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CB

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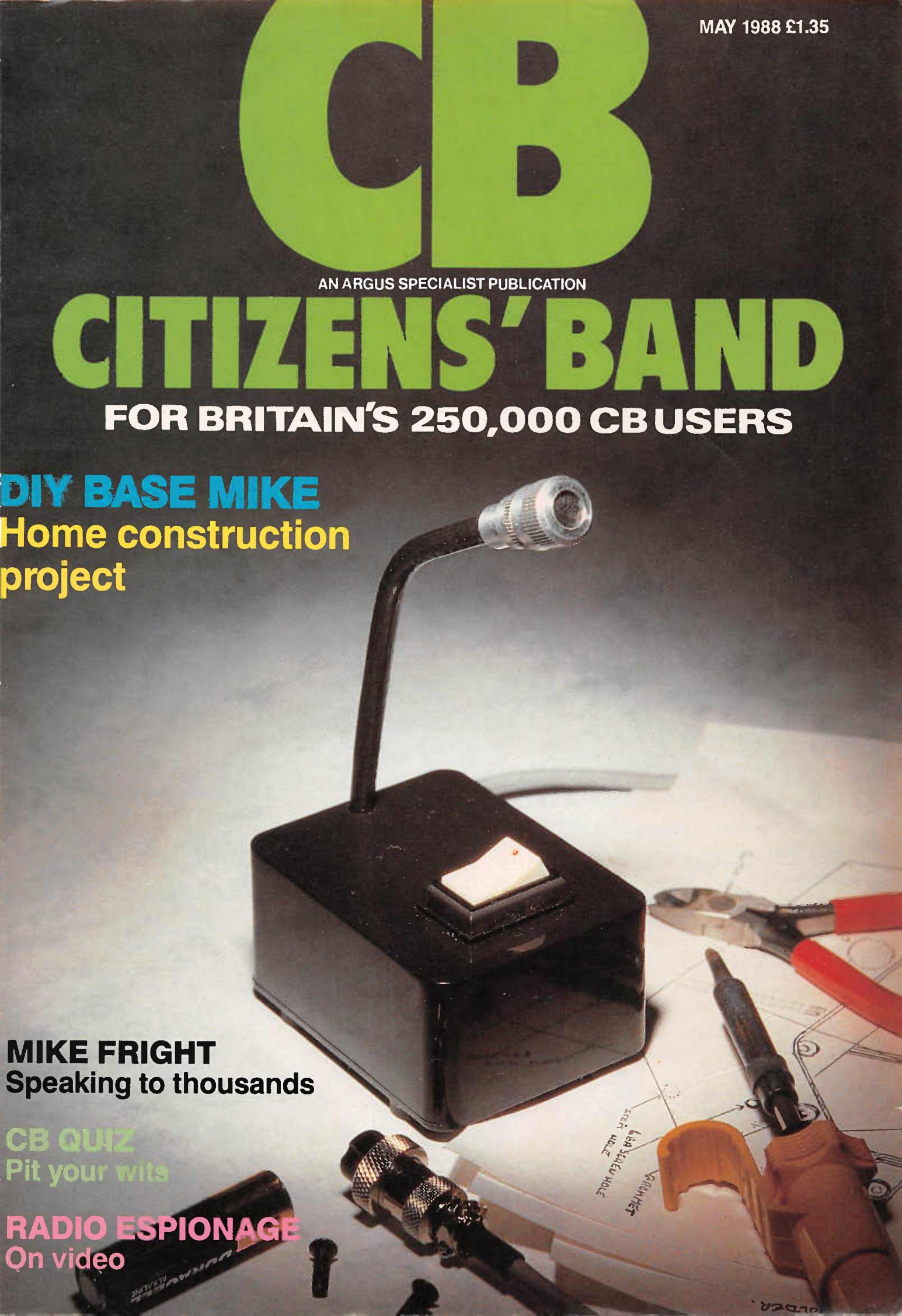

