a brief history of CB, a breakdown of the law as it stands, and then a quick introduction to the government proposals on Open Channel.

It might not sound like a giant step for mankind, but it was a pretty big step for a few of them. The fact that so many people bothered to attend, and then agreed to join in the fight against 928, must prove there is enough general interest in the country to produce results, providing it is stimulated correctly and often.

Anybody in the Redditch area who missed the meeting and is interested, or would like to help, should get hold of the Redditch Area CB Club via the secretary on Redditch (0527) 67083.

Legalise CB, to be sure

Blake I know has just come back from Ireland. Apart from the Guinness and the Liffey water, he had quite a smart time. Also brought back a couple of issues of an Irish publication called simply *CB Magazine*.

Apart from being jolly interesting reading in itself, it does raise a couple of points worth thinking about. The first and most obvious of these is the open manner in which CB is discussed and its use illustrated; also the blatant photographs of people using rigs, together with the ads for all manner of base and mobile stations. Taken together they might lead you to believe that CB is legal in Ireland.

Not true. You only have to read the editorial and the constant theorising: will CB become legal in Ireland within the next few months? Will it be on 27MHz? To realise that it most definitely isn't

legal. In fact, it's not actually as illegal in Ireland as it is in England — the Irish law does not yet allow the persecution and prosecution of breakers to the same extent as British law. Or does it? In January 1980 the Irish Department of Posts and Telegraphs placed adverts in the national press warning people that CB was illegal, and people in possession were liable to prosecution. The DPT also wrote to owners of shops selling CB equipment telling them exactly the same thing.

Bloody hell! You can just see Willie Whitelaw and Co doing that here can't you? Exactly how this attitude has come about, and why a similar situation couldn't exist here is a bit baffling. Part of the explanation may be in the remarkable proliferation of Irish CB clubs, and the truly amazing solidarity of same. This lot are Organised, capital O, and Together, capital T. More or less all of them operate under the umbrella of the National CB Council of Ireland, and the Irish authorities know that when they deal with the President of the NCBCI they can speak through him to almost every breaker in the country. Indeed, with one notable exception, every single case of TVI which has been reported by the DPT to the Council has resulted in the interference being suppressed or the transmitter closing down. It's cooperation, and it works a treat.

The Council's magic formula for CB which they are campaigning for (although it's hard to see why they're bothering, since they appear to be able to do whatever the hell they like on the air anyway) is nothing to do with UHF, Lancaster bombers or even redundant Band 1 television. Their simple requirement is for 27MHz AM plus sideband, 4-5 watts maximum output and a total and rigorously policed ban on linear amplifiers. This seems to be far more acceptable in Ireland than it is in England, Scotland or Wales; presumably Irish radio modellers are immune to CB, as must be their hospital paging service.

Without a doubt it is their organisation and unity which gives them a sufficient degree of credibility to be able to make their position clear, and have their opinions considered at a reasonably high level. It would be nice if the various bodies separately campaigning for CB in this country could temporarily put aside their differences and fight together for one type of CB — which type is almost unimportant. It seems preferable to get ourselves CB first and worry about the details later. Wouldn't it be nice if they could all get together and agree?

A little help

Remember, do you, the little girl who went missing in Sussex on a Friday night a few months back? Huge police searches, media outcry, suspect the worst, all that? And then she turned up alive and well?

It's sad that very few situations of that nature ever come to such a satisfactory conclusion. We've no wish to either capitalise on the event in the same fashion which led to those hysterical outbursts in the national press, or speculate about future possibilities in similar circumstances. However, we thought you might like to know a bit of what happened.

Late on the Friday of the young girl's disappearance, the local police issued a public appeal. They asked for any and all volunteers to assist them in their search, since their own resources were already stretched to the absolute limit.

As is normal in this sort of case, response was high, and lots of people pitched in to help. Among the volunteers was a group of south coast breakers, who between them provided a few bodies, a mobile rig and several handsets. All the radio units were of the type which operate on 27MHz and were therefore illegal before they were even switched on. Nevertheless the police were quite happy to see them used as their range enabled the searchers to cover more ground quickly.

Although no police officers used any of the sets, they did direct search operations with them, always through an intermediary breaker.

No further comments about the value of a widespread availability of CB need be made, apart from a brief query — would such a system have worked on the short-range handsets envisaged for the 928MHz Open Channel?

Slanguage

Among all the letters we had after *Breaker* number one, there were hardly any which didn't appear a bit funny. It took a little thought to figure out why many of the letters seemed vague; why they seemed to have been written by er, let's say the less well-educated of this world.

Easy really. It's all this Good Buddy nonsense. All this stuff about 10-10 till we do it again. All these people who aren't mine sincerely, faithfully or any other way. They're all down and gone, or on the side or some such place. Apart from the fact that anyone who doesn't run a rig of some sort hasn't got a clue what it's about — and sometimes even when they do, they still don't understand, or

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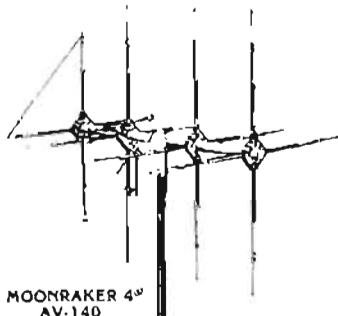
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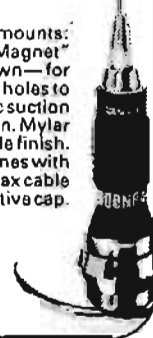
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LOWDOWN

simply refuse to speak in numbers all the rotten ilme—it just looks funny written down. It's all very well on the air, where it belongs, but it does tend to distract the casual reader of letters away from the content of the letter, even to the point where the reader may well be excused for regarding the whole letter as being simply the ramblings of a disjointed crank.

Distasteful as it may be to many, we can't help thinking that if all the letters to the Home Secretary, Prime Minister and similar are couched in a similar style, they may well serve only to convince our elected representatives that all their worst fears about CB are bound to be realised. In other words, they may well do more harm than good.

Just a thought, which we decided to share.

Problems, problems

We mentioned in the last issue that certain senior policemen are in some doubt as to their exact powers regarding the apprehension of CB users,

and it seems there has been a meeting between the police and the Home Office with a view to resolving the problem.

The major area for concern appears to be the Road Traffic Act, under whose provisions police are empowered to stop vehicles. Whether it empowers them to stop vehicles in order to search for CB rigs is not clear. Mr Stuart Whiteley, Secretary of the Association of Chief Police Officers and Chief Constable of Suffolk, was reported in the *Daily Telegraph* as saying that interpretation of the law was a matter for individual Chief Constables, and some had decided not to stop vehicles suspected of having CB.

The keyword there is suspected; if they know—from monitoring or from observation—that an illegal CB is installed in a car then they have a clear duty to stop the vehicle and apprehend the operator and his rig.

Nice to know that no-one knows, eh?

Local . . .

. . . first of all in Renfrew, where

the local breakers, under the guise of the Renfrew and District CB Association, had a protest cruise in order to attract publicity for the cause. Much aided by Radio Clyde, they achieved their aims, with well over 100 cars convoying to George Square. People from all over Scotland were in attendance at what may have been the first event of its kind north of the border.

A certain amount of traffic disruption was inevitable if not wholly desirable (maybe there should have been a comma in that sentence, just before the if. Then again . . .) and a slight amount of police attention was attracted. An interesting point is that the police arrived in a van which said only 'Police' on it, but left in one bearing that same legend as well as several pro-CB stickers. Enterprising lads, these Scots. . . .

Sell out

My local evening paper carried a report of what happened when a lorry driver, just back from the Continent went through customs.

The officials peered into the back of the lorry, made sure that nothing had fallen off, or even fallen in. They were about to depart satisfied when they noticed a clutter of electronic equipment in the driver's cab.

They found that the driver had about £450 worth of CB equipment, which he appeared to be shipping back to his semi-detached as a sort of undeclared initiative. When asked about this assortment of electronic wizardry, the driver said that, as he had so many friends in CB, he thought it would be nice to have equipment in every room. Also, from the amount of equipment on board, in the coal-house, back toilet, chicken run and bicycle shed. Naturally, the officials confiscated the lot, without even a word of consolation.

I think that any CB gear found in a car or lorry as an integral part of the vehicle and not intended to be sold, should be permitted as a useful aid to road safety. If there were more kind words exchanged on the road, driving would be a whole lot easier.

GKE GEOFF KIRBYSHIRE ENTERPRISES

Scotswood House
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OK Give us an earwig Breaker readers, here's a 5 by 5 for all you CB'ers out there so get an eyeball on this, we have just finished producing two brand new tee/sweat shirt designs especially for CB freaks.

Design No. 1

Is a national format featuring the logo CB GB COAST TO COAST BREAKERS 27mhz 10-4 superimposed over an outline of Great Britain and Transmitting Antennae.

Design No. 2

Is on a regional format featuring the logo CB GB 27mhz 10-4 East Anglian Breakers superimposed over an outline of Great Britain and Transmitting Antennae over East Anglia.

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So drop the hammer good buddies and get your lettuce rolling 10-4.

p.s. Sorry we haven't printed a pic of the shirts but we didn't have one ready in time for publication.

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News at 9



This critique of the recent Green Paper on Open Channel was originally written by James Bryant for the CBA newletter 10-4, and is reproduced here in its entirety, and exactly as it appeared, so some of you may well have read it before. We apologise for the repetition, but we felt that the subject was of sufficient importance as to make it worthy of this.

This review of the Green Paper 'Open Channel' on Citizens' Band Radio for the United Kingdom comments on the Paper page by page and then concludes by summarising the advantages and disadvantages of the system proposed. Numbers in the text refer to paragraph numbers in the Green Paper.

It would be nice to start with paragraph 1 of the paper, but even the title page deserves a number of comments. To begin with the name 'Open Channel' does very little to describe a Citizens' Band radio service. (Citizens' Band is not a particularly good name either, but it has the advantage of being used in every country which actually has legal CB and a large number of those which do not.) It seems likely the name has been chosen so the public's expectations of a CB radio service may be reduced by saying 'Ah — that's CB, this is Open Channel'. The whole Green Paper seems to have been designed to whittle down public expectations of CB, and the use of a new unnecessary name is just a start.

On the title page the Green Paper is described as a 'discussion document', and technically it might be so. However, its tone is not in the least tentative and it does not allow the possibility of any alternative to the proposals it makes, so it might more accurately be described as a 'statement of intent'. It would be wrong to read too much into this, as government Green Papers are generally rather didactic.

The final criticism of the title page is the source of the document. Rather than making it available through HMSO the Home Office has chosen to release it from the Home Office Supply and Transport Branch. This choice has confirmed the fears of many people operating illegal 27MHz CB stations that if they apply for a Green Paper their names will be added to a sinister 'black list' and maybe suffer for it later. While we doubt this is true, the HO have done nothing to dispel these fears in making the document available only from themselves.

From now on we will assume you have access to a copy of the Green Paper and can study it as you read. No attempt will be made to summarise it, only to comment. Copies of the Green Paper may be obtained, free of charge, from The Officer in Charge, The Home Office Supply & Transport Branch, Royston Road, Caxton, Cambridge CB2 8PN.

1 This paragraph mentions CB only as a portable service and ignores mobile and base station uses. It also minimises the extent of its use throughout the world by claiming it is 'widespread' in two countries (USA and Canada) but only 'available' in others. It also implies that no great number make it 'available' — in fact there are 61 including many Iron Curtain countries.

2 Claims no upsurge of public demand

for CB in the UK which ignores some 250 000 illegal operators, no less than five commercially produced magazines for CB enthusiasts, and large numbers of petitions and demonstrations over the past few months.

This paragraph emphasises first the interference, then the possibilities of abuse, and only then the emergency and social benefits in a single sentence. One certainly gains the impression that the author of the Green Paper is not over-enthusiastic about CB. Perhaps the reason for this lack of enthusiasm lies in the sentence 'It would therefore be a new departure . . .'. Novelty is anathema to a government department.

3 Gives the National Electronics Council's definition of CB, with which we agree.

4 Summarises and grossly overstates the problem of 27MHz CB. It claims that broadcasting, emergency services, old people's alarms and aircraft landing systems can be affected by illicit 27MHz CB. One is tempted to ask if legal 27MHz would have different effects.

In fact there is little, if any, evidence to show that any of these services are suffering interference from illegal 27MHz CB in the UK. The grounds for expecting interference given in the appendix to the Green Paper, are such that if we accept them then no radio transmissions could be allowed in the UK and certainly not the emissions of modellers, pages, diathermy machines and plastic welders which already occur in the 27MHz region.

The objections to long-range communications, particularly with illegally high powers, are more reasonable.

5 Claims that most people will want mobile-mobile ranges of only two-three miles (less in towns) and maximum ranges of ten miles.

Such ranges mean that a driver travelling at 70mph and trying to get traffic information from oncoming traffic on a motorway, would have two minutes in which to do so between a car coming into range ahead of him and going out of range behind him.

In fact ranges of between five and seven miles mobile-mobile, and up to 15 miles mobile-based in rural areas, would be necessary for the British public to gain the best advantage from such a service. In rural Scotland and Wales rather greater ranges would be advantageous, even if not necessary.

6 Criticises the 'excesses' of CB in other countries without mentioning what these are and then claims the British government's ideas of a service are quite different. CB is in fact intended as a short range service in all countries where it is legal. To try and claim that it is necessary to call our system 'Open Channel' so people will not expect international communications is ridiculous. The British public's expectations of CB are the same as those of the public in other countries and should be met, not frustrated.

7 We agree that a CB service must be neither too expensive nor shackled by too many regulations. We also agree that some government regulation is neces-

28

9 This is rubbish. Sales are likely to exceed ten times the figure given (150 000) unless the service is so highly priced as to be unviable. If anything the NEC figures are too low. There are, after all, over 250 000 CB users already — and it is still illegal.

In the Netherlands the authorities issued more licences in the first month of legal CB than they expected to issue in the first year — and their percentage estimates were a lot higher than those given here.

10 We agree that licences are necessary. They should not cost more than £10 and should be free to the old and disabled.

11 This is acceptable and, provided the technical standards required are reasonable, we agree with it wholeheartedly.

We should mention that the anti-social uses of CB, of which the HO seem so terrified, do not appear to give much trouble in most of the countries where CB is legal. Urban USA is an exception, but then urban USA has massive social problems anyway, which the CB abuse only reflects.

12 No record need be kept of identification codes, they could merely be used as proof after an offender has been detected. We agree, however, that they are not at all necessary. The CBA only proposed them in the first place because we thought the government might need the reassurance that they could offer — we are glad they do not.

13 We agree.

14 Forty channels is a minimum number, not a maximum. It would be fatal to release a few channels and then further ones later. When this happened in the USA dozens of manufacturers went bankrupt because they could not sell their stocks of 23 channel sets after the introduction of 40 channels.

Although the use of 12.5KHz channels at VHF and 25KHz ones at UHF are possible, it would be more sensible to use 25KHz and 50KHz respectively. Equipment would be less expensive and spectrum utilisation would still be very high because so many people would be using CB.

15 There are many tens of megahertz of spectrum of which thousands allocated are unused. To use 1MHz of these for CB would not be 'at the expense of other services'.

16 There is strong evidence that most 405 line television stations could be closed tomorrow with minimum inconvenience. The Republic of Ireland did just that last year with no problems at all. We could certainly close Channel 1 of Band 1 at once and move any necessary services on to other channels in the same band. This would free 5.5MHz for CB and PMR use. The bands around 40-60MHz are probably the best frequencies for mobile-mobile communication. They have excellent range, reasonably small antennas, and small liability to 'skip'.

The HO seem to be over-concerned about interference. While there is no doubt that they must act to minimise any interference from CB, there is no need for

the attitude, evident throughout the Green Paper, that if there is even a one in 10 000 000 chance of interference we cannot have CB.

17 If there are 'valid objections' to frequencies in the 225 and 450MHz regions these should be stated, not merely stated to exist. As for the problem of harmonic interference to television, this is grossly overstated. Inexpensive technical means exist to minimise the problem, the use of FM rather than AM or SSB, further reduces the possibility of trouble, and the harmonics of a CB will, in any case, fall in only one or two channels so that few people are affected.

18 900MHz is not suitable for a primary CB service. The USA, Canada and Europe are considering this band IN ADDITION to the 27MHz system.

19 The emphasis on the problems of TV interference rather than the benefits of CB makes one wonder just where the interests of the authors of this Green Paper lie. There will certainly be some interference from any CB service, much of it arising from imperfections in television receiver design. However, the use of 3-5 watts of FM at almost any VHF frequency would cause little trouble, provided the transmitters had an adequate harmonic specification, which could be achieved at very little cost.

20 The ranges suggested are greater than those found in actual tests by the FCC and Motorola in the USA and Bosch in Berlin. Even if correct, ranges of 7km (four miles) with base stations and 1-2km (1/2-one mile) between mobiles are unacceptably low. Moreover, the power used in these tests (25watts) is more than is likely to be permitted, and even if it is permitted the manufacture of a 25watt transmitter at 900MHz would be impossibly expensive. Thus lower powers will be used in practice and ranges will be even shorter.

21 These ranges would not be acceptable and would not meet purchasers expectations of a CB system. It is most improbable that calling the system 'Open Channel' will reduce these expectations.

Cheap private mobile (PMR) transceivers cost about £300 each. (Why does the Green Paper so carefully avoid giving actual prices?) If 900MHz transceivers are to cost about 20 per cent more, then we may expect to pay £360 (plus 15 per cent VAT = £414) for sets. An American 40 channel AM transceiver operating on 27MHz costs about £50.

22 The repeated emphasis that 'Open Channel' is not CB and that a different kind of service is to be expected is very likely to be true with the proposed standards. The range will be minimal and the cost astronomical. With such a specification it is small wonder that paragraph 2 expects 'no great upsurge of public demand'.

23 Both Belgium and the Netherlands set up efficient CB systems within a few weeks of taking the decision to do so. The statement that planning takes time seems a further way of reducing the public's hopes of an efficient CB system being introduced in the near future. All



sary. The range mentioned here (15km) is a bit low.

8 a Range should be 15km (ten miles) in medium circumstances. Ranges of at least 8km (five miles) should be possible mobile-mobile at most times when traffic is not too heavy. This might reduce to 6km (four miles) but no less in heavy conurbations.

b The service must be simple and cheap.

c We agree.

d We agree with this too, but minimising interference is not the only reason for specifying a CB, and performance must not be sacrificed in order to prevent remote possibilities of interference.

the research needed has been done, what is needed is an act of political will. If the Minister said, on 1 December — the day after all the comments are in — CB on 1 January, it could be achieved. A few civil servants might have to work hard for a few weeks, but the service would be little, if any, worse than one introduced in 1982 after another year of study.

24 The Green Paper is unlikely to be of much help to people who do not already understand something about CB. It discusses interference to other services in no less than 14 of its 24 paragraphs, but does not mention the undoubted benefits of a CB service at all.

This Green Paper was self-evidently written by someone with no love of CB radio. It goes to great lengths about the problems involved, spares not a word for the benefits, and concludes by proposing a system which will cost so much and offer such a poor service that it is unlikely to be used in any numbers.

Over 250 000 British citizens have 'voted with their feet' and are already using 27MHz CB. They are breaking the law. They should not have to break the law, but this document gives them small encouragement to stop — few people will be willing to forsake a service with a range of six-ten miles costing £50 in favour of one with a range of one-two miles and costing £400.

The mere publication of the Green Paper convinced many people that the government were not serious in wishing to introduce a viable CB service and they went out and bought 27MHz equipment.

If the government wish to see CB other than at 27MHz they have less than six months to announce a system which will meet with people's needs. Otherwise it will be too late.

These comments will form the basis of the CBA's response to the Green Paper and we hope also to cite the results of our own tests with 941MHz equipment.

All of you should send your comments to the relevant authorities, which may be based on this material or may be completely original. The message you should get over, however, is that 928MHz is useless for a primary CB service since its range is limited and the cost of equipment is too high. You should then propose the urgent introduction of a more suitable service since the demand exists and is at present being met only by the illegal use of 27MHz.

Since CB is at present illegal, all the really beneficial users are impossible — Boy Scout organisers are unwilling to break the law and any REACT team which set up in business would be busted when it reported its first incident to the authorities. Even so a lot of people are already getting a lot of pleasure from CB, but would be far happier if they could continue to do so without the risk of being arrested.

GREEN PAPER — TECHNICAL COMMENTS

A detailed analysis of the technical appendix of the Green Paper would be too long (and boring) for inclusion in *Breaker* but some comment is certainly necessary.

The appendix is in two parts — one discusses reasons for the choice of 900MHz and the other discusses the performance of 900MHz equipment.

It seems the reason for the choice of 900MHz is that it is possible to find a source of television interference in any frequency below this. The arguments, frankly, are weak. There is no doubt that harmonics can and do affect TV, but with an adequate transmitter specification, which need not entail much expense, harmonics may be minimised.

An example of biased argument appears in paragraph 7. It is estimated that 1.9 million televisions could be affected if CB were at 225MHz. In fact, to affect these sets a frequency of below 223.33MHz would be needed and CB in the proposed US band of 224 to 225MHz, would affect only users of Channel 46. The Green Paper does not say how many people use this channel — no doubt it would weaken the HO case if it did. What is more, most of the Channel 46 users are in rural areas where there is likely to be less of a problem anyway.

If 230MHz (Lancaster Bomber Band) were to be used for CB the harmonic interference would fall on Channel 48 which has very few users, and most of them in areas where CB use would be small.

We could go on like this at length, but instead we'll just summarise by saying that some frequencies, even with harmonic suppression, should be avoided. However, it must be emphasised that similar frequencies could be used with very little risk because the TV channels affected are used mainly for rural areas where few people are likely to be affected.

The Green Paper does not consider 27MHz at all. This is a serious omission. Since the new FCC specification was implemented, TVI in the USA has been going down, despite the rise in CB use. In this country a number of health authorities have recently been approached for their views on interference from CB, and not one has been able to report any (giving lie to court claims that 'the defendant has imperilled ambulance radios and hospitals by his CB operation'). In fact, 27MHz is a good frequency as far as UHF TV is concerned since the harmonics are so far above the fundamental.

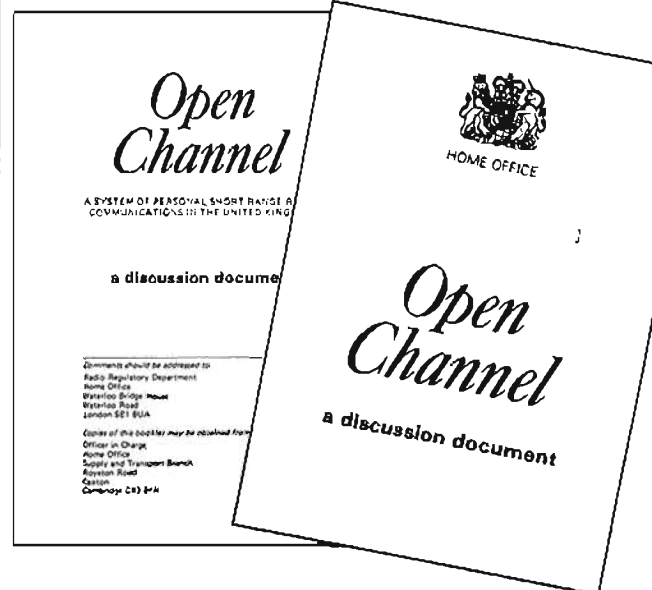
No technical consideration is given to 41MHz either. Since this frequency is one of the best possible for mobile-mobile communication, and could so easily be made available, this again is a bad oversight. Also, 41MHz is easily freed of any harmonic likely to affect UHF TV and equipment is likely to be cheap. (41MHz is the only band which could use modified 27MHz designs.)

It is very interesting that the comments on 900MHz contain no reference to mobile-mobile communications and no reference to health hazards.

Mobile-mobile ranges at 900MHz, according to research in the USA and West Germany, are likely to be in hundreds of metres rather than kilometres. This would be almost useless.

There is evidence that exposure to strong RF fields at 900MHz or more (which is after all the frequency used by early microwave ovens) may cause cataract and brain tumours. This claim is somewhat controversial, but it would seem unwise to risk introducing a service like CB on a frequency which has even the remote possibility of such effects.

