

ISSUE No 10
APRIL 81
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CB RADIO



SEE YOU
ALL AT
THE 1981 CB SHOW
see page 10

The British Breakers Mag.

CB RADIO



The Adjournment Debate.



The London - Tunbridge Wells Convoy.



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LAST MONTH'S FRONT COVER

Owing to lack of Editor (he was on holiday) we were unable to mention the fact that the magnificent White Road Boss featured on last month's front cover belongs to Mr. Oliver Hulse, Haulage Contractor, Newport, Gwent.

THIS MONTH'S FRONT COVER

You can get to the Stores by Jumbo Jet, you can also do it with this Jumbo! This is the fabulous Ham International Jumbo - will we ever get a chance to own one???? Not if the Government gets its way!

Both photographs by Zedlac (Breakerway Ltd.)

CB is Still illegal

The Government still rejects 27 MHz AM

The next three pages are going to bombard you with the present situation and almost all that has been said on the subject of CB including the 'Announcement'. But firstly we would like to make it clear to everyone that Citizens Band Radio as we know it is still illegal.

The long awaited decision on Frequency allocation came on February the 26th, it was a shame that they couldn't have waited one more day, namely the 27th. However proposals for British CB followed the original thinking and were unveiled, in an answer to Mr. Patrick Wall, 930 MHz FM was announced as one of the frequencies for a future service. This came as no real surprise to anyone, for the Government had favoured a frequency above 928 from the start.

We had expected that an additional frequency would still be considered and that an announcement to this effect would take place late in February, 27 MHz FM was as we repeated last month long overdue.

However knowing the slow deliberation and delaying tactics our Government has taken when it comes to CB, we were totally reluctant to build up the 'it will be legal by the time you read this' bubble.

As has now been proved our closing statement for last month still rings true, "27 MHz is not here yet full stop".

ED

Home Office Statement



Citizens Band Radio approved - on 27 MHz FM and 930 MHz FM 27 MHz AM equipment remains illegal

Britain is to have a legal citizens band radio service. Mr William Whitelaw, the Home Secretary, announced this today in a Parliamentary answer to Mr Patrick Wall MP. It is hoped that the new service will be introduced in the autumn.

The new personal two-way service will be authorised on 27 MHz FM (frequency modulated), and a further frequency will be made available around 930 MHz. Equipment will be required to meet a

technical specification, and users will have to buy a licence.

The 27 MHz AM (amplitude modulated) equipment currently being used in this country is illegal and will remain so.

Commenting on the introduction of the new service, Mr Timothy Raison, MP, Minister of State at the Home Office, said

"We are offering a new service which we hope will provide enjoyment for many people. It will give as good a service as the illegal AM equipment - indeed some of this is already obsolete. It should soon cost about the same and should cause fewer problems for others. The interference which illegal CB equipment is causing to TV reception and emergency services is giving rise to concern, and now that the Government has gone so far towards meeting the wishes of supporters of CB, I hope that we can rely on those with illegal equipment to act responsibly and stop using it".

Choosing the frequency

The Home Secretary said in a written Parliamentary reply on December 18 1980 that he favoured the introduction of a CB facility on a frequency around 930 MHz, but because of public demand for an alternative he undertook to consider the possibility of legalising CB additionally on a lower frequency. The final decision had to take into account the need to introduce a legalised service with the minimum of delay; the risk of interference to radio, TV and other authorised services both in the United Kingdom and in neighbouring countries; the availability of frequencies; and the desirability of adopting an international standard. The frequency selected - 27 MHz FM - should give CB enthusiasts the performance they want at about the same cost as illicit equipment but with far less interference to other users. France, the Netherlands and Germany are among those European countries who have legalised on 27 MHz FM equipment and the Irish Republic has recently announced its intention to do the same. The other frequency proposed - around 930 MHz - is going to be adopted in North America and some European countries, and is seen as being capable of giving a good quality service, especially in towns and cities, with the minimum of interference. It offers the prospect of an international market for British manufacturers.

Other alternative frequencies, such as 41 MHz and 450 MHz, were reviewed

but none was free of interference difficulties or met the other requirements.

Existing authorised users of the 27 MHz band, for example, hospital paging systems, may be affected by the Government's decision and the implications for them will be taken into account during the planning period.

Existing equipment

Existing illegal 27 MHz AM (amplitude modulated) equipment will not be legalised. The volume of interference from CB sets using 27 MHz AM equipment is increasing - in the last five months alone there were nearly 5,000 complaints of interference to radio, TV and hi-fi which were directly traced to the use of illegal 27 MHz AM sets; this represents an increase of about one-third of all recorded complaints of interference from all sources. Emergency services have also been affected. Although recent AM equipment of US origin causes less interference to some services than earlier models, its potential for interference to TV remains high.

Equipment specification

Specifications for the new FM (frequency modulated) equipment will be drafted to ensure that it causes the minimum of interference to other radio users; standards will be set to which manufacturers, importers and assemblers will conform. The equipment will have to be permanently marked so that a purchaser knows the set he is buying meets these standards. Such specifications are vital to ensure that other radio services (police, fire, aviation) are not adversely affected.

Licensing

Users of the new service will have to buy a licence, renewable annually, which will entitle them to use equipment on either frequency. Talks are taking place with the Post Office to see if they can issue licences on behalf of the Home Office. It is too early to say what the cost of a licence will be.

Commencement date

It is hoped to complete the arrangements for technical specification, equipment marking and licensing, and bring the new service into operation, by the autumn.

Parliamentary Review



What was said in the House before and after the announcement of 27 MHz FM.

In the few weeks leading up to Mr William Whitelaws announcement of intended legalisation in the Autumn, members of parliament literally bombarded the Minister with questions on CB/OC and radio. Indeed as can be noted from Mr. Patrick Wall's comments at the foot of our coverage of the Adjournment debate, the House was alive. Because of this sheer volume of questions we must alas strain your eyesight with a reduced dummy page containing the events prior to the announcement.

This is bordered by yet more questions that came in the week prior, in all some 18 questions were asked on CB within two weeks. The announcement itself follows on the second page. CPD.

CB helps terrorists

Mr. Bradford (An official Ulster Unionist for Belfast South) asked the Secretary of State for the Home Department if he will study the judgment of the Recorder of Belfast, in which he expressed the view that citizens band radios are of great assistance to terrorists: and if he will make a statement on this aspect of their use.

Mr. Raison: All radio equipment - whether its use is licensed or unlicensed can be misused. The introduction of a legalised open channel service will not represent any additional risk to public security.

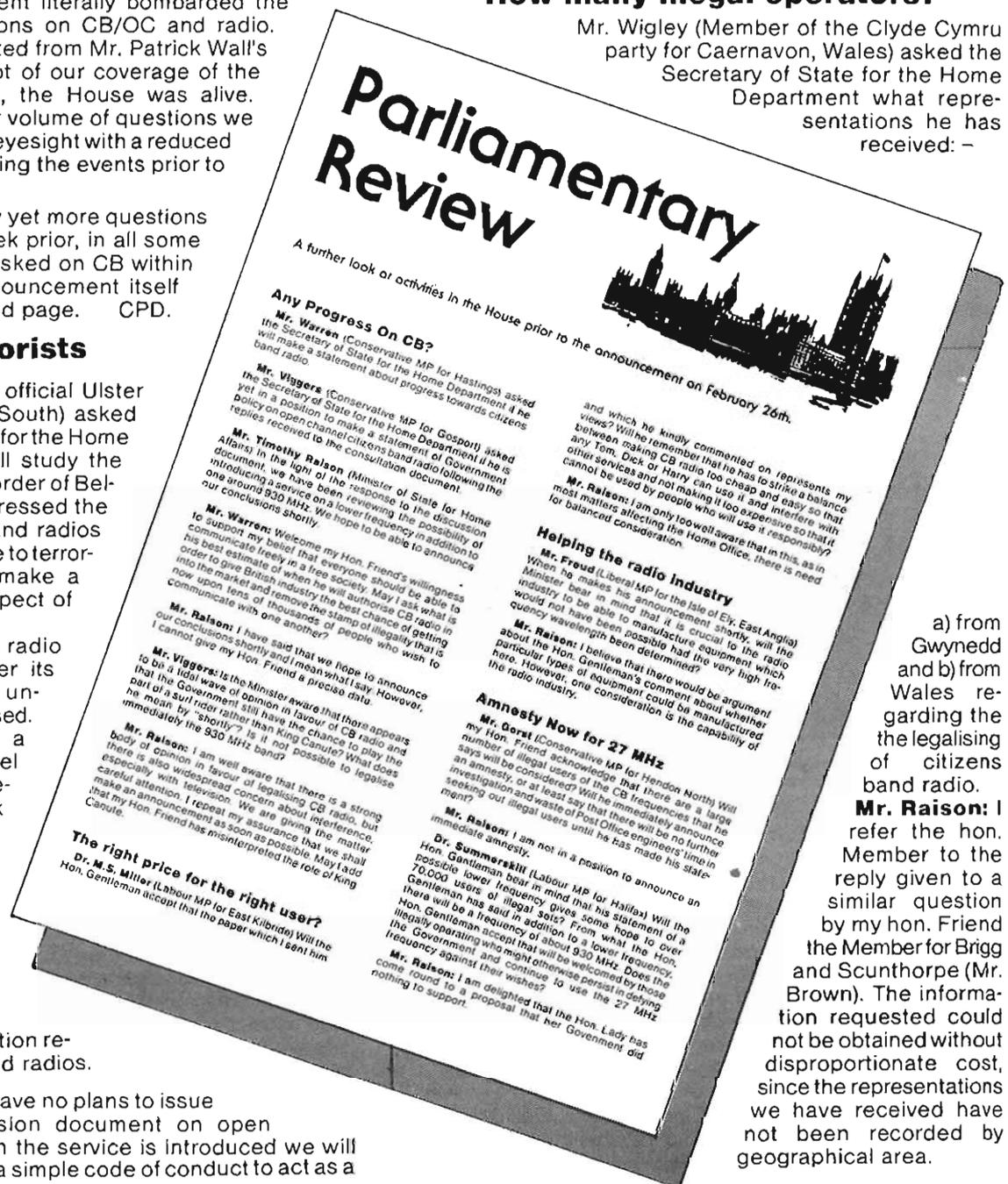
Mr. Bradford asked the Secretary of State for the Home Department if he intends to include a section on security in any future Government publication regarding citizens band radios.

Mr. Raison: We have no plans to issue any further discussion document on open channel radio. When the service is introduced we will consider publishing a simple code of conduct to act as a

guide to users on the proper use of the facility.

How many illegal operators?

Mr. Wigley (Member of the Clyde Cymru party for Caernavon, Wales) asked the Secretary of State for the Home Department what representations he has received: -



a) from Gwynedd and b) from Wales regarding the legalising of citizens band radio.

Mr. Raison: I refer the hon. Member to the reply given to a similar question by my hon. Friend the Member for Brigg and Scunthorpe (Mr. Brown). The information requested could not be obtained without disproportionate cost, since the representations we have received have not been recorded by geographical area.

Parliamentary Review

Mr. Wigley asked the Secretary of State for the Home Department what is his estimate of the number of illegal users of citizens band radio in a) Wales, b) Scotland and c) England.

Mr. Raison: Based on information supplied by the Post Office interference service, our current rough estimate is:

(a) Wales	6,000
(b) Scotland	9,000
(c) England	48,000

Mr Wall Gets the Answer

This is the one you have all been waiting for, the actual wording of Mr Patrick Walls question. Actually we already knew, we cheated, and just happened to be with Patrick Wall when the question was written, as can be seen by the photograph below. Nothing quite like being in the right place at the right time is there?

CPD

Mr. Wall (Conservative MP for Hallenprice) asked the Secretary of state for the Home Department if he has now reached a decision on the introduction of a legal Citizens Band.



Patrick Wall holds the question which produced the first positive step towards a legal 27 MHz FM Citizens Band Service.

Mr. Whitelaw (Secretary of State for the Home Office and MP for Penrith & the Border Scotland). After careful consideration I have decided to permit a 27 MHz FM citizens band service, provided that the equipment meets the standards we shall set. The 27 MHz AM equipment currently used in this country will remain illegal. Further evaluation of 930 MHz equipment has confirmed that this should provide a good service with minimum risk of interference, and accordingly I shall also be making available a frequency band around 930 MHz. Users will be required to hold a licence which will permit the use of both types of equipment, and which will be renewable annually. Consultations are taking place with the Post Office with a view of their issuing licences on my behalf. It will now be necessary, to seek

the advice of the statutory Advisory Committee under section 10 of the Wireless Telegraphy Act 1949 on the technical requirements to ensure the minimum of interference, and to reflect the outcome of this in regulations setting equipment standards to which manufacturers, importers and assemblers will have to conform. Arrangements will also have to be made for the setting up of the licensing system. The adoption of a frequency in the 27 MHz range may affect existing authorised users of this band, and the implications for them are being taken into account in the detailed planning.

I hope to be able to introduce this authorised service by early Autumn.

Licences for Car Radios?

Mr. Hardy (Labour MP for Rother Valley, Rotherham) asked the Secretary of State for the Home Department if he proposes to require payment of a licence fee in respect of motor car radios.

Mr. Mayhew (Conservative MP for Royal Tunbridge Wells) The working party on the administration of the broadcast receiving licence system, on which the Home Office, Post Office and BBC are represented, is considering methods of payment of the licence fee and whether the base of the licensing systems might be expanded, including the possibility of reintroducing car radio licences. My Right Hon. Friend expects to receive its report shortly and will carefully consider its recommendations before taking any decisions.

Even the Lords are talking about CB in the House of Lords

Lord Gisborough asked Her Majesty's Government: If they have now reached a decision on the introduction of a legal citizens band service.

Lord Belstead: After careful consideration my right honourable friend has decided to permit a 27 MHz FM citizens band service, provided that the equipment meets the standards we shall set. The 27MHz AM equipment currently used in this country will remain illegal. Further evaluation on 930 MHz equipment has confirmed that this should provide a good service with minimum risk of interference, and accordingly he will also be making available a frequency band around 930 MHz. Users will be required to hold a licence which will permit the use of both types of equipment, and which will be renewable annually. Consultations are taking place with the Post Office with a view of their issuing licences on my right honourable friends behalf.

It will now be necessary to discuss draft equipment specifications with manufacturers, to seek the advice of the statutory advisory committee under Section 10 of the Wireless Telegraphy Act 1949 on the technical requirements to ensure the minimum of interference, and to reflect the outcome of this in regulations setting equipment standards to which manufacturers, importers and assemblers will have to conform. Arrangements will also have to be made for the setting up of the licensing system. The adoption of a frequency in the 27 MHz range may affect existing authorised users of this band, and the implications for them are being taken into account in the detailed planning. My right honourable friend hopes to be able to introduce this authorised service by early autumn!

Friendly Advice for Emergency Monitors

Part two of a series written by Mike Newbold.

In the February CB Radio we saw how clear concise English should be used at all times in monitoring any Emergency Channel, most of us are currently CB enthusiasts, and hence we know all the 'lingo', but as in the USA it is an accepted way of direct communication, and therefore not only will you get Red-neck truckers calling 10-33's, but also your average spinster maiden Aunt, whose verbals will often be not only very confused in times of stress, but would be even more distressed if the responding Emergency Channel Monitor did not speak her own Language – plain English.

There are many voluntary Emergency Channel assistance organisations, perhaps the most respected being REACT, closely followed by ALERT, HELP, U.S. EARS, CREST of Australia, HARP of Ireland, and our own THAMES Units, all organised in one way or another, but the degree of actual Emergency Training varies from REACT's 8 week course to virtually NIL, as anyone with a base station and a Landline (Telephone) can establish themselves as an Emergency Monitoring Station.

As it is very likely that upon legalisation of a Citizens Radio Band various organisations will be established, I would like to respectfully offer a few Monitoring plans that are virtually common to organisations already established elsewhere.

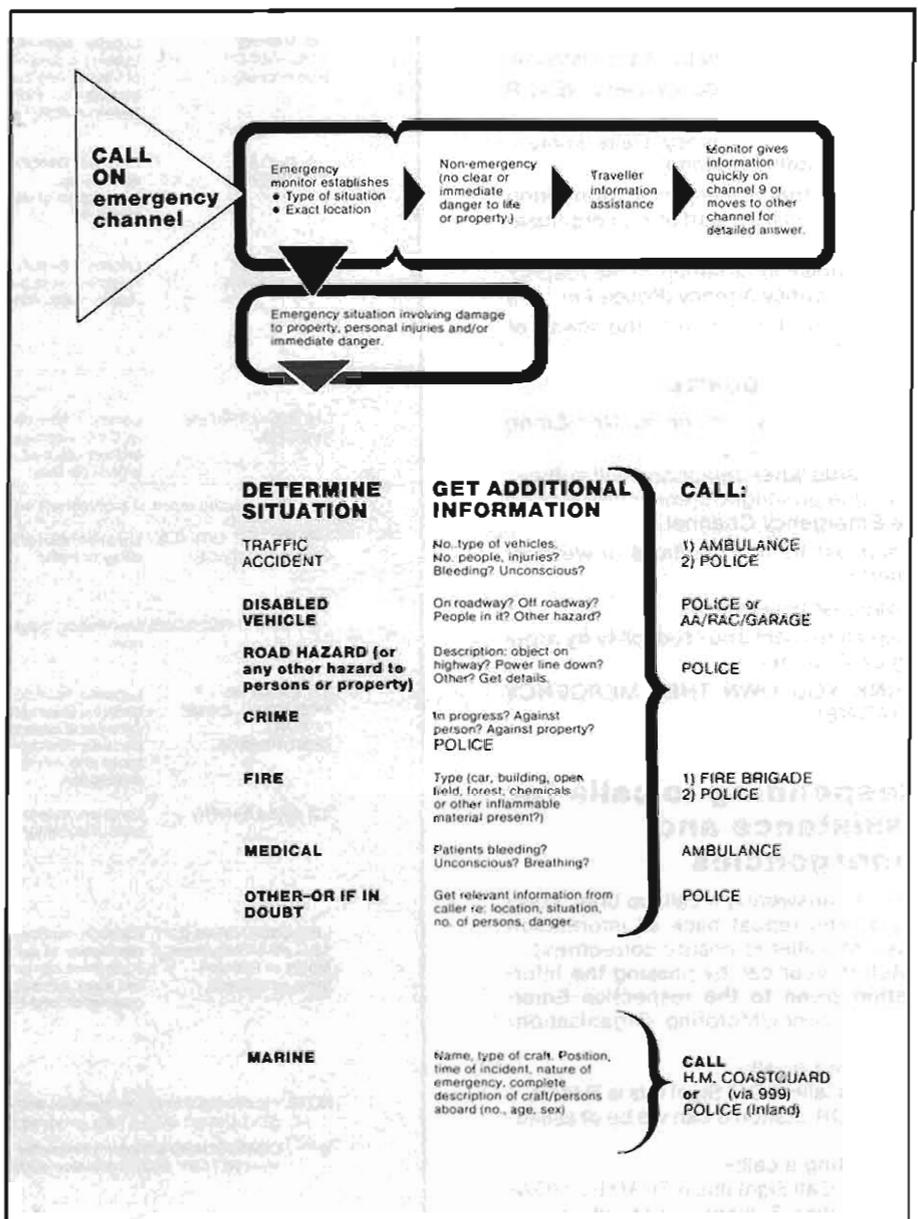
Monitoring Procedure

KEEP CALM : Irrespective of the Emergency you are dealing with a totally calm attitude will give the professional approach of obtaining ALL relevant details from your often distressed caller without any problems. If you lose your calmness confusion and loss of sometimes VITAL information will occur.

COURTEOUSNESS : Consider yourself a public servant, unquestionable courtesy must be practised at all times, especially at times of provocation or bad language by your caller. Never, ever lower your standard to a loss of temper, or a verbal fight with callers or other Emergency Monitors. NEVER argue with other Monitors, they have as much right as you to offer their services. Liaise with

them on landline to establish demarcation/ boundary lines to which you both can work, subject to local radio reception.

Two Monitors working in harmony are worth 100 who are not. Lose your cool and you'll lose all respect.



Friendly Advice for Emergency Monitors

CORRECTNESS: Mistakes cost lives on Emergency work, consider a few suggestions: Always use a headset or Headphones when monitoring... as with any background noise you will either misinterpret or lose the information altogether. Always write down everything, use the 24 hour clock system to time your messages, and repeat to your caller all Locations, Names and Call Signs. Report all Emergencies to the correct authority, never guess at information – ask, and ask again if necessary, but never guess.

CONCISE: You only have two jobs to do, so do them properly – Get the message and provide the required assistance. Keep all transmissions as short as possible, and avoid monopolising the Emergency Channel. If a prolonged exchange of messages are envisaged MOVE TO A CLEAR CHANNEL.

Summary

DO's

Answer all calls for help and assistance. Ignore all Non-Emergency users (NEVER Admonish them)

Switch Non Emergency Calls immediately to another channel

Respect other Emergency Monitoring Stations even if not part of your organisation

Pass concise information to the respective Emergency Agency (Police Fire etc) Be ready to direct help to the scene of Accident.