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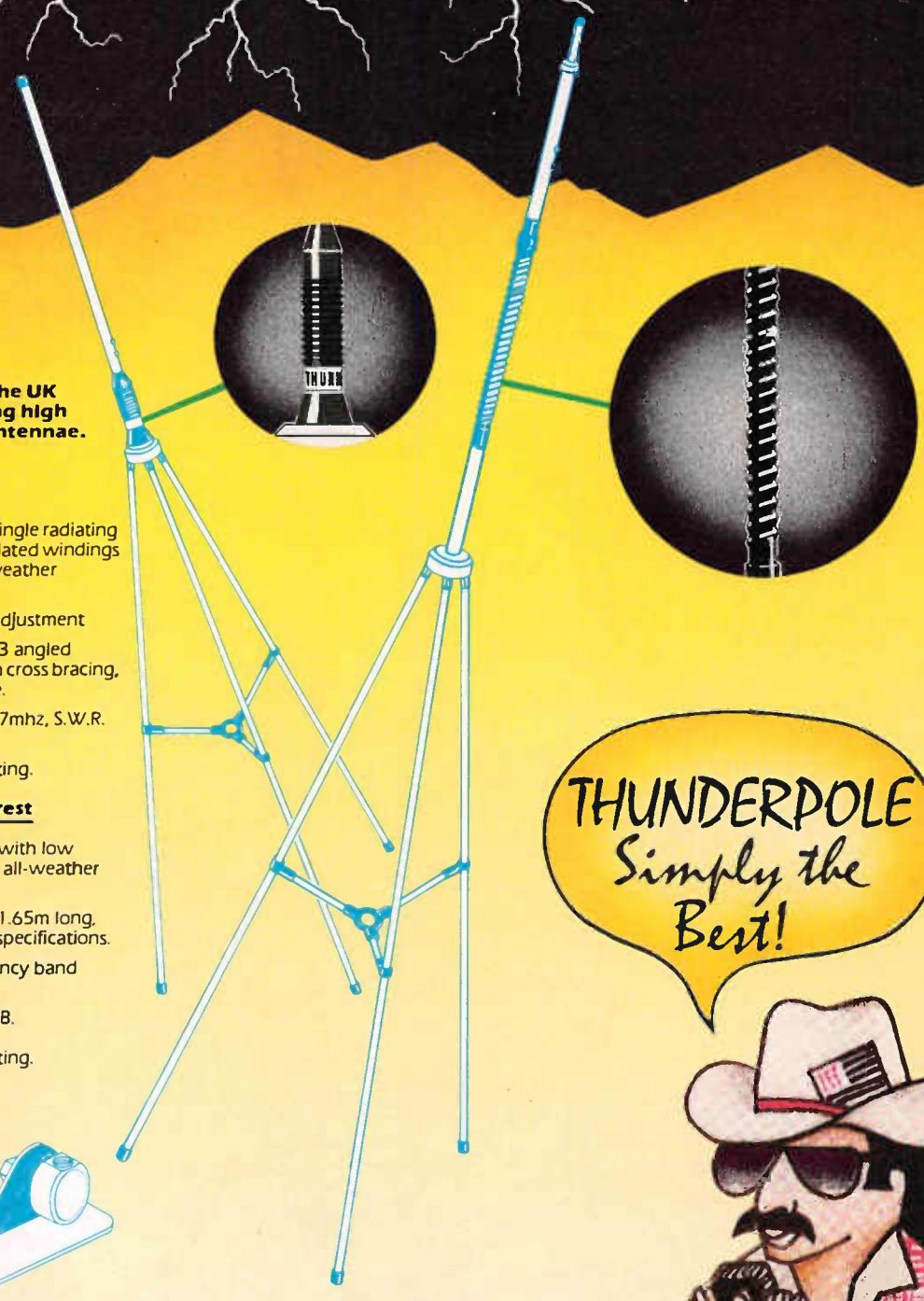

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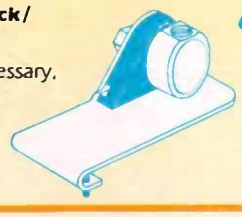

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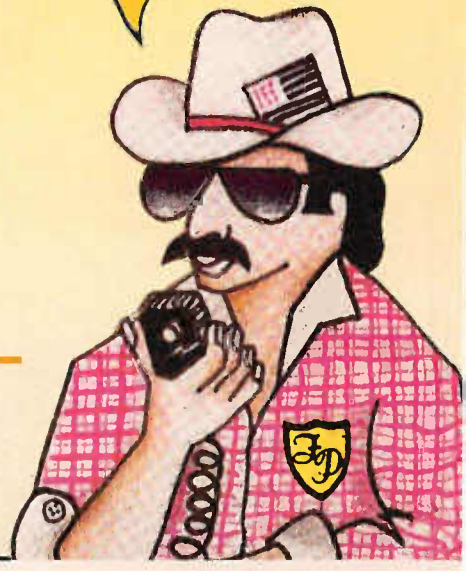

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CB CITIZENS' BAND

May 1988 Volume 6 Number 6

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NEWS FROM THE WORL

UPDATE

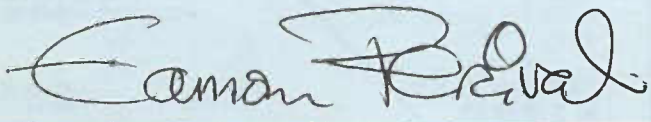
Editorial

Well, as summer approaches and the skies turn back to their original colour of — what was it again? — oh, yes, blue. This, of course, is the season of eyeballs and other similar events organised by clubs and groups all over the land. Why not write in and let us know of any special events in your area? It only costs you the price of a stamp. If it's an *après*-eyeball report, try and enclose a few black-and-white photos as well. We are only too happy to publish stories such as these. It helps brighten up your favourite magazine — and it's free publicity for your club.

Well, we hope you enjoy this issue. If you have been following Paul Coxwell's CB In Depth series, I'm sure you'll have no problem with this month's special CB quiz. Additionally, for you quiz fanatics, elsewhere on the pages you will find the answers to last month's crossword. No prizes, I'm afraid, but a lot of fun.

Also this month, for those DIY enthusiasts, we have two construction projects, both with home base users in mind. There's a spring reverb device and a home base microphone for you to try your hands at.

Read and enjoy until next month.



Sierra Bravo Eyeball

We would like to apologise to the Sierra Bravo Club for taking a step back in time when we reported that their eyeball at the Marchwood Engineering Laboratories, Southampton, would be taking place on 4th June **1987**. This should, of course, have read **1988**. The rest of the details remain the same but with a couple of new items. Firstly, and most importantly to some, there will be a beer tent on the field from 12 to 4pm. Also, the proceeds from the car boot sale will be donated towards an Ivac syringe pump for a local hospital.

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Truck King Catalogue

The latest Truck King catalogue is now available at a cost of just £1.50. Excellent value for money, in fact, when you consider you get 60-odd pages of information about anything from rigs to air-horns.