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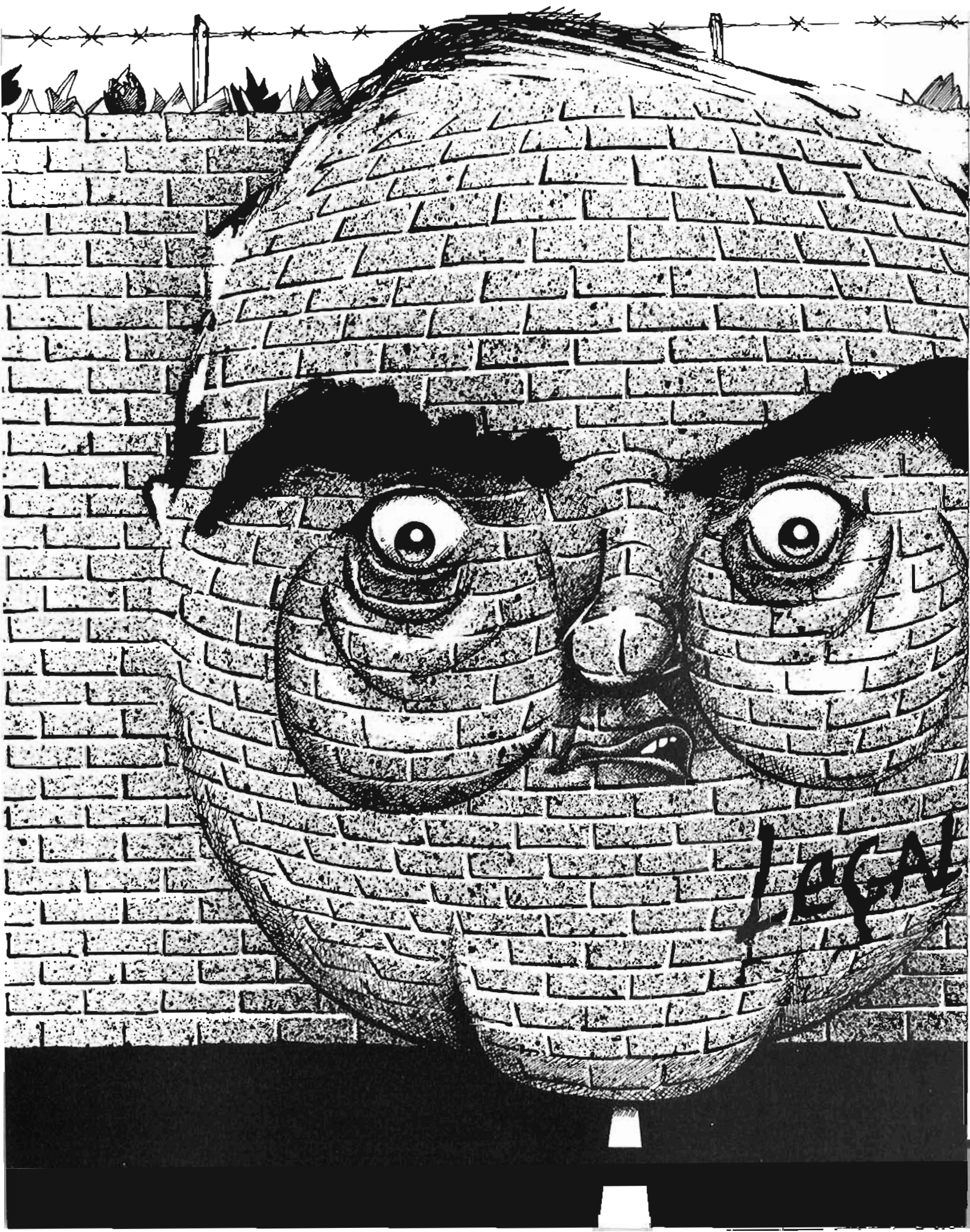
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White elephants

open channel-another project for the same shelf as the channel tunnel

So here we are then, facing the situation we've fought so hard and so long for. If CB (we have decided to ignore the possibility of something called Open Channel — we'll have CB or nothing, thank you) becomes a reality following the Green Paper proposals then Winston Churchill's remarks on the Battle of Britain might well, with amendments, be justifiably applied. Something about so much being owed by so many to so few. The same might also apply to other aspects of the situation, but we'll come to that later. First — the few.

You probably already know who they are, and we can't name all the names because we don't have the space. So we won't name any, for fear of offending those who would have been left out. Suffice to say that a tireless group of ladies and gentlemen have fought to gain the right to a public two-way radio service, and even the miserly 928MHz proposals represent a considerable victory on their part and are a measure of their effort.

But what of 928MHz? Let's ignore the technical aspects, for now at any rate — we'll deal with them separately. Instead, let us boldly venture where no man etc and examine the politics of the situation.

To do so involves the consideration of not a little history, which for our purposes requires backtracking no further than 1948. It was in that year the American government introduced the General Mobile Radio Service on the UHF frequency of 467MHz. Largely unused, because of the technical difficulties of constructing small mobile sets using such a high frequency — difficulties which were not overcome for a number of years — it was nonetheless a date which marked the introduction of what is now commonly called CB radio.

A revised version of GMRS — Class D

— was later brought in alongside in 1958 and operated on 27MHz. Even so, it was not noticeably a contributor to a revolution in the American way of life. That had to wait until 1973, and the Arab oil embargo.

In the face of dwindling fuel supplies and the national overall speed limit of 55mph — the loathed 'double nickel' — truckers found their previously almost private radio service being invaded. Americans everywhere took to the air in an attempt to find the scarce fuel their big-inch motors demanded, and then an empty stretch of freeway where they could burn it up without fear of picking up a speeding ticket. Smoky reports became an essential part of motoring life.

When the embargo was lifted and fuel supplies reinstated (although it has never been available so freely since, and the odd/even form of self-rationing still survives) the American public stayed on the air, and the new craze for CB sparked off one of the biggest and most expensive consumer booms ever seen. At its height the FCC was issuing 500 000 new CB licences every month. To a large extent this huge demand was fuelled from Japan, as electronics factories there spewed out thousands of CB sets every hour and rushed them to America.

Had the manufacturing centre of this industry been in America the story might have been different from then on, as the American factories met their domestic demand and perhaps went no further. As it was, the sets were almost exclusively Japanese, and the Japanese were thinking almost exclusively in terms of export. Once the machine was running along such lines it was natural for the Japanese to look to other export markets in the hope of finding another goose to lay still more golden eggs. Although they were disappointed in this, and no other

country has been able to soak up such a vast outpouring of sets, they were not entirely without success in their quest, and there are now more than 60 countries operating a CB facility on 27MHz.

Despite this seemingly vast market for their produce, the Japanese have plenty of spare capacity, and indeed, plenty of spare CB units, and are ready at any moment to open up new fields. Any country (like ours, for example) which legalised CB on 27MHz would very quickly find itself inundated with cheap Oriental imports.

So let's look at a little bit of British history.

Under the terms of the Wireless Telegraphy Act of 1949 it became illegal to operate a device capable of transmitting or receiving radio signals without an appropriate licence. Such licences — for TV and domestic radio sets and so on — were issued by what was then known as the General Post Office. However, theirs was a purely administrative role — the paperwork and revenue-collecting side of things. Decisions about the allocation of the radio spectrum were the prerogative of the Minister for Home Affairs, and still are. This duplicity of control and administration accounts in no small measure for the seemingly confused state of affairs with regard to CB pirates today. The Home Office and the Post Office have an interest in the use and abuse of the airwaves, and to some extent both become involved in policing illegal activity. However, let's not jump ahead of ourselves.

Effectively, then, and at least as far as radio is concerned, the GPO were working for the HO. You want to use a radio, you go to the GPO and ask for a licence. The GPO look at their list, and if the frequency you want to operate is one the HO have approved for the purpose, and you fulfil all the requirements, then you get your licence. Right from the beginning you could get a licence for private use, although you had to pass exams which proved you capable of using and maintaining the antiquated and rather complex equipment available when the regulations were drawn up.

Technological advance being as rapid as it is, it follows that the equipment available today is far superior to that of 20 years ago, and is much easier to operate. It would not be all that unfair to compare advances in radio gear with those in the motoring field. For example, although you or I may well handle a powerful and comprehensively appointed XJ12 with ease, we'd be completely lost trying our hands at a comparatively weedy Model T Ford, with a hand throttle and gear changes operated by various combinations of foot-pedals and complex manoeuvring of the handbrake. In fact, you'd be more likely to have an accident in a 15 mile-an-hour Model T than in a big, 140mph Jag. Modern radio transmitting equipment is now very much a pushbutton job compared to that of, say, 1949. The obvious conclusion from this is that quite simply the regulations surrounding private use of radio transmitters — particularly low-powered units with a short-range capability only — are wildly behind the times and require updating. In effect this is all the CB lobby is attempting to achieve.

However, the political animal commonly known as the British Constitution is somewhat more complex than perhaps it needs to be, and is certainly more than a little vague. Unlike the Declaration of Independence, upon whose self-evident truths the American system is based, the British Constitution is not written down as such in any one place, but is rooted in a wildly convoluted series of documents located in all sorts of places which go back as far as you like — certainly to 1215 and Magna Carta. Bringing change to any aspect of this beast can be extremely difficult, if not actually impossible, and there is no doubt that this difficulty is responsible for some of the more ludicrously outdated laws which are still in effect in this country. Like, for example, the Sunday Trading laws which are rooted in a past 200 years distant. Or even a law of Henry VIII which prohibits the playing of 'shove-groalie' on Sundays and by which we are still bound.

So trying to bring about something as relatively simple as an updating of the regulations regarding private radio transmitters can be a monumental task. It's one which would have been easier if it had been even remotely important to any government. It never has been, so the entire onus has fallen on private individuals who have a personal interest.

In a situation like this it is first necessary for the individual(s) to decide which parts of the rules are outdated and why and, most important of all, to formulate alternatives and thus relieve a busy government of as much work as possible. This is based on the idea that if the subject isn't vital to the government they'll ignore it if it involves much time and effort, but will regard it more favourably if all the work has already been done.

Even then it will be necessary to convince the government that the matter is regarded as important by more than one person. So you form a pressure group, enlist members, start writing letters and sending petitions, and hopefully win the support of one, or better still several, MPs who can present your case at the seat of power and all along its various corridors.

There are several groups of this nature in this country today, and perhaps the best-known is the Citizens' Band Association. Formed in 1970, they managed very well, although they didn't get it all right first time. Their efforts to indicate the need for a change to the existing 'ham radio' regulations were centred on demonstrating the success and value of the CB service in America and other countries and establishing that demand for a similar facility was pronounced in this country also.

Following the need to do the government's work for them, they then proceeded to establish a completely new set of technical criteria for a service which could be successfully operated by any untrained member of the public. Although they used the American setup as a model, they decided quite early on that 27MHz was technically unsuited to a short-range radio service, and opted for a much higher-grade system using an FM VHF signal. At this point it is worth remembering that in 1958, when the Americans settled on 27MHz, they had already discovered that current tech-

nology was incapable of making a higher frequency realistically workable, and were therefore more or less forced into using something in the region of 27, even though they were aware that higher frequencies would have been better. So when the CBA made their first proposals, unhampered by technical immaturity, they opted for VHF. Unfortunately they then made their biggest mistake by saying that if they couldn't have VHF CB they'd rather have none. This statement had a detrimental effect on their campaign, and for a long time they weren't regarded seriously by the government, who looked on them rather as a bunch of cranks. This has changed now, and like everyone else the CBA have said that if they can't get anything better they'll settle for 27. Fortunately, they didn't compound their earlier error by saying they'd settle for anything they could get.

Meanwhile, out in the big wide world, everything else had not remained static. American CB had gone through a dreadful black sheep period during which it was held responsible for every kind of radio and TV fault. The Japanese were hammering out rigs in response to the FCC rewrite of technical standards for CB, incorporating the jump from 23 to 40 channels. England was dragged kicking and screaming into the EEC and the various world bodies concerned with radio transmissions were, in the guise of technical conferences, busy disagreeing about almost everything they could possibly think of.

Out of all this, though, has come a somewhat changed situation. In the early days, the official British attitude towards CB was so antagonistic that not only did the HO refuse to allow the issuing of licences for 27MHz, the government actually arranged for 27MHz transceivers to be made specifically illegal, and the subject of an importation ban. Which incidentally, accounts for the presence of the third group who police the airways — Customs and Excise. On the grounds that any equipment transmitting on 27MHz has been illegally imported — in effect smuggled into the country — they too have the right to search for and seize pirate CB rigs.

Following this very definite move against CB radio — specifically as used in the USA — successive governments have found it necessary to decry the facility in principle also. As in almost any similar case you could think of, finding grounds to dismiss the value of and withhold the use of something which is, both by definition and proven experience, an exceptionally useful and valuable thing, turned out to be rather difficult. Consequently the various spokesmen who stood up to deny the facility delivered their refusals as unconvincingly as you might expect. In practice and almost without exception, government rebuttals of CB were characterised by a complete refusal to deal with the realities of the situation, as well as being mostly inaccurate and wholly irrelevant. These remarkable pieces of political footwork would have been amusing had they not been frustrating and important.

In any case, they are even more irrelevant now than ever before since the publication of the Green Paper and the policy switch. It must be said though, that while still in opposition the Con-

servative Party did say they were willing to consider the subject of CB radio as honestly as possible, so the recent developments don't actually represent a switch in policy for them as much as for the Civil Service Establishment.

The proposals contained within the Green Paper have already been the subject of a storm of protest, most of it on technical grounds. Although we have, on other pages, given some consideration to the technicalities of 928MHz — as well as other frequencies which are perhaps more suitable — most protesters already feel that their opinions are falling on stony ground, and that the decisions have been made. Unfortunately as it will doubtless turn out to be, we believe they're right. We further believe that the proposals made in the Green Paper have been made on the basis of reasoning founded far more deeply on political considerations than technical.

It's like this. To begin with you should be in no doubt that a CB facility on 27MHz in this country would clash with existing users. Although the problems thus caused would by no means be insuperable, they do exist. Far, far worse than this technical hiccup are the economic and hence political problems. The Japanese are ready to flood this country with cheap 27MHz rigs. If this happened it would adversely affect our tottering balance of payments immediately, adding to the economic burden of the whole country in general and, more relevantly, adding to the economic and political burden of the government.

Further, it would affect the opportunity available to the British electronics industry, who would have to compete against existing Japanese capacity and expertise. There is little doubt that they would lose the battle for the mass-market as completely as they have lost others — car radio, domestic hi-fi, you name it — so it becomes politically expedient to protect them, since they are apparently incapable of protecting themselves.

Import quotas and/or tariffs loaded against the Japanese are sufficiently distasteful as to be beyond consideration, so alternatives must be found. The easiest must be to choose a different frequency. To the Brits, who will have to gear up from scratch, it makes little or no difference what the frequency is, but it would be a major setback to factories already producing 27MHz gear. Like the Japanese. Say.

It is important though, to ensure that the frequency chosen is so far removed from 27MHz that the conversion of existing components is completely out of the question.

Having established these principles there are any number of frequencies which would fit the bill and provide a satisfactory CB service.

However, other factors enter the equation here. Most notable of these is the World Radio Conference decision to inquire into the possibility of establishing a frequency above 900MHz as a world standard for two-way radio communication. In particular 928MHz was under scrutiny.

Although considered as a frequency for a two-way radio service, 928MHz was never thought of as replacing existing CB facilities. Rather it was thought of as an upmarket, high-grade device to complement anything already in operation,

perhaps to give a better, more exclusive service to businessmen and similar. Indeed, the French are looking to 928 to provide them with something roughly equivalent to our mobile radio-telephone service which the Post Office puts in cars for several hundred pounds a time. And that's where it gets interesting. Car radio-phones tend to be remarkably expensive. This is partly because they work at a reasonably high frequency, but mainly because they are produced in such low numbers that the cost reflects the inability of the manufacturer to reap the benefits of volume production.

So. A hypothesis. Suppose you were looking for a CB frequency. If it was unique to this country you'd be safe from foreign invasion. But what if it happened to be a frequency about to be adopted by the rest of the world (especially Europe)? And what if the rest of the world was resigned to high prices because of the small numbers of units required? If you ran a production line churning out 928MHz gear for your own punters you could knock it out for the rest of the world at a fraction of their own cost. You'd have an export market.

So maybe the frequency wouldn't be ideal for a domestic CB service. But it would be more or less alright, and you'd have pulled off a nice deal. Silenced the CB lobby and not only protected the electronics industry, but given them a big lead on an export market. Good grief.

Now that's only a hypothesis, and perhaps not a very good one.

But it is indicative of some aspects of the situation though, and illustrates nicely our belief that whatever decision is made on CB will be made for political rather than practical or technical reasons.

It seems likely we will be lumbered with a CB service which, instead of being designed to provide the best possible facility at the lowest price, will actually be the reverse, and in fact be arranged for the benefit of the electronics industry. You will have to pay an artificial price for sub-standard CB to provide the same sort of government controlled insulation to the electronics industry as is currently enabling our car industry to continue in the manufacture of overpriced and obsolete vehicles.

Going back to Winston Churchill, it's going to be a case of never have so few been owed so much by so many for so little, and it's almost certainly too late to do anything about it.

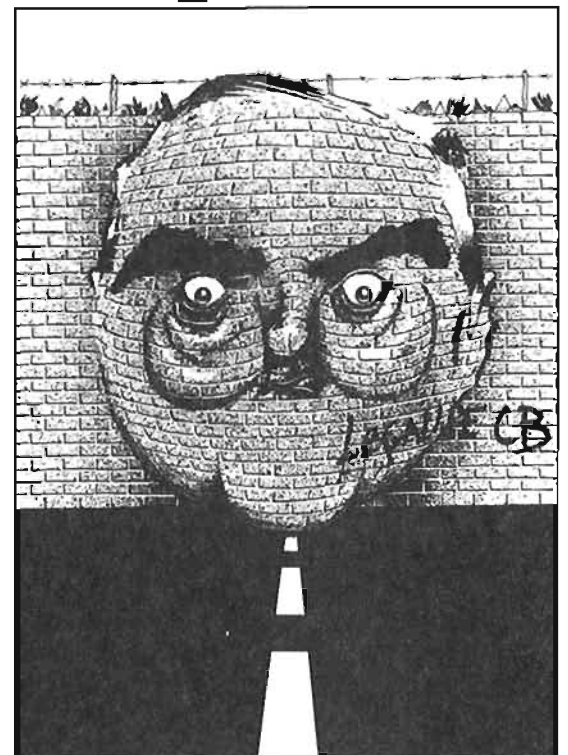
There is, however, a saving grace in all this. We have long believed that in denying a CB facility to us the government has been in breach of its agreements with the rest of the EEC, signed when we entered. It's now very likely that we are right. Under the Treaty of Rome we are bound not to operate restrictions on imports from member states. 27MHz CB is widely available in a lot of member states and we should not be banning imports of it . . .

The only drawback to this has been that Article 36 of the same Treaty allows prohibition on the grounds of public policy. Once a CB facility is established, whatever its frequency, it will hardly be possible for the British government to claim that its public policy is opposed to CB.

Sounds hopeful, but don't hold your breath.

RN

White elephants





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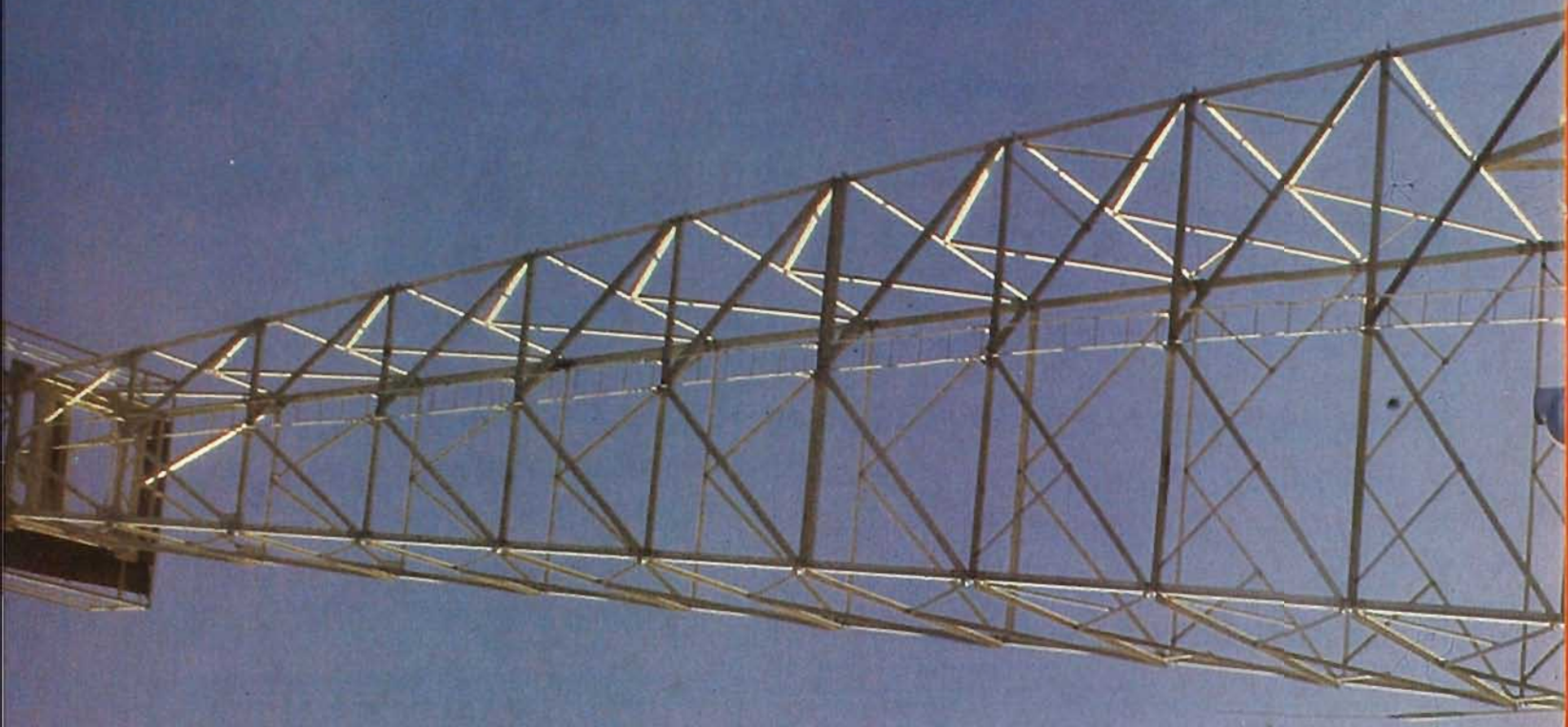
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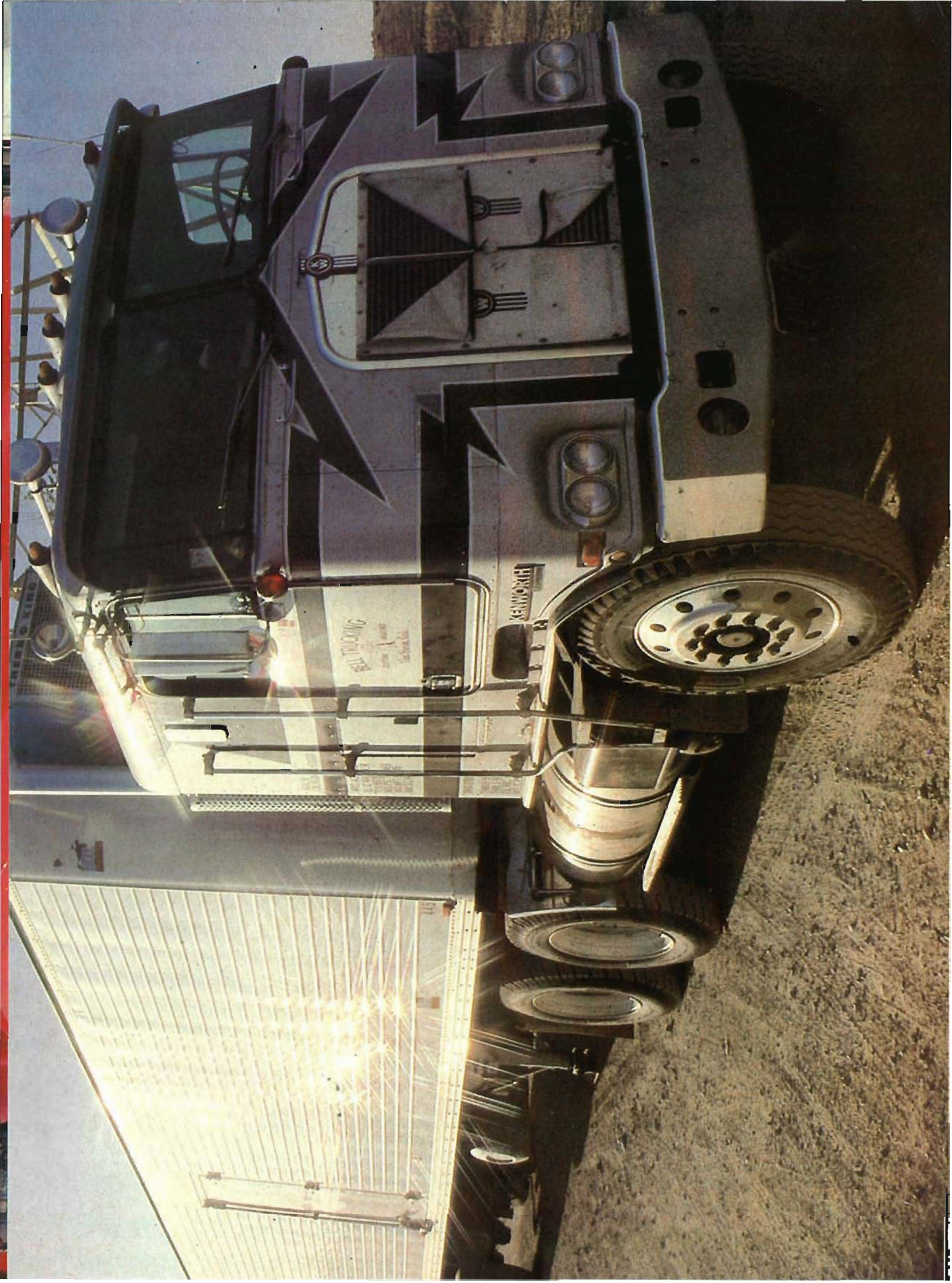
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BREAKER



Alternative

can CB life begin at 40MHz?