DON'Ts

Use Emergency Channel for Non-Emergency work

Use Radio when telephone will suffice Continue prolonged communications on the Emergency Channel

Broadcast traffic conditions or weather reports

Broadcast time-checks

Lose all respect and credibility by arguing on Channel

THINK YOU OWN THE EMERGENCY CHANNEL

Responding to calls for assistance and emergencies

When answering a call, be brief, courteous, and repeat back all information given by caller to ensure correctness.

Action your call by passing the information given to the respective Emergency Agency/Motoring Organisation/ Garage.

Answering a call:-

"Roger (Callers Call Sign) this is THAMES MONITOR Station 3 can we be of assistance"

Completing a call:-

"(Callers Call Sign) this is THAMES MONITOR Station 3, clear and Monitoring"

EMERGENCY MONITOR GUIDE			
INCIDENT	INFORMATION REQUIRED ASK-	REPORT INCIDENT TO-	INSTRUCTIONS TO REPORTER OF INCIDENT
1) AIRCRAFT ACCIDENT	Description: Commercial, Private, Military, Location, Injuries, Fatalities, Ground Damage, other danger.	POLICE	Reporter to remain at scene. Standby on Emergency Channel. Keep away bystanders, and remain at safe distance from Accident.
2) ROAD TRAFFIC ACCIDENT (RTA)	Location, Injuries-if Yes- If persons trapped-also- If damage only-	AMBULANCE FIRE BRIGADE POLICE	Reporter to remain on Scene until Help arrives. Do Not administer First Aid unless qualified - At night illuminate scene by headlamps
3) FIRE	Location: Type of Building Extent of Fire: Persons in Building	FIRE BRIGADE (Ambulance is automatically called by Fire Brigade if persons Reported)	Reporter to help evacuate, and ensure access clear for arrival of Fire Tenders. Locate Fire Hydrant points. Standby on Emergency Channel.
4) RAILWAY ACCIDENT	Location, Extent of accident Estimated number of casualties Any Fire, Road Access points	POLICE	Reporter to stay at nearest road access point to direct arriving Emergency vehicles. Standby on Emergency Channel.
5) MARINE EMERGENCY (see note a)	Location (with Map Ref on Bearing if possible) Type of Vessel. Any life endangered. Fire risk. Name of Vessel if possible	COASTGUARD (via 999 coastal areas) (or POLICE for inland waterways)	Reporter to Standby on Emergency Channel. Report direct to COASTGUARD on MARINE Channel 16 if available.
6) MEDICAL EMERGENCY	Location, Description of emergency. Description of vehicle if involved.	AMBULANCE (also POLICE if a vehicle is involved)	Reporter to await medical assistance Render FIRST AID if qualified. Maintain listening watch on Emergency Channel.
7) VEHICLE BREAKDOWN	Location, Description and Registration of Vehicle. Problem with vehicle.	POLICE (if traffic blocked) AA/RAC/ GARAGE (at motorist request)	Reporter to mark disabled vehicle with warning road cones, reflective triangle. Leave vehicle Hazard warning flashers ON. Remove passengers from vehicle if in dangerous position on road-
8) ROAD/TRAFFIC HAZZARD	Location, type of hazard ie: Oil or chemical spillage lost vehicle load, dead animal carcass	POLICE LOCAL STATION	Reporter to warn oncoming traffic if possible. Transmit warning on local Traffic Channel.
NB: a detailed report of problem will enable Police to send correct assistance quickly.			
9) TRAFFIC SIGNALS OUT OF SERVICE	Location, disruption and delay of traffic	POLICE LOCAL STATION	Acknowledge breakdown reported. Traffic direction should NOT be undertaken.
10) ROAD DIRECTIONS	Destination, Location now.	Not Required	MOVE TO NON EMERGENCY CHANNEL. Give required information.
11) CRIME IN PROGRESS; CRIME REPORT; DISTURBANCE:	Location, Number of persons. Description of Crime and description of persons. Direction of travel and vehicle description.	POLICE -also- AMBULANCE if injuries	Reporter to keep clear, follow at safe distance if suspects decamp. (If prolonged reporting involved move to Non Emergency Channel)
12) GAS LEAKING	Location, extent of leak, type of Building/promises	GAS BOARD EMERGENCY CONTROL -also- LOCAL POLICE	Reporter to stay at safe distance, if leak indoors - ventilate - open doors & windows. Extinguish all naked lights. DO NOT SMOKE - warn others.
LIFE ENDANGERED, 13) Lost on Mountain, Moors or Pot-Hole Mine emergency.	Location, number and description of persons equipment carried, time last seen, advised destination and ETA.	POLICE (will initiate Search & Rescue, and involve respective Emergency Agency: EG RAF Rescue Mine Rescue/Mountain Rescue Teams	Reporter to remain at last known location of lost persons, maintain listening watch on Emergency Channel. DO NOT INITIATE SEARCH! - or more persons will be lost.
NOTE: It is obvious that all emergencies and occurrences cannot be covered, and your LOCAL POLICE STATION will always help or advise for any other eventuality.			
a) COASTGUARD will inform respective Emergency Agency (ie Lifboat, RAF Rescue Team, Cliff Rescue Team, and co-ordinate such)			

Emergency Monitoring Station Equipment

A good Emergency monitoring Station should contain all the necessary equipment for dealing with requests for help and assistance, for your guidance most items are listed below, but needs will vary based upon local conditions.

- Base Transceiver with Omni-directional dipole Antenna.
- Back-up/Reserve Transceiver with separate Antenna.
- Emergency Channel Receiver only, with separate Antenna.
- Telephone Land Line.
- Large Display map of Monitored Area
- Detailed Street Map of Monitored Area
- Full Telephone list comprising numbers for Fire Police & Ambulance, including Local Stations, Veterinary Surgeon, Motoring Organisations, Garages (especially 24 Hrs Petrol & Services), All Local Hospitals, Chemists (especially Duty Rota) and Private Ambulance Services, Red Cross and St John Ambulance Units, Local Councils (Especially their Emergency 24 Hr Control centre). Gas & Electricity Emergency Centres.
- Log Book/Log Sheets for entry of all Calls received
- Local Telephone Directories & Trade Directories
- A good supply of writing instruments
- First Aid Manual**

- 24 Hour Clock
- Code Sheet of accepted abbreviations - 10 Code, 12 Code & Q Code (for reference only)

** It is obviously of great benefit if an Emergency Monitor Operator is in possession of a current First Aid Certificate, as a high percentage of Emergency calls from experience are medical emergencies, and a few knowledgeable words could save a life: Contact your local St John/Red Cross Unit for their next course - NOW!

Types of Emergency Calls Received

At this stage we can only base our anticipation of the type of call we are likely to receive on experience gained by current USA Monitors, these being:-

- Road Traffic Accident
- Medical Emergency
- Disable Vehicle blocking Traffic
- Disable Vehicle not blocking Traffic
- Dangerous, careless or reckless Driver
- Traveller Assistance
- Criminal Acts
- Fires
- Miscellaneous.

I offer these notes to organisations and fellow Cbers who are looking forward to establishing an EMERGENCY CHANNEL MONITOR, as soon as legislation will allow, in the meantime, practice

your radio procedure, it might feel a bit foreign or stiff upper lip after all that 10-4 Good Buddy verbals, but it is the only efficient system if we all speak the same language.

To those of you who are already 'on channel', please, if you hear a fellow Cber call a 10-33, cease all communication immediately, and only answer the caller if he is unable to raise a Base Station.



In the next article I will detail training programmes, record and log sheets for monitor stations, and a transcript of an actual 10-33. In the meantime join REACT UK, St John Ambulance and/or Red Cross and commence collecting all those important telephone numbers for your EMERGENCY CHANNEL MONITORING STATION.

All the high numbers,
Mike Newbold
THE MEDICMAN.

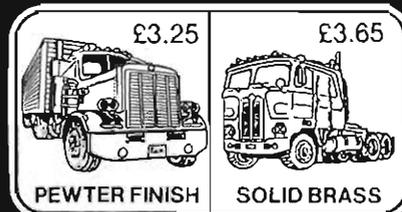
CB SWEATERS • BELTS • BUCKLES



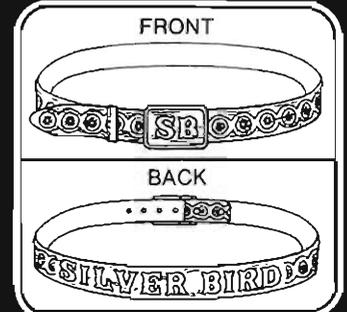
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CB'ers SSB HANDBOOK
TOM "TOMCAT" KNEITEL
Editor: CB RADIO/SS MAGAZINE

FEATURES:
• 9 removable charts on sidebands, Q-Signals
• AM-SSB Term Conversion
• the Phonetic Alphabet
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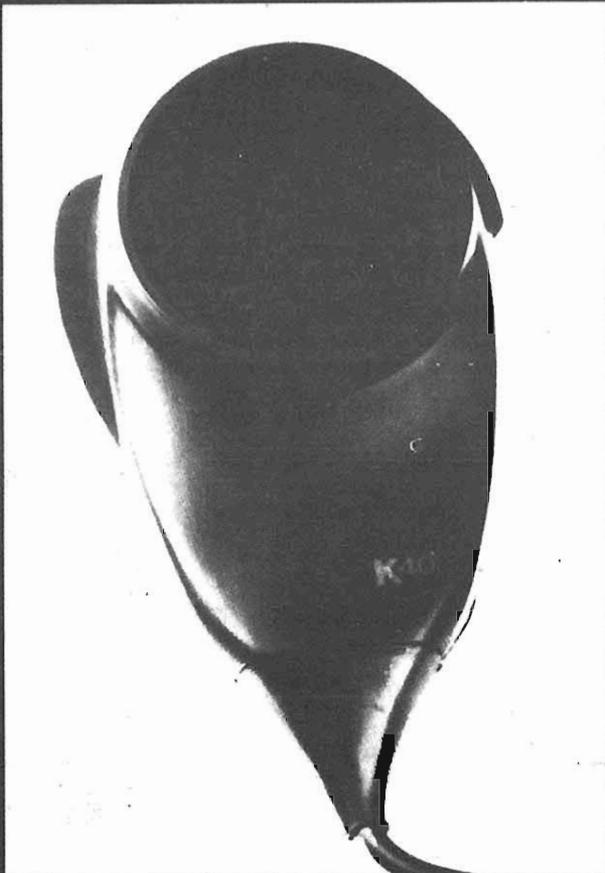
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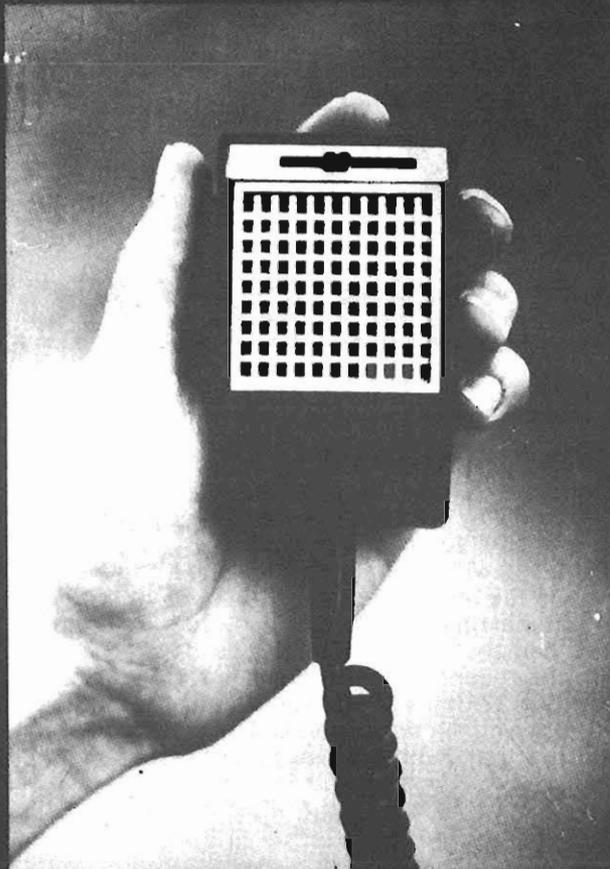
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National Ten Four Day

APRIL 10-12th

THE 1981 CB SHOW

At The Heathrow Hotel, Heathrow Airport. April 10th, 11th & 12th.

This is the month . . .

Don't miss it . . . April 10th, 11th & 12th.

We started to tell our readers about the Ten Four 1981 CB Show way back in December, so you certainly have no excuse if you miss this one.

Some readers will remember me making a comment, something in the region of "You never know you could even see a legal rig at the Show", followed by a further comment, namely "No don't laugh you never know". Well with the recent announcement that CB is to be made legal on 27MHz FM and 930 FM, I am sure that some enterprising manufacturers will be endeavouring to unwrap just that, but before we go further remember the month.

Last Chance

There is, for those readers who have picked up their copy of CBRM promptly and who haven't already done so, a last chance to book their club discounts or free admission.

- ★ Club discount of up to 90% off the admission fee (if booked in advance) **Don't delay book today.**
- ★ **FREE** admission to coach parties of 25 or over from 90% areas as indicated on discount map opposite.
- ★ **FREE** coach parking for clubs and parties.
- ★ **FREE** CB Sticker with admission.
- ★ **FREE** drink with admission (alcoholic of course).

- ★ **FREE** entry to daily draw, a side band rig or a voucher for a legal FM rig when available.
- ★ **WIN** a side band rig or a voucher for a legal FM rig if you travel to the show from furthest away on that day and can prove it.
- ★ **OVER £2,000** worth of prizes on offer from one exhibitor alone.
(for further details see this issue rear page)
- ★ Spot prizes and competitions each day.
- ★ Ten Four Show special Discount prices on selected items by exhibitors.
- ★ Licenced Bar and full restaurant service at the Heathrow Hotel.
- ★ Ample parking either at the Hotel or in the close vicinity.
- ★ **WIN A FREE HOLIDAY** weekend for 4, May 8th, 9th and 10th at "Perran Sands Holiday Village" advertised as the "Eyeball of the Year", organised by the 21 Breakers Club and called the First National Jamboree (further details at the show).
- ★ **FREE** Balloons and ½ price admission for the baby breakers.

* All offers and prizes are subject to availability.

The Heathrow Hotel is situated near enough to London to allow access to the city for an evening out, yet far enough away from the city's traffic to allow easy access. See you at the show.

JOH



Interior seating at the exhibition.



The main entrance of The Heathrow Hotel, showing coach access.

Club Discount Map

National Ten Four Day Discount

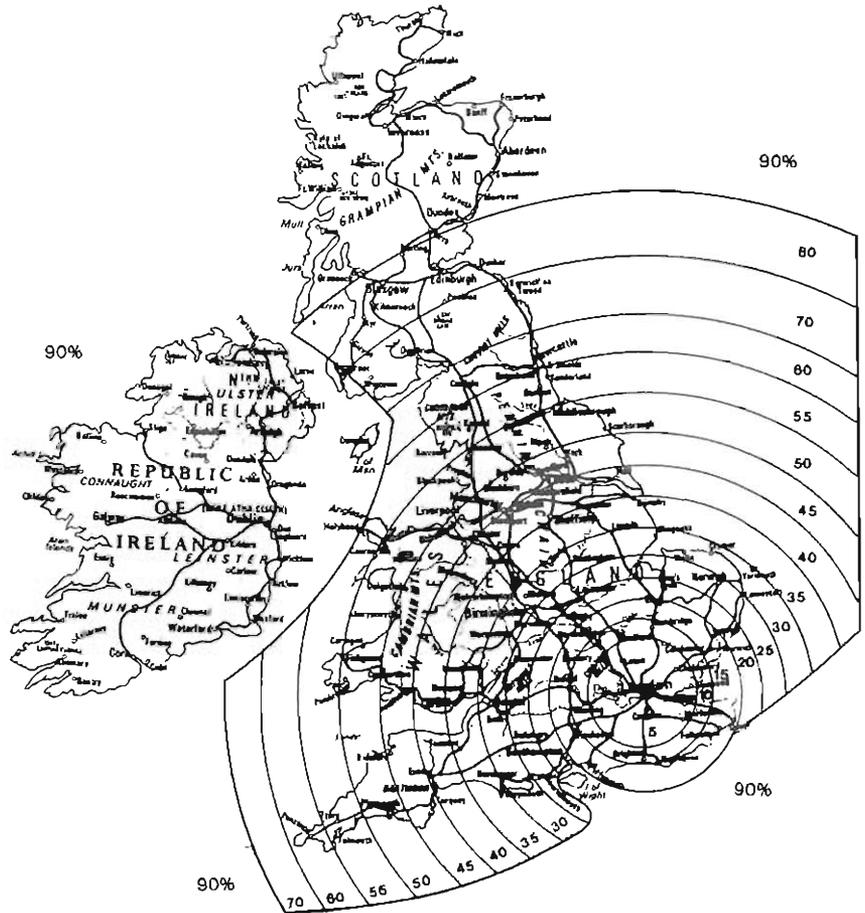
Club discount is available to all clubs booking and paying for their tickets in advance. Simply locate your area and read off percentage discount as shown, then add to your discount depending on the quantity of members wishing to attend from the table below to a maximum of 90%, then deduct this figure from the £1.00 admission fee.

25 tickets and over	Discount as shown on map for your area
50 tickets and over	Plus 5% on
75	Plus 10% discount
100	Plus 15% shown
125	Plus 20% for
150	Plus 25% your
200	Plus 30% area

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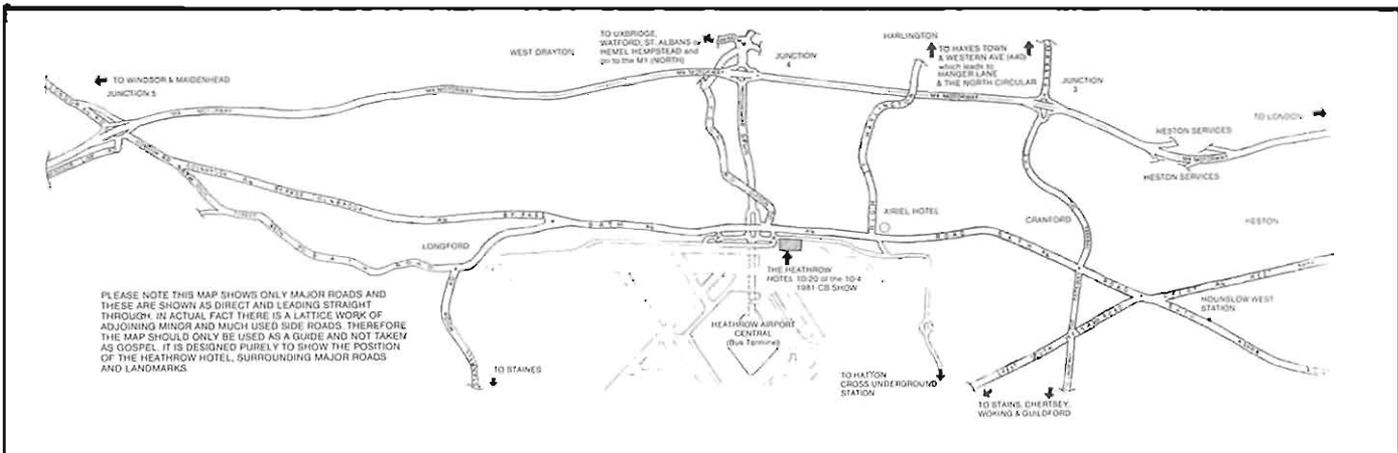
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SUN 10.00 a.m. - 4.30 p.m.



Dealing with Interference Problems

by E.A. Rule – Part 1

In this series of articles it is intended to deal with as many aspects of the radio interference problems that arise between a Transmitter and nearby electronic equipment as possible. Let it be said right at the beginning, THERE IS NOT ONE MAGIC CURE that will solve all your problems over night. Each case must be examined and its own individual cure or cures found. We shall be drawing on the vast amount of data which has been obtained by radio amateurs the world over, often after many hours of careful investigation, frustrations and expense.

The Social Aspects

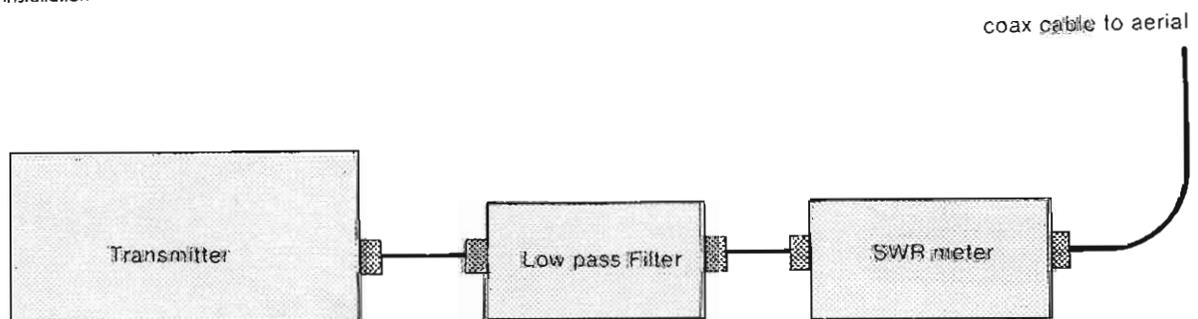
When a complaint is received of interference it should be dealt with in a polite manner and as quickly as possible. The ideal method is to have a 'third party' act as go-between. Radio clubs are well advised to form an 'Interference Committee' consisting of the best technical brains in the club and one or at the most two, of these members acting as the go-between in cases of interference. By having a 'go-between' the self interest of each party is avoided and the reasons for the problems can be examined by the facts alone. It would do no good at all for the transmitting member to tell a neighbour who has perhaps just spent £300 plus on TV or audio equipment that it's his equipment that's to blame as he would only retort that it's ok until you transmit!! Such conversations do not solve the problem but only sour relationships between otherwise good neighbours. A third party is in a position to sympathise with both parties.