Just about everything in CB/trucking is covered in this well-produced tome with not only up-to-date prices but also very detailed information about each product. In fact, for *Citizens' Band* magazine, it's a very useful reference book!

Don't forget, the £1.50 includes discount vouchers up to the value of £15.

Truth betrayed

Although a certain Peter W****t has been getting the world's headlines with his 'Spy******r', my guess is that British radiophiles will be better off reading a well-informed new book about the secret radio propaganda wars between Britain, Germany, Italy and Russia in the late 1930s (and, of course later). W. J. West's 'Truth Betrayed' (Duckworth, £12.95) sounds a bit like Victorian melodrama — perhaps that's how it got past the censors — but is in fact a combination of serious research and a view of radio's innocent era when diplomats did not pack radio sets in their little black bags, preferring to learn about local crises from earnest fellows who popped into the Embassy after lunch.

Although Germany is often

thought to have been Europe's most radio-minded nation, the Brits were originally more troubled by Mussolini's use of the medium to beam English language programmes, mainly to defend Italy's policy in Abyssinia. The problem might have been avoided had the BBC permitted broadcast of what now seems an innocuous greeting by General Garibaldi, grandson of the famous liberator of Italy. W. J. West indicates that the BBC and the Foreign Office often disagreed about the BBC's approach to political comment, e.g. by over-reliance on 'handouts'. On one occasion, the BBC even managed to broadcast a chunk of Goebbels' (the Nazi propaganda chief) arguments over the radio news.

In due course, though unknown to the general public, the BBC fell into line with the Foreign Office. Mussolini, writes W. J. West, 'soon found English expatriates who were happy to come to the microphone and voice their opinions of the weakness and failings of British policy'. Italian Propaganda broadcasts from Bari, made in Arabic; and later in Hindustani, undermined the British position in Arabia and India, the British Government finally opening its own Arabic radio station to present the official UK point of view. Thereafter, the growth of pirate, secret and clandestine radio developed faster than the BBC could vacuum clean its pile rugs. In the meanwhile, dedicated young men like a certain Guy Burgess helped develop the Talks Department at the BBC, an employment which seems to have eased his subsequent employment in M16.

One of the more interesting 'real heroes' in this lively book, by the way, is Neville Chamberlain who recognised the value of radio in the period immediately prior to the outbreak of war. Using the Radio Luxembourg medium wave transmitters, Neville Chamberlain spoke to the German people, almost 'under the nose' of the Nazi authorities, so that the German people at last heard an objective account of Britain's point of view. Once war began, 'black' radio was developed by both sides. Sefton Delmer's 1962 book, 'Black Boomerang' was probably the first popular study of these frequency fantasies, but W. J. West has a very interesting chapter on such wonders as the New British Broadcasting Service, sometimes known as 'the new BBC' alleged to provide 'uncensored news' on 25 metres from 2030 hours; the Workers Challenge station which appeared on 213 metres after the Dunkirk evacuation and was especially abusive of the British Establishment and Prime Minister Churchill; and the Christian Peace Station on 31.26 metres which sought to convince religious people and pacifists that the war was unwise and unnecessary. W. J. West includes sample scripts — the Workers Challenge presenter was apparently possessed of a vibrant 'east end' voice. These stations purported to be based in Britain but of course were German. Not to be outdone and possibly influenced by pre-war boys' books, the British returned the compliment. One black station aimed at German listeners did a good job in relaying the critical views of an alleged member of the High Command.

Among the many fascinating stories in the book is that of 'Lord Haw Haw and the Anti-Lie Bureau'. W. J. West argues that William Joyce was *not* 'Lord Haw Haw' — but to say more could detract from your enjoyment of an excellent book. Potted biographies — as footnotes — highlight many of those involved in these radio adventures. So, after all that, how do you tell the difference between a spy, and someone with an ordinary job at the BBC? Easy; the spy has a newer suit. Also, he will probably have a CB antenna stuck in the pocket of his plus fours.

Truth Betrayed by W. J. West, Duckworth and Co, Ltd, 43 Gloucester Crescent, London, NW1 7DY. ISBN 0 7156 2182 3. Hardcover, 262 p. inc. index.

Sadelta Mike Power

The picture above shows (*left*) Juan Framis, Director of Sadelta, with Mike Devereux of Nevada Communications during a recent visit to Spain. Juan was showing Mike the site of the Olympics to be held in Barcelona in 1992.

Although Sadelta are an agressive company with many new microphones ready for launch in the summer, the cannon is purely for show!

CB to the rescue

Our congratulations to Mrs Phyllis Taylor of Wroxall, who came to the rescue of a stricken fishing cruiser with the aid of CB.

Mrs Taylor, a member of the Ventnor DX Club, was chatting to a friend on the rig when a man's voice cut in, asking her to switch to channel 9. Mr Joe Cuthbert and Mr Dennis Hayes were drifting two miles south of the Nab Tower in a 19ft 6in fishing cruiser, their outboard motor having fallen off just as darkness was approaching.

The two Fareham men informed Mrs Taylor of their established position and she immediately dialled the Solent coastguards.

"They told me to keep the 'phone to my ear and relay messages to the boat to let them know that help was on the way," she said.

Following the relayed messages, the Bembridge lifeboat located the cruiser and towed it to Bembridge Harbour. The men were then given warm drinks and driven to Ryde to catch the ferry back to the mainland.