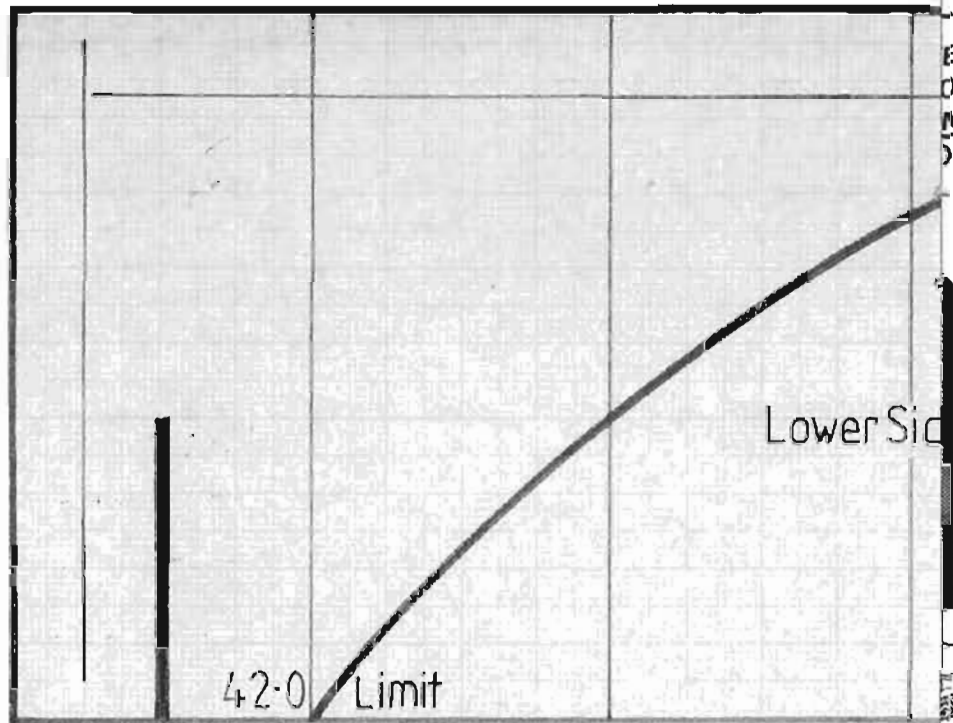
Certain frequencies have been allocated in Western Europe for television broadcasting and are thus used for the entertainment of the general public. The lowest in frequency, and hence easiest received of these is 41-68MHz, which is known as Band I and used in Britain to transmit BBC 1 on the 405 line, black and white standard, on channels 1 to 5. The old ITV channels, nos 6 to 13, are in the higher band from 174 to 216MHz (Band III).

Each 405 line channel is characteristically 5MHz wide, and thus out of the 27MHz width of Band I, only 25MHz (5 x 5MHz) of width is used in this country. There is presently a gap, approximately 2MHz wide, between our channels 1 and 2. The reasons for this are historic, dating back to the original TV transmitter at Alexandra Palace, which opened in 1936. This transmitted the 405 line video signal which extends up to 3MHz as a double sideband AM signal, which thus spread 3MHz above and below the carrier frequency. All the remaining BBC stations built after the war used a system known as Vestigial sideband, in which one sideband is transmitted in full and the other in a reduced form. Consequently this reduced the total channel width, including the sound channel, from 7MHz to 5MHz, and allowed five channels to be established in Band I. However, to avoid interference to reception in the London area, where double sideband was transmitted until 1956, channel 2 was placed in 48-53MHz, clear of the original upper sideband of channel 1.

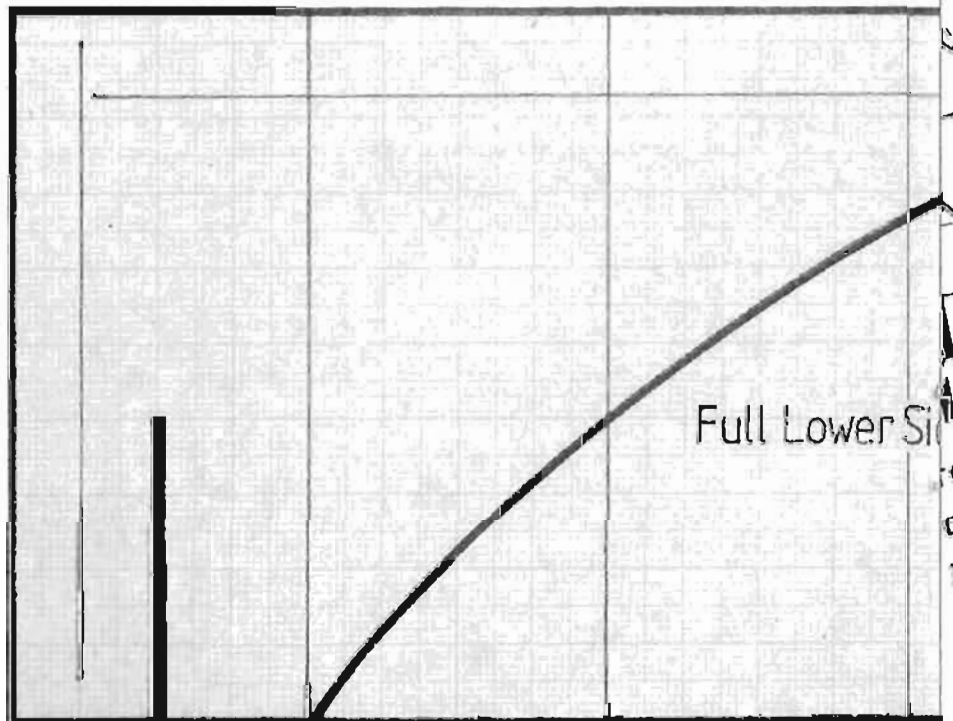
By looking at the graph on page 30, it can be seen that use of the gap between channels 1 and 2 for a CB service would cause interference to TV reception in neighbouring countries, as it overlaps at least part of the vision bandwidths of Irish Channel A, European Channel E2 and French 819 lines Channel F2.

The BBC are soon to commence progressive closure of their 405 line network, starting with areas such as the South-East and East Anglia which are relatively flat and adequately covered by the 625 line UHF service. Small relay stations serving such areas will also be closed. When this work is started, if those stations operating on channel 1 which are to remain in service until 1986 or beyond, were raised in frequency as shown on the bottom line, figure 2, then the 'gap' would be moved clear of foreign TV stations. Remaining viewers in the channel 1 areas would just need to readjust the fine tuning controls on their sets to optimise reception of the new channel 1A.

The World Administrative Radio Con-



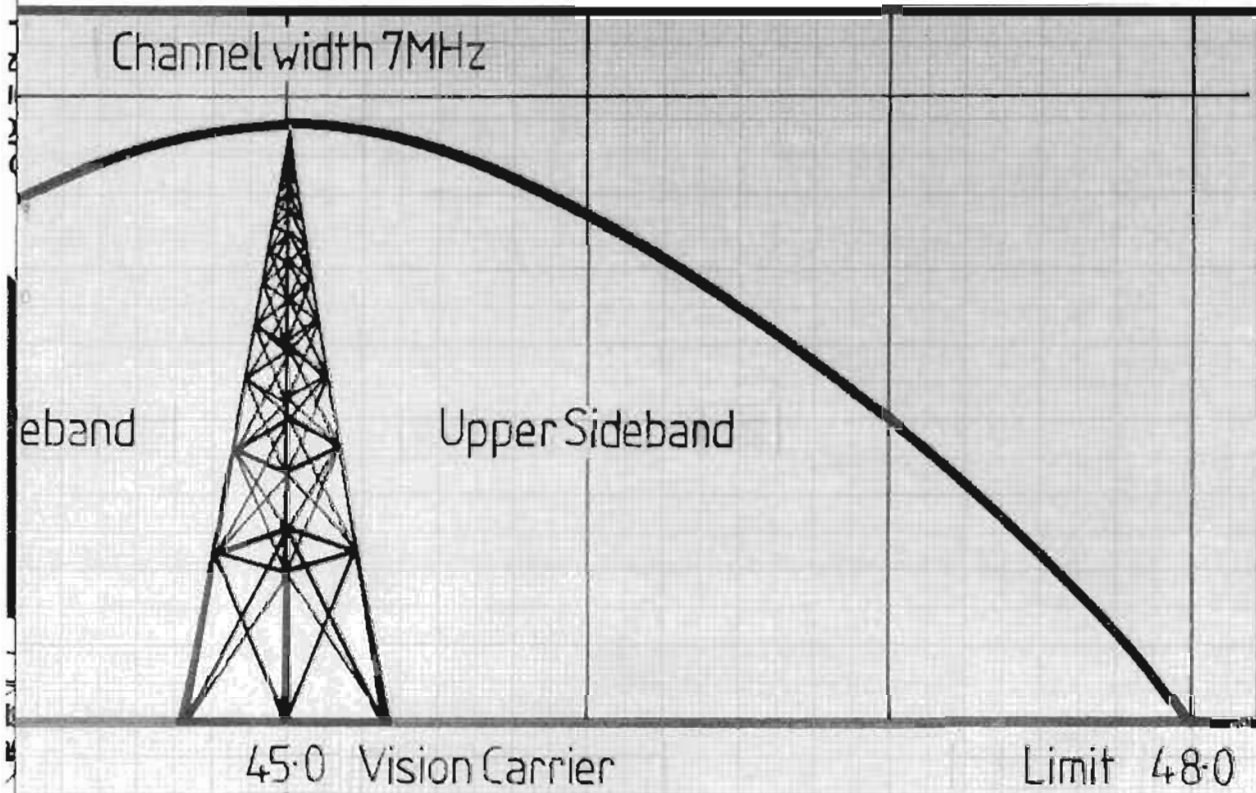
41.5 Sound Carrier



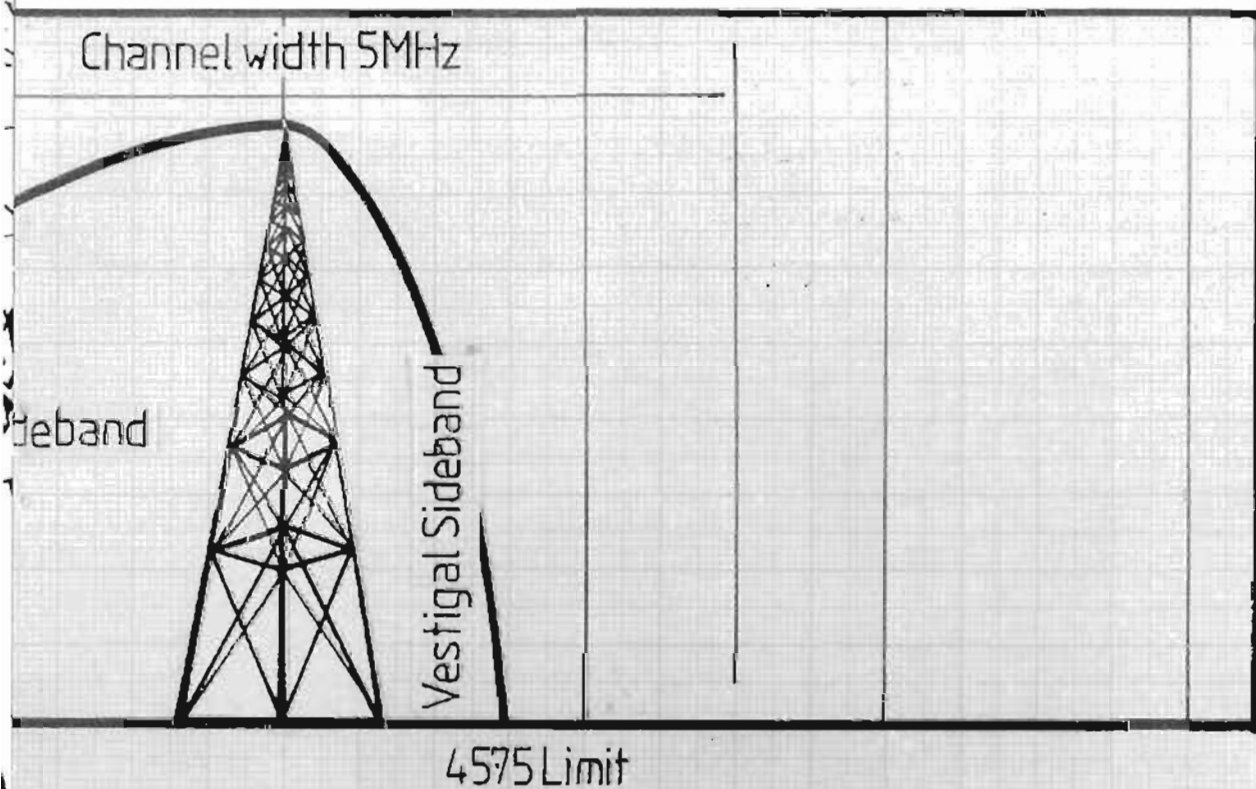
41.5 42.0
Sound Carrier

**Characteristics of original BBC
reason why channel 2 sta**

frequencies



Original
BBC TV,
Alexandra
Palace,
1936—
1956



Crystal
Palace
1966
onwards,
and all
other
channel 1
stations

TV transmissions from Alexandra Palace, the
starts from 48MHz instead of 46MHz

Channel allocations in west of TV Band 1, showing how CB

Alternative frequencies

ference at Geneva last year decided that broadcasting in Band I should cease by 1988 and the band be made available for mobile radio use; an allocation which could include a domestic CB service within a given country. Meanwhile, the only Western European country using frequencies below 44MHz for TV is France, whose obsolescent 819 line black and white service is still operating in parallel with a growing network of 625 line UHF stations. The only 819 line channel affected by these proposals is channel F2 which is used by the station at Caen in northern France. However it is transmitted with 50KW of power and is horizontally polarised, so low power (2 to 5watt) vertically polarised British CB transmissions are unlikely to interfere, except possibly from the Channel Islands, where special provision could be made.

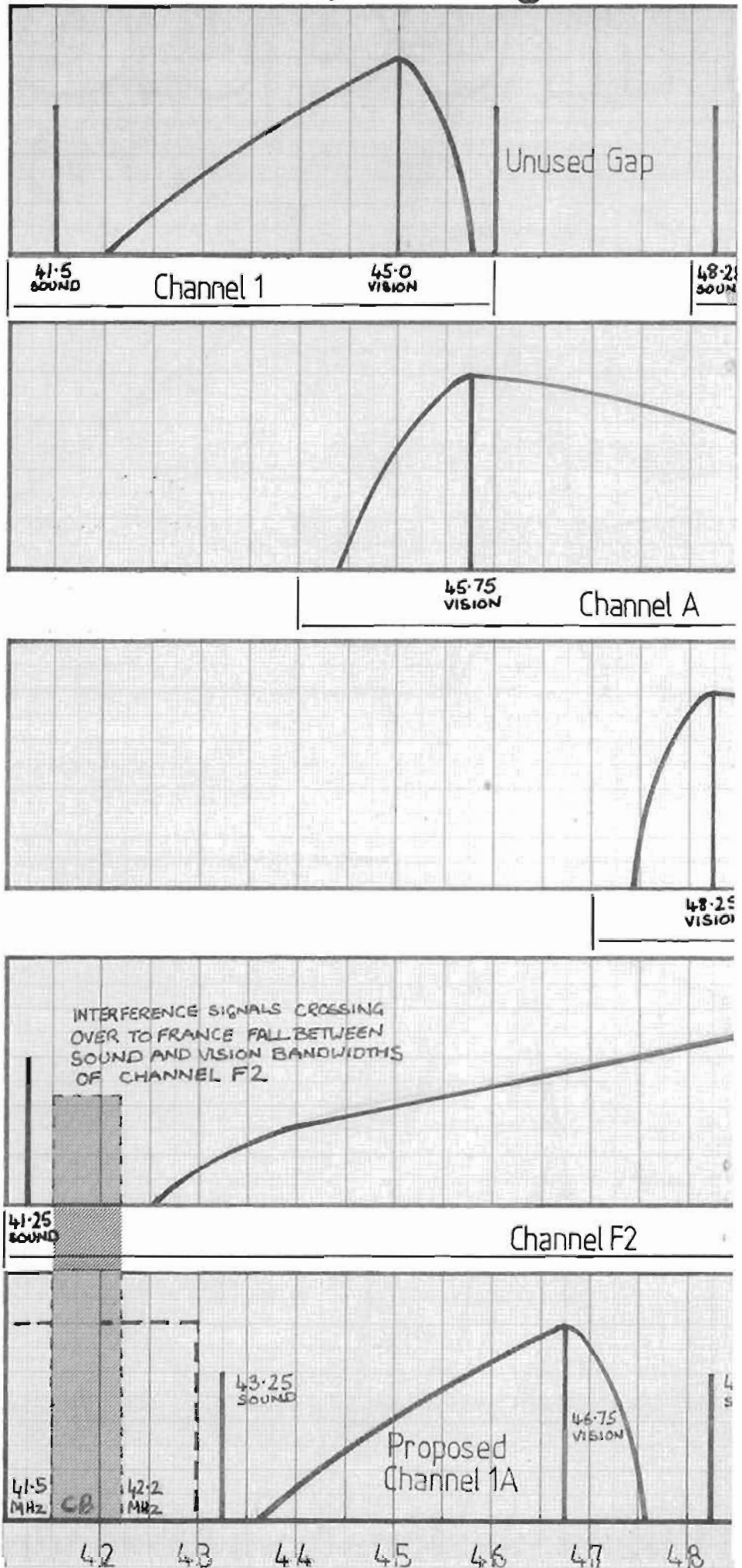
To prevent interference to the French TV service, I suggest that initially only a restricted frequency band be released for CB, say from 41.5 to 42.2MHz. This would allow 28 channels at 25KHz spacing, or 56 channels at 12½KHz spacing. These would all fall between the sound and vision band widths of the French channel F2. They would also be at least 1MHz away from the new British Channel 1A sound channel and at least 1.5MHz away from the lowest vision frequency.

If Britain decides to continue using Band I for TV after the 405 line service is finally closed, we will probably adopt System I 625 lines as presently used in the Irish Republic. This has three 8MHz channels in Band I, the lowest frequency being 44MHz. This would allow for future expansion of the CB band.

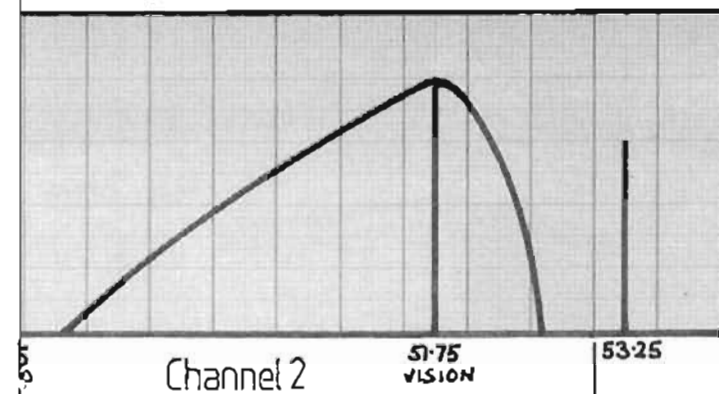
Band I is an ideal area of the frequency spectrum for a CB service. It is high enough in frequency to prevent the misuse of attempted long distance working, and the skip caused by distant users. It is low enough to travel easily around or over obstructions, and is thus suitable for a direct car-to-car service, without the benefits of high antennas. Equipment cost would be lower than that needed for a 900MHz service, being similar to 27MHz equipment, except that FM modulation would be necessary to reduce the likelihood of breakthrough into TV and hi-fi systems etc. Transmitting power required would be less than required at UHF, say 2 to 5watts instead of 25. This would be of particular importance to users of portable equipment in reducing cost, size and weight of batteries.

As Band I is presently used for TV broadcasting, then the usual arguments over the allocation of any frequency to the public for recreational CB use does not apply.

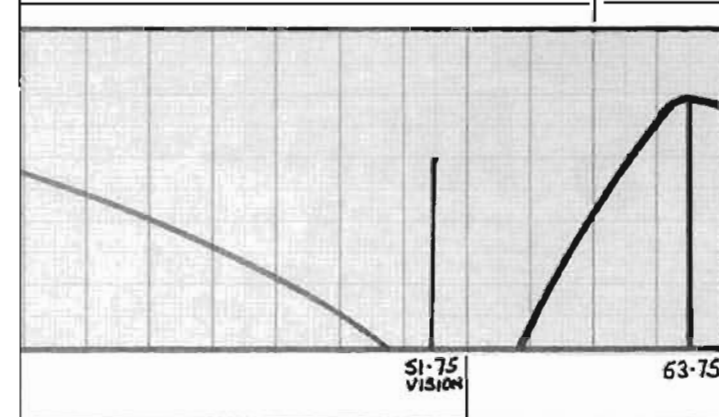
P J Collins



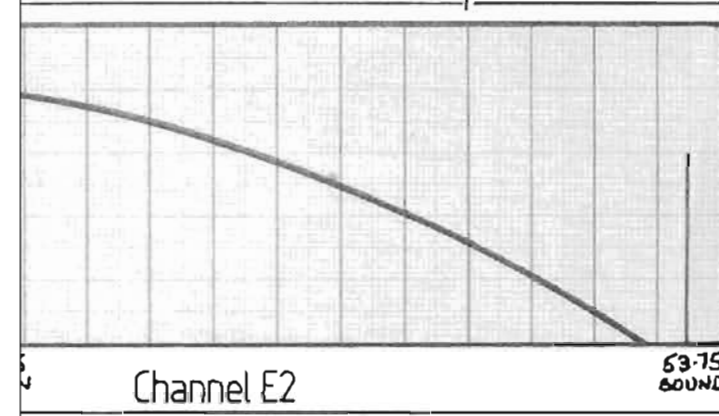
ern Europe in the lower end could be established at 42MHz



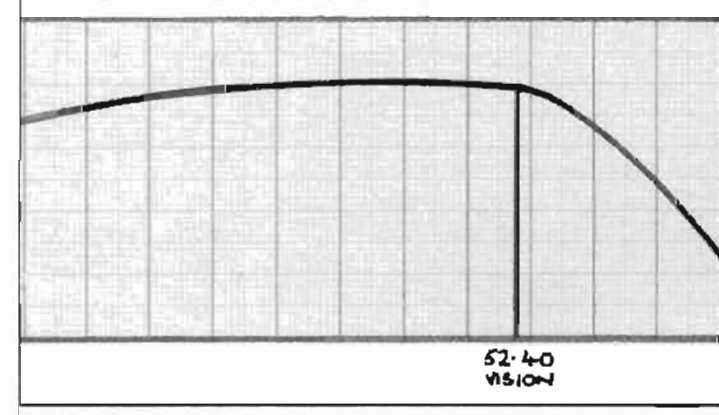
Present UK 405 lines showing position of 2MHz wide unused gap



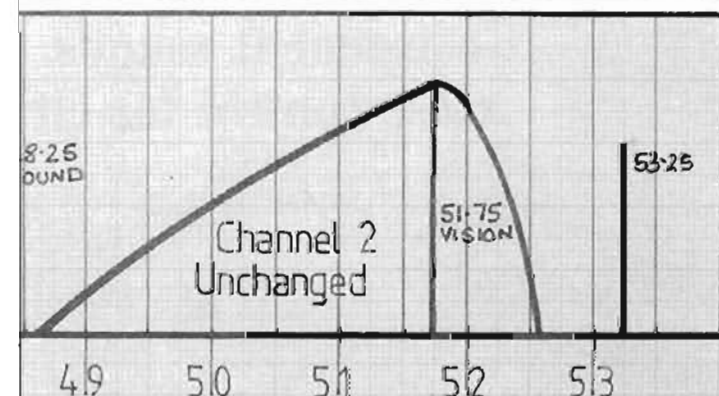
Irish 625 channels (system 1)



European 625 line channels (system B)



French 819 line channels (obsolescent)



Proposed 'new' channel 1A showing 42MHz CB service

EFFECTS OF 42MHz PROPOSALS ON THE BBC 1 405 LINE TELEVISION SERVICE

The BBC are proposing to close many of their 405 line stations in 1981-2, leaving only those stations serving areas inadequately covered by the new 625 line UHF service. The date of such a closure could be timed to coincide with the introduction of a legal CB service.

Of the 110 stations in the present BBC 1 405 line network, 24 operate on channel 1. Of these, approximately 13 could be closed without hardship, leaving 11 to be converted to the new channel 1A. The cost of modifying these stations could be met from revenue raised from CB licences.