After receiving a complaint about interference, CLOSE DOWN, until you have at least made sure that your own house is in order. When a neighbour complains that you are (for example) coming through on his TV, it is very nice to be able to show him that yours is ok while you are transmitting and therefore prove that at least you are not transmitting on the same waveband!! Quite a few people will believe that you are simply because they do not understand the technicalities. Do not offer any explanation there and then but suggest that you will look into the matter, ask for details of what interference he is getting, first check the times that it happens, were you transmitting at that time?, is it on all TV channels, is it on picture and sound or only one, if you are on good terms suggest that you run some tests to find out just where the problem is. We shall deal with the type of tests later, but the initial reaction should be one that shows that you are interested in helping solve the problem, also if possible, find out what the viewing times are and STAY OFF during these times until the problem has been solved. Check with other neighbours, are they getting any problems? Do not try to hide, there is nothing worse than suffering from interference for weeks on end before finding out who is causing it, because you are more than likely to start off on the wrong foot at best and suffer a punch up at worse!

Putting your own house in order

The very first thing that must be done is to ensure that every item of electronic equipment in your own house can be used while you are transmitting without any form

Fig. 1: Typical installation



of interference. If you can transmit with no interference to your own electronic equipment, you are 90% of the way towards not having any problems with your neighbours either. Start off by ensuring that the complete transmitting station is correctly installed and that the aerial system is correctly matched. The aerial used for transmitting should not be close to any other equipment and ideally should be OUTSIDE well in the clear of all other aerials or wires. Indoor aerials are a sure way to get interference problems. Do not run your feeder cable close to other wiring and avoid sharp bends in the down lead from the aerial to the transmitter. Do not use a 'mains earth' for the transmitter aerial/earth system. If possible always use a 'balanced transmitting aerial system'. A low pass filter should be fitted in the transmitter aerial feeder close to the transmitter to prevent harmonics getting into the aerial system. The block diagram fig. 1 shows a typical layout for a transmitting station.

Apart from the basic transmitter and microphone plus an aerial that all stations will have, it is important that a lowpass filter is used in the aerial feeder system. This filter will greatly reduce any harmonics that may still be present in the transmitter output and as a result will greatly reduce the chances of interference from this source. However, a lowpass filter will only work correctly if the aerial system is correctly matched, an odd length of wire is just asking for trouble. The aerial system should be installed with good quality low loss feeder cable and have a properly matched aerial connected to it. Do not run the feeder alongside a TV down lead. The actual transmitter aerial should be well clear of all other metal objects or wires, including loft water tanks etc. Most of this is of course just common sense. The field strength radiated from an aerial falls off inversely to the square of the distance. In plain language, if you double the distance between the aerial and some other object

(TV aerial) the signal will have dropped to a quarter of its original value and reduce the chances of interference by a factor of four. A high aerial well in the clear is far less likely to introduce interference than a low one, or worse still, an indoor one.

So far we have only dealt with interference in broad general terms. Next month we shall start looking into actual practical ways of solving some of the problems. However, just a brief word about Hi-Fi before we close.

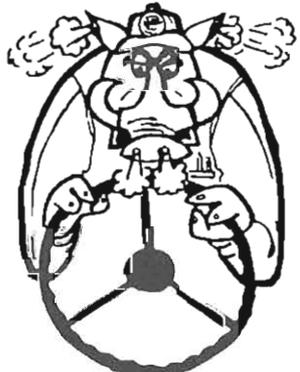
Hi-Fi Equipment

In almost every case of interference to Hi-Fi equipment it is the Hi-Fi equipment that is at fault, however this is no reason to feel that it's no concern of yours. The writer can assure you that releasing 50 plus 50 watts of stereo SSB in the early hours of a Sunday morning is no way to keep on good terms with ones neighbours!! The most common cause of this problem is the transmitter signal being picked up on loudspeaker leads or input leads to the amplifier. This aspect of the interference problem will be dealt with in some detail later but although there are certain things that can be done external to the Hi-Fi system, most cures involve work on the internal working parts of the system and such work should only be carried out if you are prepared to accept the responsibility for the equipment for evermore.

Most manufacturers will offer advice in such cases but do not undertake modifications to other peoples equipment unless you really do know what you are doing, otherwise it could prove very expensive indeed. Fitting filters to the transmitting system is unlikely to have any effect on Hi-Fi interference problems. Keeping the transmitter and/or aerial well away from the Hi-Fi is a help and very often will effect a cure. Reducing power and/or using FM instead of AM or SSB will also help.



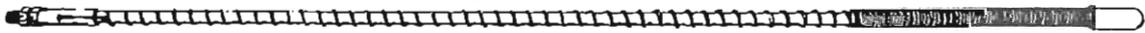
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TRADE AND RETAIL

Readers Write

Dear JOH,

Knowing full well that some of your most avid readers are probably from the Radio Regulatory Department of our rather tepid Home Office, I thought I would relay to them, through our magazine the contents of a conversation I had the other evening with a registered Radio Amateur who is a RSGB (Radio Society of Great Britain) member.

It appears that the inevitable has happened inasmuch as many CB enthusiasts have left 27 MHz behind and have moved up onto the Amateur 2 metre band on 144-156 MHz. The equipment is easily obtainable from almost any Amateur Radio Shop, no questions asked at all, and the illegal CBers are apparently buying the latest copy of 'Shortwave' Magazine and selecting any call-sign mentioned on its pages, and they are virtually undetectable. There are no illegalities in installing, or purchasing this equipment, the antennas are virtually identical with normal commercial radiotelephone bands, and you are only for the high-jump if you are physically caught with your finger on the button!, so there is also minimal risk.

Whilst the equipment is slightly dearer than 27 MHz rigs, it is far superior, and repeaters are available throughout the country.

Unless our beloved Home Office moves, and I mean move, I can see a mass exodus away from the skip prone noisy 27 MHz to a crystal clear 2 metres. sorry Amateurs but it will happen!

NOW THERE IS ONE ENORMOUS CRUNCH FOR THE HOME OFFICE:

British 2 metre band runs from 144 to 146 MHz, but much USA imported equipment for their Amateur band is 144 to 148 MHz, so exactly what has the Home Office allocated on 146-148 MHz?? a part of the spectrum which whilst illegal to use in this country is Amateur Band in USA, and so is available on USA equipment freely available in this Country? I'm not mentioning any names, but my little friends in Blue who drive turquoise cars won't be impressed at all, and men with yellow helmets who drive red vehicles with blue lights will find their base 'link' equipment suffering from sheer ignorance of illegal users.

I saw my first warning letter to the Home Office in 1974 just laughed off, now we already have a totally uncontrollable situation on 27 MHz, with a national security problem looming in respect of illegal 2 metre use, need I say more??

THE MEDICMAN

Dear CB Radio,

I would like to put the record straight on interference. In Crawley, where I live, Hospital Bleep Systems work on 31 MHz and have never been interfered with by CB, nor has any other Hospital equipment, this is on very good authority. Also ambulance personnel, who shall remain nameless informed me that their frequency is dropping down in line with police and fire on the V.H.F. band and the new aerial will soon be installed on the Hospital roof. Seems like a lot of changes are taking place, perhaps the Iron Maiden may yet give us 27 MHz. It was alleged at

the last meeting of C. U. B. A. (Crawley United Breakers Assoc.) that someone with a big burner had operated in close proximity to Crawley Fire Strn. You always get one 10-1 turkey don't you!

10-10 do it again, we're down, we're clear, we're gone.

BLUE DOLPHIN

Dear Sirs,

I find I must reply to MG Leicester. The experience in the USA is that mobile CB users make police patrols more effective.

Constantly re-sited patrol cars have the effect of being an even greater deterrent and even better value for money. Police patrols are to deter the wirley weavers (drunks and speed kings) and render assistance at accident sites. They only prosecute offenders who are too stupid to observe the highway traffic acts.

If a channel for emergency only, was set up it would be even better in accidents, as some moron has usually vandalised roadside telephones.

So the CB users are not kidding nor are they undermining the police.

As other writers comment, Europe and the States have legalised CB.

The only reason against CB is to prop up the obsolete British electrical industry, and not help them to produce shoddy obsolete goods at extortionate prices.

And deny freedom of speech. No copy yet but soon.

BIGFOOT (Notts)

Dear Ed,

I would like to say in response to the letter you have printed about "What frequency?" especially the one from Mack the Hack (London) issue 7. Yes VHF would be great! Nice sized equipment. No screeching bleeping etc. Yes fine. But if we had been given this frequency 18 months ago then there would not be an estimated 500,000 27 MHz rigs in use in this country today.

All I can say is that the longer the government delay giving us a frequency then the harder it is going to be for them to wipe out 27 MHz Breakers (presuming it will not be on 27 MHz).

I personally fight for 27 MHz I admit it isn't the best frequency in the world, but when I wanted a CB like everybody else I had no alternative, so unless the government give us 27 MHz then they're going to have one hell of a job to wipe it out.

10-4.

T.T. Steel City

Dear Sir,

Early last summer a fellow pirate "The Dealer" and myself were working together at a holiday Park in North Wales. I was by the reception office when Dealer came through on my rig saying that someone had fallen from a cliff at the far side of the park. The ambulance was called and the next message I got was to send down some blankets and bandages as the man was bleeding badly from a head wound. Not

being too happy at the sight of blood, someone else delivered these whilst I went about another job. The drive to the park is very narrow and only wide enough for one car, and with the holiday traffic it could take a long time for an ambulance to get to the injured man, so using another advantage of CB, I managed to make sure the drive was free from traffic and waited at the entrance to direct it to where the injured man was. The first to arrive was Smoky, followed a few minutes later by the ambulance who had a clear run through to where the accident was. Luckily it was not as bad as it first looked, although he had fallen about 40 foot.

All the time neither Dealer nor myself used handles or code as it would have been silly in that situation, and although Smoky must have heard me radio through that the ambulance was on its way, Dealers window being wide open and the rig full on, nothing was said, hopefully because without the CB many minutes could have been lost and if things had been worse maybe a life.

We gone, we down. Byebye

HANDYMAN

Good Buddies,

There was I, poor Robin Hood, chatting on my rig feeling good, just sitting on the side ratchet jawing, but a rotten bear thought I was boring. He pulled alongside, said hello, so I went 10-10 said oh no, I then got told I was breaking the law, 27MHz is for you no more. He then swiped my rig which made me ill, took me to court and gave me a bill, 100 green stamps it did read, that was something I didn't need, so I brought it along to the club, said to you "Can you give me a sub? cause I'd been busted, that wern't fair, all I want is to be back on the air". 4 sure, 4 sure you said to me, paid my fine most generously, so here am I, on channel once more, I thank you greatly on that score, on that note I'll sit on the side, thank you again, I'm gone bye bye.

ROBIN HOOD

Dear Editor,

Being a Lady breaker I am speaking for myself and several other local girls. We just had to have a say about this awful name we've been given of "Seat Cover". As it was probably a male CB'er that invented this we would like to get hold of him!!! There are two ways of describing us at the moment, one is an XYL a wife which is very acceptable, and one which we would be pleased to answer to. If you're just a girl friend you're called a seat cover, which is most disturbing, it sounds as though we're something dirty which needs to be taken off occasionally and washed. So come on lads, let's have you male breakers find something better than this. Why can't the unattached girl be the YL, while the wife is the XYL. If you don't change it, we will.

A RUTLAND REGISTERED LADY BREAKER

WE APOLOGISE FOR THE RESTRICTED READERS WRITE THIS MONTH DUE TO THE POLITICAL SITUATION.

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The London Demonstration

The St. Valentines Demonstration

Firstly we must apologise to the organisers, the North Cotswold CB Club, unfortunately we're only able to give their demo one page of coverage. The truth of the matter being that as they successfully arranged the biggest CB demo ever to take place in London, with a turnout of 1,800 plus, they do deserve more.

The demonstrators assembled at Speakers Corner, Hyde Park, the now familiar CB'ers starting place. Originally it was intended to proceed to No.10 and return to Hyde Park for a rally, but eventually the organisers gave way to the police request to follow the same route as other CB marches and disperse near the Thames.

The Ashfield Breakers actually carried a dummy rig measuring some eight foot by six as their banner. Infact banners galore were on display, this could have been due to the prize that was up for grabs, namely a silver cup. This was to be presented by JOH from this magazine, but as he was on assignment in Europe (more like skiing in Austria) I had to give the cup away, and what was worse, choose the winner! That proved to be hard as one of the best banners was in fact the North Cotswold. Obviously they couldn't except their own trophy so with them out of the running it came down to a choice between three other brilliant banners, the 8 x 6 foot dummy rig, the F.B.I. (Friendly Breakers Incorporated) and the Northampton Breakers. The prize went to the latter for their bright red banner, one of two large banners backed up by hand held posters carried by all their members. With the trophy presented, Bowler Hat (Alan Scott) the chairman of the NCBC, said a few words thanking them all for the turnout. He was then followed by Micky Mouse (Scott Lewis) their PR man who insisted on reciting a poem:

*Good morning to you, good morning indeed...
All here are the breakers this campaign it needs
Our motives our aims in common we share
We want no more hassle from Smoky the bear...
So we'll go to the PM with petition in hand...
Perhaps then she'll give us our Citizens Band...
All we want is a licence for freedom of speech...
We're sure that these things, they're not out of reach...*

Every breaker present laughed at the final lines of the poem as they read "We're here up in arms, protesting again" ... "Bugger the rest, they're only a pain".

Lead by Buzby

Banners were once again held aloft as the march got underway lead by a mini with a somewhat large effigy of Buzby perched on its roof, this was stuffed with over 2000 signatures demanding 27MHz AM be legalised Now! Chanting at the top of their voices the breakers went down Marble Arch through Piccadilly Trafalgar Square and on towards Waterloo Bridge. Pausing only briefly on the way to hand the huge Buzby into No.10. Unfortunately the Iron Lady was not in, although no one really minded as the security guard accepted the petition and assured the organisers that Mrs T would receive it okay!

A good turnout was put in by quite a few London based clubs which I must say was pleasing to see, naturally our old friends from South Birmingham were

present, they must have a pretty close 100% attendance record by now!

Well done the North Cotswold Citizens Band Radio Club and on their behalf thank you to all who turned up.

Here are some of the clubs that came up and said hello:-

IBC (Sunbury Middlesex) M.O.B. (Maidenhead, Berks) Roman City Breakers (Colchester) L.C.B. (Leicester) C.R.A.B.S. (High Wycombe) S.L.O.B.S. (Slough Bucks.) B.B.A. (Bracknell) H.B.C. (Hoddeston) B.C.B.C. (Suffolk) A.B.C. (Shepperton) B.T.S. (Reading) C.B.A. (Reading) T.U.B. (Reading) F.B.I. (Ashford Middx) Sandwell Breakers (South Wales) Cheesey Breakers (South Wales) S.B.C.B.C. (South Birmingham) Gwent Valley Breakers (Wales) Middlesex Breakers B.A.T.S. Northfield 20 Club (Birmingham) East Arch Breakers Club, Shanty Town Breakers Sugar Town Breakers W.L.B.C. (Southall Middx) and of course the North Cotswold CB Radio Club.

CER



Some of the demonstrators even brought their rigs.



The Northampton Breakers with their banners.



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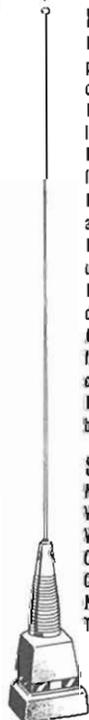
SUPER SCORPION M2000

Features

- Precision machine ground tapered whip has less air resistance and less pattern distortion due to whip bending. Highest quality 17-7 PH stainless steel can be bent full circle and still snap back to perfect vertical!
- True static ball tip for continuous dissipation of wind static build up and less noise!
- Full 60-inch radiator surface for maximum range. VSWR 1.6:1 or better from channels 1 to 40 without tuning.
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Specifications

- Model M2000
- Whip Tapered 17-7 PH stainless steel. Full 60" length.
- VSWR 1.5:1 or better, Channels 1 through 40.
- Cable RG-58U, 17' with in-line (½" dia.) miniature connector.
- Connector PL-259.
- Mount Trunk lid, no holes or roof mount (¾" hole).
- Total Height ... 65".



M2000

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Specifications

- Model MR125
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- VSWR 1.5:1 or better, channels 1-40.
- Cable 17' RG58U coaxial.
- Connector PL-259.
- Mount ¾" hole mount.
- Total Height ... 47".



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The Adjournment Debate

Citizens Band was discussed in detail in this the second adjournment debate. This debate took the form of a penultimate discussion playing a major role in bringing forward the announcement which finally came on February the 26th.

When a subject becomes controversial as indeed CB/OC has, it is the right of any member of parliament to call for an adjournment debate to discuss and hopefully gain answers from the Minister involved as to the present situation. By tradition the debate lasts for thirty minutes with the proposer speaking for the first fifteen minutes and the minister answering in the latter fifteen. No other members are obliged to attend and thus it is possible that no points or comments may be raised by other M.P.'s. However if they chose to remain as indeed with this subject many did, then the debate can often be lively. The following is a transcript of the adjournment debate called to discuss Citizens Band or Open Channel.

JOH

Motion made, and Question proposed, That this House do now adjourn. Time 11.42pm on the 9th of February 1981.

Mr. Patrick Wall (Conservative MP for Haltemprice): I know that citizens' band radio is normally associated with the motor car. It is, in fact, a hand-held telephone with no wires. It has many uses other than installation in motor vehicles.

I first raised the question of the legalisation of this system in the House during the time of the previous Government, but they were clearly unwilling even to consider the matter. After the 1979 general election, the Conservative Government agreed in principle to freedom of the air, although they sensibly entered the caveat that this freedom should not interfere with other people's freedom.

As a result, the parliamentary CB committee was formed under my chairmanship and also a National Committee for the Legalisation of CB Radio to coordinate numerous CB clubs and associations which represent over 100,000 CB enthusiasts. Councillor Yard was the first chairman of the national committee. He has been succeeded by Councillor Town.

At this stage, I should like to pay tribute to the Minister of State, who has met both committees whenever we wanted to see him and who has been most helpful and frank about the difficulties he faces in legalising a CB system. However, I cannot understand why he insists upon calling it Open Channel when the general public, brought up on American films and television, always refer to it as CB radio.

There is a strong impression among those interested in CB radio that the

officials have opposed its introduction and have been fighting a rearguard action to prevent its legalisation —

Mrs. Peggy Fenner (Conservative MP for Rochester and Chatham): And how!

Mr. Wall: —and have sought, if it is legalised, to emasculate it as far as possible. This view is illustrated by a discussion document that was made available last year. (See issue 3 August CBRM) Incidentally, it was not obtainable from the Stationery Office, which seems rather strange. The document was studiously vague, except in advocating a frequency of 928 MHz.

The view is further illustrated by a meeting with Home Office officials on 18 December. That meeting was called for a time when it was known that the chairman of the national committee would be out of the country, as would its secretary, but the secretary managed to change his arrangements and attend the meeting.—

"The meeting had been arranged in response to a request made by Mr. Raison, Minister of State, Home Office, on the 11th December by a delegation from the National Committee for the legalisation of CB Radio (NCFL), for a discussion meeting with Home Office engineers on the technical merits of the delegation's proposals. The basis for the discussion was the National Committee's paper 'CB Independence'." Proposing immediate legalisation on 42 to 44 MHz, within the Band 1 B/W 405 line TV transmission frequency, due to become vacant in 1984 with a total shut down by 1986.

The meeting made little progress in discussing the national committee's proposals, which had been submitted in detail to the Minister. It was confronted with a barrage of reasons why the 41 MHz band should not be legalised. If my Hon. Friend the Minister studies the committee's proposals carefully, he will see that in fact we proposed a frequency of 42.608 to 43 MHz, with 16 channels, and 43.694 to 44 MHz, with 20 channels. We know that the frequency tested by his officials — 41.5 MHz — causes interference, but we claim that on the frequencies to which I have just referred the interference is minimal. It is clear from the minutes that these frequencies were never tested by his officials.



Patrick Wall the Conservative MP for Haltemprice has been campaigning to see Citizens Band legalised here in Britain. Pictured here at the Trafalgar Square Rally. Some of that enthusiasm can be clearly seen.

Near Gestapo Tactics

Mr. Wall: Perhaps I should say here that the law is very muddled. As it stands, one can purchase a CB set, but one cannot install it, use it or import it. One hopes that these rules will be changed in the very near future.