A coastguard headquarters officer said, "We were very impressed at the cool way this lady acted under pressure."

The cruiser 'Stingray' doesn't appear to have a charmed life, as the lifeboat had gone to the aid of the same craft with one of the same men aboard last summer!

1988 Big Meeting

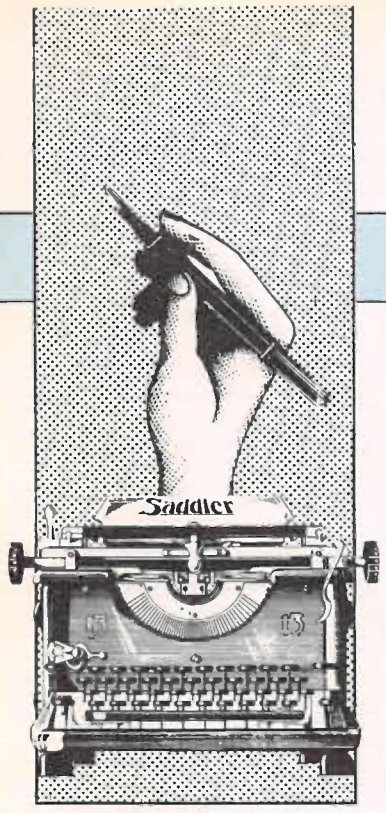
We have just received details of the 1988 CB Radio Big Meeting which is to be held on Sunday 17th April at the Stanley Youth Centre, Co Durham. This is signposted from the A1 motorway at the Chester-le-Street turnoff.

The event starts at 11am and continues to 4pm. It is the fourth annual event and attendance is still growing. The meeting is indoors so weather is unimportant and hot drinks, hot dogs, etc, will be available throughout the event.

A large car park is signposted 200 yards from the Centre and both local police and uniformed security officers will be in attendance.

It looks like a show worth considering, as over 2,000 people attended last year's 'meet' to check out dozens of trade, club and radio organisation stands.

Anyone interested in booking a stand should contact Des Currie on (0207) 505191 for details. Maps giving exact location, directions and accommodation lists are available by sending a SASE to PO Box 5, Consett, Co Durham DH8 8MG.



DTI FAUX PAS

DTI Faux Pas :: So long, Twong:

DTI Faux Pas?

Yes, another missive from Martin Wright from High Wycombe...

It is beginning to emerge from the DTI (Radio Regulatory Dept) that, in the 1990 Review of Radio Users the subject of SSB becoming available to the 'CB' service may be included. There are also hints that some form of user identification system may be imposed, transmitted codes unique to each set.

These are, at face value, two 'acceptable' concepts to the serious and responsible breakers. Far better range from SSB, and the means, at last, of bringing to account the disruptive minority. However, upon close examination, it becomes evident that the overall effect of such measures could well be to all but kill off CB, at least CB as it is generally perceived by the vast majority of present users.

The DTI is still intent upon closing down the MPT1320 UK FM channels, leaving only the newly released FCC/Euro channels. In such a scenario, FM use will be all but impossible in the presence of pan-European SSB working. No FM set can be made capable of rejecting SSB signals, it is a physical impossibility to do so. An AM set, on the other hand, can be made to totally reject SSB signals.

It is also very obvious that the DTI is more than obsessed with the desire for very strict controls in respect of transmitter frequency stability. Such an obsession would obviously preclude any idea as to future SSB sets possessing the present Kc shift facility, and it takes little imagination to realise that the technical demands would be so stringent as to render the need for the 'clarifier' control also unnecessary. It is quite impossible to achieve this. It is done today with radio telephone equipment. The result, however, is to make the cost of such equipment prohibitively expensive. One has only to compare the purchase price between MPT 1320 sets and those of MPT 1333 where the stringency of technical requirements has almost quadrupled the cost to the user.

The CB service is one conceived on the objective of providing effective two-way radio communications to the public at large; all of us, that is not just the well-off who can afford expensive toys. Yet Ministers of State are on record as having a preference for seeing CB usage on the lines of those who play at imitating the Radio Amateurs, practices prevalent on the MPT 1321 934MHz channels.

Turning to the concept of demanding the inclusion of 'ATIS' (automatic transmitter identification system) on SSB sets raises some serious questions. There is the problem of keeping reliable records as to who owns what set, a point that becomes more obvious in the light of second-hand sales. Then what is going to be the position with sets that come in from Europe if the UK has introduced a National System without regard to European Standards? This is exactly the situation with MPT 1333 in respect of the European TR/20-02 FM 'standard.'

Then there is the 'problem' of the hundreds of thousands of existing SSB sets in the UK alone. As far as the user is concerned these sets are fully usable on FCC/Euro channels, and will remain so. One has only to look at these channels presently on FM where it is obvious that there are far more users with sets that don't comply with MPT 133 requirements, they don't even bother to turn off their 'roger bleeps.' Any one of a mind to give the impression of having a legal set can do so with surprising ease, and be virtually free of any risk of being 'busted.'

Once these sets with ATIS come onto the market it is only a matter of time, probably days, before someone has come up with a 'pirate code box.' A device that can be either in the rig, retro-fitted, or simply fitted between mic and set. With legal SSB sets costing, in all probability, several hundred pounds the potential profit in selling such 'code boxes' is more than obvious. The very presence of even a few such units would render any effective policing by way of ATIS all but impossible.

Yet ATIS could be introduced and prove to be an effective measure in policing the service. This can however only be achieved under the following circumstances:

(a) ATIS units are provided 'at costs' for retro fitting to sets.