BBC Channel 1 stations to be closed

Ballater	1V 10W	Local area relay, Scotland
Carmarthen	1V 20W	Local area relay, Wales
Churchdown Hill	1H 250W	Local relay, Gloucester & Cheltenham
Crystal Palace	1V 200KW	Main station, London
Kendal	1H 25W	Local relay, Lake District
Milburn Muir	1V 10W	Local relay, Scotland
Redruth	1H 10KW	Main station, West Cornwall
Scarborough	1H 500W	Local area relay
Sheffield	1H 50W	Local area relay
Skegness	1H 60W	Local area relay
Weymouth	1H 50W	Local area relay
Weardale	1H 150W	Local area relay
Wensleydale	1V 20W	Local area relay

BBC Channel 1 stations to be modified to work on Channel 1A

Ashkirk	1V 18KW	Main station, Scottish borders area
Divis	1H 35KW	Main station serving most of Northern Ireland
Grantown	1H 400W	Main station, Scotland
Kinlochleven	1V 5W	Local relay, Scotland
Llandonna	1V 6KW	Main station, Anglesea, Wales
Llandrindod Wells	1H 1.5KW	Main station, Central Wales
Llangollen	1H 35W	Local relay, North Wales
Lochgilphead	1V 20W	Local relay, Scotland
Peniffler	1H 25W	Local relay, Scotland
Pitlochry	1H 200W	Main station, Scotland
Thrumster	1V 7KW	Main station, North East Scotland

on the run

"CB," said one enthusiast yesterday. "is a bit like dope. For some people, once it's legalised all the fun will go out of it." Citizens' Band Radio, which may well soon be legalised, has indeed assumed all the trappings of a sub-culture. Through customs and used in short bursts. The penalty, if caught, is a £400 fine and/or six months in gaol.

There is even CB slang. Police cars are handkerchiefs (because they carry bobbies, otherwise known as bears). The North Circular is the Big C; traffic wardens are custard (male) or custard tarts (female).

Nobody quite knows how big the subculture is in this country. Some say 30,000, others go as high as 120,000. Two couples are said to have met and married through the medium, but for most, it is simply extremely good fun. However, behind the fun there is a growing lobby that has been working for the basic right to freedom of communication.

Mr John Butcher, Tory MP for Coventry South West and secretary of an all-party commission into the subject, says: "It is a basic freedom to communicate without going through a state monopoly which is being denied to the British. There seems to be some sort of idea that the British can't be trusted with the freedom of communication."

It has been suggested that our wavelengths will be clogged by custom, criminals, people uttering obscenities and party political broadcasts. But there are other, more practical difficulties which have prevented the establishment of a medium which exists in some form in all other European countries except Holland, which is to allow it next year.

One of the main Home Office arguments is that there is a drastic shortage of air space, an argument which enthusiasts dismiss as rubbish. Other objections say CB sets can cause interference to heart pacers, hospital paging systems, televisions and amateur aeroplanes.

Again, the CB lobby reject many of these objections. Although that model aeroplane can be sent haywire by the present illegal sets operating on 27 MHz, the same wavelength as aeroplane enthusiasts. But they counter that the most sensible control is to bring it all out into the open on a "safe" wavelength that will not cause such interference. The Radio Ham lobby, represented by the Great Britain Radio Society, should be on FM and at a very low wattage.

There need not be total anarchy of the air if CB sets are legalised. If, as seems likely, a different wavelength from 27 MHz is chosen by the Home Office, then existing sets will be redundant and all new sets could, for less than £1 extra, be fitted with a special silicone chip which would distinguish CP enthusiasts do not really consider that such a measure would be necessary. They say experience in other countries shows that the majority of CB sets are used harmlessly.

Working off a transmission power of five or 10 miles they are used by people seeking road directions in strange towns, by people warning of traffic jams or accidents ahead.

Nevertheless, the working party accept that there should be some kind of random monitoring of the system similar to that already carried out by Post Office Interference Unit. The Office Interference Unit, they say, would not be excessive and could be covered by a £5 licence fee at the point of sale.

There are thought to be about 10 million CB users in the US. Most of them tend to use it to book hotel rooms or order take-away meals in order rather than get up

But he warned radio hams that they would not be able to use their current 27 MHz frequency because of interference with police, fire and ambulance transmissions.

The Government, which is listening to public opinion, suggests they use the 92.5 MHz band.

Demand for CB radio in Britain grew after the pop record 'Convoy' with its "radio duck" jargon—hit the charts. The US film 'Convoy', which featured Larry drivers using CB, was also a box-office smash.

'Police let up on CB Victory for pirates?

PIRATE radio operators in the county may be able to use their sets more freely following reports of a police let-up.

Citizen Band radio users have heard that Northamptonshire police chiefs had decided the force would no longer help Post Office officials stop suspected operators.

Now CB enthusiasts hope this will mean they will be able to use their sets more freely in the county. More than 1,000 users operate in Northamptonshire — one of the country's most densely populated areas.

A breaker operating in the Wellingborough area whose call sign is The Cobra said the reports came on the CB's Sunday night news swap. It was stated that the

county police had sent out a letter saying they would no longer help stop breakers. This move was taken by police after a meeting with CB representatives over the legality of the police role. In the past months the police have been involved in swoops on CB radio users, resulting in prosecutions by the Post Office.

The Cobra said: "It means we will be able to be more leisurely in the use of our sets. It seems the Northamptonshire police are leading the way in this matter."

The Cobra said he had also received information that one — the police, Post Office or the Customs and Excise department — had any legal powers to take away CB

radios. "Apparently the owner has every right to refuse to hand his radio over, so that is something else in our favour," he said.

The police chief who, it is alleged, sent out instructions to his officers not to cooperate in stopping sus-

pected CB users is the county's assistant chief constable, Mr Ivan Forder.

He declined to comment on the matter.

A spokesman for the Post Office at Coventry, which monitors CB transmissions, refused to comment over the telephone.

Citizens on the

Continued from page one

covered by a £5 licence fee payable on purchasing a set.

The secretary of the group, Mr John Butcher, (C, Coventry SW), stressed that there could be great benefits to the British electronics industry. British firms were interested in manufacturing CB equipment once the new wavelengths had been established. At present all 27 MHz sets are imported—illegally.

Advocates of CB radio claim that it can be a lifesaver in rural areas. It has been legal since CB users claim the 2,000 lives a year by the instant communication offers.

Mr James Bryant, president of the Citizens' Band Association and a radio ham, said: "I called out the police five times this year in accidents or emergencies. CB can be of social benefit as well as being very good fun."

CITIZEN'S ARMY



One half of a radio... Kevin Pittam after his arrest. (Continued)

ONE of an estimated 1,000 Citizen Band radio users in Northants was fined £200 by Northampton magistrates on Thursday.

Paint sprayer Kevin Pittam, 24, of Manning Road, Moulton Leys, was found guilty of using an illegal CB radio set.

He had denied two charges of using a transceiver without a licence.

Mr John Thornwell, prosecuting on behalf of the Home Office, told the court that in this country it is not possible to obtain a licence to use a CB radio.

He said that on March 14 two Post Office engineers — whose job it was to monitor illegal transmissions — had picked up signals from a car travelling along the dual carriageway leading from Westoa Favel to the Bedford Road roundabout in Northampton.

Mr Thornwell called as witnesses the engineers, Keith Spokes and John Hebditch who had parked their Post Office van near the roundabout.

Mr Hebditch explained to the magistrates that the use

CB man loses set and £200

By Post Reporter

of CB radio can sometimes affect the use of radio-controlled models, which can be on the same frequency, and sometimes can result in "radio and television breakthrough."

Mr Hebditch explained that polo mint was the slang expression used among local CB radio users to describe a roundabout.

A car went by with a CB antenna fixed to the back and the direction indicator on the monitoring equipment swung round.

When police stopped the car shortly afterwards they found the CB radio hidden under the driver's seat. But Mr Pittam denied using it that night.

"On this night about 50 CB vehicles left from a pub in Northampton to go in convoy to a disco in Stratford."

Patrick fails in scaling Home Office wall on cb

Citizens' band radio will not be legalised in Britain — yet. That was the outcome of a recent meeting between the parliamentary committee set up to fight for the legalisation of cb and the Home Office Minister of State, Timothy Raison.

Despite increasing pressure from MP's and various action groups, and a more favourable attitude from this Government than previous ones, cb will not yet be legalised because it would need too many civil servants.

Raison told the cb parliamentary committee, led by MP Patrick Wall, that while "there were no insuperable technical difficulties," the administration of cb would require more civil servants at a time when the Government was cutting back on the civil service.

The committee claimed that the administration would need a minimum of civil servants, the minimum of civil servants, the minimum of civil servants, the minimum of civil servants.

servants," he said. One point of agreement between the committee and the Home Office was in the unavailability of legalising sets operating at 27MHz, the standard in other countries. But Bryant did not see this as encouraging.

"I would rather have 27MHz than nothing. The Government has been told that there are a few hundred malcontents who want cb. I estimate that about 60,000 illegal sets have come into the country in the last ten months, yet the Home Office is still talking about hundreds."

The pressure on the Government to legalise increasing. A national day of all the cb press was held in Wolverhampton after the Home Office and a steering committee formed to coordinate a campaign.

An adjournment due to take place of Commons today, 6 December demonstration is scheduled for Saturday, 15 starting from 10.15 at the Tree in Hyde Park.

Dutiful radio ham

By Alan Fitzbridge

It was the Chesterfield Citizen Band Radio Club's finest hour — the day they got together to chase a gang of car thieves through the streets and arrest them. But yesterday chief CB radio, heavy price — Ashmore, paid a heavy price for the triumph he mastered for possessing the radio equipment used to trap the villains last September.

Mr Ashmore, a 34-year-old lorry driver with a passion for the illegal pastime of chatting over the air with other drivers, was out horse-riding when he heard that a van belonging to a friend had been stolen.

Later the same day he saw a and, after checking its station to make a statement

suit followed, during which Mr Ashmore alerted about 30 other local CB enthusiasts.

"We were going to 80mph," said Mr Ashmore yesterday. "I used a loudspeaker to the lads in the van but they just drove faster and tried to charge me off the track of the chase via road blocks on the outskirts of Chesterfield."

The van was finally cornered and three of the five youths who had stolen it were tackled and arrested by members of the club.

The police later charged five youths and thanked Ashmore for his efforts when he went to the station to make a statement.

Government sounds close control for cit

By Stephen Cash

The Government is in favour in principle of a short-range radio communication service for private users, but rejects the usual title Citizens' Band in favour of Open Channel.

Its discussion document, published yesterday, makes it clear that Open Channel would be significantly different and more closely controlled than Citizens' Band radio in the United States, Canada, and other countries.

It says that the 27 Mhz band used for CB abroad and for illegal CB transmissions in Britain is inappropriate for this country because of possible interference with hospital paging systems, model ship and air-

interference, although this frequency might still cause difficulties for some television and audio equipment users.

The document proposes that there should be close technical control of the manufacturers of Open Channel transceivers to ensure high standards and that an effort should be made to select a frequency which might also be used abroad in the future. This would give British manufacturers a chance to export.

Equipment should have a range of 10 miles (15 km) in open country, which would be considerably less in crowded built-up cities. "If an individual wishes to use sophisticated equipment to 150

"Every about to other. In this group fact there blue Pic said N conduct "My wait on 1,000 ampto Post pickers who strox ampl M the r adv and y life oa' he' r th or e p

BRITISH OPEN CHANNEL WON'T HAVE 'EXCESSES' OF AMERICAN SYSTEM

CB radio is on the way

CITIZENS' Band radio is coming to Britain.

Proposals for a limited form of citizens' radio, to be called Open Channel, were put forward yesterday by the Government. It could be legal within a year.

Open Channel would operate over a range of about ten miles and its rules would be aimed at avoiding the abuses of Citizens' Band radio experienced in other countries such as America. A Home Office discussion

THERE'S JUST ONE PROBLEM: THE PRICE

ENTHUSIASTS of Citizens' Band Radio are not too happy with the proposal because the Government's choice of frequency means dearer sets.

The CB lobby says that

sets operating on 900 Mhz, would cost up to £650. At 27-49 Mhz, sets are £200 cheaper.

This cost difference is because the Japanese moved in early in the American CB boom and cornered the mar-

ket with mass-produced cheap sets. But the frequency the Government is proposing would be used by relatively few operators worldwide, and sets would therefore be much dearer. The Government has chosen 900 Mhz because that

would cause least interference. At present CB is illegal in Britain — but it still means big money. Sets operating on 27 Mhz can easily be bought in Germany, Italy or America for around £25, selling here for £63.

about ten miles in favourable conditions, such as a rural environment—for example, use in certain emergency services.

Long range or international communication was best served by amateur radio or telephone.

The introduction of Open Channel would involve some very modest increase in Home Office staff, says the document.

CB fans Andrew Olney and Hans Harris were fined a total of £75 at Brentford, London W., yesterday for using their radios. Magistrate Vera Secker said their hobby might be fun but it was against the law.

document 'Open Channel', outlines Government suggestions for "fun radio". The public is being asked for its comments.

The Government wants Open Channel to conform to certain technical stan-

dards, and cause the least risk of interference to other radio users.

In recent months there have been proven cases of interference to a hospital paging system and to police and fire service communica-

tions and a significant number of model aircraft have been driven out of control with a clear risk, to members of the public, says the document.

Open Channel in 'social' use could cover such things

as traffic jams, ship-to-shore communication and establish contact between walkers and climbers.

Most of the social advantages claimed for a personal radio service would be achieved with a range of

Convoy of CB radio users stage protest



One of the vehicles which took part in the CB protest convoy.

THE streets of Camborne, Redruth and Falmouth were invaded on Saturday afternoon by a convoy of 75 vehicles involved in a "peaceful protest" staged by Citizens Band Radio users.

Organisers explained that the protest followed the recent confiscation of 22 sets of radio equipment from CB users in the Camborne-Redruth area.

The aim of the convoy was to focus public attention on the Government's attitude towards Citizens Band Radio users.

"We wanted to let the public know that we can be fined £400 for possessing Citizens Band Radio equipment, whereas rapists are sometimes fined only £100 — the comparison is ridiculous," said Mrs. Judith James, a CB operator from St. Day.

She was one of the enthusiasts whose equipment was confiscated by the police in a recent raid.

"I was frightened to death when three officials and a policeman knocked on my door at 8.45 a.m. last Sunday week," she said.

EQUIPMENT

"They told me they had a warrant so I let them in, and they went straight over to our Citizens' Band equipment."

"David, my husband, was away at work, and the knocking at the door had woken me up. The officials didn't show me their warrant."

The convoy of vehicles on Saturday drove slowly through the streets of Camborne, Redruth and Falmouth, sounding their horns and flashing their lights.

This followed a protest rally in Camborne, where 5,000 pamphlets were distributed.

These read that Citizens Band Radio was "operated on 27 Mhz, which the Government says interferes with radio modellers, TV and hospital bleeper systems."

"But what they don't tell you is that taxis and police two-way radios also cause interference," the leaflet said.

Citizens Band Radio is a short-range two-way radio which is legal in many other countries.

In Britain, infringement of the CB rules and regulations by operating on any other than approved frequencies can lead to the suspension of a radio operator's licence.

Mrs. James felt strongly about the importance of Citizens Band Radio as a safety measure.

"If a CB operator sees an accident in the street, he can radio back to another operator in reach of a 'phone," she explained.

The convoy of vehicles, escorted by a police traffic car, were allowed to stop about every ten minutes, so that the convoy could reform.

Police Inspector Alan

Sanders said that the convoy followed the agreed route, and were courteous to other road users.

"Considering that there were between 60 and 75 vehicles travelling through the streets together, we had no problems with them," he said.

CB radio ban may be welcome

"A WINK is as good as a nod to a blind horse" was the Home Office's reaction to Southern TV's report recently that the introduction of citizens' band radio into Britain is to be shelved for quite some time yet.

Timothy Raison, Minister of State at the Home Office, had in fact said that a good deal of work had been done in examining the possibility of introducing CB radio but it is too early to come to any conclusion.

He said that there was no question of having a CB service on 27 Mhz (that frequency is already used by aircraft modellers and hospitals) but the main problem was that of providing staff for regulatory duties on alternative frequencies at a time when the Government was committed to reduce the size of the Civil Service.

The question of Customs involvement should CB radio be allowed is still open, according to the Home Office Press Division.

Prosecutions for illegal use of CB radio in 1979 were 10 times higher than in previous years.

Citizens' band radio plan gets poor reception

By Stephen Cook
The Government's discussion document on what it calls in-cities Open Channel — band radio known as citizens' band radio — came under strong attack yesterday for legalisation of CB. The paper proposes licences for use of sets made to strict technical standards and operation of other broadcasting. A national committee of Government officials said such a licence would cost over £250 and be so many people using 27 Mhz sets that it will be longer possible between the beginning of April and July 18 this year. Mr Timothy Raison, Minister of State at the Home Office, said at a news conference yesterday that the Government had moved quickly but refused

clashed themselves ready to make them, and they would make a range of several suit in-cities. The national committee agrees with the estimated 80,000 to 150,000 CB sets operating illegally could interfere with other broadcasting, including hospital paging and police radio model control, and fire communications. But it feels that unless the Government decides quickly on what shall be legal there will be so many people using 27 Mhz sets that it will be longer possible between the beginning of April and July 18 this year.

Mr Timothy Raison, Minister of State at the Home Office, said at a news conference yesterday that the Government had moved quickly but refused

fined

from the Post Office waiting to charge him offences under the Wireless and Telegraphy Act. It was the second time within a month that Mr. Williams had been charged with similar offences and yesterday at Chesterfield's West Bars magistrates court he was fined £100 on each of four counts, with £25 fines on the first of a CB transmitter involving use of Williams, John Road, Helton, aged 34, of Moffatt fined £100 and ordered to pay £30 costs and magistrates. Mr Tony Brentnall, prosecutor, said the transmitter was found in Mr Williams' car at the rear of his garage party. The equipment operated on a police frequency prohibited in Britain.

out new name and citizens' band radio

ut equipment needed to rate in the 900 Mhz band and, until manufacturing came cheaper, cost about 20 per cent more than, for example, 200 Mhz band equipment. It says. Everybody buying a transceiver should be to buy an annually renewable licence, setting out conditions of use and withdrawal of licence related to the radio licence, and could be a code of practice, the document says. This licensing system would be an increase in Home Office staff, it says.

1949, which allows for some users to be unlicensed. The Government has given careful study to this possibility because of its general aim of reducing regulations wherever possible. The Government considers, however, that it would be unsatisfactory. It would be acceptable to exempt from licensing a service which would not be likely to cause interference to other users, but this cannot be assumed of Open Channel. Copies of "Open Channel—A discussion Document" can be had from the Officer in Charge.

WHAT THE PAPERS SAY

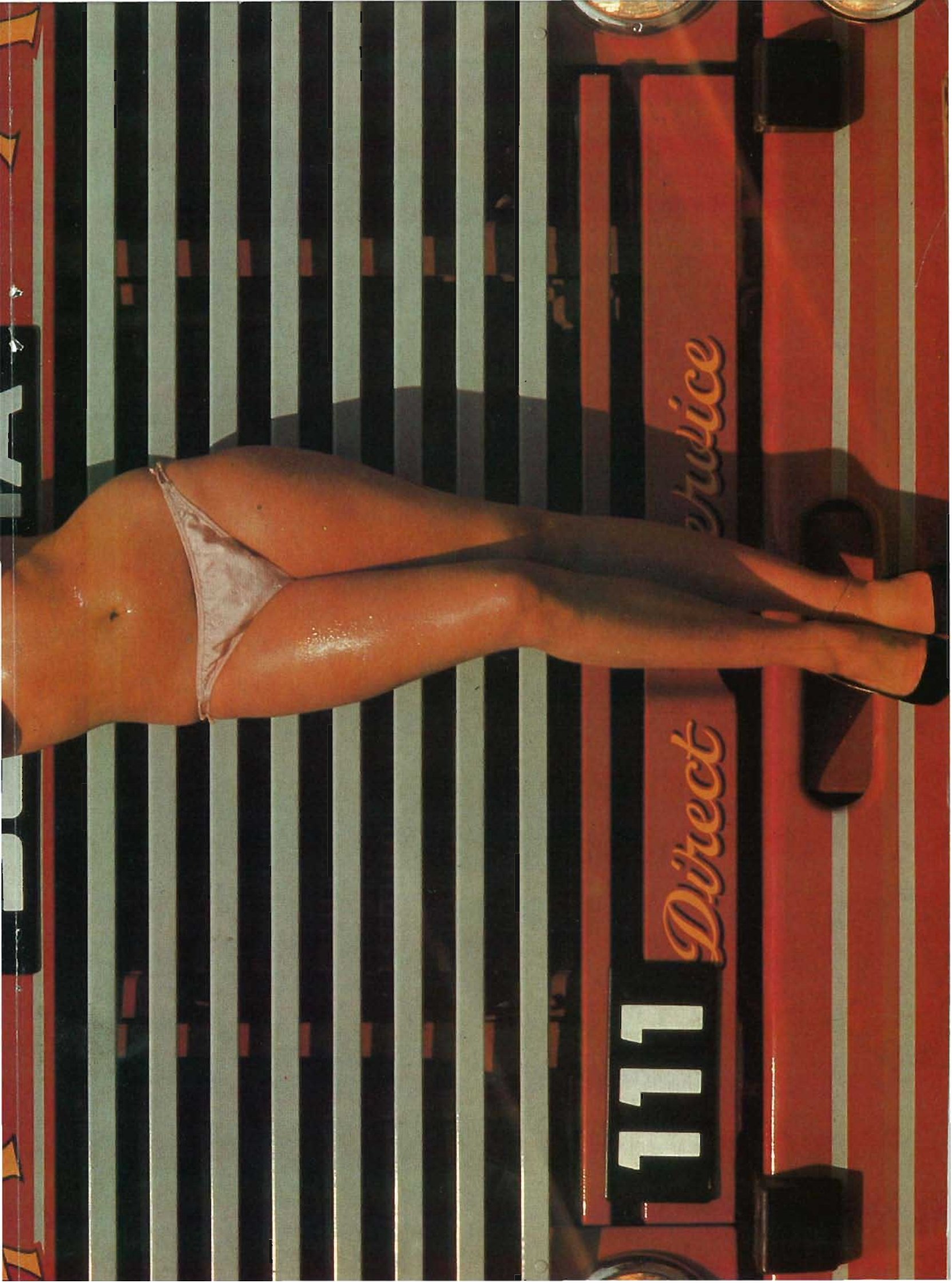
BREAKER

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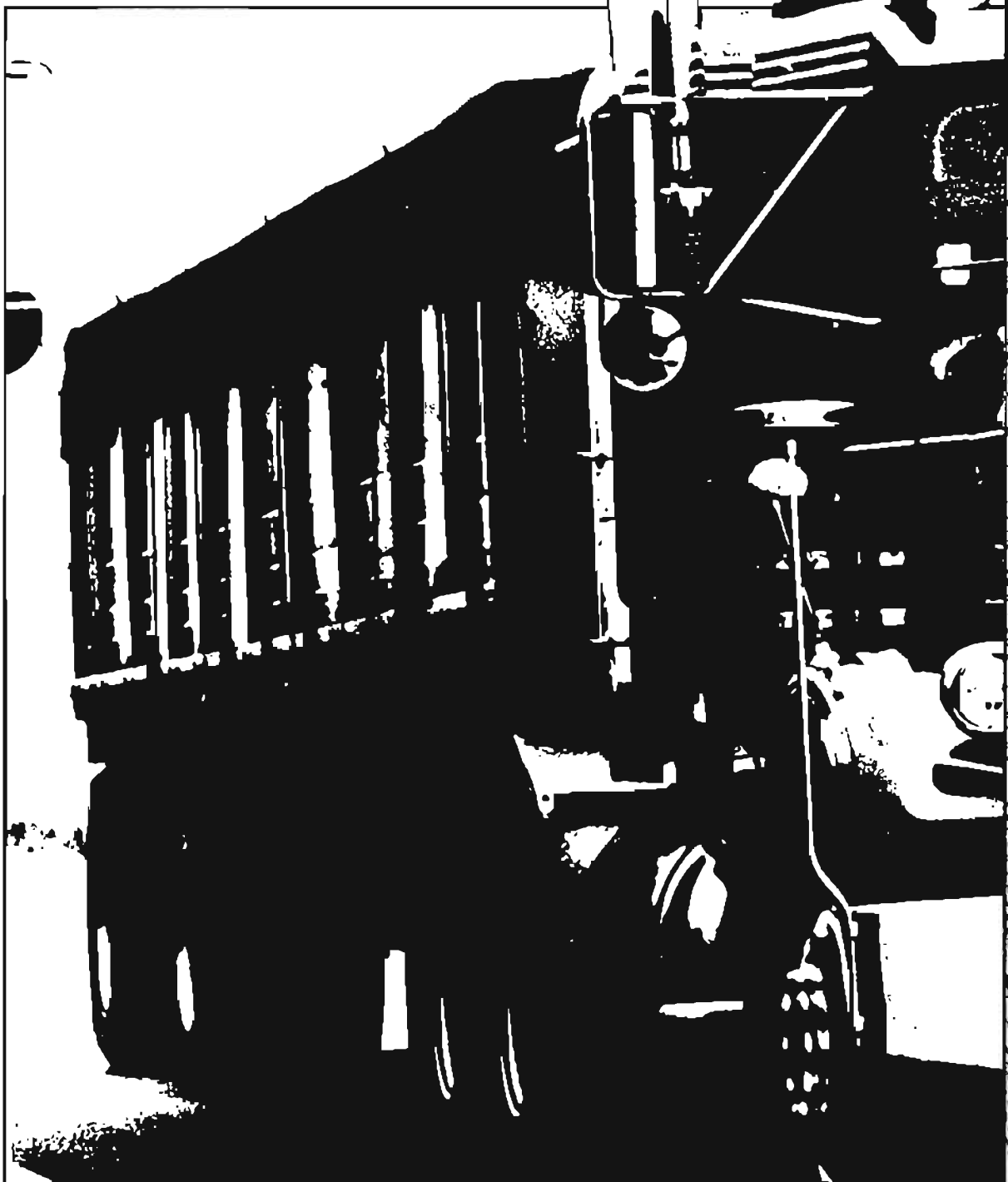




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Direct

Justice



AIRWAYS

Well goodness us. We had no idea that you were all so jolly well organised. Just a few lines, we printed, in the last issue mentioning a few clubs, and what happens? There's loads of you out there.