In view of the statements made in the House last week, I am bound to say that some officials of the Post Office searching for CB radios have adopted what amount to near-Gestapo tactics, by demanding entry at 2 am and virtually pulling a house apart in search of an illegal set. I have statements to the effect that the attitudes adopted might have been suitable for a search for an enemy spy transmitter during the last war.

Mr. John Golding (Labour MP for Newcastle-under-Lyme): Radio investigation officers, members of the Post Office Engineering Union, will bitterly resent the charge of using near-Gestapo methods, when they have to enforce a law that has not yet been changed, after representations from hospitals, fire services and other users. They have been put in an intolerable position, because they have to enforce the law. Conservative Members who would have law and order should do nothing other than to try to persuade the Minister of State to change the law to make it easier for them.

The Adjournment Debate

Mr. Wall: I am glad that the Hon. Gentleman intervened, because it was he that I had in mind. Of course he is right in saying that officials have to uphold the law. What I am saying is that the way in which they do it is not always in conformity with the normal practice. There are two sides to every question. I shall leave it at that. My Hon. Friend the Minister will, quite rightly, defend his officials, but it is only right that he and the House should know that those interested in CB radio have strong feelings on the matter – as undoubtedly do the officials that the hon. Gentleman represents in his trade union.

The Two Questions

Mr. Wall: With that background, I come to the two basic questions that we have to consider tonight. The first is the frequency to be allotted, and the second is the timing of the legislation – or, rather, the legalisation, because legislation is not required.

There are three possible frequencies – 928 MHz, favoured by the Home Office, 42.8 to 44 MHz, favoured by the national committee, and 27 MHz favoured by the large mass of at present illegal operators.

In answer to a question in the House, the Minister said: "We have been reviewing the possibility of introducing a service on a lower frequency, in addition to one around 930 MHz".



Timothy Ralson the Minister of State for the Home Office, pictured here leaving a previous debate.

I take it that presupposes that either 42.8 MHz to 44 MHz or 27 MHz will be legalised. I cannot see any other meaning in that answer.

With regard to 928 MHz, the Minister has admitted that the overwhelming number of replies to his consultative document were opposed to this frequency, largely because of the short range in built-up areas and the expense of UHF sets. I understand that the Europeans are studying an international automatic car telephone around that fre-

quency, but it will obviously be some time before the study is completed. France recently rejected that frequency completely.

That leaves us with 41 MHz and 27 MHz. We are still in favour of the 41 MHz band. We have submitted evidence to show that, if properly tested, it causes minimal interference and no danger to health. Damage to health is possible on the 928 MHz band, using 25 watts, compared with 8 watts on the lower band. We need a range of about 10 miles or, 15 kilometres, and an automatic identification device. It would clearly be of advantage to the manufacturers if the new frequency was legalised.

It may be too late!

In 1973, it was estimated that CB radio could provide work for 2,500 people and would cover a market of about £45 million a year. The Minister's main objection to the 41 MHz frequency, other than interference, is that it would have to wait until black and white television is phased out in three years. That is not our understanding. We understand that the BBC could almost immediately transmit black and white television on four of its transmitters, leaving the fifth available for CB users. That would also be in accord with international agreements.

However, it may now be too late. Eighteen months ago, the Minister was warned that there were an estimated 30,000 illegal sets in this country, operating on 27 MHz. From the study of sales of aerials and other accessories, we believe that that figure has now reached 250,000. The Minister warned that the Governments of Australia and the Netherlands were opposed to that frequency but were forced to legalise it because of the large number of sets operating in those countries. That is most unsatisfactory, and I fear that the same situation will develop here.

We backed the Minister in opposing 27 MHz, but we warned him that if action was not taken rapidly he would be forced to legalise that frequency. The police and the Post Office regulatory department have rightly – I emphasise rightly – increased the pressure against illegal operators, and many police forces have been too great. I understand that police constables have been issued orders to that effect.

This is an unsatisfactory situation, but we must face facts. The question now to be asked with regard to 27 MHz is whether AM or FM should be legalised. Many illegal sets that are operating in this country today come from Japan or America, and they operate on 27 MHz AM. Although AM causes television interference, it is clear that some sets will continue to operate illegally whatever decision we reach. That is one of the reasons why the Citizens Band Association now favours AM.

However, 27 MHz FM or CEPT PR 27 FM has now become virtually the official

European standard. West Germany has legalised AM and FM. France, the Netherlands, Belgium and Luxembourg have legalised 27 FM. I understand that Ireland is waiting for our decision. Although it will be a great disappointment to many CB users, **the 27 FM frequency is virtually the European standard, and it should therefore be legalised in this country as soon as possible.** Those who have bought illegal sets can hardly grumble if this is done.

One of the objections to 27 MHz was that it would affect model aircraft seriously. I understand that they have now switched to 35 MHz, so that objection is out of the way. Should the Government decide to legalise 27 MHz, I believe that they should keep the 41 MHz band as a possible European standard for the future. Users will switch relatively easily from 27 MHz to 41 MHz, but they are unlikely to switch to ultra-high frequency such as 928.

My final comment concerns the timing. The question is when. Pressure grows every day. There have been demonstrations. More and more sets are being imported illegally, and more and more sets are being used illegally. The position can only get worse unless the Government act at once. The Minister said recently in the House: "We hope to be able to announce our conclusions shortly".

I hope that "shortly" means within the next three months. This can only be in the Government's and the country's interest.

As regards the administration of a legal system, I am authorised to say that the national committee, the CB Association and the clubs will give the Government every possible assistance in administration. But let us have a final decision before the second anniversary of the 1979 general election.

Time now 11.56 pm

Reassure the House of a change

Mr. Tim Rathbone (Conservative MP for Lewes): I am grateful, Mr. Deputy Speaker, for being allowed to support my hon. Friend the Member for Haltemprice (Mr. Wall). I add my own thanks to the Minister for his consideration of the whole question of citizens' band radio, which is in stark contrast to the attitude of his Labour predecessor, who greeted every request for consideration of this subject with a negative response.

The Minister only has to think about the number of hon. Members present to listen to the debate – an unprecedented number for an Adjournment debate – to understand the importance which is attached to it, and this is matched by the numbers of people outside the House physically this evening and outside the House at other times during the rest of the year.

I fear the Minister has to do battle with his officials in the Hon. Office, who have taken too negative an attitude over the

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The Adjournment Debate

years to the allocation of a citizens' band radio wavelength. The law against citizens' band has been flouted for too long. When any law is challenged in the way that this law is challenged, a Government have seriously to consider changing it.

I hope that the Minister will be able to give the House some reassurance that that change in the law is being considered by the Government right now.

Time now 11.57 pm

There will be a legal OC

Mr. Timothy Raison (The Minister of State, Home Office): I congratulate my hon. Friend the Member for Haltemprice (Mr. Wall) on raising this topic. I acknowledge the leadership that he has given in this matter.

As my hon. Friend said, it is just over a year since we last had a similar short debate on this subject, and a good deal has happened in that time. In it, the Government have moved from a position of examining the issues to one of support in principle; we have issued a discussion document on our views, and seen an extremely heavy public response to it; and we are now close to reaching our final decisions. Thus, while my hon. Friends will not be surprised if I say that I cannot tell them what those decisions are tonight, I can say that they will not be long delayed.

There is, of course, **no legal open channel service now, but there will be one**, and I think that it will be noted that it is a Conservative Government who will be taking this step.

Mr. Dennis Canavan (Labour MP for West Stirlingshire): When?

Mr. Raison: I do not think that my hon. Friend the Member for Haltemprice will expect me to accept them. They have worked extremely hard under our policy, and I have no grounds for reproaching them.

I have always thought that some of the arguments about the advantages and disadvantages of open channel or citizens band radio are sterile, or overstated. I believe that a new service can and will be helpful and enjoyable to many people, just as I am certain that it will cause problems and difficulties to others. But personal freedom matters, and that is the argument that we, as a Government, have always found strongest.

The reasons for delay

Mr. Raison: I should like to explain some of the reasons why our decision is particularly difficult and has inevitably taken time. Radio regulation is an extremely complicated business. World conferences reach, by consensus, broad planning agreements designed to provide as much protection as possible to services of various kinds, and all administrations have to work within these in their national planning.

The range of services to be protected is enormous – not just broadcasting or land mobile radio, of which open channel is one form, but radar, maritime and aircraft communications satellites, radio astronomy, radio links for passing digital or analogue information, and hundreds of their applications.

We must remember that radio transmissions can be a source of interference to other radio services. The assignment of a frequency to a new service therefore requires the most careful consideration.

I think, therefore, that it becomes clear that anyone who simply operates outside this carefully planned framework, however desirable his activities might appear to be, is likely to cause chaos. The present illicit 27 MHz transmissions are, unfortunately, a very clear example of this.

I told the House a year ago that illicit users of CB could cause inconvenience and even risk to their fellow-citizens. One of the real difficulties about this is that a CB user generally has no idea of his effect on others. He may therefore think that we are simply crying wolf. But it is my Department that takes the overall responsibility for dealing with complaints of interference, and it therefore monitors closely what is going on.

At present, in a year we expect to have about 35,000 complaints of interference from all sources to radio services. Over 90 per cent. of these relate to broadcasting services. In the last four months of 1980 there were more than 2,700 complaints, which were traced to illicit CB 27 MHz transmissions; in other words, a rise of nearly 25 per cent. In the total number of complaints. Nearly 2,000 of these were cases of interference to television reception, and nearly 600 to radio or hi-fi equipment. Police, fire, ambulance and hospital paging services were also affected. Our warnings of potential risks are therefore being borne out in practice in a way that can only cause concern. Such interference is expensive. It has to be paid for by the television viewer, the licensed user of radio, or the taxpayer. Moreover, it may cause friction between neighbours.

This interference from 27 MHz equipment comes largely from one of two sources – first, from unsuitable basic equipment; and secondly, from the use of powerful linear amplifiers designed to boost the power output of the equipment many times over. Offending users have been traced, who have been using power outputs of 1 kW or even more – in other words, perhaps twice as much as the power of a local broadcasting station. I remain of the view that open channel must be a short-range personal radio service.

The next significant thing about open channel is that it has to be a country-wide service. The user in the north of England will use the same frequency as his counterpart in the south of England. There are very few radio services of which one can say that. There are different channels for television in different areas. Private mobile radio frequencies are issued

individually so that they can be interleaved geographically. A frequency that would interfere with, for example, a particular television channel is not used in the relevant area. But open channel, being countrywide, has to be able to live with and not to harm any other radio service throughout the United Kingdom and in neighbouring countries, such as France and the Republic of Ireland.

Interference can have many causes. It is not simply a matter of one set of radio

equipment interfering with another because they are operating on the same frequency. Any equipment when transmitting also emits potentially interfering, spurious signals. Of these, the harmonics or multiples of the tuned and basic frequency are generally most harmful. The fundamental or the harmonic signal may interact with the tuned frequency, with the intermediate frequency or with the frequency change oscillator in a radio or television receiver. Finally, interference may be caused simply because a transmitter is used too near the receiver of another service.

This last category can never be eliminated, and it highlights clearly the difficulties that will be caused by open channel because of its mode and scale of use.

Open channel will be a social thing. It will therefore be used widely in residential areas and in buildings such as blocks of flats, where it will be far nearer than transmitters of other services to home entertainment equipment such as radio, television, and hi-fi. This gives yet another twist to the interference risks inherent in such a service, and the scale of likely use presents problems of administration and enforcement never encountered in this form before.

Finally, the radio frequency spectrum is finite and heavily used. There is no bottomless bucket of frequencies that we are hiding for our purposes.

The same arguments as 60's pirate radio

Mr. Eric Ogden (Labour MP for Liverpool, West Derby): Does the Minister accept that almost all his arguments about the difficulties are the same as the arguments used by Departments and services against local radio? Those difficulties were overcome. It should not be beyond the wit of man to overcome these difficulties.

Mr. Raison: I think that the hon. 2Member will understand that we are committed to overcoming difficulties in the way of open channel or CB.

MY HONOURABLE MEMBERS: "He has said it". I have said "CB" several times. It is no good pretending that there are not serious problems, and it is my duty to explain to the House what those problems are. I shall now come on to the question of how we will approach the matter.

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The Adjournment Debate

We see 900 MHz as a viable service

Mr. Raison: What I have said was the background to our discussion document on open channel. It drew a heavy response, which I found heartening, not because it supported our initial views, for it did not, but because it represented a real exercise in consultation, and a reaction that the Government are taking fully into account. It is perhaps not surprising that we did not reach the much larger part of the population who will not use open channel but may be affected by it, and we had to think of those people as well.

Most individuals who responded strongly favoured a frequency of 27 MHz for open channel. On the other hand, **all the organisations that commented**, other than user organisations, **opposed this**, but without having any common view of what they would prefer. **Little public support was given to our proposal for a service at around 930 MHz. Nevertheless, we still see such a service as viable.** It will give not only a better service than is generally realised, particularly in urban areas, but a better quality service. If it were as poor as has been alleged, it is strange that both North America and many countries in Europe are planning to introduce it, thus creating the prospect of a new and large international market. Nevertheless, it was the strong public reaction which caused by right hon. Friend in his answer to a question on 18 December, to undertake to look further at the possibility of introducing a service on a frequency lower than 900 MHz. **Further studies have been made and these are now virtually complete.** We have consulted widely on a technical basis with user representatives, manufacturing interests, and organisations such as the broadcasting authorities and emergency services.

We agree that the need is pressing, and that **there can be no question of waiting for frequencies** which might be available only in a few years. Nor can

we put our agreements with our neighbours at risk. Most important of all, we cannot select a frequency which, almost irrespective of the quality of the equipment used, can be guaranteed to cause widespread interference. I emphasise that our findings have been made widely available to those concerned, and no one has challenged on any scientific basis our assessment of the interference risks.

Unfortunately, all the alternative suggestions that have been put to us fall foul of one or other, and frequently all three, of the constraints I have just mentioned. The 41.5 MHz frequency band – part of the band used for transmission of the 405 line black and white television programmes – is a classic example. Our tests have shown that the interference risks to television reception would be higher than with any form of 27 MHz service, and indeed much higher than with one using frequency modulation. Frequencies a little higher than 41.5 MHz would reduce but not eliminate the problems, while the other difficulties would continue to apply.

We also have to recognise that **the world has already made its choice; 27 MHz in one form or another is widely used, and, as I mentioned earlier, North America and Europe are planning to introduce a service at around 930 MHz. Any other choice would be a one-off British one which no other country in the world would permit.** Thus, one of the wishes of the enthusiast – **to be able to take his equipment abroad – would not be met.**

One can develop that a little further. The equipment at present illegally used in this country is amplitude modulated equipment on the American pattern, although even then, some of it is obsolete and no longer permitted in America, and has quite simply been dumped here. Few enthusiasts want to take their cars or trucks to the United States, but that AM equipment is not generally acceptable on the Continent. France, Holland and Germany operate on 27 MHz FM services, because their investigations

and their experience have proved that the performance and the cost are similar, and the interference problems much less.

Our task, therefore, is to make available a service which conforms as far as possible to the aspirations of the large number of potential users and to encourage them to use equipment which does least harm to the even larger number of radio users. **Supporters of open channel** have stressed to me their willingness and ability to act responsibly, and they will certainly have to justify that. **Before long they should have in their hands a service** for their pleasure, and a powerful tool for good or evil. I mentioned personal freedom at the beginning of my speech. Personal responsibility is the reverse of that coin.

I have commented tonight on the factors that have to be borne in mind in making a judgment. We are quite commonly accused of opposing a personal two-way radio service. That is quite unjust and my hon. Friend acknowledged that. We have not taken sides against it. We have decided to introduce a service, and we have carried out very wide consultations both to explore the difficulties and to hear suggestions. **But radio regulation seeks the greatest good for the greatest number and that is what we have to continue to seek until we reach our final answer.**

Patrick Wall Comments

We asked Mr Patrick Wall what he thought of the adjournment debate and whether it played a part in bringing forward the announcement?

"I must say that the debate was the liveliest and most attended debate I have ever seen. Some thirty or so members attended and remember it was almost midnight. Many members felt that a decision on Citizens Band, and I refuse to call it Open Channel, a comment that was made in the House, was long overdue.

Yes, I feel that having seen the amount of interest in CB the Minister was I am sure, forced to re-consider and make an earlier announcement."

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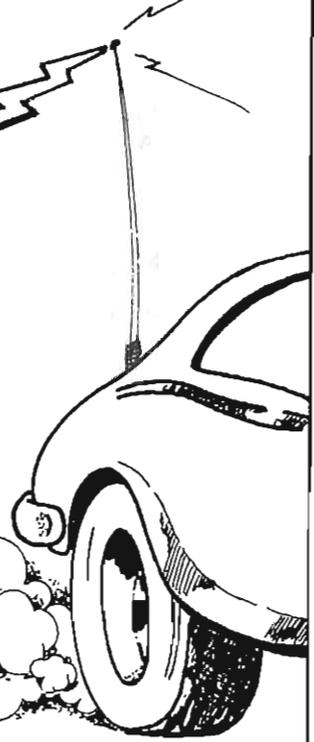
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Saturday 7th February, Scratchwood Services on the M1 motorway. It's 11 o'clock in the morning, and already the place is buzzing with enthusiastic breakers about to embark on an epic voyage through the metropolis. The voyage, due to leave at 12 o'clock was to travel through central London, over the River Thames, then down to Tunbridge Wells and back home.

The demonstration was organised by Disco-One, of the U.B.A. and Microdot of 27 Club, who predicted in their hand-out that The Convoy is expected to be the biggest ever seen, and when I asked Andy Donovan (Disco-One) how many cars were expected to turn up he replied that he expected upwards of 3,000 vehicles to show.

The route, issued by the Metropolitan Police, funnelled the cars through Highgate, Islington, The City, over Southark Bridge, through New Cross, Lewisham, Seven Oaks, Orpington, and finally Tunbridge Wells, with strict instructions not to stop at Tunbridge Wells, but to return to the A21 and head in the general direction of home. Vast numbers of Police motorcycles lined the streets along the way, and every so often a minibus could be seen, partially concealed in a slip road or driveway, filled to capacity with policemen, eagerly waiting to lend a hand should the opportunity arise.

At 12 o'clock, precisely on time, the Convoy pulled away from Scratchwood. The multiples of cars had already been scanned by a Metropolitan Police film crew, perched precariously on top of the Motor Lodge, overlooking the car park, and live pictures were being sent back to New Scotland Yard, where, according to a contact, the index numbers of those present using C.B. have mysteriously appeared on the computer, strange isn't it?

Well, from my vantage point, a bridge over the A41, with a B.B.C. News crew on my right, and Jim James of the Sunday Telegraph on my left, it occurred to me that Andy Donovan's prediction was a little optimistic, to say the least. The Convoy at this stage I estimate to have consisted of about 500 or so vehicles, less than one sixth of his original estimate.

The cars, which had instructions to comply with all traffic signals, had already

broken up into three small convoys by now, as they headed towards Central London. The roads narrowed and the traffic thickened, the Breakers thought it was about time we had some musical accompaniment, and soon the air was alive with car horns, and one particular lorry with an enormous chromed air horn on his roof could be heard for miles.

A minibus, occupied by members of various clubs from Blackburn, Lancashire, should be commended for their devotion to the cause. for making the 800 mile round trip.

The weekend shoppers stopped in their tracks, wondering what all the noise was about, and occasional snatches of conversation could be heard discussing the ins and outs of CB Radio, before returning to their preoccupation, probably grateful to the convoy for adding a little excitement to their weekly outing to the shops.

Relations with the police throughout the demonstration were very peaceful with no clashes, even though many of the cars were omitting the tell tale mumbling and gurgling of a 27MHz transceiver. The police however were more concerned

about getting the convoy through the city with the minimum of fuss which they did and within a couple of hours the convoy was cruising slowly through Sevenoaks on its final approach to Tunbridge Wells.

Tunbridge Wells was a rather unfortunate destination, as those who caught the B.B.C.'s early evening news would know, the demonstration was stated as being in protest of Yellow Peril's recent conviction, as this is her home 20. Of course we all know it was also in protest of the governments failure so far to legalise C.B. on 27MHz AM.

Conclusion

On the whole this was a well organised peaceful demonstration and although the turnout was rather disappointing, it made press coverage in both the National papers and on Television news, thus getting the message across to the public and indeed our learned friends in the House on whose shoulders the decision lies, which is after all the whole point of the exercise.

CPD



The Convoy passing through the city.