(b) That *all* existing sets in Europe are acceptable throughout Europe.

(c) That the ATIS 'code' uses audible tones or pulsed tones, emitted at the end of each transmission, replacing the roger bleep.

(d) That the ATIS 'code' is specific to the person not the set. To effect this the unit must be fitted between mic and set.

(e) The code used must be capable of

being used as a pan-European Selective Calling System, thus being of obvious direct user benefit.
(f) That the code be common to all countries to avoid duplicates.

The subjects of SSB and ATIS cannot be viewed in isolation, either singularly or as a combined feature. The whole subject of CB in the European context must be addressed without any pre-conceived conditions or qualifications, because there are many problems that must be resolved before CB can stand any chance of evolving into a service of real benefit to the whole public. Of these some that come readily to mind are:
(a) The impossible overcrowding at present on just 40 channels.
(b) The absence of any binding 'Band Plan' to segregate the more basic divergence of uses.

Avast There, Landlubbers

(c) The way each country's CB Service is regulated, licensed and policed.
(d) The existence in Europe of services using at random any combination of the three transmission modes FM, AM and SSB, in respect of the practical reality in being able to withdraw any mode.

If, and it is a very big *if*, the DTI/Government does wish to see CB treated as a responsible and integral part of the Public Communications Services then some very major changes will be required.

The whole subject of CB in all its facets must come under the supervision and control of *one* body. The present 'hotch-potch' of departments each doing their own bit clearly is totally unworkable.

That given one clear controlling body, it must be run in a fully open way in respect of being answerable directly to the users of the service.

All funds raised by way of licences and any other means such as service charges are used exclusively in the direct interests of the service and its subscribers. Policing, technical standards, European co-ordination, assistance to users both practical and technical, sourcing and issue of ATIS units are but some of the more obvious.

Remember that since CB was first legalised the DTI has raised in excess of £50 *million* from licences, and the Treasury in excess of £100 *million* by way of import duty and VAT and what have we got to show for all this? The FCC channels we could and should have had to start with, at last; and all those 'existing services' that *any* form of CB would interfere with are still there. 500,000 users with sets the DTI expects us to throw away in 1990 and go onto FCC channels, regardless of FM being useless in the face of legalised SSB. Standards relating to aerials that demand we use them despite the fact that such aerials are now proven to cause more interference than most prohibited types.

Write to the DTI and tell them what you think, tell NATACOLCIBAR, MSGB, SACBC and your MP as well. Do nothing, say nothing and we get *nothing*. We only got CB in the first place by making our presence and views felt, only to lay down for the last battle and lose out to a restricted unique FM-only service.

The 1990 Review date is not far away, your voice and views are not just important they are *vital*.
If you want proper, effective policing, say so.
If you want 200 channels, properly band-planned, say so.
If you want an all-mode service, say so.
If you want the right to go wherever you like in Europe with your set, say so.
If you want affordable sets built to realistic sensible standards, say so.

The clear alternative to the service you the user, wants and expects, is what the DTI seems intent on giving you; 40 channels FM and SSB from sets costing several hundred pounds, on a par with radio-phones, crammed full of all the users in Europe, and making your present FM sets illegal into the bargain.

The choice is yours, and yours alone.

So Long, Twong

Ribena writes from Cardiff with some salient points...

Firstly, my thanks to Ian Oliver, National Establishments Officer for The Monitoring Service of Great Britain, for his informative reply *(CB Magazine March '88)* to my comments on taxis. So, it would seem we are stuck with them, although I still cannot see why, as in my humble opinion whenever they transmit they are selling something, albeit a fare and according to the back of my licence that is naughty.

But enough of that. I found Mr Oliver's letter very informative on an altogether different matter. I have long wondered if there was some sort of joint consultative body comprised of members of the DTI and CB users and it seems from his reference to the users' group that such a body does exist. This can only be good for CB users, as joint consultation and agreement therefrom are the absolute essential of any system if that system is to operate satisfactorily.

I don't know how many of these users' groups exist, or whether there are bodies of even higher standing — be that as it may the thought occurs to me that *CB Magazine* could publish reports, edited if necessary, of the proceedings of these meetings between the DTI and the users' groups. I am sure this could be material of real interest and use to readers whose knowledge of the DTI and its workings are at best remote, if not non-existent. It is very easy to think — quite wrongly — that the DTI does little or nothing to help the ordinary breaker who has to endure seemingly endless idiocy on the channels. I will admit to sometimes thinking that there is a gap between "us" (breakers) and "them" (DTI), caused by their "hiding" behind PO Box Nos and having telephones which are ex-directory, but if this gap does exist it could be bridged very effectively by publishing some record of proceedings of DTI/user group meetings — one would be able to see what the DTI's problems were, what they were doing or indeed have done to deal with these problems.

Anyone who has managed to sustain an interest in this letter up to this point must surely be wondering what on earth all this has to do with Twong. Fair comment. Fair comment — I will explain. Could I suggest, Mr Editor, that should you consider my suggestion of publishing records of meetings to be viable, such records should appear in the space currently allocated to Twong. In my opinion this feature is garbage, and what it is doing in an adult and otherwise very interesting magazine I cannot fathom, and nor can some of my fellow breakers judging from their remarks to me on the subject.