We've got a minor update for you here, which consists of clubs we haven't mentioned before, just to be getting on with, but it seems that we'd better establish a few rules for all this so we know where we stand.

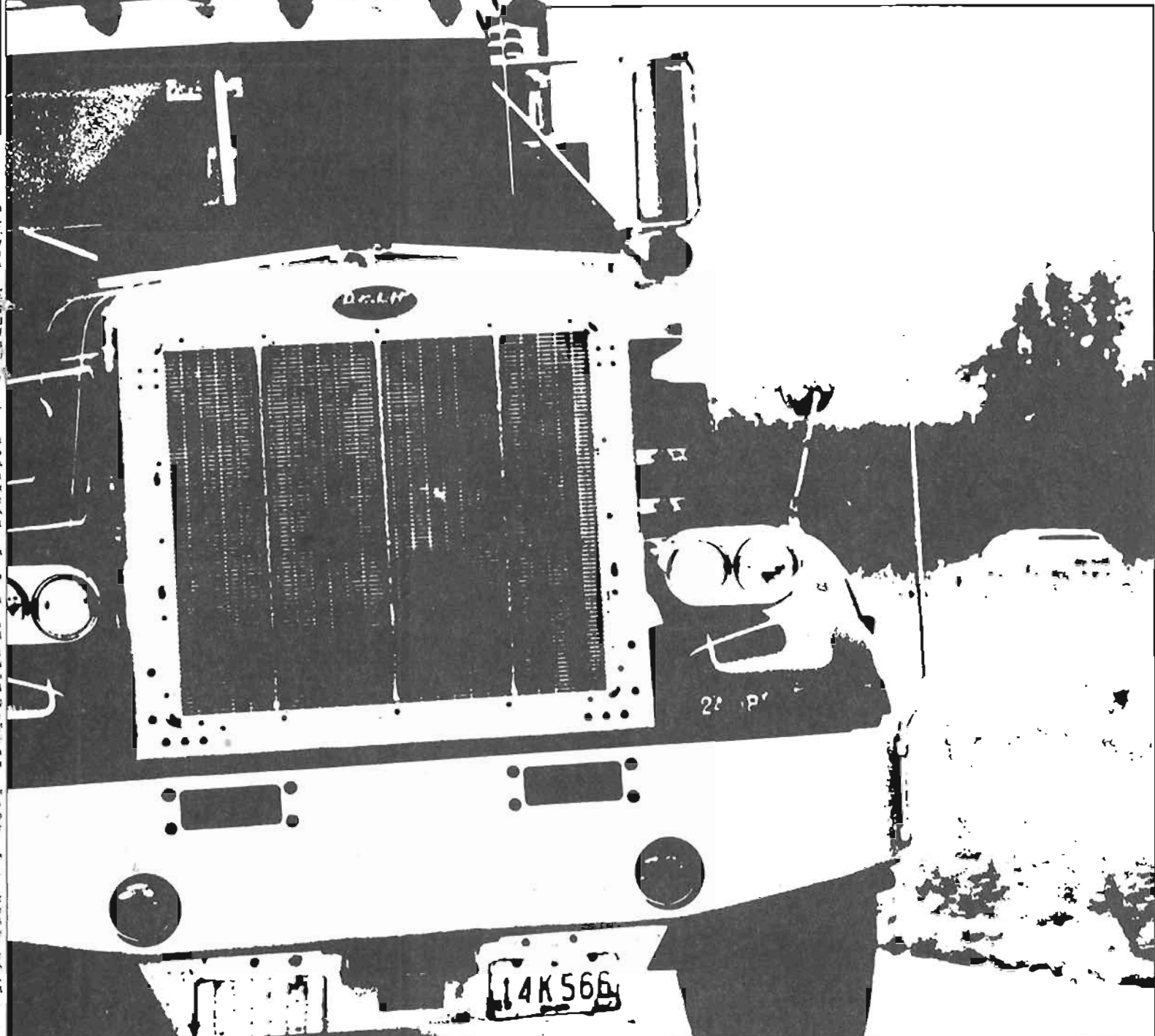
First, remember that you're unlikely to attract new members if you only give a vague address of a pub somewhere in 'England'. You're going to have to be more specific about it, even though it is very difficult.

If you have a secretary or similar then a contact address is going to be very useful, and you ought to aim for that. Surely one of you has a granny who wouldn't mind accepting mail on your behalf? An auntie? Or a business address? Or even your friendly neighbourhood goodies store?

Failing that, specify your pub and the address together with the nights you meet. Then, last thing of all, write and tell us all about it.

BREAKER

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Pennine One Nine Club
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South Birmingham Citizens' Band Club
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Shirley
Solithull
West Midlands
Tel: 021 745 1135

St Helens CB Club
33 Broadway
Grange Park
St Helens
Merseyside WA10 3RS

United Campaign For The Legallsation Of CB Radio
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Dunbeg
Connell
Argyll RA37 1QJ

Untouchables
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Kearsley
Bolton
Lancs

West Glamorgan Breakers Ass
25 Plas Newydd
Baglan Moors
Port Talbot
West Glamorgan SA11 7DF

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c/o Watford Component Centre
7 Langley Road
Watford
Herts

Bristol CBC
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Headley Park
Bristol BS13 7LU

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Gabalfa
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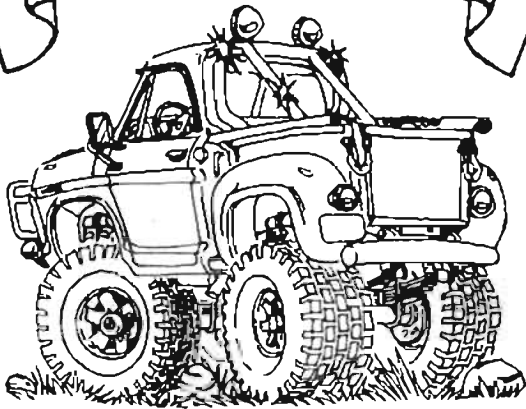
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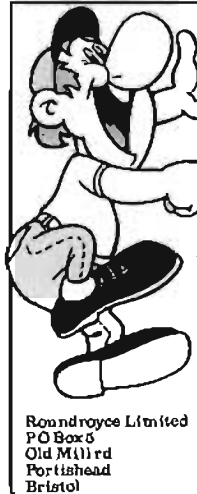
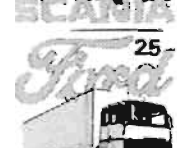
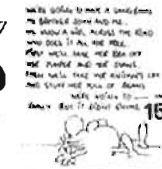
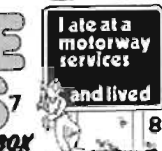
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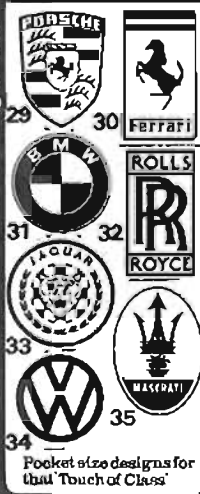
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Make the mos

Among the many letters we had after Breaker number one was this interesting thought from Mike Newbold, alias the Medicman.

Dear Breaker, I think any self-respecting CB magazine should have a section for the rapidly growing hobby of QSL card collecting.

A few months ago I had a QSL card passed to me by a friend, and was taken aback by the personally and individuality expressed by it. After a few sketches I designed myself a QSL, and armed with my requirements, I received an estimate, which I duly accepted, I sat back and waited like an expectant father. At last the great day arrived and I hurried home with my parcel. Later, with my typewriter going red hot, I typed my QSLs to all the addresses I could find, and after investing some beer tokens in a batch of postage stamps, sat back and waited.

Just 48 hours after posting the first batch I received my first QSL card from Greenfingers alias Chris Hodgson of Sunderland, and behold a friendship was born. Just two days later a bright red one from Roast Beel, alias Ted Morris of Worcester, arrived.

Not knowing the etiquette of successful QSLing I had only sent out one card to the fellow CB'ers I had addresses for, but apparently if you send two or more, these in turn are passed on to your friends. Within two weeks I was receiving cards from all over the world including some really nice folk in Canada who run their own QSL Club, namely Dave and Yvette Cooper of Manitoba. What is especially noticeable is the friendliness of all CB'ers who QSL — who said money can't buy friends?

The cost of the cards vary considerably, depending on the quantity you order, the complexity of the artwork, number of colours etc. As an example Derwent Press of 69 Langstone Drive, Exmouth, Devon EX8 4HZ, will produce 100 QSL cards for about £4, or a complex three-colour one will cost £7.70. Obviously they're much cheaper if you order more, say, 1000.

As with every hobby, one-upmanship is quietly exercised by the individual rubber stamps on the back of the QSLs, mainly expressing your membership of QSL clubs around the world. At the last count there were nearly 450 of them, all offering a club rubber stamp. If you want your own individual design, Lincoln Rubber Stamps of 6 Cornwallis Road,

Allenby Industrial Estate, Lincoln LN3 4PD, will produce you a nice stamp for about £12 to £25 depending on the amount of work involved.

A simpler and cheaper way of one-upmanship is to use the Steepleprint 'Able Labels' which cost £2 per 1000 for white or £2.75 per 1000 for gold self-adhesive personally printed labels. Their address is Earls Barton, Northampton NN6 0SL.

It's a great hobby, and great for making world-wide friends, it's been the best investment I've ever made so, as they say — you QSL me I'll QSL you.

The Medicman
Surrey

Mike raised a point which we were in danger of overlooking. The practice of sending QSL cards, confirming radio contact, has long been an established part of the radio amateur's repertoire, but has been growing into something more than just that.

As Mike points out, QSL cards are turning into a little artform of their own, and we'd like to see more. We're also having our own printed and in future we'll acknowledge all communications to the magazine in this way. It'll save a lot of letter writing, apart from anything else.

Meanwhile, here are a few examples to look at. Almost any printer you can think of should be able to cope with this sort of thing fairly easily, providing you can supply all the information he needs. One of the most critical pieces of that will be the artwork — not all printers can draw as well as you'd like. Some are already well into QSL cards and apart from knowing what you're on about (which is a major advantage) can also offer design and artwork services; The Print Shop, at 14 Coldharbour Lane, Hayes, Middlesex (01-848 9241) is one such place, but there must be others.

You wouldn't do yourself any harm if you let your fingers do a bit of walking; you'd probably find a couple of people who could help.



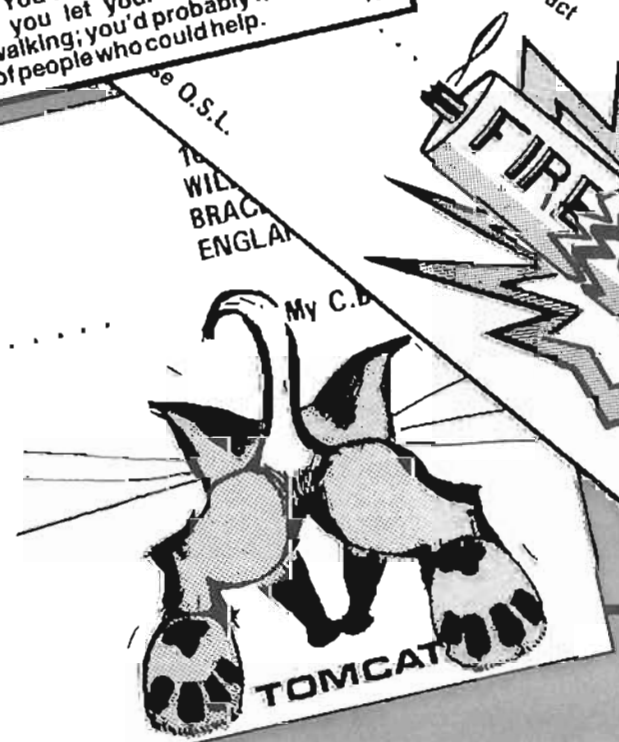
JHK

To Radio

Confirming our 27 mc/s contact

Date

Time



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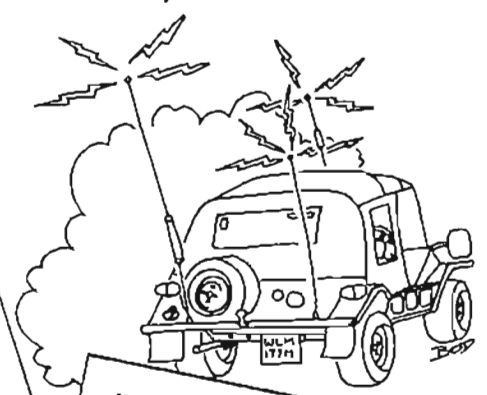
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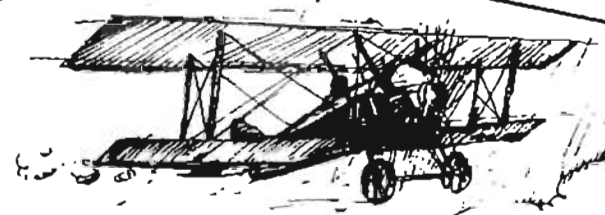
THE MEDICMAN

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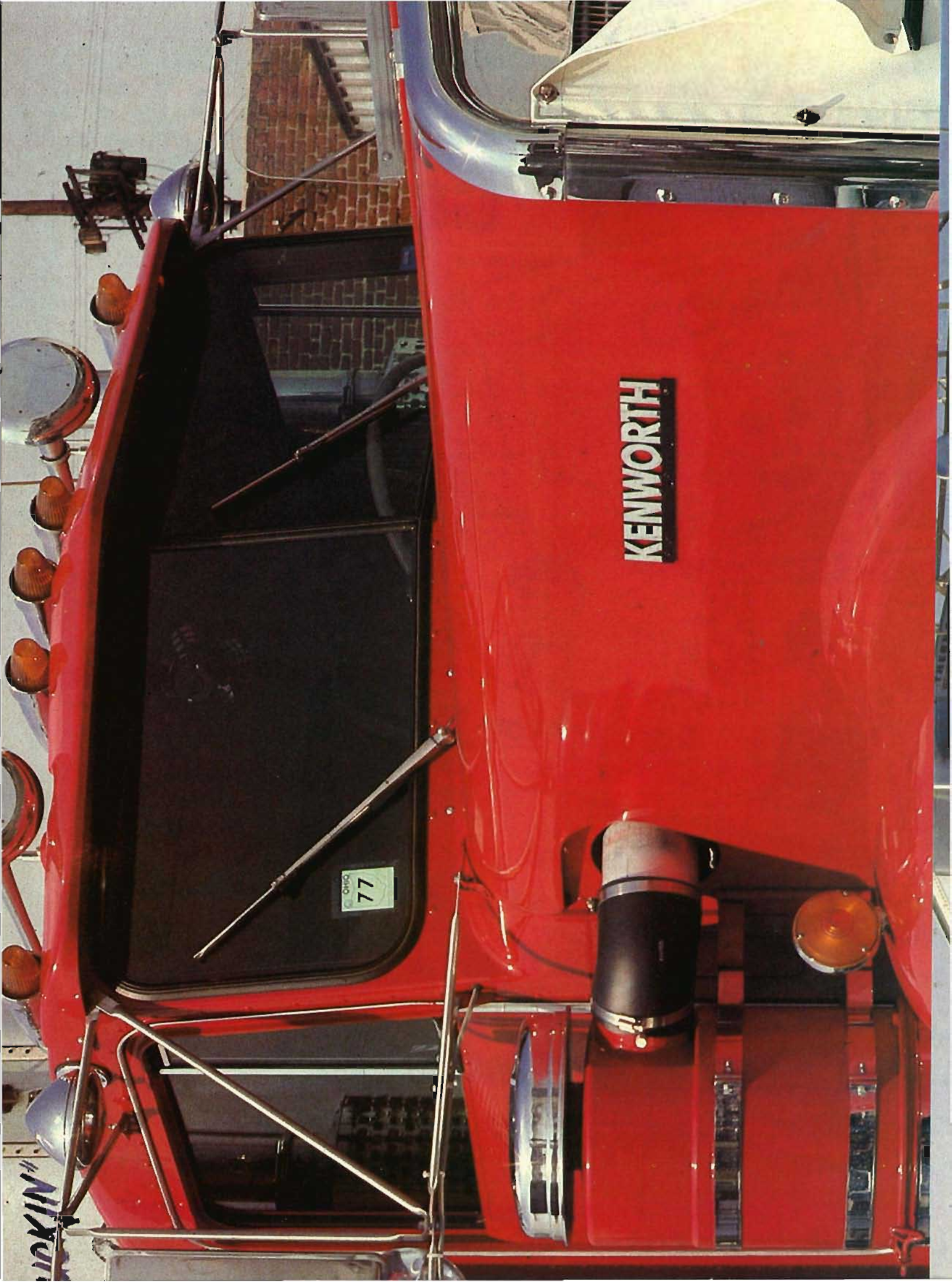
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Join the two-way radio club

With all this talk that's been going on about CB radio and how useful it can be, we thought we'd like to take a constructive stand. Theorising about all those lives saved in Ohio and other parts of the US is all very well, but what are the realities? Can two-way radio help? Is it going to be of any practical value to anyone? We think so, and we thought that the best way to make the point would be to illustrate it.

CB is most often held up to be the boon of the motorist, so we took a very motoring-related standpoint, added in two-way radio and came up with the Automobile Association.

The little (and now also big) yellow vans are a common sight all over the country these days. Their ability to reach and assist stranded motorists is dictated in no small way by the fact that the AA make extensive use of their radio facilities. We took a closer look, and spent a night on the road with the AA . . .

The AA introduced their Free Breakdown Service to members in 1946. In those days they sent mechanics to assist, and the garages who employed them were paid by the AA to spend a maximum of one hour by the roadside. If unable to cure the fault, they towed the member's car to the workshop for repair. Apart from spares the service was free until the car reached the workshop.

This service had its limitations, however, not least of which was the lack of participating garages.

On 10 February, 1949, the AA unveiled their first major innovation — a dawn to dusk service within a 20-mile radius of central London, providing breakdown assistance by AA staff in vehicles controlled and directed by radio. Demand on the service was so high, and its effect so satisfactory, that the radio-control radius quickly grew to 235 square miles.

After that, the only way was up. By 1950 radio-control had arrived in Birmingham and was extended to Leeds in 1951, the same year that it became a 24-hour operation in London. Thirty years later the AA radio network covers an astounding 80 000 square miles of the UK, utilising 130 base stations with 50 link transmitters servicing 3000 mobile sets, 110 base sets in roadside service centres and yet more field units (including hand-helds) for use at large shows and events.

Obviously no-one makes an investment of that size unless the benefits are outstanding. We could all rattle off the easy ones without thinking about it. But what is the practical effect? How does it help the AA patrol and his broken-down customer? To find out we went to East Anglia; 1000 square miles of flat countryside with a sparse population spread very thinly over the ground. Without going to somewhere really remote it would be hard to find an area with less people, less facilities and more miles of lonely inhospitable roads than this.

The region is controlled from a headquarters building in Norwich. Manned 24 hours a day, Norwich receives calls for assistance from anywhere inside an area roughly bounded by Ipswich, Cambridge, Peterborough, King's Lynn and the East Coast. Staff at Norwich are in constant radio contact with patrol vehicles anywhere inside this area.

Out of a possible 12 channels allocated to the AA, their Pye base unit has a choice of six available, and is connected by GPO landline to the transmitters at Stoke Holy Cross, a few miles south-east of the city. Originally the transmitter was mounted on one of a set of masts left over from the Second World War, when they were used as part of the Chain Home Low RDF network — the Radar to which

The Few owed so much of their success. Now it is fitted to a new mast, which it shares with other organisations who have a radio facility — Police, Ambulance, Water Board, Securicor, Aircall, you name it. Despite their proximity to each other, the respective radio nets suffer no crosstalk, although if two mobiles on adjacent frequencies were transmitting next to each other the chances increase; even so, 12KC separation is good enough at this frequency. The AA base stations transmit on about 86MHz and receive on 87; obviously enough the mobiles transmit on 87 and receive on 86. Thus the controller can hear all transmissions made by the mobiles while they can only hear the voice of the controller. The base has an optional talk-through switch, however, which gives the mobile to mobile facility at the press of a button. In the interests of preserving good radio procedure this is not often used.

With all this behind us we picked up Norwich Lima 128 at 14.00 hours one cold but dry Tuesday in October. The call-sign allocated to the vehicle is unique in several ways. Norwich obviously locates its area (even on VHF it's possible for Norwich base to receive calls from Brighton-based mobiles in the right weather conditions, and vice versa) and Lima designates the type of vehicle — Lima (L) is allocated to light vans (Escorts and Marinas), while Tango (T) goes to a heavier towing vehicle like a Land Rover. The vehicle number, in this case 128, is also significant; the first digit represents a further subdivision of area within the Norwich control pattern and then the second two are individual to that vehicle.

Working a shift pattern alternating between 7am to 4pm or 2pm to 11pm, Lima 128 is on a late shift today, catering for the unlucky motorists who break down within the City of Norwich or its environs. Before you say city-bound breakdowns in a populated area are no hassle, wait until your fuel pump packs up on the ring road in the rush hour.

At 14.00 Rodney keys the Pye dash-mounted set and announces that Lima 128 is on duty and available; straight away we get a job. A grey Hillman Hunter at County Hall, non-starter, called in at 13.30.

It's not a new car, and the battery is dead flat. A set of jump leads gets it going, but turning the engine over with the battery cover off shows one cell frothing like Niagara; the battery has reached the end of its useful life. Rodney offers to go in search of a replacement, but the member prefers to go and 'buy one myself'. Chances are he won't bother and he'll be meeting the AA again. And again and again . . .

At 14.30 we call in complete, and since there is nothing waiting, head up to the Bowthorpe Relay Base to collect spares

to belong

and oil for 128. A short drive, 15 minutes at the base for the necessary (two sugars) and we're back on the road.

15.09 and we're recalled again. It's a Mini in the centre of the city on a busy stretch of dual carriageway; engine-failure. By 15.24 we have removed a set of burnt and almost melted points and gone off in search of replacements. Rodney also advises a new condenser in view of all the burning; something is clearly far from normal. While we wait in traffic on our shopping trip we hear more breakdown details go out on the air. Lima 118 trots off to Acle Bridge on the A1064 in search of a silver Porsche 924. With an intermittent and indeterminate fault, he's trying to limp into Norwich and the main agents. Ten miles out of Great Yarmouth is as far as he gets.

We fit points to the Mini and send him on his way, while we go on our way. Meanwhile Norwich are trying to get help to a breakdown at RAF Sculthorpe, in the middle of nowhere. The King's Lynn Patrols are all busy, the nearest working at East Winch. Norwich have a man free on the Cromer side of Holt; in the end he goes to Sculthorpe.

Now it's 16.22, and we get more trade in the city. This time it's a Fiat on the ring road with the exhaust hanging off. It turns out to be the second time it's dropped off today, but using the Patrol's favourite spare part, baling wire, Rodney manages to tie it together long enough for the car to get to an exhaust centre. Whether it will be taken there is another matter.

Clear at 16.52, we get another job, a Miss Fleming in the car park of the



Norwich hospital. Ho ho. A nurse. We rush off to Miss Fleming and her Morris 1000, also with a floppy exhaust. Bad luck for us is that Miss Fleming is 70 if she's a day; the only good fortune is that the exhaust has simply got a broken tailpipe, and four inches are swinging in the breeze. Two minutes with a hacksaw takes off the bit that has already been mended once with a Jubilee clip.

Also waiting in the hospital car park is an HC Viva, and at 17.03 Rodney takes a look. The fuel pump has decided to abandon ship. Sadly it cannot be repaired. The member has no money, so it can't be replaced either. We tow him to his local garage on the corner of his road and leave them to fix it for him the following day. While we're grinding our way across the City with the Viva on tow we hear another fascinating call go out on the air. Norwich was scouring North Norfolk for a free Patrol; because they have a Relay member broken down in the sticks who has, believe it or not, a diabetic dog as a passenger. The dog must receive an insulin injection within the hour if his life is not to be endangered, and there is none in the car. Panic.