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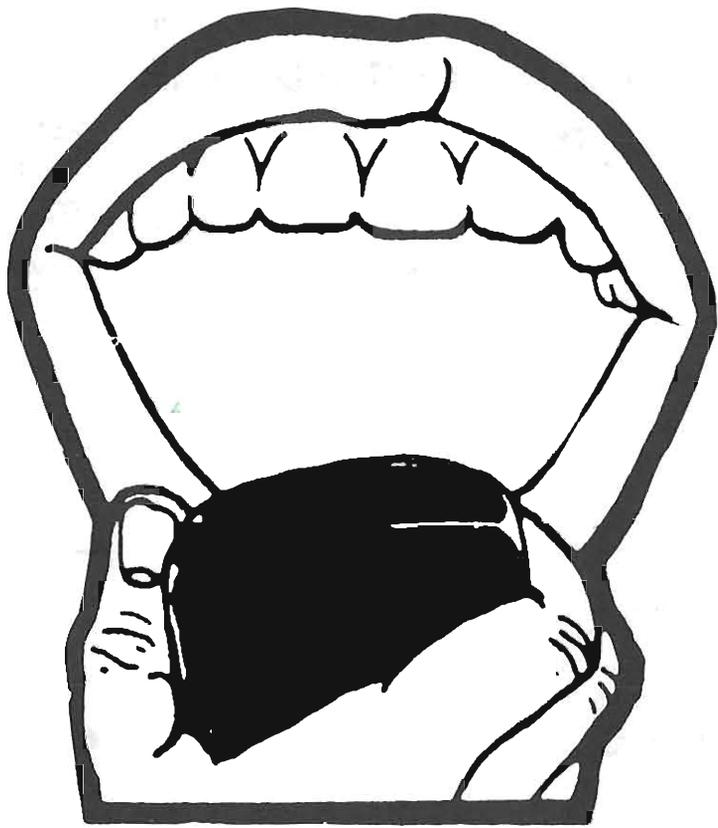
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Antennas and Transmissions on CB Frequencies

by F.C. Judd, FISTC MIOA. Assoc. IPRE. – Part 6

As the previous article illustrated, the subject of VSWR or *voltage standing wave ratio* is quite complex although in practice it need not be taken too seriously. What is more important is knowing how to measure VSWR and to understand a few of the reasons for a high reading. What a VSWR meter actually shows is the amount of reflected power from the antenna as a ratio of the forward power which is the power going from the transmitter up to the co-axial cable (or other transmission line), to the antenna. Power will only be reflected (returned from the antenna) if the antenna itself is not matched to the cable or vice versa. Most transmitters for CB radio have an output impedance of 50 ohms, so accordingly, the co-axial cable to the antenna must have the same impedance. The antenna impedance must also be 50 ohms if a more or less perfect match is to be obtained. Most antennas available for CB radio have the standard impedance of 50 ohms, so *first establish that these requirements are met.*

Checking an antenna for VSWR

A new antenna should always be checked *with the total length of cable to be used with it*, and the VSWR meter should be connected between the end of the cable and the antenna itself as shown in fig. 1. External high power linear amplifiers should *never* be in circuit for a VSWR check.

If the antenna and cable are reasonably well matched then a fairly low VSWR reading should be obtained. Checks should be made at the low, middle and high end of the frequency band.

If for some reason a very high VSWR reading is obtained e.g. above about 3 to 1 then do not run the transmitter continuously because a high ratio indicates a large amount of reflected power which could damage a transistor output amplifier. If a relatively low ratio is obtained for example below 2 to 1 then check VSWR *with the meter at the transmitter end* and see if a similar reading is obtained. If so, then the match between the feed cable and antenna is fairly good.

Common Causes of high VSWR

These are quite numerous and sometimes difficult to ascertain but some probable reasons are as follows:-

1. Antenna impedance different to that of feed cable or vice versa.
2. Transmitter output impedance different to that of either feed cable or antenna.
3. Antenna badly sited i.e., too close to other antennas or any conducting material such as water pipes, wet trees, or wire guy lines etc., or too close to a brick wall.

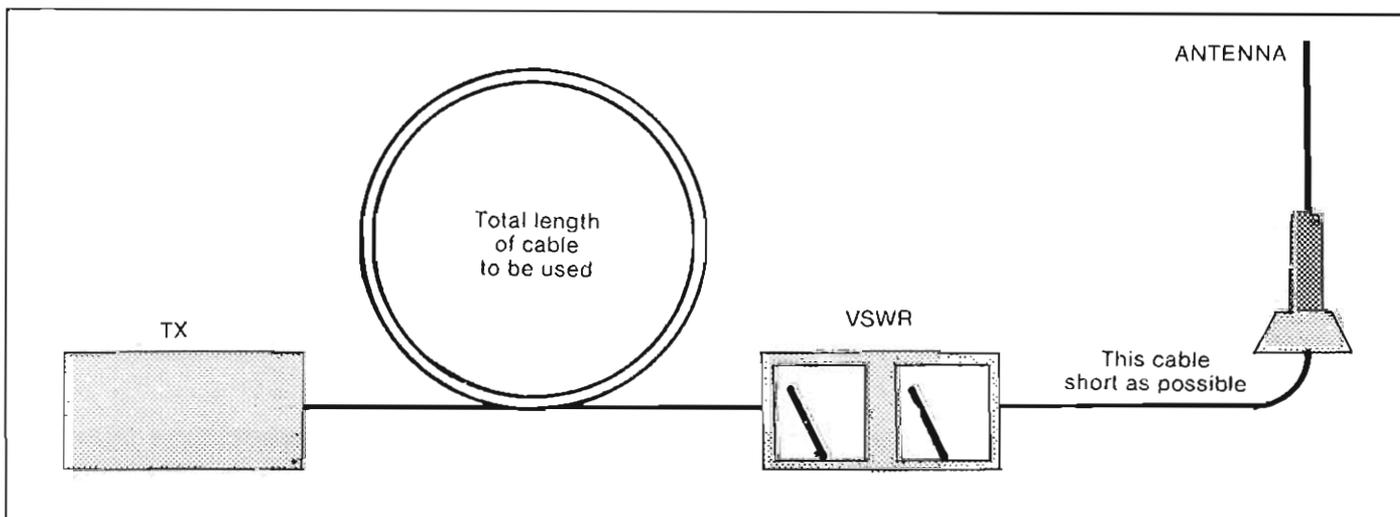


Fig.1: The correct way to check VSWR i.e., with the meter at the antenna end of the feed cable.

4. Antennas indoors in a room or a loft can be very badly affected by proximity of walls, or roof and house wiring etc. which will cause poor performance and high VSWR.
5. On mobile antennas insufficient 'ground plane' area will cause high VSWR. By 'ground plane' is meant the total area of metal car body.
6. Cars or other vehicles made with fibreglass bodies provide no ground plane area at all and a typical CB mobile antenna will not normally operate with this condition.
7. Very old or otherwise poor quality co-axial cable will cause poor performance even though a relatively low VSWR is obtained (see part 5 of this series of articles).
8. Use of other than properly designed co-axial plugs or inferior connections can cause high VSWR.

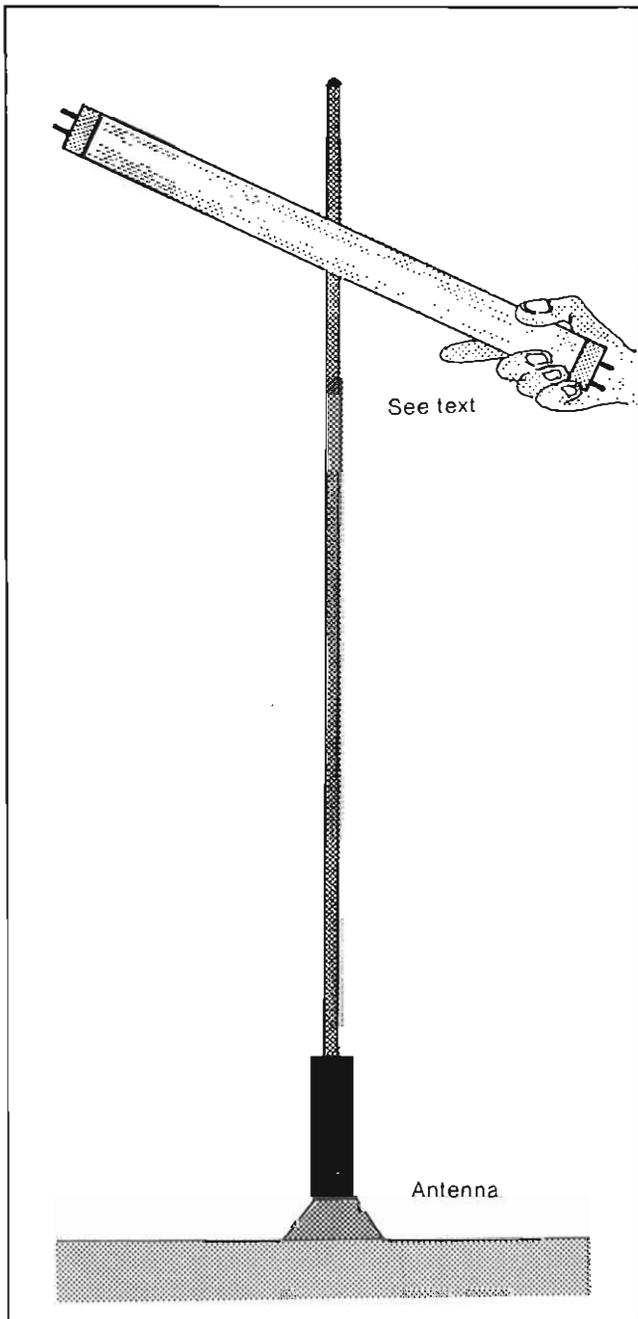


Fig.2: A simple but effective indicator of power in an antenna can be obtained with a small fluorescent tube (see text).

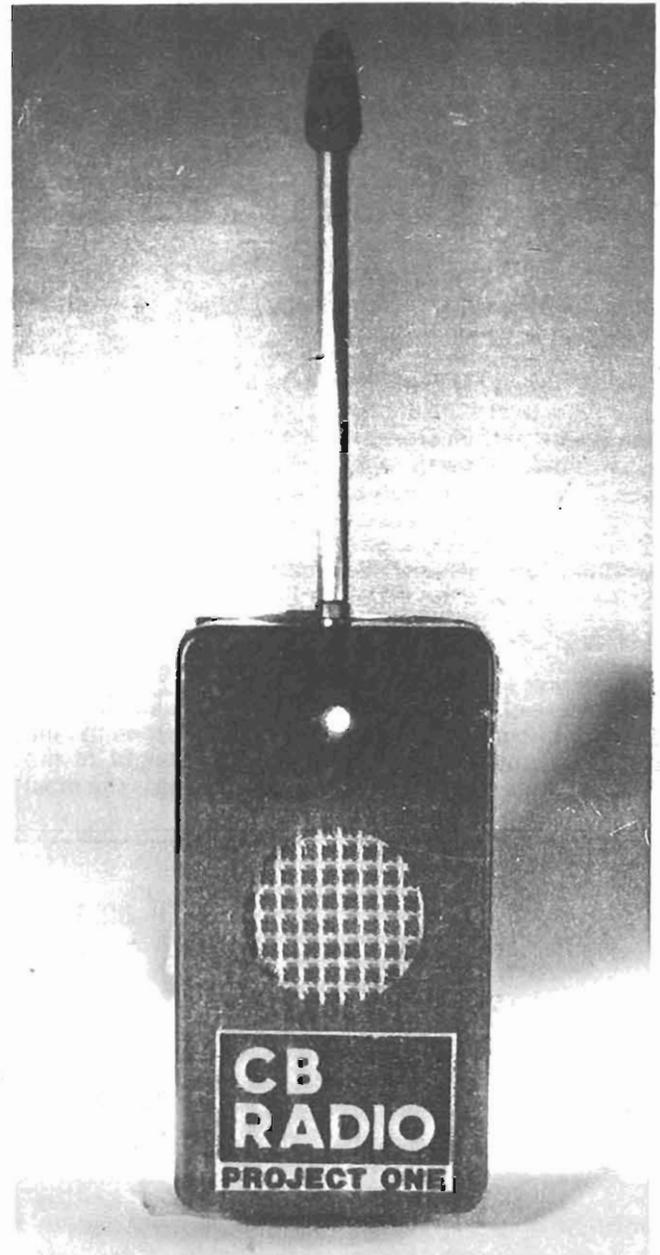


Fig.3: An rf 'sniffer' or sensor (see text). See also Project One, in last month's issue.

Simple Power Check at the Antenna

One of the most simple devices for checking power at the antenna itself is a small fluorescent tube of the kind used to provide illumination in small spaces e.g., cupboards and cabinets. These are about 9 or 10 inches long and usually rated as 6 watts. Touching one of these tubes on a fully energised antenna element at a voltage point as shown in fig. 2 will cause it to light up at almost full brilliance using around 6 to 10 watts of power from the transmitter. Sometimes these tubes need to be warmed slightly to get them to strike and this is easily done by rubbing vigorously with a dry piece of cloth.

Another useful indicator is an rf sensor or 'sniffer' as they are often called, like that shown in fig. 3, which produces an audible bleep, and flashing red LED if power is actually in the antenna.

Field strength meters can also be used, particularly for tuning an antenna and whilst they will show that an antenna is radiating, they cannot give a direct indication of power in the antenna. A simple field strength meter is

Antennas and Transmission on CB Frequencies

therefore only really useful for establishing an increase or decrease in radiation and really needs to be operated several wavelengths from the transmitting antenna. Field coverage of an antenna, or rather its effectiveness at range, is best estimated by continuous usage although signal reports from other stations may not be reliable as (a) so called 'S' meters are not universally calibrated, receiver sensitivities vary considerably as also may the performance of antennas used by others. Two different stations at the same range but only a very short distance apart may well give entirely conflicting reports.

Siting an Antenna

Wave propagation at both VHF and UHF is largely line of sight as explained previously in these articles although atmospheric and other conditions do from time to time permit operation over long distances. Height of the antenna, for both transmitting and receiving is the most

important factor in achieving long distance operation and ideally any VHF or UHF antenna should be high enough so that surrounding buildings and trees etc., are not in the line of radiation which is normally parallel to ground. Attenuation due to brick walls, metal framed buildings and trees can be very high; higher than most realise. Experimental observation made on the effects of buildings have shown radiation fields to have a median value about 25dB below the expected over a clear path in the frequency range 40 to 450MHz. Values have also been assessed for loss to be expected for transmission through trees when the antenna is lower than the tree tops, although in this case the loss depends on polarization. At 27MHz the loss may be 3dB for vertical polarization although brickwalls offer some 6dB or more attenuation at both VHF and UHF although this will vary depending on the dryness. It does however, signify that radiation loss with indoor antennas could be relatively high especially when the surrounding walls and roof are wet.

The photograph (fig. 4) shows well sited antennas for both VHF (27MHz) and VHF. Each antenna in (A) is high above the roof top and whilst the vertical omni-directional 27MHz CB band antenna (B) is at a lower height (about 12 feet above ground) it is well clear of the roof top.

Next month we will deal with the efficiency of various base station antennas and explain why some of the 'gain' figures given for most of those made in the USA are not only improbable but in some cases quite impossible.

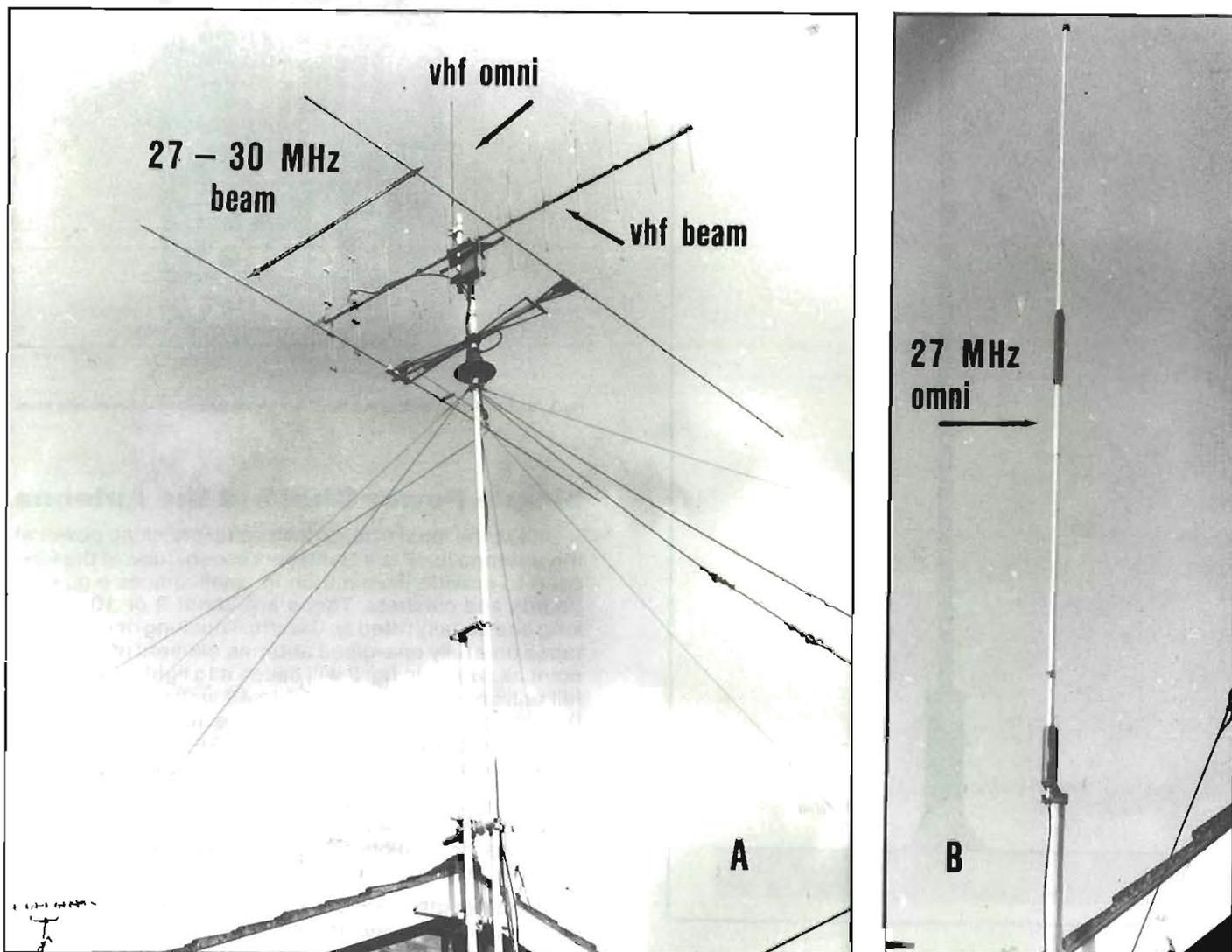


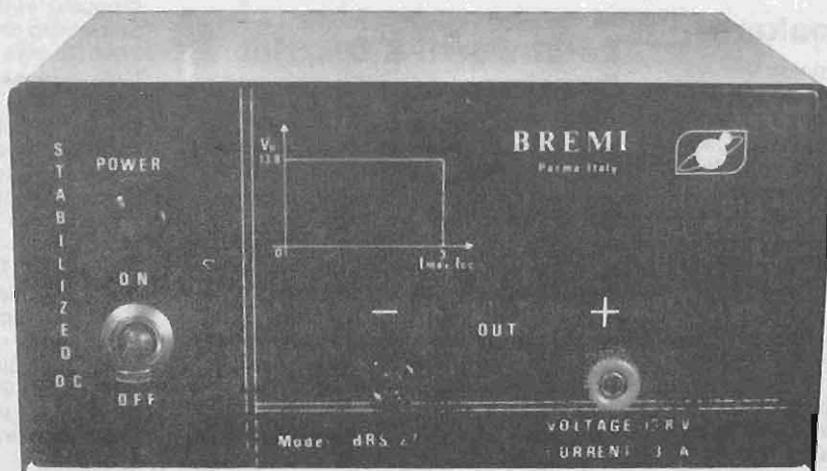
Fig.4: A well sited array of antennas for both CB radio 27 MHz and Amateur radio VHF.

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Club Spot

Molesey Open Breakers

We are the M.O.B. (Molesey Open Breakers). We hold a meeting once a week on a Wednesday night at The Royal Oak in Molesey. We have just over 200 members and have been going for nearly 3 months. Any CB'ers wishing to come and join us on a Wednesday will be made very welcome. Any problems or suggestions will be listened to. Hope to eyeball you soon. Breaker-Break for now.

Shady Lady (Sec. M.O.B.)
Molesey Open Breakers

Meon Valley Breakers

Just a few lines to inform you that we have a club in the Foreham and Gosport area, known as the "Meon Valley Breakers". We have over 200 members and the membership is growing rapidly. The purpose of the club is to promote social events i.e. Fox hunts, treasure hunts, disco's etc. etc. within our club. To join the club it only costs £3.00 per annum, and we meet every other Monday night down in "The Pit" which is in Gosport. The address of the club is Meon Valley Breakers, 4 Lawrence Road, Fareham, Hants.

Plastic Wood (Correspondent)
We break on channel 19
Meon Valley Breakers

The Carlisle Truckers Club (C.T.C.)

The Carlisle Truckers Club has now been formed for approximately 10 months. The new membership has just started for this year. Last year there was almost 200 breakers in the club, although there were a lot of breakers who were not members of a club. We meet every other Sunday at 12.00 o'clock, any local breaker will tell you where the eyeball is at. We break on 25 in the Cumbria area and we leave channel 19 clear for the truckers. We also leave channel 26 clear as we know that it is very near to one of the hospitals paging systems. The membership fee is £12.00 per year and we arrange disco's, dances and many other things.

10-10 Break a Break.