Finally, and on a totally different tack altogether, some information please. Where exactly is *"There"*? I am continually and utterly mystified by the frequent use made of this word in QSOs I've either taken part in or earwigged. The most common useage is, I suppose, "Nice to have had you in *there*" (at the end of a QSO). In where? Two breakers may have been many miles apart but they've both been in *there*, together *and* at the same time. Mindboggling. Another example, in a totally different context: "I was doing some painting, *there*, when..." Where or what was he painting? You'll never know because he never said. Perhaps the daftest one is, "Ah, *there* you go then." You may have no intention of going anywhere, but someone seems to have different ideas.

Listen carefully next time you switch on. You will be amazed how often the word "there" crops up. I even find that despite valiant efforts at self control I'm using the darned word myself! However, one refreshing thing I've noticed about this much overworked word is that it is only used by breakers who are having sensible QSOs — it is never used by bucketmouths, but that's probably because it has too many letters in it.

So, if anyone can enlighten me on this one I'd be obliged, there. (Dammit, I've done it again).

PS Having passed unfavourable comment on Twong, it's only right and proper that I should congratulate Filly on her "Eiffel Eyefull" page. Très bon, ma brave. Encore, s'il vous plaît.

Taking your points in order, Ribena: (1) There is no officially recognised national CB 'body' as such. User groups exist throughout the country but on an individual basis. Various efforts have been - and still are being - made but nothing cohesive has yet transpired. (2) Our Twong cartoon strip is very popular with the majority of our readers, although there are a few - and I mean a few - readers who disagree with this viewpoint. The good/bad news is that John Richardson, (Twong's creator), due to pressure of work, will only be able to produce his strip on an occasional basis. (3) Did you know the word 'there' is an anagram of 'ether'?

Avast There, Landlubbers

The romantically-sounding Captain Hook writes from Essex on behalf of the Blackwater Pirates Charity Group...

Most of our members have been CBers since the year it started (some before!) and I have great pleasure to inform you that in 1984, myself and a colleague and good friend set up the charity group "Blackwater Pirates" especially to raise funds for charities. From this start an administration committee was formed, a constitution formulated and by this time there were approximately a dozen members. Today they exceed 100.

At the time of writing this letter we have 23 'gigs' involving CB and have developed six branches throughout Essex and one in Kent. With the start of the group we had a mobile trailer boxed in with CB radio, car radio, a 20ft mast with a base-loaded Modulator and ground planes on the front of the trailer which we used as a base station, and double speakers for both the radios, warning light panel, headphones etc.

This was set up as a base station/control centre for marathons, fun runs, shows and the like. We now have a very well fitted out caravan and our own PA system. Through the use of this, our members' radio link-up teams have raised over £7,000 in 31 months for the group which is, we believe, the only one formed specially to raise monies for charities. We also organise our own dances, summer shows and functions and always get the support from various organisations and companies as well as the general public, this year we have a 12-hour non-stop live Country and Western event on July 30th at Witham Rugby Club plus a stage event with "Cat Genetica" pop group.

The sponsored events and other fund-raising is this year going to the research for Great Ormond Street Hospital for Sick Children. We are also supporting two local voluntary organisations, "Crossroads" and "Headway," which are both involved in assisting and helping the elderly, invalid and head injury victims.

Through this work over the years we have been able to put across the valuable use CB can be put to and have, on many occasions, converted those that still thought it was strictly for the "wallies." Through our work as a voluntary group we have had the good fortune to meet many stars of stage, screen and TV and on a couple of occasions, have been in the company of Royalty. Our adopted "Pirate" flag ship is the "Lord Nelson," a 400-ton square rigged barque, which allows the disabled to sail on an even basis with the able-bodied. If there are any readers out there that would like more details of voyages, you can get the relevant information from: JST, Test Road, Eastern Docks, Southampton, Hants. It is not just the disabled persons they like to hear from but also the people that have any special qualifications e.g. doctors, YM certificates etc. The "Lord Nelson" has a CB on board and their call sign is 'Lima November 1.' If you do give them a call we hope you receive a copy.

LADY BREAKERS

FLEET STREET FRIGHT

The names are changed to protect the innocent in this tale of Filly's introduction to Fleet Street

I don't suppose anybody who actually bothers to read this column cares much about what I do for a living. As it happens, I'm a freelance journalist. ('Yes,' said one of my alleged friends recently, reading Ladybreakers with raised eyebrows, 'but aren't journalists supposed to be able to *write*?' He is a friend no longer). I mention this because it has a bearing on this month's thrilling tale from the annals of the Little Puddlefoot breakers.

A few weeks ago I received a very flattering telephone call from a magazine editor I write for regularly. "Listen, Filly," she said (she doesn't actually call me Filly but no way am I giving out my real name), "I've recommended you to X, an editor on (well known national newspaper). He'll be calling you later today to talk about some article he wants you to do for him. He's a high stickler, so you'll have to impress him. Thought I'd better warn you."

I picked myself up off the floor (I had fallen off my chair at the mention of the magic words 'Fleet Street') and said calmly into the receiver, "Right, then, thanks. Though I'm not sure if I've got the time to help him out." A chuckle on the other end of the line indicated she was not entirely convinced.

I sat gazing into space. Fleet Street! My by-line in a national newspaper! My immortal prose read by millions! The phone rang again and I jumped six feet.

It was Him. He told me about the project he had in mind — a 2,000 word feature for a supplement, with the possibility of more articles in the future — and asked if he could stop by and discuss it personally. He was about to drive down to Bristol for the weekend, he said, and could easily stop off on the way. Fine, I said, casually.