Meanwhile we're clear on the Viva at 17.26 and Norwich asks Rodney to take his break early as they have nothing waiting.

Back on the air at 18.15 after break we immediately get more work on the forecourt of the AA office. A VW Beetle with the ignition warning light showing. A brief check reveals that the generator isn't anymore. In the absence of spares all we can do is confirm that it's only just happened and that the battery is strong; we send the gentleman on his short drive home. Good job it's air-cooled.

After that it goes quiet for a bit. We sit in the van and natter about nothing. Rodney relates the tale of a breakdown he went to a couple of weeks earlier. An Opel Kadett, which had been idle for a week while its owner took a boat out on the Broads, packed up after covering only a few miles. The trouble was easy to diagnose, since when Rodney opened the bonnet the rabbit which had eaten the HT leads was still there, gnawing away happily.

At 21.01 we get called again, this time to East Carleton. This is a village only a couple of miles outside the City but which, like most of the small Norfolk communities, is so isolated you'd think you were in the Hebrides.

Few of the roads have names out here, and it's difficult for members to be exact about their location. It's even more difficult for us to find this one. After a couple of sweeps up roads which can only definitely be said to be the wrong one after you've travelled two or three miles, we have trouble. Rodney consults with Norwich. The Control Officer there refers to a large-scale OS map as he talks with us and eventually we find the car, as Short Lane finally turns out to be a sort of tributary of Swardston Lane which was what we were looking for.

The nipple has broken right off the end of the throttle cable. A bit of judicious manipulation and the use of a cable connector of the sort you might use to join electrical wiring together, does the trick and we're soon on our way. Unlike Rodney, I am not on duty and, thanks to the generosity of the member, am much refreshed. It's a clear, crisp night, almost frosty, and the moon glistens in a silver halo spread across the night sky. It's difficult to believe that we're only a few miles from civilisation as we twist our way back down the Norfolk lanes towards the lights of the City.

Clear at 22.30, Rodney has only half an hour of his shift left to do and there's nothing further. Another job jobbed and goodnight.

Perhaps if the man with the throttle cable had been on the air in some way we would have found him quicker. All of the people we'd seen broken down would have got help sooner if they hadn't needed to wander off in search of a telephone; easy in the City in theory, but not so funny in practice, especially with

Norwich having a football club in the First Division.

The AA say they have 'an open mind' on the subject of CB and are certainly not opposed to it. In daily contact with radio as they are, perhaps they are more aware of the possibilities of abuse, although they are equally aware of the benefits to motorists, especially in emergencies. They also say it is possible that, should a workable facility be introduced over here, they would monitor channel 9 on a 24-hour basis. Anyone can tell you of the panic which a full-scale emergency can induce in the most staid of breasts, and it would be a major advantage if there were trained, professional operators at hand to deal with such situations as they arose. A calm, knowledgeable voice on the ether end could well mean the difference between life and death to someone. Though it would be nice to hope that moments like that never happen, we all know they do, and will go on happening.

It's a funny thing, but sitting in the van with Rodney as we searched what appeared to be the back of beyond for this last breakdown, it occurred to me just how useful his radio was. Normally all alone, the only contact the Patrol has with anyone is through the microphone; how dreadfully difficult life would be without it. Then I realised that I didn't have a radio in my car, and in theory neither does anyone else. When I'm out in the countryside alone, I'm *really* alone. You don't miss it until you've heard the comforting warmth of another voice in the night.

Hurry up Willie...

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An Independent Non-Profit
Public Service Organization

Breaker number one carried a brief outline of the REACT organisation, its aims and purposes, together with an address in Bristol to which interested parties could write. We thought that would be the end of it, but it wasn't.

Shortly after *Breaker* first appeared in the shops we had a letter from Ivan Francis, REACT co-ordinator for the UK, thanking us for the coverage and reporting a strong response. It seems that more people really care about the sensible use of CB in this country than all the silly handles and midnight cowboying would ever lead anyone, especially a Home Secretary, to believe.

This experience was nearly as rewarding for us as it was for Ivan, and we're pleased to be able to report that there have been major developments on the REACT front just lately. Following a well-attended meeting REACT got itself together in a big way, appointing area co-ordinators for most parts of the UK and a strong committee which includes a senior member of the St John Ambulance; an interesting connection has been made here and we feel certain that more will develop from that in the future.

However, having decided to continue our support of REACT, principally in every possible issue of *Breaker*, we'd like to offer you the chance to help as well. We've included a summary of the regional organisation of REACT, together with a clip-out application form for membership. Apart from providing a real service to your community, remember that at present membership of REACT is also another vote for CB.

REACT UK SUPPORTERS CLUB

If you want an internationally proved general public radio emergency service to be established in this country, join the REACT UK Supporters Club. Annual membership costs £5 which entitles you to a monthly news magazine and lots of other goodies, which you'll only find out about if you fill in the form below.

So what's going to happen to your money if you join, you may be wondering? Well, all funds raised by subscriptions or donations (you don't have to join, but you can still send them money) will be used for the promotion and setting up of a REACT team in this country. However, once a general public radio service has been legalised, the club will be terminated and any funds transferred to the future REACT UK National accredited office. Any amount over £1000 however, will be donated to a registered charity.

REACT has already achieved internationally a high reputation with its volunteer public community service work by assisting the public, in cooperation with all levels of the private, municipal and government emergency organisations, when and wherever needed. To achieve this end in the UK, REACT needs volunteers to represent areas 5, 7, 8 and 9 as area co-ordinators. A Welsh-speaking resident is required for Wales and a local dialect speaking resident for the Isle of Man.

REACT is also short of county area information officers to assist their respective area co-ordinators. People with experience in safety organisation services would be especially welcome, though not essential, the desire to volunteer for community service is all that's needed.

If you're interested in becoming an area information officer write to your area co-ordinator, to be an area co-ordinator, write to your REACT UK co-ordinator, areas 2 and 5.

To cope with the concept of a future REACT team in the UK the following area co-ordinators have been appointed. All enquiries should be forwarded to your area co-ordinator.

AREA 1 — Future REACT UK National Office

Area 2 — South West:

- Avon
- Berkshire
- Cornwall
- Devon
- Dorset
- Gloucestershire
- Guernsey & Channel Islands
- Hampshire
- Isles of Scilly
- Isle of Wight
- Oxfordshire
- Somerset
- Wiltshire

Area Co-ordinator

Ivan Francis
 REACT UK Supporters Club
 28 The Coots
 Stockwood
 Bristol
 Avon BS14 8LH

Area 3 — South East:

- Bedfordshire
- Buckinghamshire
- Cambridgeshire
- Essex
- Hertfordshire
- Kent
- London
- Norfolk
- Suffolk
- Surrey
- East Sussex
- West Sussex

Area Co-ordinator

David Hughes
 REACT UK Supporters Club
 26 Greenway
 Kenton
 Harrow
 Middlesex HA3 0TT

Area 4 — Midlands:

Cheshire

REACT

- Derbyshire
- Hereford & Worcester
- Leicestershire
- Lincolnshire
- Northamptonshire
- Nottinghamshire
- Salop
- Staffordshire
- Warwickshire
- West Midlands

Area Co-ordinator

Keith Townsend
 REACT UK Supporters Club
 1163 Yardley Wood Road
 Birmingham
 W Midlands B14 4LE

Area 5 — North:

- Cleveland
- Cumbria
- Durham
- Greater Manchester
- Humberside
- Lancashire
- Merseyside
- Northumberland
- North Yorkshire
- South Yorkshire
- Tyne & Wear
- West Yorkshire

Area 6 — Scotland:

Total area
Area Co-ordinator
 Ron Warbrick
 REACT UK Supporters Club
 10 Manse Road
 Stonehouse
 Lanarkshire ML9 3QP

Area 7 — Wales:

Total area

Area 8 — Northern Ireland:

Total area

Area 9 — Isle of Man:

Total area

*It has been established between the REACT UK Supporters Club, REACT International and the National Co-ordinator for the Eire based HARP organisation (Captain, K O'Neill, Co Dublin) that HARP are to plan for their own REACT Eire National status at the advent of this region's legalisation of a general public communications radio service.

Membership Form for REACT UK Supporters Club

28 The Coots, Stockwood, Bristol, Avon BS14 8LH

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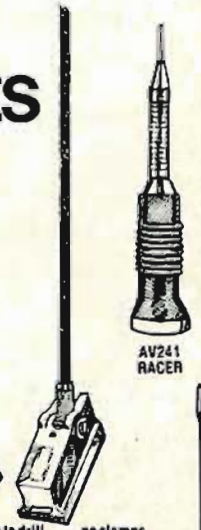
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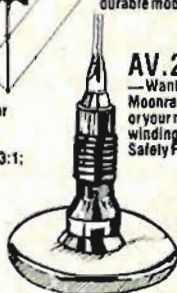


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Smugglers hard yo-ho-ho and a bundle of fun

There's quite a precedent for this sort of thing in English history, you know. People who have been right trouble-makers, not to mention lawbreakers, suddenly finding themselves forgiven and elevated to high status. For want of a better example let's take Henry Morgan. You're welcome to him anyway, he's been dead for years.

Henry Morgan was a nasty piece of work. He was a pirate. You know the sort of thing — hoist the Jolly Roger, bit of a rape, loot and pillage, and then off home for a nice cup of tea and count up the

spoils. For a while Henry Morgan was wanted dead or alive, and anyone who could have crept up behind him and stuck a knife in his back would have been a hero.

Then all of a sudden the situation changed. Henry Morgan became Sir Henry Morgan, Governor of Jamaica and God knows what else. Principally the thing that brought all this about was a National Emergency; all hands to the pumps to fight off the foreign invader etc. With his experience of fighting people, particularly those who weren't expecting

it, old Henry was a dab hand at all that. In fact he was so good at it that he got knighted. You might have seen Errol Flynn doing Henry Morgan impressions (bad Henry Morgan impressions) in *Captain Blood*.

The moral of all this is quite clear. You're a bad boy until it suits the book of Authority to endorse what you've been doing since they now want you to do it.

Consider the modern parallel.

On Friday, 8 August, 1980, two-year-old Elizabeth Peck went for a walk. Unfortunately she went for a walk in

Houghton Forest, Sussex, without telling anybody, particularly her parents, that she was going.

Her absence was reported to the police, who feared greatly for her safety. They mounted a large-scale search, but it's a big forest and there aren't that many policemen in Sussex. Radio appeals for help were broadcast, and hundreds of people turned out to assist the police. Among the people who heard the appeal and turned out to help was one Moonraker.

Now this Moonraker was one of a group of people — modern-day pirates — whose life wasn't exactly forfeit if he got caught, but who stood to lose a fair bit of money plus a certain amount of his liberty. Nonetheless this was an Emergency, so Moonraker decided to pitch in.

Using the wonderful modern invention of the telephone, which was sadly denied to Henry Morgan, Moonraker contacted other members of his pirate band. Then, using a highly illegal device, to wit one radio transceiver, 27MHz for the use of, he contacted others.

Moonraker heard the appeal at about 8pm. By 8.30 nearly 50 of his friends had arrived at the search location, armed with all the necessary equipment for searching dense undergrowth at night. This included torches, to see where they were going, long sticks to poke where they went, and a quantity of staggeringly illegal radio sets to be told where to go with.

The principle is simple. Using radio sets one person can control a whole search pattern quickly and easily and thus more ground can be covered; a great asset when life is at risk, which it was. Ask the police. Why do you think they use radio sets on occasions like this? Bad luck for the police, of course, is that not very many members of the public possess radio sets. If they did then perhaps all the volunteers who turned up to search might have been better deployed and covered the ground a whole lot quicker.

Even worse news for the police, on this occasion at least, was that still fewer of the people who have got illegal radio sets are willing to admit it, especially to policemen.

But, certain members of Moonraker's pirate band felt that the public interest generally, and the interests of a lost two-year-old girl, outweighed the possible consequences to themselves if they should run foul of the law. So they turned up with their radios and made known to the police the fact that these devices were present and available.

Now this act was almost as foolhardy as it was generous. There have been previous happenings of similar ilk, notably the ambulance drivers strike, when offers of help along similar lines have been countered with some jolly swift busts, and the handing out of not a few hefty fines.

On this occasion, though, the police did a deal; an unspoken gentlemen's agreement which said 'you help us and we'll look at the ground instead of at your radios'. Indeed on one occasion a rather senior police officer sat in a car belonging to one Wallaby and steadfastly looked out of the window while Wallaby relayed police instructions to a searchline. Both Wallaby and the people on the line were

sending and receiving their instructions on highly illegal pieces of equipment — radio transceivers, 27MHz for the use of.

On the Sunday of 10 August Elizabeth Peck was found alive and well. The newspapers rejoiced. They even mentioned the fact that CB users had responded to appeals for help 'within minutes' and set up a base station.

In your own minds now, insert a paragraph or three about morals contained within this tale, lessons to be learned from it and the future possibilities of similar searches being quicker and better organised if everybody had CB, or if those who did weren't forced to keep it a secret.

Now, let us consider the implications of all this. Moonraker & Co didn't exactly get knighted, but they didn't get nicked either, which in this day and age is just about equivalent. What does it all mean? Where is it leading to? Does this blind eye signal a general amnesty, a partial amnesty or just a temporary marriage of convenience which has now been annulled?

It must be pointed out that the papers have been full just lately of reports that the police are going to stop wasting their time chasing after CB offenders instead of real criminals. This would seem to indicate a softening of attitude. On its own, it might even lead you to believe that the government might be about to make some definite statement about CB and the legality thereof, and that this statement might have something favourable to say about 27MHz. Would you be right?

For possible answers to that, let's look at the legal position so far.

Judging by the number of people who get busted, it would be fair to say that there is something about 27MHz CB which could get you into trouble. Dead right. Practically everything about it can get you into trouble. In fact you probably shouldn't even dream about it.

To complicate the situation even further there are several things about it which could get you in bother, all different, and all of which can get you into this bother with several sets of people, also all different.

Let's start at the beginning. You go on holiday abroad, bring back a CB rig, put it in your car and start chatting to all your friends. Now you're in trouble, and with everyone.

Step one — you brought the rig into the country. That, chum, is forbidden by law and immediately gets the Customs and Excise on your tail, on the grounds of contravening a prohibition order, also smuggling. They'll try to catch you at the airport if they can. Sadly, they don't seem to be very successful at that, so they'll send teams of heavies out at night looking for you.

How they'll try to catch you is by tracing your transmissions. When they do you'll find that you've been breaking a few other laws as well.

Customs will want you for importing the set in contravention of Statutory Instrument 1968 No 61, The Radiotelephonic Transmitters (Control of Manufacture and Importation) Order 1968, and also for keeping goods on which duty has not been paid. But now you will also be in breach of the Wireless Telegraphy Act, 1949. This Act makes it an offence to install (connect to power and antenna) equipment for which a licence to broad-

cast is not in force. It's interesting to note that the offence consists of the act of installation, not being in possession of installed equipment.

You will also have offended against the WT Act of 1949 by using the equipment, since this Act makes it an offence to transmit without a licence. In order to obtain a conviction under this Act it will be necessary to prove use, first by establishing that the equipment is actually capable of it, and second by an admission from you or by evidence of transmissions proved to be radiating from it.

In both these latter cases you will be dealing with the Post Office, whose job it is to make sure that offences against the Act are brought to court. And this is where it all starts to get complicated, and why the police seem to have been backing out of it all.

Customs and Excise gentlemen, believe it or not, have far-ranging powers which in many cases exceed those of the police. The Post Office do not. Neither does the Home Office Radio Regulatory Department. In almost all cases the latter two will need the assistance of the police while attempting to detain illegal radio apparatus and on many occasions (especially after nightfall) Customs and Excise will also. Very often Customs will request the cooperation of the police for convenience. Almost everyone will recognise a policeman and will do what he tells them. Many people could be forgiven however, even in court, if they spanked a man in a plain overcoat who ran their car off the road and then tried to take away a radio set.

As a rule the whole lot tend to operate together. The cooperation of the police is almost essential in the apprehension of mobile CB offenders. The confusion starts here, because the Chief Constables Association has expressed doubt over police power to detain moving cars suspected only of radio offences. Certainly the Road Traffic Act says nothing on the subject, and not even Construction and Use, which is a well-known cloak in whose shade many prosecutions for otherwise unspecified offences can be processed, covers the situation.

So it seems doubtful now if a mobile vehicle may be stopped by the police if it is suspected of concealing a CB radio. If the offence is certain then the case is different, since you would be contravening definite laws and be guilty of smuggling.

However, the complications don't end there. If the set is in a stationary car, or if it is in a house, then all sorts of rules apply. Police, Post Office and Home Office personnel may not enter your house without your permission unless they have a search warrant. Customs Officers may enter and inspect only (which means they can't open a drawer, even). They may enter and search if they have a warrant from a magistrate (like the others) or if they have a Writ of Assistance, which need only be signed by a senior officer of Customs and Excise. If this happens after the hours of darkness, then they are obliged to bring a police officer with them.

In all cases the warrant will specifically name the people thus given the right of entry and search. Absolutely no-one else who is accompanying them, even in an

official capacity, may do so.

Customs officers may detain equipment which falls within the scope of the prohibition order on the spot; they must give a receipt for this which will also serve as official notice that it has been done. They are the only people who may do this, although they may give authority to the police to act in their place under the terms of the Customs and Excise Management Act if they so wish.

If they do not, and they are not present, then no-one has the right to detain radio equipment. The police may detain such equipment as evidence pending a prosecution under the Wireless Telegraphy Act: if there was insufficient evidence for such a prosecution (and such evidence may often only be obtained by admission of the accused) then the equipment would have to be returned to its owner. In any case they may only detain it with the permission of the owner; if such permission is refused they will just have to leave it alone.

Further than that, it is not always clear what equipment falls within the scope of the prohibition order itself. Having accepted that there are only three offences in connection with 27MHz CB with which a person may be charged, viz. ie and namely importation and or possession, installation and use, and then having discovered that the offence of use cannot always be proved by monitoring, and that likewise the offence of installation can *only* be proved if the person admits to it, it becomes obvious that the favourite prosecution is the first one under the Statutory Instrument of 1968.

This one would seem to be fairly straightforward, requiring only the physical evidence of the rig itself in order to obtain a conviction, but even that is not without its pitfalls. To begin with there is the problem of apprehending vehicles which are mobile. As we have discovered, the police are now unsure of their ground as far as vehicles which are only *suspected* of the offence are concerned.

Of course, there is the additional complication of whether or not the equipment falls within the limits of the prohibition. Customs are empowered to seize prohibited goods under the Customs and Excise Act of 1952, Section 44 (b). 27MHz CB equipment is liable to seizure under that Act because it is specifically prohibited under Section 7 of the Wireless Telegraphy Act of 1967 and the Radiotelephonic Transmitters (Control of Manufacture and Importation) Order of 1968. However, the Home Secretary is empowered also to grant exemptions to these prohibitions, so it is possible, although unlikely, that equipment seized may have been legally imported.

To cater for this possibility, Customs are obliged to present owners of equipment so seized with a Notice Of Seizure which will point out the owner's right under paragraph 3 of Schedule 7 to the Customs and Excise Act of 1952, to claim that the goods are not liable to forfeiture.

But exemption from the Home Secretary is not the only reason why such goods are free from seizure. Some type of toys, like radio-controlled cars, for example, may be exempted from prohibition. Likewise are components for any kind of 27MHz transmitter receiver free from seizure. So if you brought in a consign-



ment of crystals or transistors, there would be no grounds for seizure. Interestingly enough, kits are also exempt. By kits the meaning is taken to refer to 'do-it-yourself' type things, which consist of a motley collection of parts which have no significance until they are strung together. These do not require a licence and are not covered by the ban.

It is quite conceivable that a radio transceiver may have been brought into the country as a DIY kit, in which case it is not liable to forfeiture. The offences of installation and use would naturally still apply, though.

As you can see, the whole situation is becoming rather overcrowded with complications. The police seem to be afraid that if they participate in the apprehension of people believed to be guilty of one or all of the three offences, they may find themselves faced with a person who has legally brought a DIY kit into the country and which is either not connected to a power source or an antenna (meaning that the installation offence has not been committed and therefore use is out of the question) or that it has not been installed or used by the person in charge of the vehicle. In which case they'd find themselves stopping people on the grounds that they *might* have committed an offence.

No wonder they're a little less than keen on the whole situation. Unfortunately though, we can hardly regard it as a sign of softening attitudes towards 27MHz CB, and still less as a sign that the change in the law which we all hope is now imminent will in any way be related to 27MHz. Indeed the recent announcement that a factory in Crawley, Sussex, has been contracted to supply radio equipment to the military (equipment which will operate over a wide range of frequencies including 27MHz) indicate that HMG still plan to keep this part of the radio spectrum to themselves.

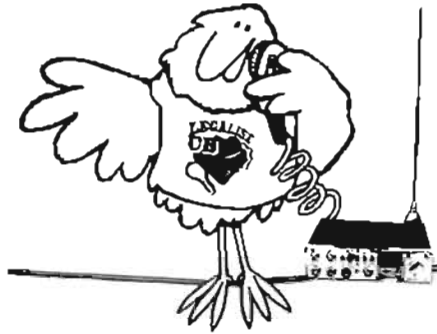
It is this fact which is likely to influence the government away from the other suggested frequency around 45MHz. The area of the radio spectrum between about 30 and 70MHz is so suitable for short-range two-way communication that many military wavebands are located within it, and the last thing the army wants is a bunch of herberts wandering all over it pretending to be C W McCall.

No, there's no point in getting excited about it all. Henry Morgan might have been able to pull it off, but that was long ago, and it seems unlikely that the CB pirates are going to be forgiven and welcomed into the fold like returning prodigals to cries of 'praise the Lord and hide the silver'.

RN

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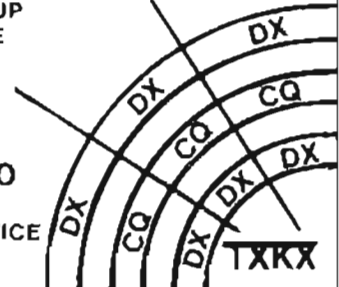
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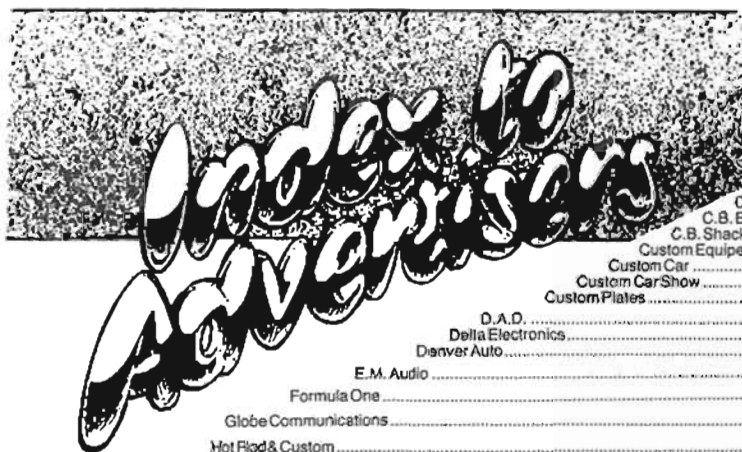
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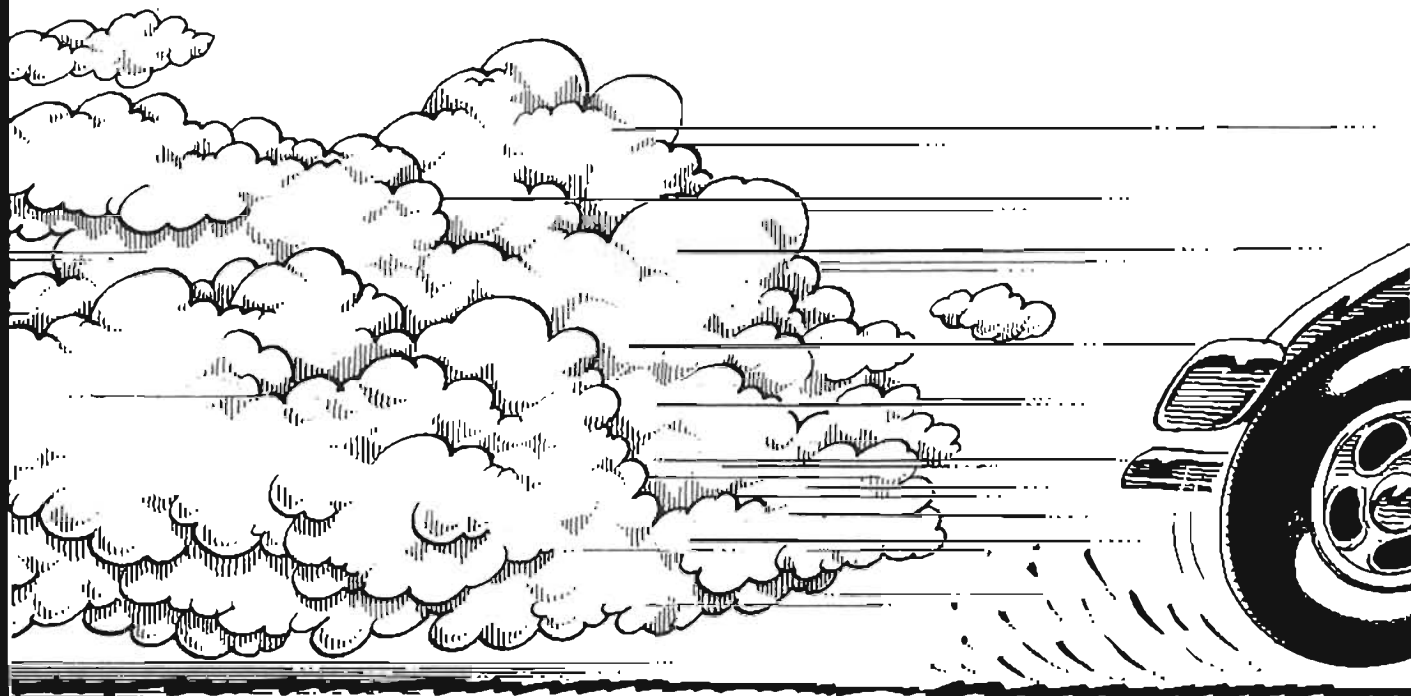
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Readers of *Breaker* will already have seen the jolly smart T-shirt we were very nearly giving away in the last issue. Exceptionally good-looking, with a wonderful message on the front, and dead cheap. It seems likely that the message is now a trifle out-dated, as in some form or another we're going to be getting a break.