Mini Mender (Press Officer)
Secretary Duchess. 10 Dalston St,
Denton Holme, Carlisle, Cumbria.
Tel. 33663

Arun Breakers Club

Our club started on the 1.7.80 in our small town, Littlehampton, which is a pretty boring place at the best of times, that's why its 20 is Ghost Town. We have, to date, about 300 members and we hold disco's, late night trips, fancy dress (come as your handle) parties etc. Other than just enjoying ourselves all the time, we

have done a bit for charity when we held a cannon ball throwing competition and we raised over £400 towards our local X-ray appeal. Our meets are every Monday evening at the Windmill Pub, Littlehampton, but we do alternate to the British Legion in Bognor Regis every other week. We invite any other breakers to come along if they are in the area, we're all quite friendly (and get your free baked spud). We also have free badges and stickers.

Platinum Numbers (Their most expensive)
Honey Monster (Chairman) A.B.C.
Arun Breakers Club

Letchworth & District Breakers Club

The L.D.B.C. comprises of 143 members at the present time and we have a regular weekly eyeball on a Monday night at a local bottle shop. We have now also started holding a monthly 'member only' eyeball at a local hall to discuss various problems which seem to be on the increase at the moment. Main problems seem to be 'wallies' on channel, who persist in staying on 1-9, and when asked politely to 'clear the breaking channel', seem to either turn a deaf ear, or swear profusely.

We are also encountering the odd 'rig or aerial thief' and as C.B. is currently illegal and we are unable to prove definitely who it is, we find we are unable to take suitable action. Perhaps other clubs have also suffered from this lower type of vermin and have suggestions on possible action.

Breaker Break

Cat Women
Letchworth & District Breakers Club

Northampton Breakers Club

Northampton Breakers Club is a representative body of a considerable number of breakers in an area boasting one of the highest numbers of CB users in the UK. In addition to promoting social and charitable events, NBC is a staunch supporter of legalisation of 27 MHz. It is intended that a React service be implemented as a priority. We also seek to develop information services through factsheets, Press Releases and a monthly newsletter. Northampton is a large town and has several breakers organisations. NBC wishes to strengthen links with such organisation to mutual benefit. NBC holds eyeballs on Wednesdays and Sundays at the 'Needle'. The Sunday eyeballs have a discotheque for entertainment. Visiting breakers are welcome although it is hoped that they would produce their own breakers club membership cards. If in the area ask on channel for directions. Your magazine will be informed of all

future events and briefed on any interesting developments as they arise. We extend best wishes to all kindred organisations and look forward to meeting our good buddies from all over the UK.

10-10 and all the golden numbers for now.

Santa (Press Liaison Officer)

Smoke City CB Club

Good Buddy this is Uncle Sid, secretary of the Smoke City CB Club. I'm just dropping you a line to tell you about Smoke City and the breakers in N.Ireland. Well CB has really lifted off here. We have had two major rallies here and another one coming off soon in Ballymoney with breakers from all over N. Ireland attending.

Smoke City have a busy 2 months ahead holding senior and junior discos and suppers for charity and a treasure hunt. Smoke City are holding a 5-a-side tournament for other CB clubs to take part in. We have already collected for the local Cardiac Unit and we hope to be donating to other charities in the near future. The Club's main ambition is to get amnesty of 27MHz for at least 5 years the average life of a CB. Well I hope you think this worth while putting in your club spot.

Ten-Ten. Breaker Break. Dead and Gone.
Uncle Sid

Aire Valley Breakers

Well, on Wednesday nights we used to around to Flintstones Place (Bednock Towers) and drink his coffee, pull his door knob off (Dr.Bob), and generally discuss CB. So when Flintstone got a bit fed up with buying a large (catering) tin of coffee a week, we got a club together.

Red One had some cards printed, me and Flintstone got the drinking 20 together and ordered the 60,000 spam butties, and on the first eyeball 21 turned up. Small things start from big acorns, but since then we have not looked back. Now we have got knocking on for 140 members and growing every eyeball. So welcome to the present, a bigger, better, nicer, good beer, eyeball 20. So a brief club history, and some thanks from me to Cherry B who tirelessly bullies club members, and other name checks, Red One, Milkmaid, Mad Max, Harliquin and every and all club members for their great support.

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Big Red A.V.B.C. React UK.UBA

Barnsley Breakers Club

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Club Spot

380 members and this seems to increase by an average of 30 new members each week, we hold our meeting every Thursday at the Londoner, Monk Bretton, Barnsley, South Yorks, and anyone in the area is invited.

We commence our meetings with a members free draw (value £5) and then any news, information etc. is given by members of the committee, the floor is then thrown open for formal discussion. This is followed by raffles and then left as a social evening, i.e. disco. In fact we now have live entertainment once a month.

The membership of the club costs £5.00 per year and anyone wishing further information contact: Mrs. M. Spencer (Sec.) 55, Chatsworth Road, Barnsley, South Yorks. S71 3QH. Tel. Barnsley 88450.

Mrs. M. Spencer (Sec) B.B.C.

Cumnock Breakers Social Club

The Cumnock Breakers Social Club was organised at the beginning of November 1980. Originally it was just an eyeball to put a face to a handle but has since grown into a membership of 136 and is still growing. We meet once a fortnight on a Sunday evening at the Dumfries Arms Hotel, Cumnock.

As a social club only, we try and organise different events for our members to join in and have some fun. To date we've held discos, film shows, a dinner dance, hare and hounds chase, games night and are at present organising a cabaret night and an Inter Club Gala Event where we hope to get as many local clubs interested to send their teams along to compete in swimming, 7-a-side football, darts, table tennis, etc.

It's only £1.00 to join our club and a small cover charge for every meeting depending on what's been organised for that week. It's great to make so many friends over the air waves and long may it continue.

May I, on behalf of C.B.S.C., extend the hand of friendship through these old air waves to any big wheelers who pass through our area.

Gypsy Lady, Secretary C.B.S.C.
11 Glenafton Drive, New Cumnock,
Ayrshire

The 10/20 Breakers Club

We are a newly formed club in the Kilmarnock area. We meet every second Tuesday in the Harefold Working Men's Club in Hurlford. We intend to do everything in our power to have CB legalised, and to prove to the authorities that CB is helpful and useful to the community.

We break on channel 14. In our area please be kind enough to stay clear of channel 2 "Hospital Paging System".

Visiting Breakers in our area are most welcome.

10-10 for now, All the high numbers.
Big Daddy (Chairman)

Popular Breakers Club

We are the Popular Breakers Club (U.B.A.). We meet every Tuesday evening from 8.00 till 11.00 at Dryden Hall, Basingstoke. If anyone wants any more information phone me, Stephanie Jones, on Basingstoke (0256) 54581.

Stephanie Jones

Apple County Breaker Club

As secretary of the A.C.B.C. and an avid reader of CB Radio, I just had to write to inform you of Taunton (Cider City) Club.

With over a 100 members since October 1980, meetings are twice a month on a Sunday evening. Our aim is the same as most clubs, complete legalisation of 27 Mhz to fall in line with Europe and the States.

The Club assists members, a very good rig insurance with a reputable company and affiliation with Disco 1 - UBA informs us of Nationwide Activities. Fund raising activities are organised so members can enjoy CB to the full, and local charities and Hospitals benefit with the profits.

The Club welcomes all breakers in Cider City 20. Have to go now. 10-10.
Shoestring (Secretary)

Gloucester Committee UBA

We are running a successful club with over 200 members and our eyeballs are growing every week. We meet every week (Wednesdays at 8.00) at Matson Rugby Club for a few drinks and info and venues are 'voiced' by the committee.

So far we have had a demo through Gloucester City which managed to raise some press coverage, an hour "Spot" on our local radio and at present arranging some 'free' discos for all members. We are also arranging a charity parachute jump for some of our more adventurous members.

Anyway, thought you might be interested to see how we're doing and I will let you know all our news. We're Gone.

The Hornet
(Gloucester Committee) Gloucester UBA

North Surrey Breakers CB Radio Club

North Surrey Breakers CB Radio Club meet is held at the Rose Public House "Napoleon Bar" Carshalton, every Saturday evening. We are a pro 27 MHz club and intend to be very active. Also we have just held our second meet and have had over 100 people attend both evenings, we are in the process of forming a membership which will include discount at local shops, convoys, demos, filmshows and outings etc. All fellow breakers are welcome providing they pay 25 pence to get past "Suspender" on the door. Also the

committee would like to thank the manager for putting up with us.

See you later Modulator.

Hitch Hiker (Committee Member)

Copycats Club

Our club is situated in N.E. Lancs. and boasts a membership of over 800, as a club we like to look at the social side of C.B.

We have held a mobile treasure hunt which was a great success, we did last year get involved in the Helen Aspinall Appeal and managed to raise over £2,200 in a two week period.

At present we are working towards helping ACROSS to purchase an ambulance and have lots of interesting projects under way for this purpose.

A really major project is planned whereby every breaker in the country will be involved and if secretaries of all other clubs would write to me I will be glad to furnish them with full details.

Thanks for bringing CB into the public eye and keep up the good work with the magazine.

Meetings are held every alternate Tuesday 8.00pm till 1.00am.

Chairman (Cottonpicker)

Secretary (Emerald)

Copycats Club, N.E. Lancs.
c/o Martholme Grange, Altham,
Accrington, Lancs.

Derwent Valley Breakers (DVB)

Meets every Wednesday 8.00 at the Black Bull Lanchester. Formed December 1980. Membership to date over 100. The Committee consists of Chairman Texas T, Secretary Turbo, Treasurer The Hunter, Social Sec. Twin Cam, P.R.O. Romeo II. Outside activities: social nights, games nights, treasure hunts, coach trips etc. being discussed and awaiting members votes.

10-10 Breaker Break.

Romeo II

Worcester 19 Breakers Worcester Breakerways

Just a few lines to inform you of a few details of our local clubs here in Worcester Worcester is usually known as "Sauce City" or sometimes as "Porcelain City" and we have two clubs at present.

Worcester 19 Breakers Club meets on Thursday evenings at the "Bush Inn" in St. Johns and Worcester Breakerways meet at "The Forrester's Arms" on a Sunday evening, we break on 14 and I lost count of the number of breakers long ago.

I would think the total must be in the region of 450-500 and more on every day.

All the high numbers. Down and gone.
"Roast Beef"

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News Review



What the papers say about CB.

The ugly head of Bad Publicity has shown itself on several occasions in this month's press. Allegations of violence to Post Office inspectors, interference to television reception, amongst other complaints. Although some of this bad publicity is partially made up for by the now familiar assortment of charity events arranged by clubs and by co-operation in retrieving stolen goods and tracing stolen vehicles. On the whole most newspapers have preferred to join the many publications trying to predict the eventual result of government discussion on our future, and as most of these are based only loosely on fact they have proved to be inaccurate. The Home Office's proposal to legalise CB Radio on 92.8 MHz FM & 27 MHz FM in the Autumn has been a disappointment to many, some of this disappointment could be attributed to a false sense of security created by some magazines and newspaper articles, which often emphatically stated that CB would be legal.

CPD

Hereford Evening News They will be Pirates until CB is Legal

"Licence fees could generate £20 million in revenue if the Government legalised CB Radio in Britain", claim the Hereford Evening News at the start of their feature article on CB. The writer, Alan Price, informs his readers, quite accurately, of the legal, or rather illegal, situation regarding transmissions on 27 MHz in this country. He writes "To the uninitiated, Citizens Band Radio is a short range radio system, operating on 27 MHz, which enables drivers to talk to one another whilst on the road. Used widely in America it is still waiting official blessing in Britain". Mr. Price estimates the number of breakers in Britain to be about a half a million and that these breakers are being "Constantly hounded by the police, the Post Office and the Customs Officials, but they still think it's worth the risk".

"Master Blaster", a local breaker, is quoted as saying "CB has already proved invaluable in bad weather, for aiding the recovery of stolen vehicles, reporting accidents and helping the police in other ways". His anger about the Government delay in legalising the system, was perhaps partially relieved by condemning the Government proposals to legalise 92.8 MHz as "Impractical and hazardous

to health", as it would mean that radio sets would cost upwards of £400 and limit their range to "only one or two miles".

Evening Star (Burnley) CB enthusiasts turn detective to home in on missing Telecom gear

This is only one of several articles that appeared with coverage of this example of very quick thinking by the "Panda CB Club". When one of British Telecom's vans was raided and a transceiver worth £600 was stolen, the breakers jumped at the chance of a little good publicity, and perhaps cause a little embarrassment to Buzby, who used the set to listen to illegal 27 MHz broadcasts. Within 45 minutes of the serial number being read out at a meeting of 300 breakers, the set was being handed in to club chairman "Snoopy Fox".

The transceiver had apparently been sold by a conman for £40, to a 13 year old nephew of one of the club members. Obviously the boy was upset to find he had spent £40 on a stolen rig, so the breakers club had a collection to return the money to him.

Mr. Richard Thornber, a British Telecom underground inspector said "We are very glad to have the equipment back", but refuse to comment on the pro's and con's on CB Radio.

The police on the other hand were only interested in trying to trace the man who stole the transceiver in the first place.

Coventry Evening Telegraph Kids army launches air wave assault

"Breaker, breaker, what's your homework? Come back", that's a new one on me, but as it transpires it's a breaker from the Junior Breakers Club in Coventry. The club is the subject of a feature article in the Coventry Evening Telegraph.

It seems that the youngsters were feeling a little left out by their parents who use CB Radio regularly and decided it was about time they started a Breakers Club of their own. The teeny breakers use the money they earn on paper rounds and Saturday jobs to buy their illegal equipment, with a little help from their parents no doubt. "We hope to get people from throughout Coventry interested eventually", said Paper Boy. "It's a great way of meeting people and making friends". "Limey Kid" was given his rig for Christ-

CB enthusiasts turn detective to home in on missing Telecom gear



Mr Thornber (left) receives the equipment which went missing from the Post Office last week, from the chairman of Pennine CB, Mr Alcock.

mas Citizens Band radio enthusiasts turned detective to solve the mystery of the missing Telecom Transceiver.

Within 45 minutes of the serial number being read out at a meeting attended by 300 members of Pennine CB supporters group, the stolen radio was handed in to the chairman, Steve Alcock, better known as "Snoopy Fox".

But a £15 CB receiver owned by telephone engineer Harold Emmott, which was stolen at the same time, has not been recovered.

Mr Alcock, of Gardner Row, Sudden explained: "One of our members knew that his 13-year-old nephew had recently paid £40 for what he and a friend thought was a CB rig, and he remem-

bered the name of the person who sold it to them very soon, and we intend to pass it on to the police."

"Citizens Band is an asset to the community and there are about 1,000 users in the area. We have been very helpful to the emergency services, and this is what CB is all about. The fun aspect of it is really secondary."

"Our aim is to locate CB, and I believe that this incident shows how useful we can be!"

mas and although his mum thinks it "an expensive hobby for children", she still thinks it's a good idea for the children to use CB. Myself, I'm not so sure it's altogether wise encouraging children to break the law until they are of the "age of consent" and therefore responsible for their own actions, but so long as the children use their equipment sensibly and correctly I see no reason why they shouldn't communicate with the rest of us, and so long as parents are prepared to take the blame, the young breakers should not get busted?

Evening Post Echo Hazard of tracking CB radio fans

This is one of several reports of the alleged harassment of Post Office Officials by over enthusiastic breakers. The report states that "The radio investigation officers were being physically injured, their families threatened, and some had acid poured over their vans".

Labour MP Mr John Golding said in the Commons, at a meeting of the British Telecom's Bill Committee, that the inspectors run a serious risk of being victims of violence and that the Breakers are not the jolly motorists portrayed in the media, but were intimidating officers throughout the country.

Mr. Golding said that the problem was worst in the North East where "The users tend to be less desirable - to be blunt - criminals".

A letter received from the Post Office Engineers union's North East Region said, "We want the law enforced because at the present time it is clear that the police and the customs and excise have opted out entirely. There is no way that this should be allowed to happen".

Mr. Golding appealed, on behalf of the union members for the assistance of uniformed police officers in their investigation work.

The minister of State for Industry promised to take the matter up with the Home Office.

It seems that some of our not so good buddies are bringing CB Radio into disrepute and it's up to the rest of us, through our clubs and organisations to stamp this kind of Bad Publicity out otherwise Open Channel will become out of reach completely.

Evening Argos (Brighton) Thanks a million Big Breaker

An 82 year old breaker presented, on behalf of the Adur Breakers Club and the South Coast area Breakers club, a receiver, antenna, and power pack to spina bifida patient Chris Walker who is confined to a wheelchair.

Chris became interested in CB through his friends even though he could not afford his own set, so the clubs decided to collect the money and buy him the equipment.

"I am overwhelmed. I have been fascinated by CB radio for a long time and want to do all I can to help it become legal", said Chris, from Rushingham near Brigh-

ton. The South Coast club secretary said that "for people like Chris, communication with the outside world is very important, the receiver will help him to do this", but he stressed that Chris would not be able to transmit. We are confident that we are not acting illegally or irresponsibly in giving him this equipment.

Evening News (Worcester) Pensioners Angry Over Rubber Duck

Mrs. Gertie Ablett is angry that local CB'ers are "tormenting the lives out of dozens of Worcester Pensioners". Apparently their television viewing is being disturbed by the "incomprehensible, gobbledegook of CB radio vans invading the air waves". The residents of 30 or so pensioners flats in Elkstone Close, Blackpool, have been complaining of the trouble for a couple of months and eventually the Post Office diagnosed that the interference was due to CB users and have fitted a "Special Attachment" to the communal aerial and thus alleviated the problem.

Mrs. Gertie Ablett said that the disturbance was so bad "it made you want to turn the set off" and that "it makes me annoyed that these are ruining other peoples only pleasure". (So let's hope that the Post Offices mysterious "Special Attachment" does the trick).

Western Daily Press Buzby in CB Radio Battle

Mr. Sheppard, a shop owner from Keyford, Frome is using a poster in his shop to warn his customers about "Official Spies" from the Post Office. Mr. Sheppard says that he has sold hundreds of CB sets since he opened six months ago.

The Home Office, who say that the set operates on a wavelength which interferes with emergency services and television, stated that when interference is reported they call in the "Post Office's British Telecom experts to investigate".

The Post Office who confirm that they only act on Home Office instructions say, "Regarding the use of Buzby as a warning against us, he may be infringing our copyright".

Shropshire Star Help us, police ask Radio Pirates

Police detectives investigating an armed robbery appealed to local "pirate radio hams" to come forward with evidence relating to the crime. The robbery took place in the car park of the Kwiksave Supermarket, Willenhall, in Shropshire. The victim, whose name is being withheld was lured to the car park to carry out a transaction involving CB equipment, but the three gun men armed with a shotgun forced him to hand over the £7,200 cash. The police want the CB operators to inform them where they purchased their radio sets so they can trace the robbers and perhaps deter anyone else from trying this trick. They also thought that the men probably thought that due to the nature of the business

CB fans make dream come true



BLUE MOON—possibly the oldest CB radio fan on the South Coast—helps a young enthusiast's dream come true.

Eighty-two-year-old Bill Galea, from Worthing, presented spina bifida victim Chris Walker with a receiver, aerial and power pack—thanks to two CB clubs.

Chris, 15, who is confined to a wheelchair, was also made an honorary member of Adur Breakers Club and has already picked himself a code name, Ironside.

Afford

He came interested in CB radio through friends, but never thought he would be able to afford his own set.

Adur Breakers and Worthing-based South Coast Area Breakers decided to

help and collected money to pay for the equipment.

The presentation, at Daneside pub, Tapping Road, Worthing, was a complete surprise to Chris, from Rushingham.

He said: "I am overwhelmed. I have been fascinated by CB radio for a long time and want to do all I can to help it become legal".

South Coast club secretary

Brian Lockyer said: "For people like Chris, communication with the outside world is very important. The receiver will help him."

But he stresses Chris will not be able to send any messages.

He added: "We feel confident we are not acting illegally in giving him his equipment."

Thanks a million big breaker

deal it would not be reported. A man is helping police with their enquiries.

Evening Courier Violence puzzles CB fans

The alleged campaign of violence against the Post Office's anti-CB squad has left Calderdales CB radio club rather bemused according to their spokesman Mr Brian Mallinson. "Why should we attack the investigators now?" he said. "A Bill to legalise CB is in the pipeline". He also reports that Post Office activity against them was almost nil at the moment. "Most of the members of our club are very responsible people" said Mr Mallinson, who also announced plans to launch a round the clock 27 MHz vigil to alert emergency services if they saw crimes, fires or accidents.

The Citizen CB Radio Jammed Hospital Services

The cardiac arrest team at Standish Hospital, in Gloucester are complaining that their hospital emergency bleeper service is being disrupted by local CB enthusiasts. Mr. Gordon Curry, the hospital administrator said that the team provided a "Life or death" service and that time was critical. He also warned that any interference to the bleeper system could cause the loss of a life.

A spokesman from British Telecom said that they were "actively pursuing the matter".