He duly rolled up a few hours later, only having gone wrong once (driving six miles out of his way) as a result of me, in my nervousness, forgetting to tell him about an essential right-hand turn at a crossroads. He was very nice about it, however, and asked to see my cuttings book.

"By the way," he said, casually flicking through the pages, "I noticed a radio place on my way here — you know, Citizens Band and stuff like that. Wouldn't have thought there was much call for it in a little place like this."

"Oh yes." I said, "there are plenty of breakers — er, CB users — round here."

"How uncomfortable for you," he said, sympathetically.

"Interfering with your TVs — all that bad language and ridiculous jargon. I've been toying with the idea of buying a set for my son, for his birthday. He's just bought his first car and wants a Citizens Band set to put in it. Can't say I approve. I hoped he'd be more mature."

I was extremely conscious of my base station sitting not two yards away in a (fortunately dark) corner of the room, and a copy of this very magazine lying on the sofa. Of course, my duty was plain. I should defend my chosen hobby. Give him the facts. Instead, I'm afraid to say, I found myself wondering if he'd noticed the antenna on my car outside or the bigger antenna on the roof.

He turned another page of my cuttings book, frowning slightly, apparently trying to make up his mind about something. I suddenly remembered I had a couple of Ladybreaker columns in there and broke out into a cold sweat.

"Would you like some coffee?" I said hastily, my voice coming out as a breathless squeak. I cleared my throat and repeated the question. He said, 'Yes, thanks,' but unfortunately he didn't put the book down. I escaped into the kitchen, plugged in the kettle, got out two mugs with shaking hands, caught sight of my reflection in the kitchen window and told myself I was a miserable coward. "Go in there," I told myself sternly, "and tell him you're a CB user." "No," whispered my worse self, "he's prejudiced, he might not give you the job."

Undecided, I carried the coffee through. He seemed to have made up his mind. "Right!" he said, "about this article . . ."

The doorbell rang. Cursing to myself, I went to answer it — and in bounced Big Jane.

"Hi, Filly!" she boomed, erupting into the living room. "I've come to see this new base station you're so proud of. (Catches sight of my guest). Oh, hello, sorry, didn't see you there. Are you a friend of Filly's? Are you into CB too?"

My guest was standing by the base station, interestedly regarding it. He looked uncertainly from Jane to me. "Filly?" he repeated, puzzled. Momentarily, I panicked. Tell him the rig's a new kind of hi-fi! Tell him Jane's the local lunatic! gabbled my worse self in my ear. I took a deep breath. It was now or never.

"Let me introduce you to a friend of mine, er, Big Jane," I said calmly. "Filly is my ha . . . I mean, it's the name I use on the airwaves. And about CB, I think you're labouring under a few misapprehensions . . ."

Amazing how you can find moral courage when you need it, isn't it? Oh, and I got the job.

MIKE

A few hints about a newcomers'

"Copy, copy?" — two simple words, to most breakers, but, to some, the two most difficult words in the English language to say over the air. Why? Because thousands of people are shy. Especially newcomers to citizens' band radio, where one has to communicate with another with God-knows-how-many people listening. A daunting task indeed to those of a reserved nature.

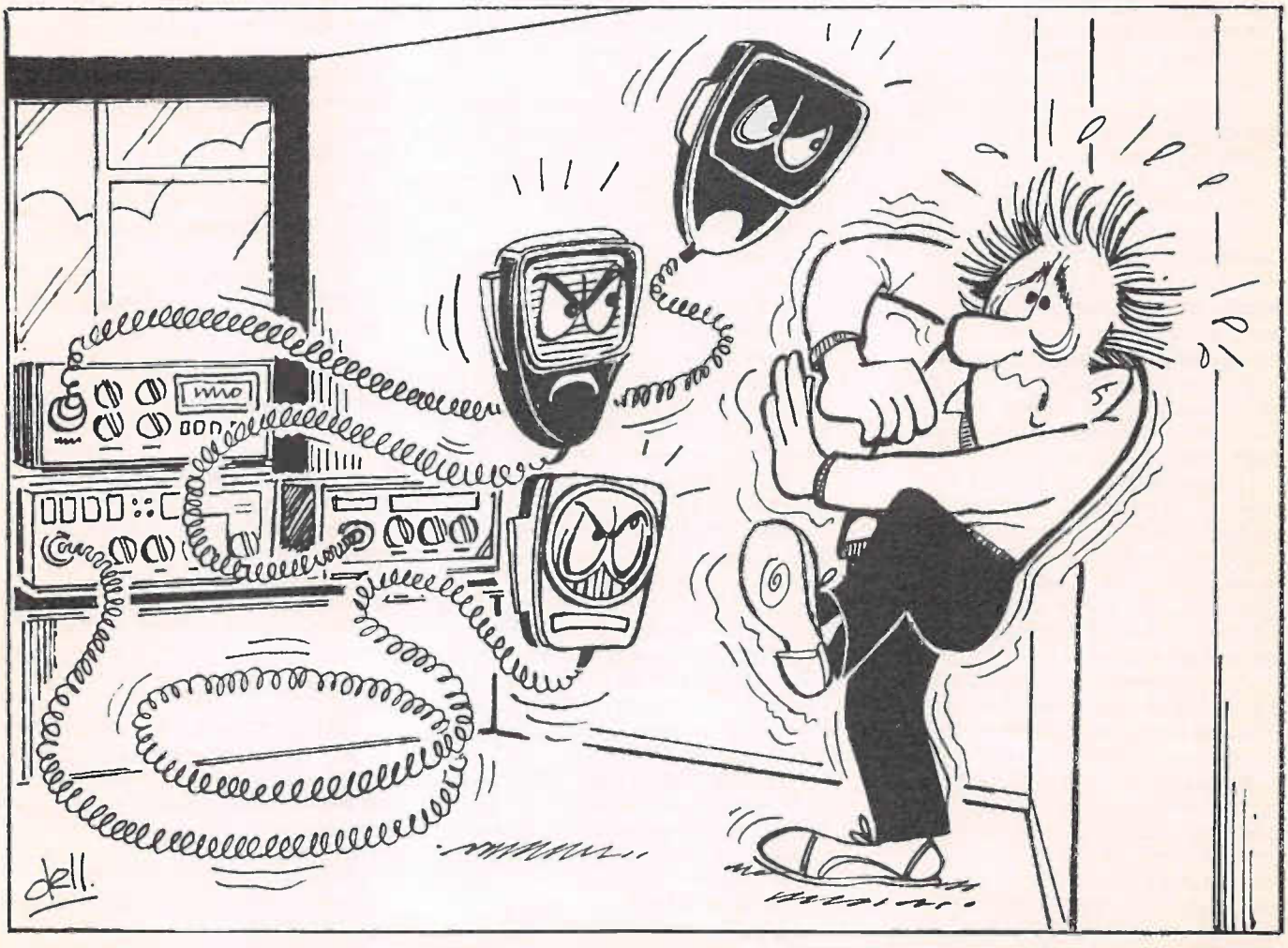
What exactly *is* mike fright? Maybe it's a fear of public speaking in a way. Maybe it's a fear of speaking to a total stranger. Maybe it's a fear of accidentally speaking to someone who actually *knows* you. Someone who may be likely to say, the following day, "Guess what so-and-so said last night; he made a right fool of himself."