But on account of the wonderfulness of the design etc plus the fact that we quite liked the picture, we're offering it again. Also we need the money.

So £3.05 will cover everything, including the well-known Post and Packing, also VAT. And for 10p per letter we'll write anything else you like on the front. Your name. Say. Just remember that the three

quid won't buy Helle, so it's no good asking. Make us an offer, though . . .

Alternatively you could dispense with the picture of the canary and just have the *Breaker* logo on your smooth, manly chest. And under it, for 10p per letter . . .

Breaker shirts are the same price as canary shirts (looks jolly familiar, that bird) and are any colour you like as long as it's white. Canary shirts (maybe it's Woodstock) are also any colour you like, this time as long as it's black. All you have to do is fill in the coupon and send it with the money to: Rambler Trading, 75 College Drive, Kings Lynn, Norfolk. If you haven't got the goods within 21 days — panic. Cheques or Postal Orders only please, and payable to Rambler Trading.

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- | | |
|--------|--------|
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.....

Thankyou and goodnight.

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How improved diy insu

Let's imagine that someone somewhere has made a political blunder and legalised CB. Ho ho. Now then, what are you going to do about it? I mean, it's going to be a bit like ordinary in-car hi-fi, especially to begin with. You're going to have to shop around and choose the sort of rig you want and then get it installed.

Your first problem is going to arise when you buy the rig; if it's for your car you're going to worry about in-dash, below dash, shelf mount or God knows what. If you're a trucker or a coach driver you're going to have a whole different set of problems of which voltage will only be the first.

We'll assume, then, that the range of gear on the market is likely to be as wide as the range of standard hi-fi stuff, and that somewhere in all that will be a unit which you can use. And not only can you use it, but it will also be possible to fit it to your car or truck; remember there are physical limitations to this sort of thing, and it's no good buying a dash-mounted rig that's ten inches wide and six deep if the hole in your dash is only five by four.

So. You've got your rig. Providing it fits and is compatible with the vehicle, you're going to have the same problems as everyone else when it comes to fitting, regardless of what you've bought. And, as in hi-fi, you're basically going to have to stick to the same rules. The first of these will be keeping it; your rigs not only delicate equipment, it's also expensive and, by virtue of design requirements, highly portable. Your first object, then, must be to make sure no-one else ports it except you.

We're talking about thiefproofing. Car theft is one of the fastest-growing recreational pastimes in this country, and theft from cars is a very close second. Make sure then, as a basic precaution, that the rotten thing is insured; very often you'll find that vehicle insurance policies don't cover you for theft of accessories (into which category your CB rig will, like your ordinary radio, most definitely fall) unless the rest of the car is nicked at the same time. In a funny sort of way, you might find yourself worse off if you immobilise your car without

adequately protecting its contents; you could be better off if you had the car stolen and recovered minus contents than if you just lost the contents but still had the car. Check with your insurance company.

Now you've got that out of the way, the next step is to try to make sure it doesn't happen to you. Believe it or not, deterrence is the best thing you can do here. Make it difficult for Joe Criminal to rip off your rig and he won't bother; he'll go and have someone else's instead. To be honest, there's very little you can actually do to make it impossible to deter a car thief. Equally there's not much you can do to stop the rotter having it away on his toes with your treasured possessions. You could always weld your rig to the dash, but given time a determined blagger will overcome even that minor drawback.

What you can do is make it so difficult that everyone except the true professional will leave you alone. In theory the British thief is as inherently lazy as the British workman, so he'll opt for the easy number every time, and would rather take the cheap but unprotected goodies from the car next to you than he would your expensive gear protected by guard dogs, barbed wire and electrified fences.

Which isn't to say that you have to go to those sort of extremes. By far the best method of protection is concealment. Your average thief might be many things, but you can almost definitely rely on him not being clairvoyant. If he can't see it, he won't try to nick it. So hide it.

The first and most obvious clue to possession of something worth ripping off is the antenna; tripod masts that would do credit to the Eiffel Tower are a dead giveaway. Unfortunately they tend also to be the most effective for the purpose in hand, so straight away you're in for a conflict. Fortunately modern technology is able to keep pace, to some extent, with this sort of thing and will doubtless continue to do so; with luck the situation will improve. However, despite the advent first of base-loaders, which removed the need for nine-foot masts, and then of things like Astro-Phantoms

and retractable disguisers which double for CB and AM/FM reception, the best antennas tend also to be the most obvious.

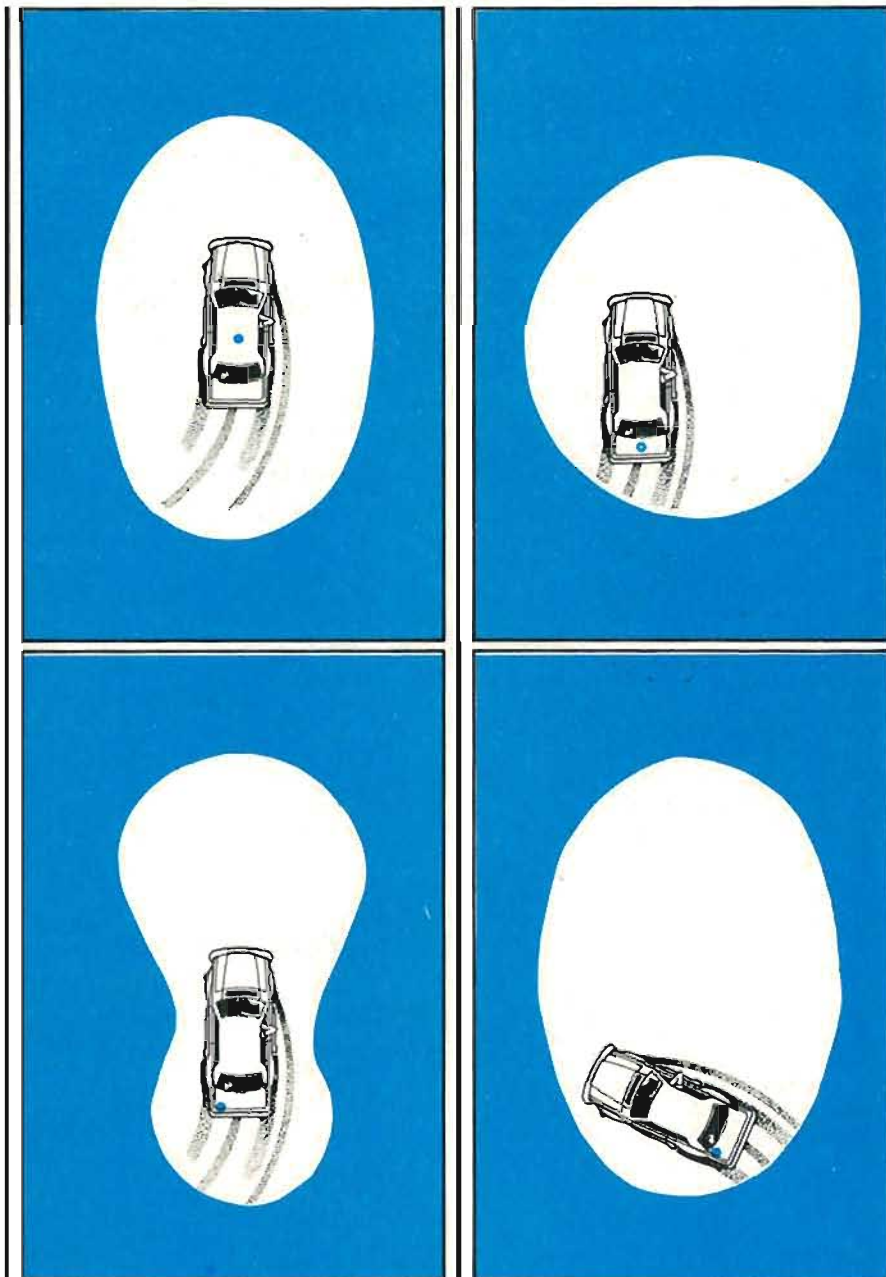
Decide what you need. If you use the rig around town for frequent, short-range contact, you can probably make yourself very happy with something neat and unobtrusive. If, on the other hand, you're a long-distance trucker and range could be important to you, then you'll have to use something a bit showy to get the results. There again, if you are a trucker you've probably already got an alarm system on the vehicle of considerable sophistication, designed to protect something infinitely more valuable than a CB rig, so you won't have too many problems.

All of which leads us to alarms. You'd be surprised just how many places which supply and fit car radios also supply and fit alarm systems. You'd be just as surprised to discover the disparity in sales figures between the two. Hardly anybody who buys a radio also buys an alarm. And of those who do, you'd be surprised at the number who don't bother to have it transferred or replaced when they sell the car. All too often they say, 'well, I didn't have anything nicked, so it was a waste of money...' Of course they didn't, because the alarm is a deterrent. Likewise you'd be surprised at the number who only buy an alarm after they've lost something very expensive—20/20 hindsight is no use to your bank manager, promise.

Choosing an antenna location can be difficult though. There are places on your car where the radiation pattern from the mast can be masked by parts of the car bodywork. Look at the drawings and you'll see the sort of pattern you get from different mounting locations. The centre of the roof is obviously best from a purist point of view, but may not always be practical. Apart from anything else, it's rather obvious. Still, weigh up the alternatives before you fit.

And once you've chosen, don't just start drilling holes. It's quite possible that the place you've selected is impractical because of the constructional nature of

me ements ulation



the car or for some other reason. Make sure, for example, that you'll be able to run the feedline back to the rig. Is there anything in the way? Bulkheads, insulation? Can you run the coax without crimping it? Try it out before you start fixing. And another thing. There is an optimum length for feedlines which is related to the frequency in use. Most manufacturers are aware of this and will make the cable to suit. You wouldn't, therefore, be doing yourself any favours if you cut it shorter, so coil it up and tape it, don't cut it.

And what about the rig itself? It would be best, from a rig retention point of view, if no-one could see it. On the other hand you have to be able to reach it from the driving seat. Look around carefully, because there could well be a mounting position which satisfies both needs. If not — compromise. Glove compartments are fair, but tend to be on the wrong side of the car. In-dash mounting is obvious, but complicated, which tends to act as a deterrent. Below-dash can be unobtrusive but is also vulnerable.

Don't however, decide on a location just on security; there are far more practical considerations to take into account.

To begin with you want to be able to reach the set comfortably and safely while driving. You'll also want to be able to reach the microphone; since this will be connected to the rig by a piece of cable of finite length, bear both things in mind. Remember also that your rig is reasonably delicate. Don't put it under a heater outlet, since heat can damage the transistors. Don't put it where it can be kicked or stomped by passengers getting in or out of the car. And most of all, although perhaps it hardly needs saying, don't put it where it will interfere with the operation of the vehicle controls. Or where they can interfere with it. Remember the radio mounting position on the Triumph Spitfire? On the transmission tunnel in front of the gear lever. Every time you changed into first or third you also changed programme on the radio, as it was impossible not to push one of the tuning buttons. Silly, and frustrating.

Once you've chosen the places and fixed the set into position you'll want to get the best out of it. Connect all the wires up. Forgive us for making a lot of something which should be so obvious it doesn't need saying, but for God's sake read the makers instructions. You'd be surprised at the number of people who don't and you'd be just as surprised at what you can find out by taking ten minutes to do it.

Once you've made the connections you can switch on. Chances are that you won't just be able to start running off at the mouth, though. You'll have to make certain adjustments. One of these perhaps should have been carried out earlier, and you might like to try it with the rig wired in but not fixed, and the antenna connected but not fixed.

There are two things which can help you get the best out of your rig. SWR (Standing Wave Ratio) is the one which is best known and about which you'll hear the most bullshit; we'll come to that in a moment. First — antenna positioning. You can buy little monitoring sets, which react to your rig in much the same way as a radar detector does to radar — by buzzing. Get the rig running and the antenna in place. While someone (wife, mother, girlfriend, friendly local bobby, doesn't matter) holds the transmit button down, walk around the car with this little gizmo switched on. It buzzes when it picks up transmission from your antenna and doesn't when it doesn't. In this way you'll be able to discover if the mounting location you've chosen is masked by the car bodywork and make appropriate alterations (either to the mounting site or the car, depending on your approach to the situation).

Once you've chosen and fixed the antenna your next step has to be adjustments to the SWR.

It's possible to be very complex about SWR, but without knowing very much about the frequency involved we can only generalise. Start at the beginning. Radio waves travel in a series of up and down curves rather like the swell pattern in sea water (probably why they're called waves). The distance between the top of one wave and the top of its immediate predecessor and successor is the same and is the wavelength. Easy, right? If the antenna was to work at its best it should be the same length as the wavelength. This is a fine theory, but not always practical. For example, a 27MHz antenna would need to be nearly 30 feet long. Nobody in their right mind is going to swan about with that attached to their car, so we have to find alternatives. Fortunately for all of us the antenna need not be the exact length of the radio wave as long as it bears a mathematical relationship to it. Thus a quarter-wave is nearly as good as full length. Sadly it's still getting on for ten feet tall, so we've got a problem. Even more fortunate is the accommodating nature of electrical and radio signals.

What we do is this. A quarter-wave whip should be 102 inches long. So we take an antenna which is 20 inches in length and a piece of wire which is 82 inches long. We wind the wire up in a coil, call it a loading coil and stick it to the base of the 20 inch antenna. Then we've got something which is 24 inches high and a bit thick at the bottom. This will be a base-loaded antenna. We could put the

loading coil halfway up the antenna (centre-loaded) or at the top (would you believe top-loaded?). Whichever way, it's effective and practical.

But despite the care taken in manufacture, it won't be the exact length required. Consequently it is adjustable for length, so that you can match it exactly to your rig. The only way you can make this match exactly is by using an SWR meter. Exactly how it works is irrelevant, provided you know how to use it.

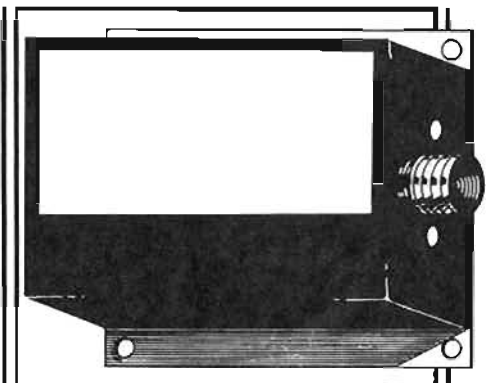
To begin with it will have one or possibly two dial faces. If there are two, one will be marked 'forward' and the other 'reflected'. If there's only one dial then there will be a switch marked like that. Using the cable and connectors which will either come with the unit or which you can buy in the same place, connect the meter between the rig and the antenna. Switch the meter to 'forward mode' if it has such a switch. Then turn the sensitivity switch (a control knob like a volume control on your radio) and turn it to its minimum setting. Switch your rig on, and select a channel which is either midway in the range or the one you use most often. If you use 14 and SWR on that channel then your rig efficiency will deteriorate the further away from 14 you get, so that it will work better on channel 1 than on channel 40.

Once you've made your mind up, press the transmit button on your rig. The meter will indicate some sort of reading, but it's not important now. Just adjust the sensitivity until the meter reads its maximum. Now switch the meter to 'reflected'. Whatever figure it shows is your SWR. Ideally this should be as low as possible. At worst it can damage your rig if it's very high. In practice anything under 2:1 is adequate for the purpose; 1.5:1 is more than fair and it's unlikely you'd ever improve on that. 1:1 is ideal and almost definitely unachievable.

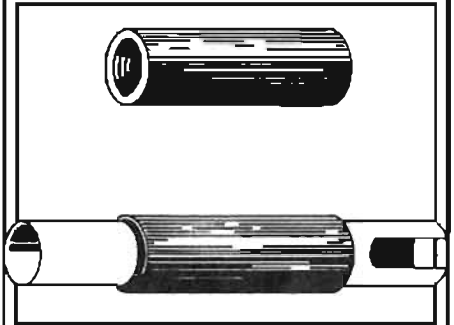
Anything over 2:1 can be improved upon however, and this is what you do. Look at the antenna and you'll see that it's adjustable for length, either at the tip or at the base. So adjust it. A tiny bit of adjustment will make a big difference, so go easy; that applies particularly to antennae which are deliberately made too long and can only be shortened. Don't cut off too much. If yours can be adjusted either way then move it a tiny bit — up or down doesn't matter. Read the SWR again by going through the whole measuring process from start to finish. If it's gone up you're adjusting the wrong way; if it's gone down you're on the right track. Once you're below 2:1 you're very close to perfection, and tiny adjustments are all that will be needed.

You'll find that this process is reasonably sensitive; although it might seem like taking caution to extremes. Make sure that while you're doing all this the car is parked away from high walls and trees, and also that the doors and bonnet are closed, or you could affect the results.

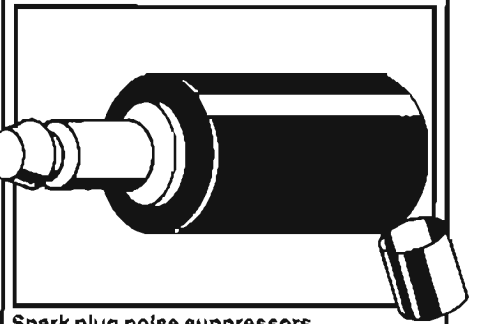
Now you've got all that over with you'll want to get on the air. Switch on your rig and pull away into the night. Bad luck. All you'll be able to hear will be the incredible racket of interference on the set. Spark plugs, coil, generator, even the heater, windscreen washer and indicators can annoy you. If you've got ANL you'll be able to shut it up a bit, and if you turn the squelch right down you'll lose it altogether, but you'll also lose everything



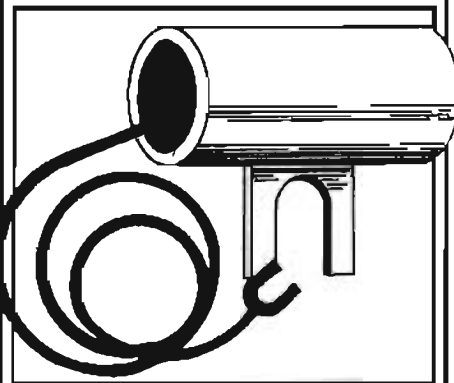
TVI low pass CB interference filter



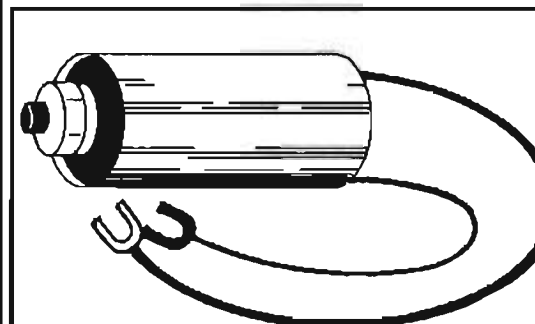
Distributor suppressors



Spark plug noise suppressors



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100amp alternator and generator filter (left) and alternator noise suppressor (right)

else in the way of signal that isn't right on top of you. And when you do pick up another station all the hiss and crackle will be there, so you're no better off.

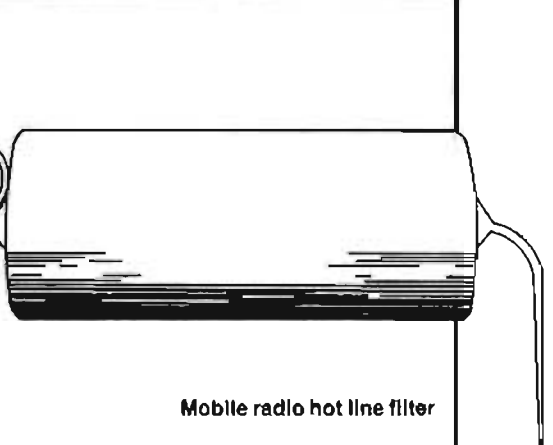
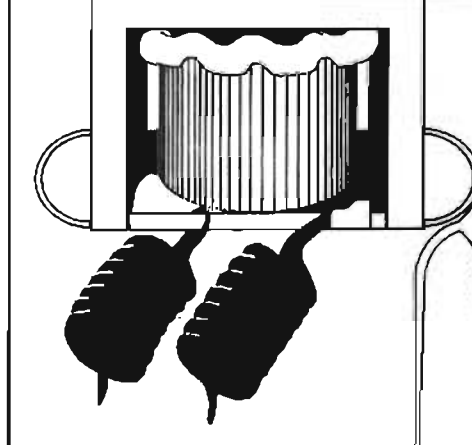
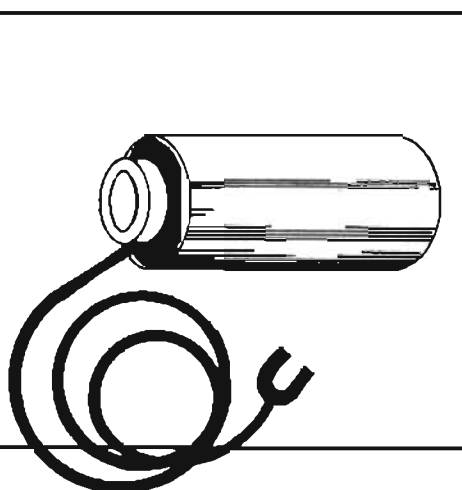
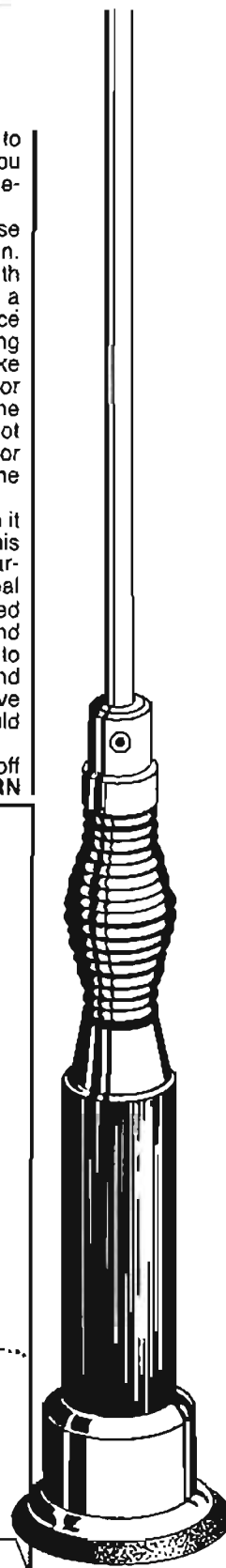
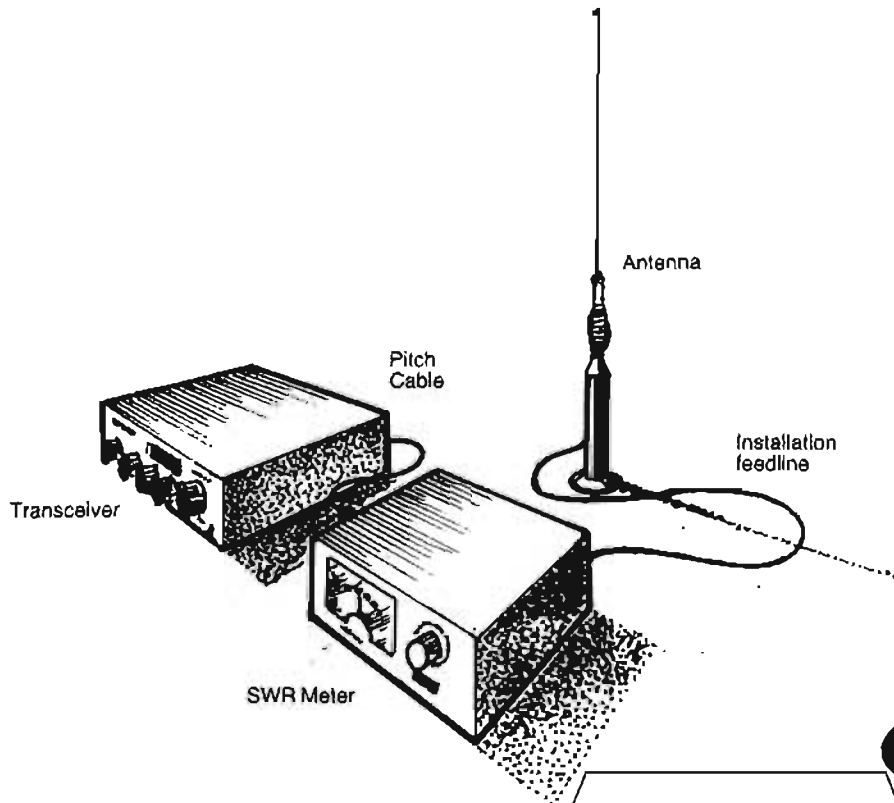
Fortunately suppression is neither difficult nor expensive, although it may be time-consuming. First off, listen to the noises you get. Switch all your vehicle controls on and off so you can decide what, if anything, is causing the interference, then, before you trot round to your local accessory shop and unload your hard-earned crackle on suppressors, make sure your installation is good. Antenna earth is even more important than the earth on your normal radio, so make sure the metal is clean and free of paint where it bolts to the bodywork. Ensure that all your connections, particularly in the antenna feedline, are sound; solder if you can or use connectors — PL259 is fairly standard — if you can't. Then if it hasn't gone away you can buy suppressors for individual components. The biggest and most likely sources of interference will come when you start the engine, and you can buy a suppressor for the power feed to the transceiver which will quieten it down. Some manufacturers recommend you