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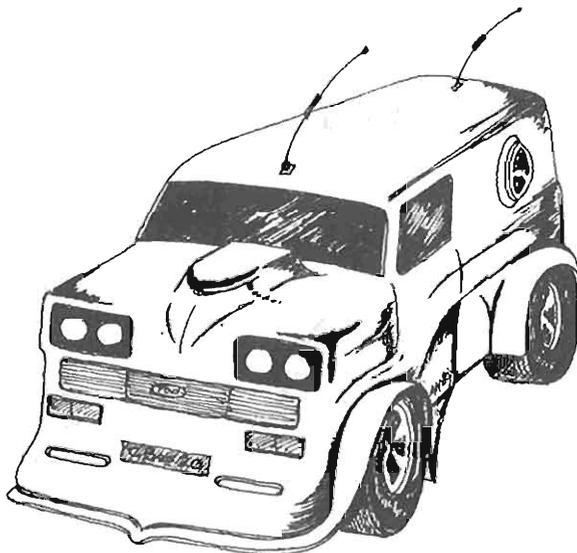
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Vultures on the Side

**Date line February 28th
Still free?**

Yellow Peril paid £200, a sum she considered to be in line with the penalties imposed, now having failed to pay the outstanding £440, Ms Box (Yellow Peril) has been sentenced to 9 weeks imprisonment.

At this moment in time Ms Box is still awaiting the pleasure of Holloway Prison, so once more unless you have heard that Ms Box is actually serving her sentence please resist flooding the prison with mail.



Yellow Peril – the second bust for using a CB.

Last month we covered the first encounter Ms. Box alias Yellow Peril had with the Vultures. By comparison her second encounter was brief, abrupt and straight forward, but we will let Ms. Box tell you her story.

Back on Channel

The next day after my encounter with "Batman and Robin" I went back on channel and naturally began to explain to all who had been listening exactly what had happened.

Time went by and I heard nothing of my little escapade, in fact the subject had become something to be taken and talked about with humour. Batman & Robin were becoming infamous in their own way.

One of the things that had played on my mind was the alleged interference to police radio, to this end I had arranged to test with the aid of a friend who shall remain nameless, my rig in close proximity to his police motor bike radio.

This test was unfortunately to be delayed for as I was driving my bright Yellow Porsche one afternoon, mike in hand and chatting away merrily, I spied a police car two vehicles back.

Clear Cut

I noticed that the car seemed to be showing some interest in me, so expecting to be stopped I unplugged the mike, placed it in the glove box and pushed my nice neat Jaws II down into the door pocket, then I simply pulled up by the side of the road. The two cars passed and sure enough the police vehicle pulled in behind me. I folded my arms and waited. "I believe you have a CB radio" the voice was as before stern and authoritative. "What me?" I asked. The police constable did not appreciate the broad grin I had given him, he continued "I could hear you using it, either you tell me or I will search your vehicle".

Needless to say I had heard it all before, at the time nobody really knew the law, and besides I was not into giving the police hassle to the extent of demanding a search warrant. So I handed

over my rig, not satisfied with this the constable demanded the microphone.

I replied that I didn't have one and watched as his expression changed, his voice matched the expression, harsh. "Well then young lady, you will just have to be searched at the station".

I shrugged my shoulders and agreed to follow him to the station, the officer looked at me with slight disbelief as he turned and got back into his vehicle. At the station my dear old friend John Rid was waiting, fast when he wants to be, must be that cape. Anyhow 'Batman' was handed my rig which he looked at appreciatively, the Jaws II is as most readers know small, neat and compact. In those days they were also very rare.

He sort of smiled and then began to dismantle my car, actually he attacked the splitter box deciding without so much as a by you leave that it was crucial evidence. The microphone was, needless to say, soon located and I was lead off to the questioning room. It seemed petty, so making a joke and not really expecting results I said, "You have my rig, you know where I am, you've still got the details from a few weeks back. See you all next time, I am off".

To my astonishment that was it, they nodded and I left minus one Jaws Mark II Citizens Band Transceiver. I stopped only long enough to grab a quick receipt.

I Pleaded Guilty

I was summonsed for both offences in April, now almost a year ago, it seemed peculiar that both should come together and be sent for the same hearing, but!

Well never mind, that's life, the court case was a farce. The whole public gallery was jammed full of CBers, most boomed when the Home Office Official recited his piece, you know it interferes with almost every thing from little old ladies to jumbo jets!

Once again not thinking the offence to be serious, I co-operated and pleaded guilty.

The fine was £200 for the first offence, £400 for the second and £40 court costs.

I sort of lost my cool slightly and began to preach that such a fine was ludicrous and that I wouldn't pay it. The judge almost admitted that it was a heavy fine but did nothing about it.

Ms BOX



Ms Annette Box "Yellow Peril". Sentenced to 9 weeks Imprisonment.

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DX QSL

International Club Spot

This month the Alfa Tango Club of Italy.

Hi QSL'ers Lima Charlie 1 here again, I received information from the States that the skip is to last at a reasonable level till 1985. Really long distance skip did drop off a little from the end of January but by now it should be building back up good and strong just ready for the summer holidays. Whilst on the subject of holidays, we are being asked by many American stations if there are any English stations that would like to exchange holidays with them, they spend two or three weeks at your home and you then in turn spend a holiday in the States, sounds just fine to me. This summer I have a friend coming from Minnesota to spend a few weeks with my family and I hope to go to Tennessee and then on to Minnesota later this year. I will of course be staying with CB families over there, so you see there are many sides of QSLing/swapping and I hope our government move themselves this year so we may make friends all over the world on the airways without having to look over our shoulders or pay fines in order to make friendships?

The Alfa Tango Club

Well here is the lowdown on another QSL club and this month it's the Alfa Tango club of Italy, this club must be one of the best clubs around, they have many DX awards for their members, some of which are pretty easy to win. One award is to QSO with five different Italian stations, now someone tell me that's hard. I have tried many Italian clubs, some I have never even received a club package from. Others I would not thank you for the cheapness of their package, and on one occasion I received the club package eight months later and not the fault of the Post Office, sorry to say. But back to the Alfa Tango, the club president is Aldo hence the club name! I have received many letters from Aldo and his English writing is really fantastic, the club always answers by return of post. I think this is most important for a good club as it is appreciated by members and does give a good impression. I was very surprised and very pleased to receive a christmas card from Aldo wishing myself and my countrymen all the best for 1981. For me all I can say that it's the only club in Italy, once more there is not much you can add when the club is good.

Now a little about how things are going here at the English International. We now have available official club cards, club log books, a must for the DX'er and club T-shirts and Sweat shirts, and even pens with letter

openers. I hope there will be even more club material soon, we are still working on a club cloth badge.

Next month we have a club in Australia for you, and news of a DX award from The English International, so till then 73 QRT and on the Side.

LIMA CHARLIE 1.



Alfa Tango International DX Group

	DX QSL Star Rating	Yes First Class	Fair Second Class	Thrd Rate	No
1	World Recognition	★			
2	Distribution	★			
3	QSL Response time	★			
4	Club Stamp	★			
5	Club QSL Cards	★			
6	DX Unit Number	★			
7	Wall Certificate	★			
8	ID Card	★			
9	Club Roster	★			
10	Club Patch/Badge			★	
11	DX Log Book	★			
12	Club Accessories	★			
13	Club Information			★	
14	Tourist Information	★			
15	Cassette Swap				★
16	Club Postage	★			
17	Life Membership	★			
18	Discount XYL Membership				★
19	Value for Money	★			
20	Overall Presentation	★			
	Total Star Rating	16			

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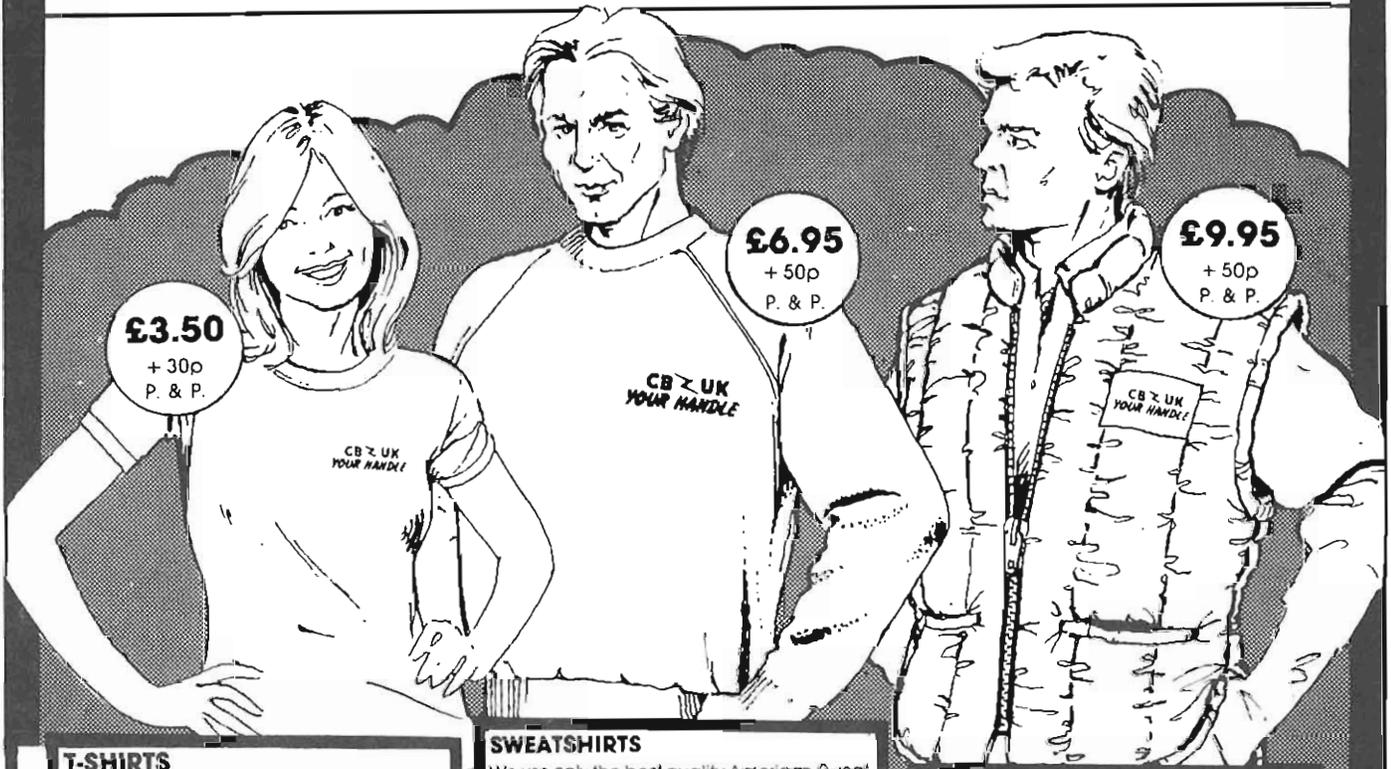
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For further details, prices please phone or write to our CB Sales Department at Northampton (0604) 30804. Trade enquiries also welcome.

CB Radio – Project Two

Antenna Matcher for 27 MHz

by F.C. Judd

Whilst an antenna matcher is not the be all and end all of obtaining an accurate match between a transmitter and its antenna, it is at least effective in what might be called, stubborn cases. If an antenna with an input impedance of 50 ohms is well designed there should really be no need for any form of matching unit or indeed the necessity of pruning the length of co-axial cable used to feed the antenna. In some instances however, poor matching and hence an unreasonably high VSWR reading, can often be due to poor siting of the antenna itself, for example, by being too near the ground or else in close proximity with other antennas, metal gutter pipes, metallic roof tops etc., in fact anything that is capable of conducting radio frequency current. With such conditions prevailing an antenna can become de-tuned from its resonant frequency and this in itself is a common cause for mismatch and higher than normal VSWR. Some antennas, although otherwise reasonably well designed will often fail to match accurately.

There are a multitude of reasons for this all of which are too varied and complex to deal with in this article. On the other hand if an antenna is so badly designed and has a very large mismatch with the impedance of the cable it is designed to work with e.g. 50 ohms then not even an antenna matcher will effect improvement.

The amount of mismatch correction that a conventional antenna matcher will allow can be little more than about plus or minus 30% of the nominal impedance, which for most CB radio antennas and modern transmitters has been standardized on 50 ohms.

The design offered here will cater for a full 30% mismatch relative to a transmitter/feed cable nominal working impedance of 50 ohms. The matcher is of course designed for 27MHz only and whilst the input impedance is constant for 50 ohms it will cater for an output impedance range of between 15 and 150 ohms by means of switched internal components and the two panel tuning controls. The matcher also has the small extra feature of an LED power indicator which shows that power is present through

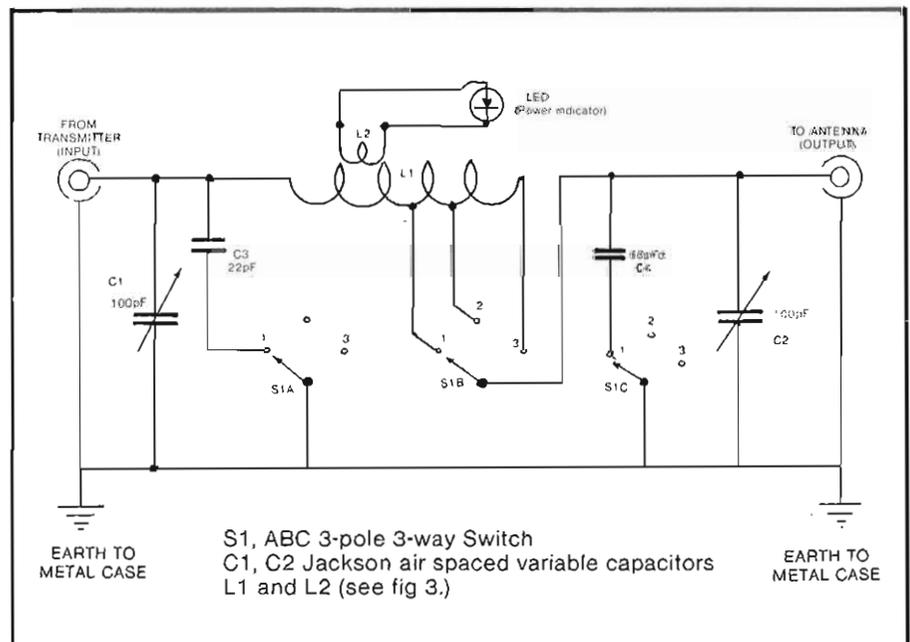


Fig.1: Circuit diagram of the pi-network antenna matcher.

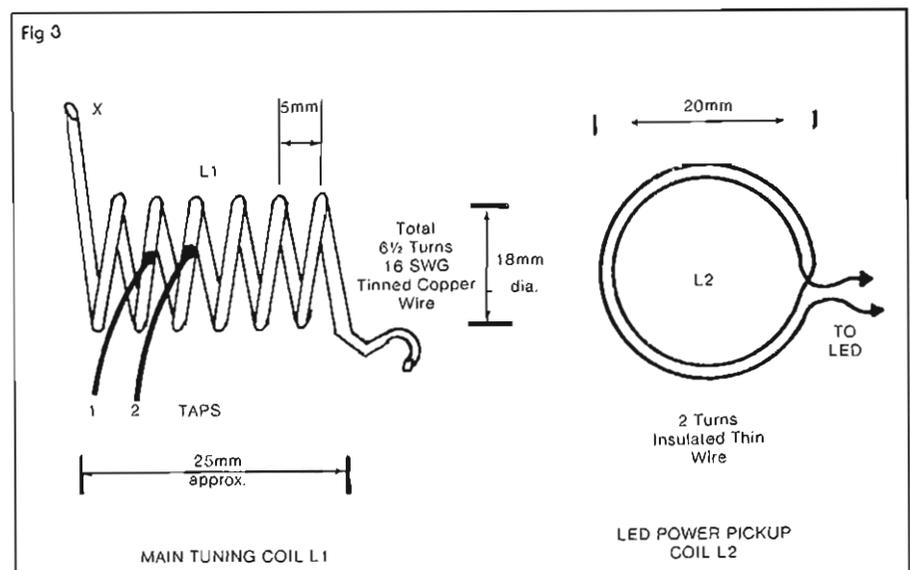


Fig.3: How the main tuning coil L1 and the LED coupling coil L2 are made.

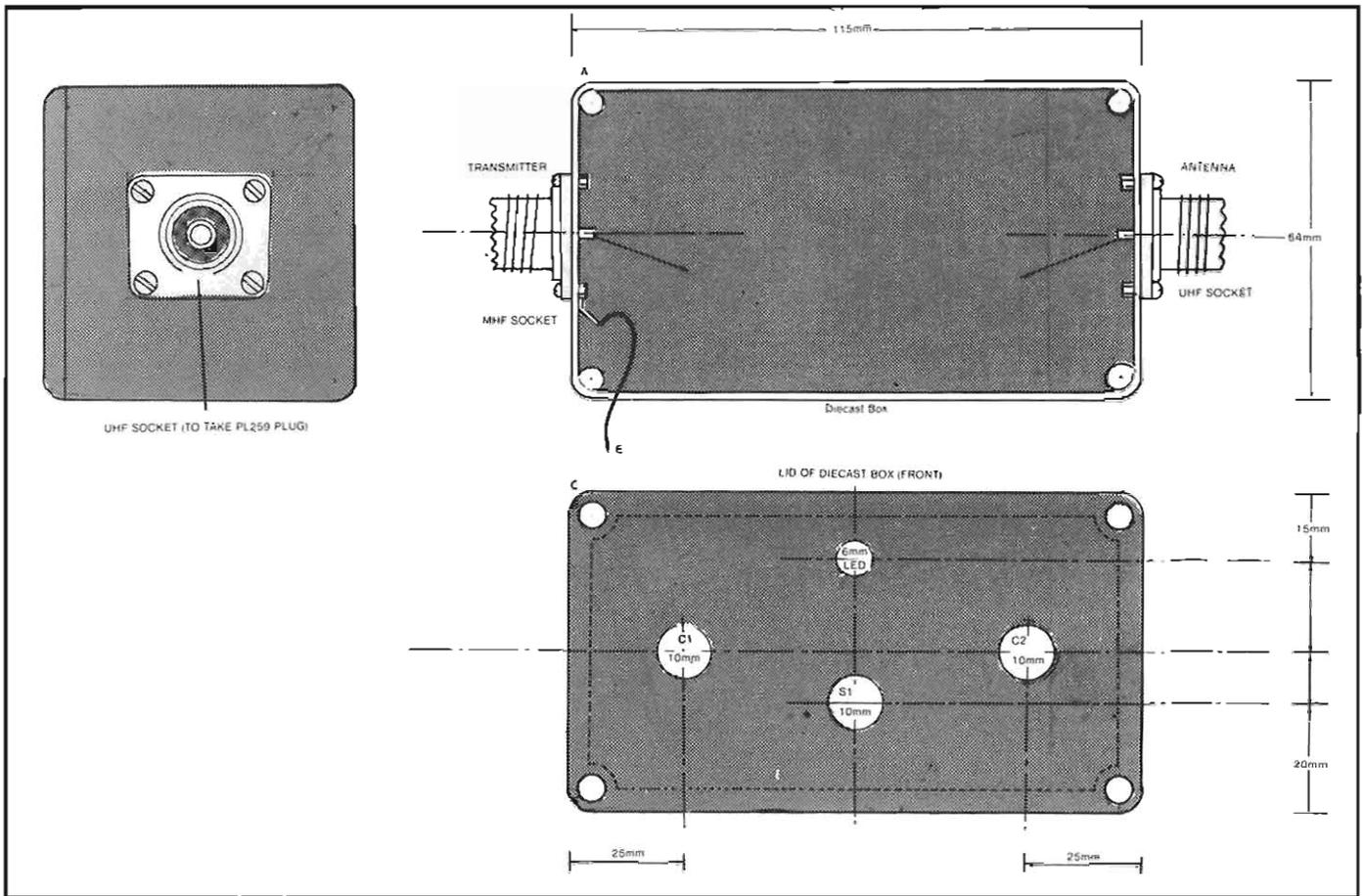


Fig. 2: Details of housing (die-cast box as specified) and drilling etc. (A and B) positions of UHF sockets for PL259 plugs. (C) Panel component positions.

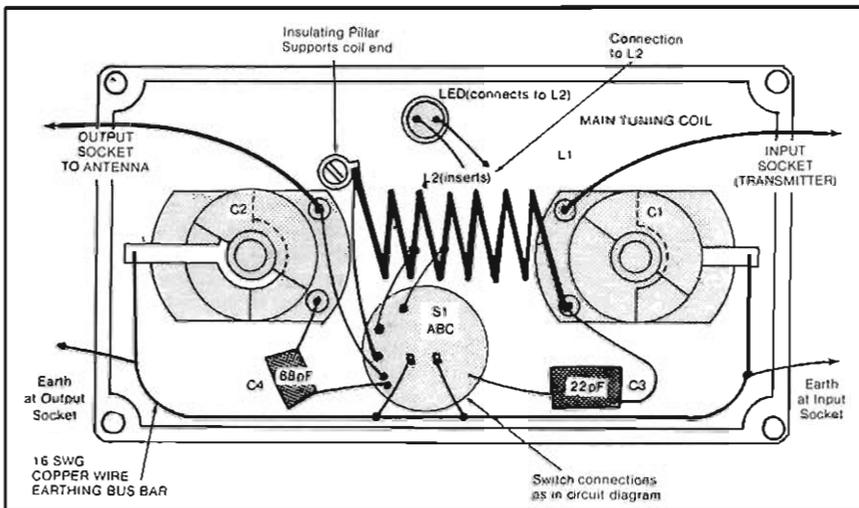


Fig. 4: Connections between internal components (for switch S1 connections see text and fig. 5).