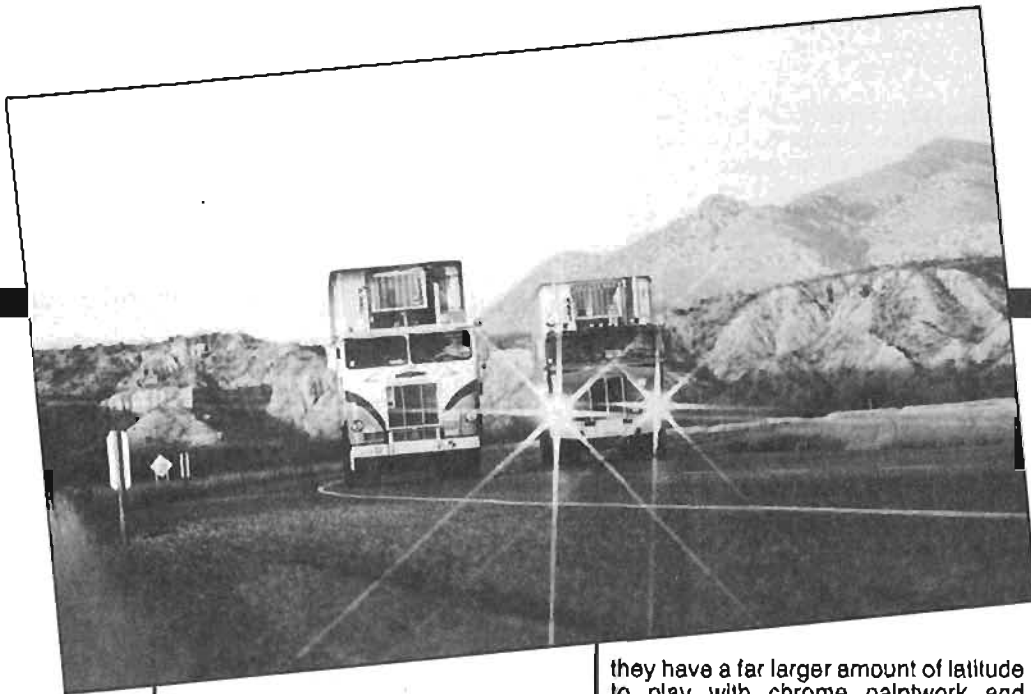
connect your rig direct to the battery to help eliminate some of the hash, but you might prefer an ignition-sensed arrangement.

Either way, if you've still got noise when the engine's running, have a listen. A constant whine which increases with engine revs will be the generator and a simple suppressor on this should silence it effectively enough. A harsh crackling will be the coil and/or the plugs. Make sure you're either using carbon leads or you've got in-line suppressors on the copper leads and it should go away. If not you can fit a straightforward suppressor to the coil and suppressed caps to the plugs which ought to do the trick.

To be honest there are times when it seems impossible to rid the car of this kind of interference; some cars, particularly GRP-bodied ones, can be real pigs. The military tend to use braided cable on HT leads as a shield, and sometimes even metal shields built on to the bodywork around problem areas and radio installations. This is as expensive as it is effective and fortunately should not be necessary in most cases.

Now you should be able to zoom off into the sunset. Bon voyage.... RN





The CB boom in America has always been associated with the cross-continental truckers, who probably started it all anyway and still benefit from it the most. It seems a reasonable supposition that any aid to driving is more valuable to the professional motorist than to the part-timers, although arguably it is the latter group who seem to need the most help. Consequently it is not surprising to find a high percentage of truckers in this country who are actively in favour of CB in more ways than several.

Of course the situation over here is slightly different to that in America; to begin with we don't have the really wide open spaces, but then space doesn't need to be that wide to be an obstacle. Ask any driver who's broken down somewhere in the Vale of Pickering or similar, and see if the difference in scale has made him feel any better or got him help any quicker.

Also what we don't have is the huge percentage of owner-drivers, although that seems to be a slowly changing situation. And it must be these owner-drivers who contributed to the growth of CB in no small way. After all they don't have the backing of a large company to help them if they do have trouble, and are thus largely on their own. And since time is money to them, the need for swift assistance is possibly more important.

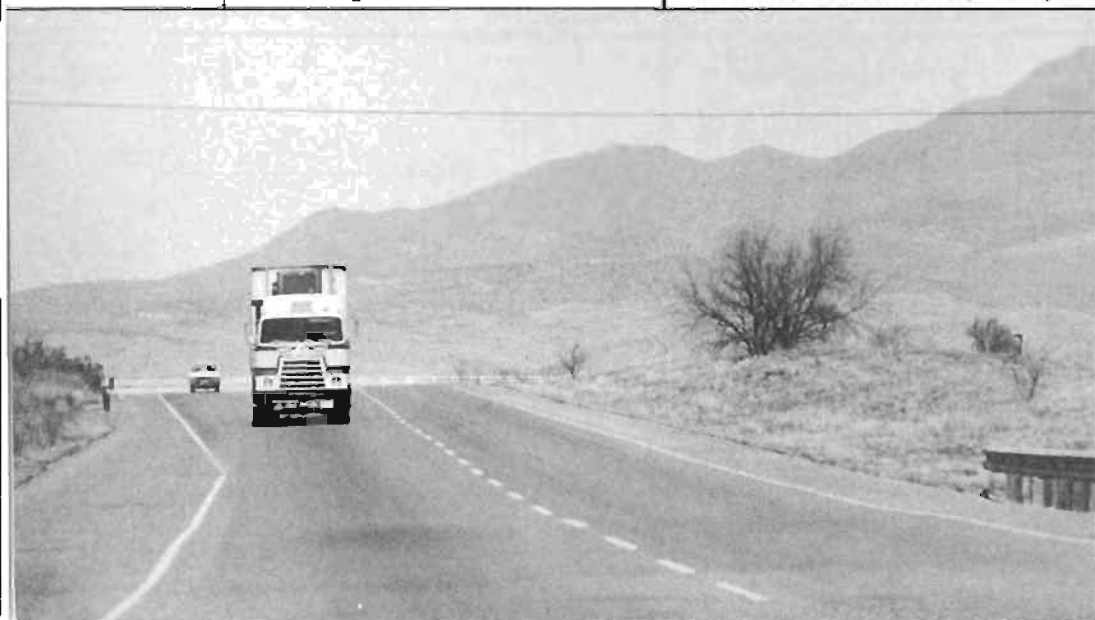
Likewise it is the owner-drivers who are responsible for the largest degree of customising when it comes to trucks;

they have a far larger amount of latitude to play with chrome paintwork and radios. Perhaps this is why truck customising is still at the sunstrip stage. (Incidentally, the best sunstrip we've seen to date was on an F88 spotted in Hackney. It said 'I hate Yorkies'. Any improvements?)

But CB, when it's finally legalised, must be seen as a big help to truckers even in our small country. A simple example is found in the speed limit discrepancy which currently affects big trucks. They are limited to 40mph on non-motorway roads, but 60 on motorways. Many trunk roads in this country are now built to motorway standards, but are not officially classed as such. This tends to force the lorries on to motorways, even where other roads provide a more direct route, because the long way round at 60 can be quicker than the direct way at 40. This is a theory which holds up fine in most cases until motorway reconstruction starts to intrude. The M1 in Hertfordshire has now been closed on more than 1000 occasions, and roadworks currently affecting the M1 in two places between London and Newport Pagnell bring traffic to an almost complete standstill more frequently than is good for anyone.

Advance warning of this kind of thing would be an immense boon to lorry drivers who already spend a great percentage of their life sitting around, particularly when waiting to be loaded or unloaded.

Unfortunately, as James Bryant's calculator has revealed to us, (on P14) the



HAVING A SASS



current proposals for 928MHz mean that drivers passing in opposite directions won't be in range long enough for this sort of information to be handed on. That's one advantage out of the window straight away.

Further, the way in which heavy traffic has been forced on to motorways has led to the closure of a great many of the familiar transport cabs around the country. Though information about where to get good food and a bed may seem as if it's bordering on the 'frivolous' use the government seems to be so scared of, it's not so amusing when you're driving a 60-foot artic which weighs 40-odd tons. It can't be turned easily, if at all in urban environments, can't be parked easily, if ever, and is frequently banned from certain areas of towns or individual streets. Things like that make some of the more mundane pieces of information assume quite a high degree of importance.

And of course that's not all. Between January and June of this year *Headlight* reported the deaths of no less than 36 HGV drivers. Probably that wasn't all of

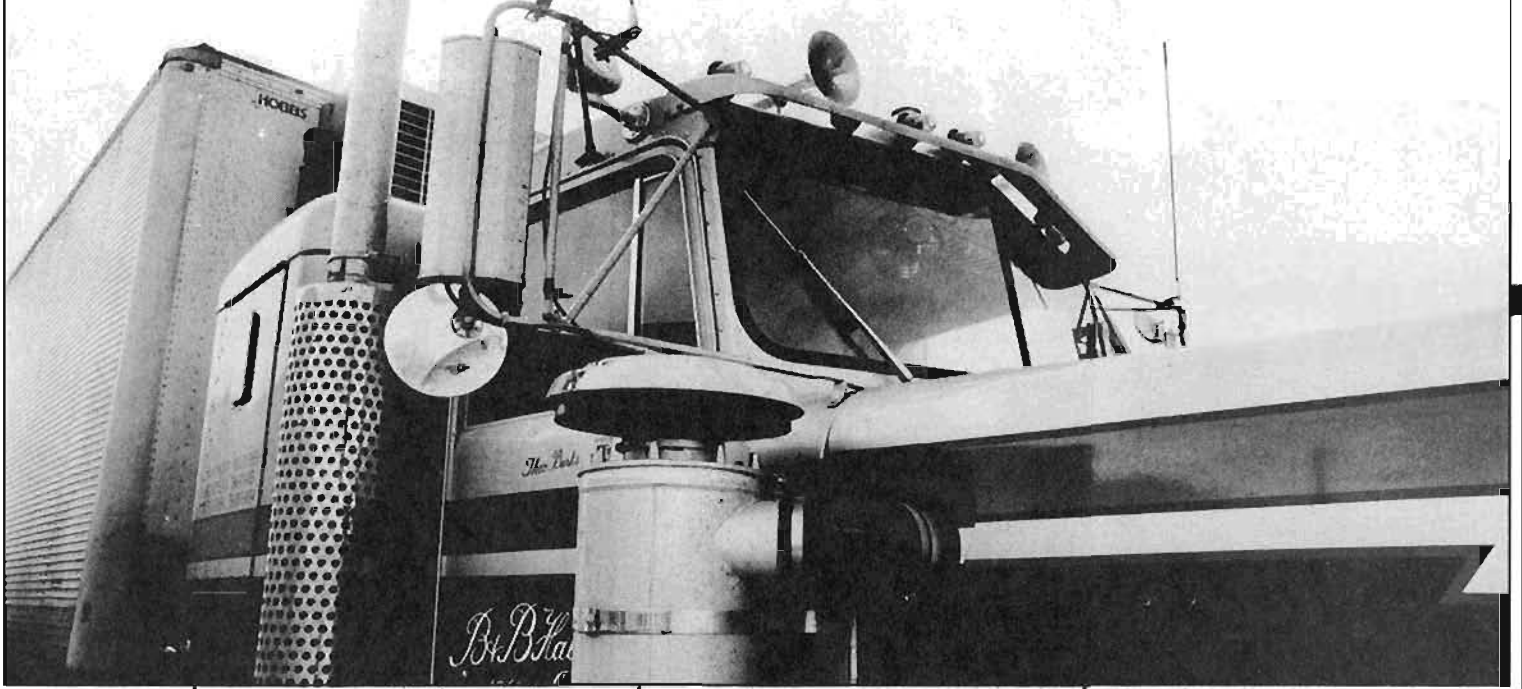
them. Probably it wasn't a very high percentage of the total number of motorists killed during that period. But how many postmen were killed in the course of their job in the same six months? How many bank managers died at their desks?

There's no doubt that driving for a living is a high-risk occupation. Probably more HGV drivers die on British roads than soldiers in Northern Ireland.

Between 1967 and 1977 2535 lorry drivers were killed in road accidents. In the same period 33 867 were seriously injured, and 84 889 were slightly injured. That makes a total of about 120 000 workers who were killed or injured just doing their job. It will come as no surprise to anyone if the drivers regard any aid to safety, no matter how insignificant, as being highly desirable.

In fact, looked at in the light of those figures, it's almost possible to accuse the successive governments, and the TGWU, of being criminally negligent for not pressing for the introduction of a CB facility years and years ago. If anyone had made safety guards on industrial





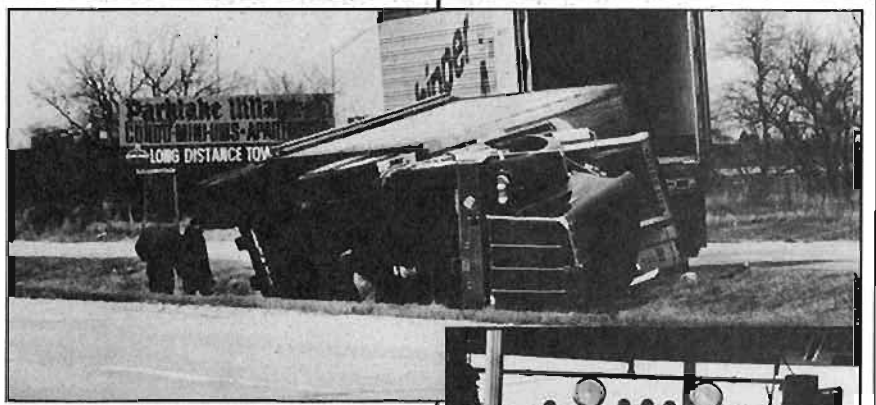
presses, or eyeshields, or helmets for construction workers illegal . . .

And that's not all. Many people have voiced fears that CB would be used to broadcast 'smoky' reports, and of course that is bound to happen. The American experience has led the Highway Patrol into thinking that this situation is not without its advantages. But even if that were not the case, drivers who are already the victim of a strange legal anomaly which is at least unfair, if not a mild form of victimisation, could hardly be blamed.

We refer of course to 'totting up'. Although this is a well-established practice now, and familiar to most motorists — to whom it might seem not to be cricket — it is a little stranger when considered in the light of the rest of our legal practice.

Makers and fans of murder films (and writers of police/crime stories also) will be familiar with the ages-old rulling that you cannot be tried twice for the same offence. It is a fact which has been over-used on several occasions. However, the law does not actually say you may not be tried twice, although that has been its effectual interpretation. What it says is that you may not be 'put in peril' twice.

Thus the totting up procedure, which can punish a driver for offences which have already been tried and received sentence, is actually something of a contradiction. This contradiction becomes nothing short of injustice when the position of a banned professional driver

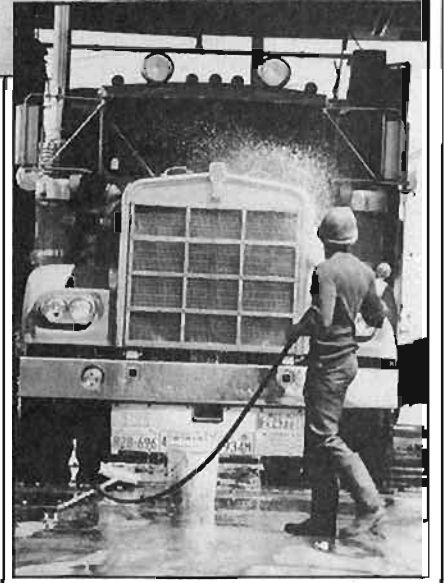


is considered. Naturally he loses his job, and surprisingly he cannot apply for unemployment benefit because the Ministry says he has lost his job through 'misconduct'.

Drivers can lose their licences by overloading their vehicle, even though they may be required to load without the benefit of a weighbridge. Small wonder, then, if they are going to use a CB to avoid the police or transport officials whenever possible.

The fact that this will inevitably lead to the escape of wilful and persistent offenders is as unavoidable as it is undesirable, but it is hard to see any solution to that particular conundrum.

In any case it seems like a small sacrifice to make in return for the saving of human life and suffering, no matter how small that saving may be. RN



HAVIN' ASS

glamour which popularly is the face of distance trucking. There's no doubt that the big trucks do have an appeal of their own; a certain aura of romance. In previous lives truckers would probably have been explorers and pirates.

Adding to that impression are the big American units. Their artistic and individual approach to trucking, largely occasioned by the high percentage of owner-drivers, has contributed in no small way to the romance of trucking. They've had TV programmes (remember *Cannonball?*) records (just try and forget *Convoy*) and films (still can't get it out of your head huh?) all to themselves. Spielberg's amazing and under-exposed film *Duel* went a long way to expressing the macho, tough-guy image of the trucker just by using his rig and without him ever appearing on the screen — and incidentally, wouldn't Chester have got on better against the truck if he'd had a CB in his car?

White were at the NEC doing their best to perpetuate the myth with the image conscious and splendid Cat-engined Road Commander dressed up with chrome stacks and marker lights galore; a few European manufacturers had made slight attempts at achieving a similar effect with their own units but with notable lack of success. Either European tractors don't respond as well to the treatment or (more likely) no-one over here has quite got the hang of it yet.

It'll be interesting to see what would happen if anyone tried it on the built-for-Europe Mack Cruise-Hauler. A deep-screen cab-over job with 11-litres of the phenomenally powerful Maxidyne engine, the new Mack produces 300hp with intercooling and hits the red-line at 2100rpm. Contrary to contemporary thinking and practice, it has only five gears, although an optional splitter will give a half-gear just below top and overdrive top. The cab is quite small though, and almost completely full of engine. Almost any European contender at the show is better-appointed inside.

Bedford have got a new interior for the TM, or rather a new look for an old interior. It's not half as interesting as the new 8.2 Blue Series motor which is now commercially available with the turbo; always thought it was silly to develop a turbo engine for HMG and flog it to everyone else without. Also interesting on the Bedford stand was their own aerodynamic truck. Out of their own design studio the TL Aero is very similar to the Ogle T45 in concept and execution — a slab-sided slipstream special — with the Bedford, though, you won't need the TV licence.

All of which brings us back to where we came in, without mentioning ten per cent of what was there, not even the Atki or the Scania T-range, which were both worth a look over. Perhaps next time . . . RN



HAVING A SASS

Trucking along nicely

We've just had all the razz of the Motorshow; big Maggie has given all the bosses a good ticking off for letting their workers get out of hand and similar, and now we all know what to do to put ourselves back on the road to success. Don't we?

Even British Leyland can sort themselves out now they've got the Metro, even if it is five years too late. Of course, what almost no-one remembers is that Leyland have been doing quite nicely thank you for years without the help of the British government.

Leyland, of course, make commercial vehicles — trucks and buses and so on — and somehow seem to be doing better than their small car counterparts. Part of their success now depends on the T45 series of trucks, of which Roadtrain 16.28 is the first and the biggest. It was also, as far as we can recall, the first big truck to benefit from prime time TV advertising, which says a great deal about the amount Leyland have invested in the project. Roadtrain, of course, was at the show although it's not new. Perhaps more interesting was the exhibit on the Ogle stand in the car hall, alongside the Ogle Metro.

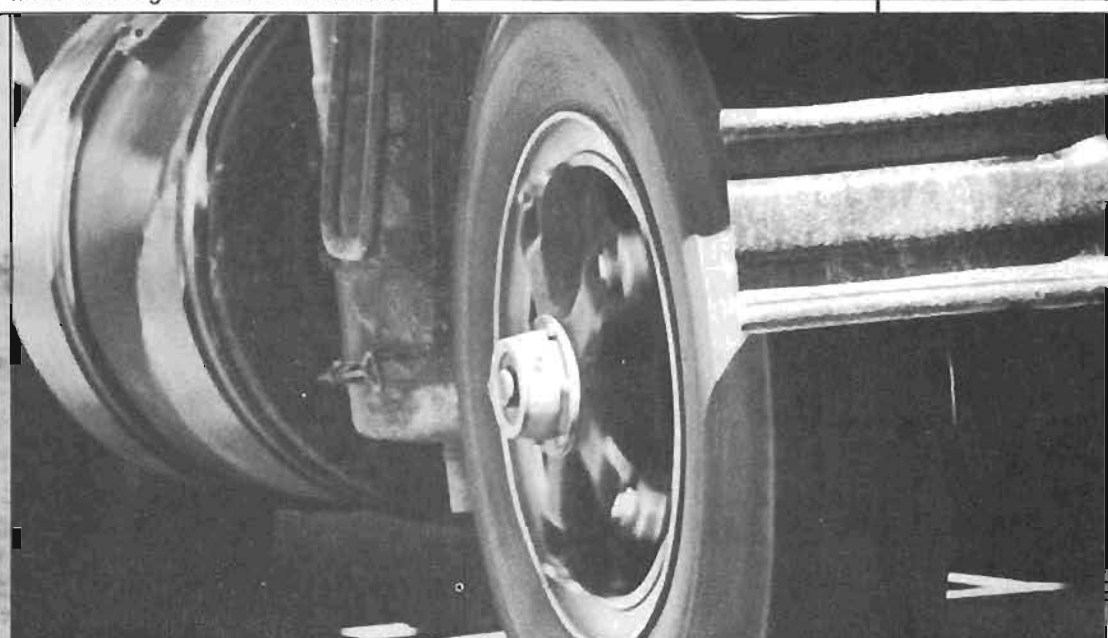
As a design house, Ogle have long been associated with one-off specials like the Scimitar they did some time back and the most recent project with Triplex. To find a large truck on the stand was something of a surprise to anyone who didn't know that Ogle were responsible for the original design of the T45 cab, as well as the 'cab of the future' shown by Rubery Owen at the NEC this year. The novelty didn't stop there though. Most of the facelift served two purposes; one to improve the appearance of what was already a fairly impressive beast, and two, to improve airflow across the cab.

Chin spoilers are already a well-accepted concept on cars and Ogle have carried it over to the Leyland trucks. It's much shallower than the traditional front air-dam and slopes back at a sleeker angle, reaching well back under the engine bay. The effect on appearance is slight and subtle, but the effect on wind resistance is much more pronounced. Visually more obvious, and just as practical, is the slab-sided appearance of the Ogle truck, with its boxed-in fuel tank and sides; a sort of full-fendered effect which is both unusual and pleasant. It is enhanced by the use of smooth hubcaps; that Dean Moon has a lot to answer for here, and it's nice to see an old customiser's trick being put to an extremely practical use.

Far more 21st century is the absence of mirrors; many artic units now have airscopes on the leading edges of the cab to 'wash' air across the necessarily protruding mirrors in an attempt to keep them clean. Ask any driver about his mirrors in dirty weather.

Ogle have dispensed with all that and have closed-circuit TV in the cab instead. The rear-facing cameras are mounted in streamlined and small pods on the doors and the twin six-inch screens are mounted in the overhead console above the windscreen. Exactly how useful and practical these will be remains for the future. Certainly they don't seem to be possessed of the flexibility normally associated with conventional mirrors, nor are they placed conveniently enough for the quick wipe with a cuff to get surface dirt off. And just how easily drivers will be able to adjust them is something which can only be guessed at. Nonetheless it remains an interesting and worthy project, even if it is a long way from going into production.

There's plenty else that is in production though, and as this year has progressed more and more manufacturers have revealed their range for the '80s. ERF's new lightweight was at the show also, looking sleek and sumptuous. It's things like that which add to the



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