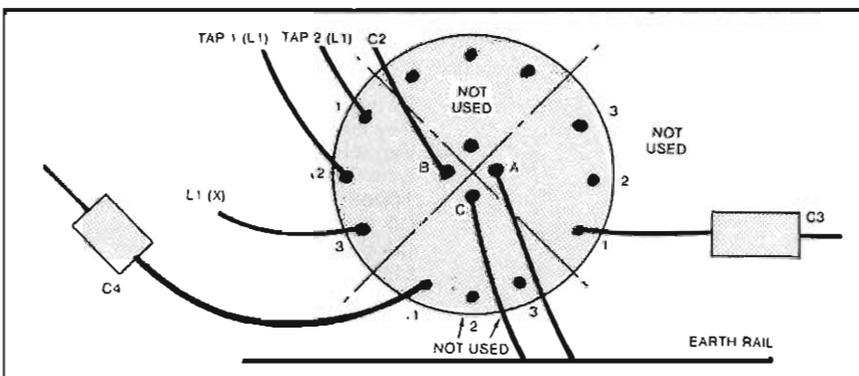


Fig. 5: Connections to the three position switch (see text regarding type of switch).

the circuit when the transmitter is on and the matcher is in use.

The Circuit

The theoretical circuit is shown in fig. 1 and consists of a tunable pi-network with switched fixed value and variable capacitors and the main inductance L1. With the switch (S1) on position 1 the total input and output capacitance of the pi-network is at maximum, although variable $r_{4w,01}$ by virtue of C1 and C2 and the in circuit is at minimum which provides an output matching range of between 15 and 50 ohms. With S1 at position 2 the input/output fixed capacitors are switched out of circuit but the total inductance of L1 is increased in order to provide an output matching range of between 50 and 100 ohms. With S1 at position 3 the variable capacitance range is still the same of course but the inductance of L1 is further increased to provide an output matching range of between 100 and 200 ohms. When power is on i.e., when the transmitter is operating with the matcher in circuit, the LED indicator becomes illuminated, the small current for this being picked up by the two turn coil (L2) from the main inductance.

Construction

The antenna matcher must of course be housed in an all metal box as shown in the photographs and in fig. 2. This is a diecast aluminium box of a type that is

continued over . . .

quite easy to obtain from radio component dealers. If the size specified is obtained then layout etc. for the panel controls and internal items can be arranged as shown in the various diagrams.

First it is important that the main tuning inductance L1 is correctly made of 16 SWG tinned copper wire wound to the diameter given and with the separate turns spaced as indicated in Fig.3. The LED coupling coil consists of 2 turns of thin insulated wire as shown and this is later coupled to the main coil as in fig. 6.

The layout of most of the wiring etc. is shown in fig.4 and the photographs will give further details. The wiring of the switch S1 is given separately in fig.5 and for the prototype this was a 4-pole three-way switch as shown but with one section unused. Switches for three-pole three-way connections only are sometimes difficult to get hold of so it is quite in order to use a three pole four-way as shown in the prototype.

The final stage is the connection of the LED coupling coil L2 to the LED of the panel and setting the position of this coil around the main inductance L1 as in fig.6. It can simply be pushed into the space between two of the turns of L1. This coupling coil picks up a small amount of current flowing in L1 which in turn will produce sufficient voltage to light the LED even with a transmitter power as low as 5 watts.

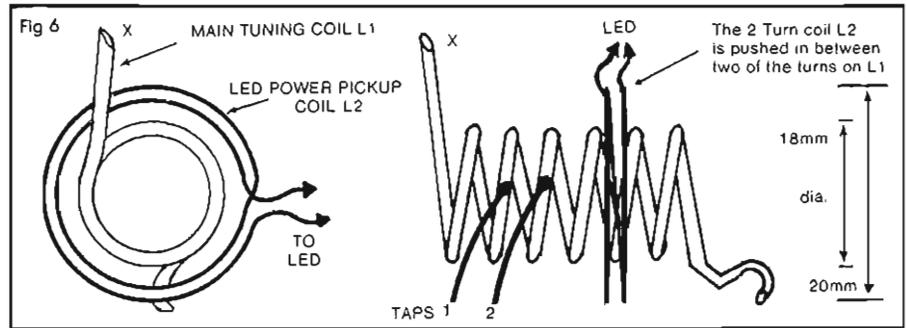


Fig.6: When assembly is completed the LED pick-up coil L2 is pushed between adjacent turns on the main coil as shown.

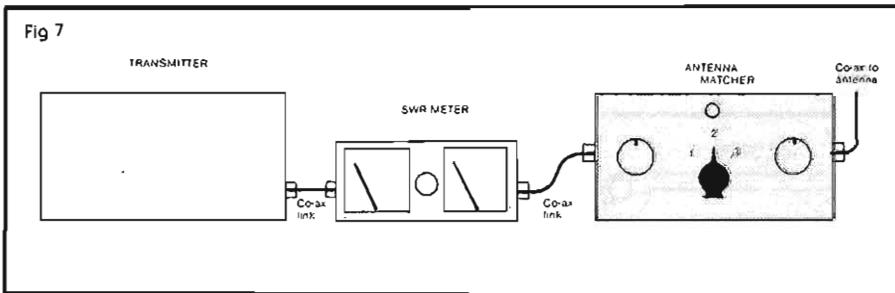


Fig.7: How the antenna matcher is connected for use.

The Antenna Matcher in Use

The correct way to use a matching unit of this nature is shown in fig.7 connected between the transmitter and the antenna feed cable but with the VSWR meter in circuit BEFORE THE MATCHER. The object of using the matcher is to obtain the lowest VSWR reading possible and this is simply a matter of finding the right combination of the switched position (either 1, 2 or 3) in conjunction with adjustment of the two tuning controls (C1 and C2). As already mentioned the maximum output impedance range is 15 to 150 ohms. If the antenna mismatch relative to 50 ohms is outside this range then neither this or any similar antenna matcher will be of any use, i.e., the antenna will be beyond obtaining an effective match to a 50 ohm output.

Antenna Matcher Components List

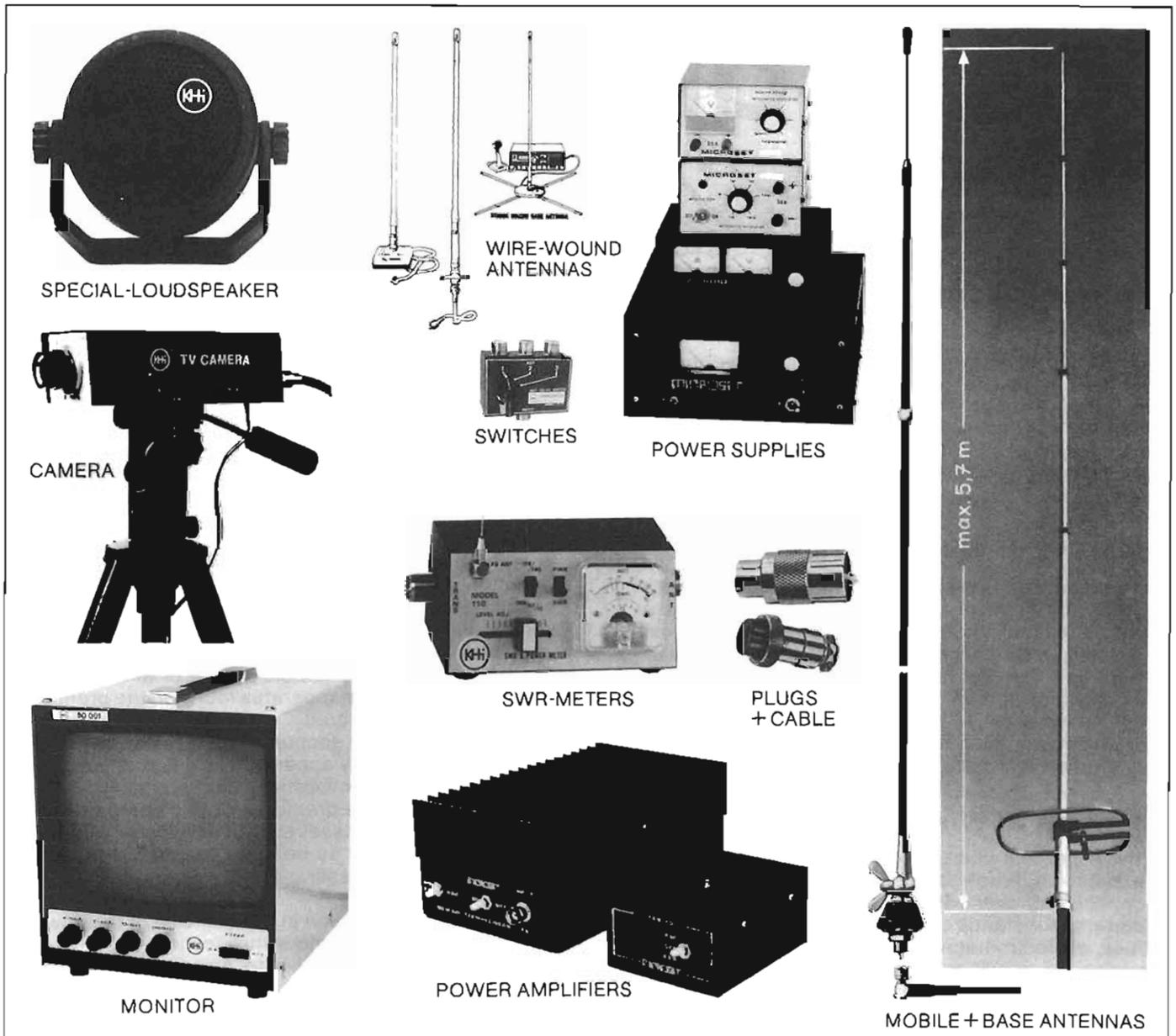
- 1 Diecast box 14 x 64 x 55mm
RS Components type 509-989
- 2 UHF sockets (for PL259 plugs)
RS Components type 455-725
- Switch S1. 3-pole four way or 3-pole 3 way (see text)
- Variable capacitors C1 and C2 Jackson type C804 air-spaced 100pFD (Bi-Pak No. 336)
- C3 22pFD silver mica
- C4 68pFD silver mica
- LED Any standard type or
RS Components type 586-475
- Wire for L1 and L2 as in text and diagrams
- Control knobs (2) for C1 and C2
- Control knob (1) for switch S1



The complete unit showing internal wiring.



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The Law and You

The Wireless Telegraphy Act 1949.

In previous issues we have touched on the rights of CBERs and the manner in which they are often apprehended, now it is our intention to look at the W.T. Act. This is the Act which loosely covers CB and is almost always quoted at the offending CBER, we say loosely covers, because it was never truly intended nor designed to catch vast amounts of mobile illegal radio stations.

Licensing of Wireless Telegraphy

No person shall establish any station for wireless telegraphy or install or use any apparatus for wireless telegraphy except under the authority of a licence in that behalf granted by the Postmaster General, (*Minister of Posts and Telecommunications, since 1st October 1969*) and any person who establishes or uses any station for wireless telegraphy except under and in accordance with such a licence shall be guilty of an offence under this Act.

Definition of Wireless Telegraphy

In this Act except where the context otherwise requires, the expression "Wireless Telegraphy" means the emitting or receiving over paths which are not provided by any material substance constructed or arranged for that purpose, of electromagnetic energy of a frequency not exceeding three million megacycles a second, being energy which either:-

- (a) serves for the conveying of messages, sound or visual images (whether the messages, sound or images are actually received by any person or not), or for the actuation or control of machinery or apparatus; or
- (b) is used in connection with the determination of position, bearing or distance, or for the gaining of information as to the presence, absence, position or motion of any object or of any objects of any class.

Reference to stations for wireless telegraphy and apparatus for wireless telegraphy or wireless telegraphy shall be construed as reference to stations and apparatus for the emitting or receiving as aforesaid of such electromagnetic energy as aforesaid.

The entry and search of premises, etc.

If, in England, Wales or Northern Ireland, a justice of

the peace, or, if in Scotland, the sheriff is satisfied by information on oath that there is reasonable ground for suspecting that an offence under this Act has been or is being committed, and that evidence of the commission of this offence is to be found on any premises specified in the information, or in any vehicle, vessel or aircraft so specified, he **may grant a search warrant** authorising any person or persons authorised in that behalf by the Postmaster General and **named in the warrant**, with or without any constables, to enter at any time within one month from the date of the warrant, the premises specified in the information or as the case may be, the vehicle, vessel or aircraft so specified and any premises upon which it may be, and to search the premises or as the case may be, the vehicle, vessel or aircraft and to examine and test any apparatus found on the premises, vessel, vehicle or aircraft.

Where under this section a person has a right to examine and test any apparatus on any premises or in any vessel, aircraft or vehicle, it shall be the duty of any person who is on the premises, or is in charge of, or in attendance on, the vessel, aircraft or vehicle, to give him any such assistance as he may reasonably require in the examination or testing of the apparatus.

Any person who-

- (a) obstructs any person in the exercise of the powers conferred on him under this section; or
- (b) fails or refuses to give to any such person any assistance which he is under this section under a duty to give to him; or
- (c) discloses, otherwise than for the purposes of this Act or of any report of proceedings thereunder, any information obtained by means of the exercise of powers under this Act, being information with regard to any manufacturing process or trade secret, shall be guilty of any offence under this Act . . .

Only the basics.

Here we have only touched the tip of the proverbial iceberg. Next month we will start to look at the W.T. Act in more detail.

Don't forget to send off your details to CB Radio Magazine Central Information Bureau if you have appeared in court or have been fined for a CB related offence.

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Cwmbrain, Gwent, Wales. 06333 5683

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Perthshire. 073 882 291

New, just opened - Horley CB Centre. 02934 74 997

Come Back the Breaker

A Correspondence spot for those interested in CB.

Thankyou Huddersfield Breakers

I expect by now that you all know about the 3 year old girl, Zoey Jane Thompson who went missing from her home in Huddersfield. Her grandfather Mr. P. Compton rang us up and asked us if we would print a mention for the 400 Huddersfield Breakers who took part in the search for her. He really is very grateful for the time and effort that they gave to participate in this search.

Unfortunately little Zoey died from the extreme cold. But he still wishes to say Thank You to the CB'ers in Huddersfield.

Thankyou to Boomer

I would like to take this opportunity to thank on behalf of my X.Y.L. Butterfly, the breakers who helped her out and especially Boomer of Nottingham, who relayed the phone calls to her works 20 and the RAC when she was slightly stuck (no clutch) on the A610 into Nottingham on Thursday the 5th of February. If Boomer or any of the other breakers are ever in our area call us up we owe you one.

TRAPPER J (NOTTS)

'Detroit Tiger'

A local breaker, "Detroit Tiger" had an argument with a tree whilst driving his car back on January 9th this year and has been in a semi coma since. His XYL "Hallmark" has got permission to set up his rig (as a monitor only) beside his bed in Cuckfield Hospital Sussex. He has a set of headphones plugged in and his rig on channel 25 so that all the local breakers can call him up and hopefully help to bring him round.

Any passing breakers can help by calling the above on 25 between 8 and 9pm and 10.30pm and midnight.

All the high numbers. WOMBAT

Citizens Band Radio Information Service (C.R.I.S.)

As the CB Radio following is increasing daily and more people want to know all about CB Radio and clubs we have started this information service. It will be managed by my husband and myself, so there will be someone to answer the phone at most times.

The main function of CRIS will be to

introduce people to clubs and help with any other enquiries about CB. Obviously until CB is legalised there must be the greatest care to ensure that a safe address is given to us, to be passed on to the enquirer.

This service is not sponsored by anyone, neither is it connected with any clubs or organisations. We hope that if you find this service beneficial, you will send a donation to help us help others.

If you write to us enquiring about clubs, then please send a SAE and a small donation to help with expenses, and please do not phone after 11 pm.

We will be at the Citizens Band Radio Show, to be held on the 2nd - 4th May 1981, in Warwickshire, so see you there, more details from CRIS.

GRAHAM BRISCO (TEDDY BEAR)
& LOUISE BRISCOE (WONDER WOMAN)

French QSL

Since my card and address was first published in CB Radio back in August, I have received many British QSL's and I have answered most of them.

It does seem to me that quite a few British CB Operators do not understand the full meaning of QSL cards and how to swap so I would like to point out a few tips.

When sending a QSL always sign and date it, also one should mention if you require a card in return. It is customary to detail how you received your card and from whom, i.e. I received your card via CB Radio Mag.

QSL 100%, if you don't then simply don't write. You will be wasting your time and money as well as many other people's.

If you say you do QSL 100% then you must make a point of answering every signed and dated card you receive.

I will be most pleased to receive your QSL card and if it is signed and dated I will QSL 100%. I am a representative for many QSL swap clubs and the following are addresses of clubs that will QSL 100%.

Germany:

Super Stinky QSL Club,
Postfach 2664
D 6750 Kaiserslautern
W Germany.

USA:

Oregon Trail QSL Club,
P.O. Box 406 Talent,
Oregon 97540
USA.

New Zealand:

New Zealand Worldwide QSL Club,
P.O. Box 83020
Te Atatu South
Auckland
New Zealand.

My own address, should you wish to QSL or if require a french CB friend, is:
Michel Tremeau
42 Rue Felicie
92230 Gennevilliers
France/Europe.

May I wish you all a good QSO and all the best from me QRT, Michel.





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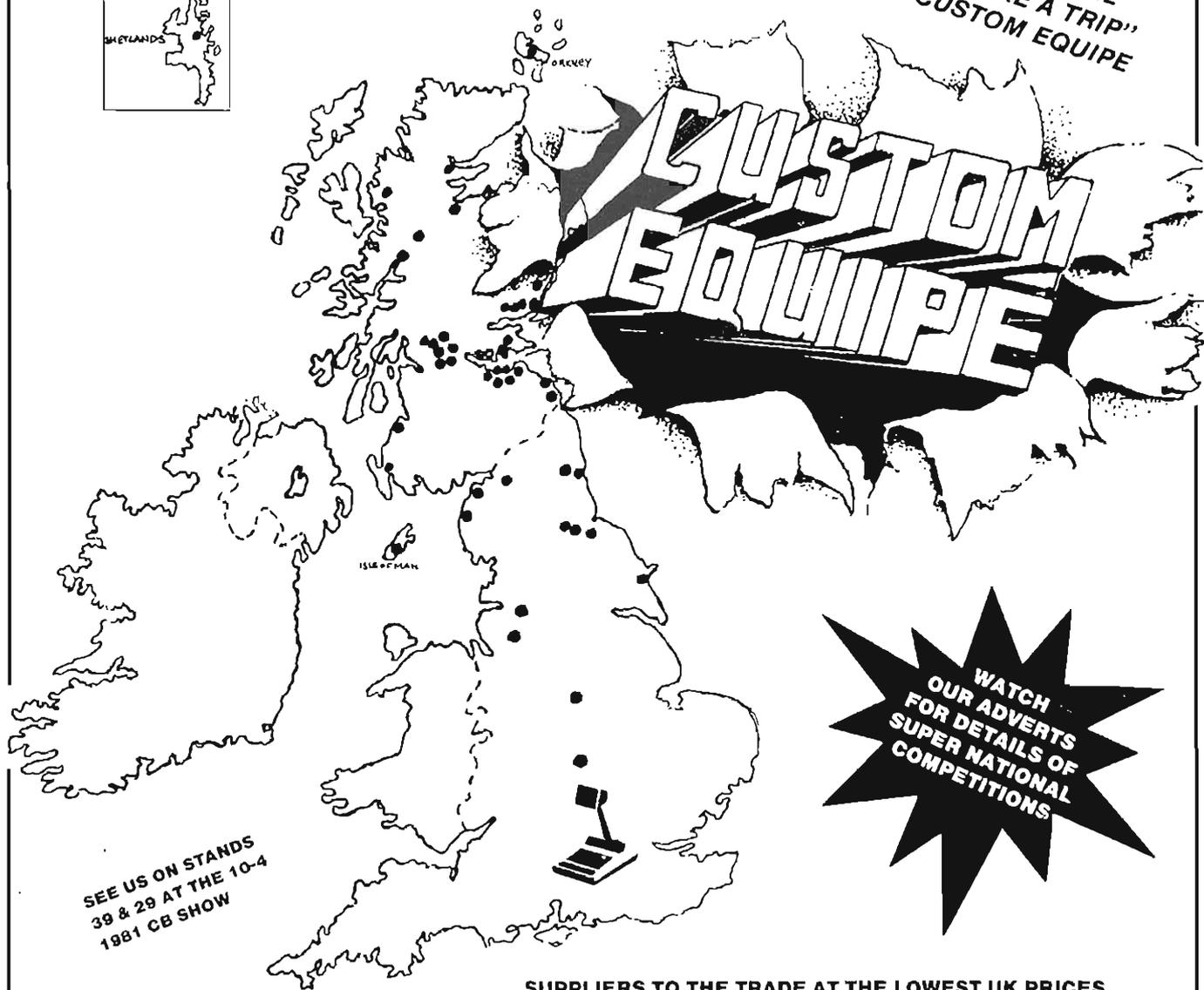
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