Perhaps mike fright is just that; a fear of speaking into an actual microphone — you know, the things pop stars sing into. I mean, it would be a bit like getting on stage in front of hundreds of people, wouldn't it? In fact, a friend of mine, who plays a guitar and sings in a rock band doesn't mind singing into a microphone but it would take a dozen teams of wild horses to actually get him to *speak* into it. A similar form of mike fright.

In the case of CB, many people are afraid of sounding like an amateur ('amateur' as in 'amateur' not 'radio amateur'!) because they don't know the jargon — Good Buddy, Clean and Green etc. The answer to this is, simply, that you don't need to know the whole gamut of CB jargon to be able to converse over the air. Some people enjoy the somewhat elitist way of conversing in 'CB-speak.' To many it reflects back to the outlaw/cowboy days of pre-legalisation and its inherent glamour. The original idea, of course, was to be able to speak in a form of code to each other so that the speed cops would not be able to understand. Of course, this 'code' language did not work successfully for very long as the police soon twigged (no pun intended) the jargon. However, the lingo survived and is still in common usage today with the majority of CBers.

Sometimes it may even be a case of someone feeling they have nothing to say, even though they would like to join in a conversation. Whilst I think there is no point in waffling on about absolutely nothing (as many do), I think there is a case for just having a friendly — and I do mean *friendly* — natter even if it's only because you just feel lonely.

One thing that is fairly important if you *are* a little mike-shy is confidence. In other words, think before you speak so you know what you want to say and, more importantly, *how* to say it. There is nothing worse than listening to someone desperately struggling for the right words to get his message across. You know the sort of thing: "Yeah, breaker, that's a . . . er . . . a Ten . . . er . . . um . . . that's right . . . I mean . . ."



FRIGHT

perennial problem — nervousness

Before attempting a two-way conversation, it's a good idea to get to know your rig and its controls. Is the squelch too high? Is that why you're not getting anywhere? Of course, if you are a regular reader of this magazine, that shouldn't be a problem, should it? If you *are* unaware of how your rig operates, the best thing to do is to experiment. Try everything and ask other breakers how your transmission comes across. It all helps to build confidence, the most important ingredient. If you still have problems, why not simply plead ignorance and ask more experienced breakers? You will be surprised at how many people will be more than willing to help with advice on the air. After all, it's in their interests to help you as it will inevitably further the cause.

Many people are afraid to join in or start up a conversation because they don't know which channel they should be on. There are no strict rules about this but there are generally accepted procedures. Throughout most of the country, channel 14 is accepted as the 'breaking' channel — the channel generally recognised as the frequency on which you make initial contact, the accepted phrase being "One-four for a copy." Others use channel 19, although this is usually used as a mobile-to-mobile or truckers' channel. It depends where you are in the country. Different regions have chosen different channels as the calling channel. A good point to remember, however, is not to use channel 9 as a calling channel. As stated in the CB Code of Practice, this should be reserved for emergency calls only — similar to the nationwide 999 service for fire brigade, police and ambulance. Misusers of channel 9 are the bane of CB and can often hinder potentially life-saving calls.

Right, back to basics. The main thing to remember is to know what you are going to say, make sure what you are going to say is important, know *how* you are going to say it and say it clearly. On citizens' band radio, unfortunately, there is a plethora of people who tend to slur words together. For example, "Gissaninejewcopy?" is often the way "Give us (me) a nine. Do you copy?" is translated over the air. Try to think before you speak — and speak slowly if need be. There is no rush to get the sentence out. In fact, if you *do* rush, there's a danger of being incomprehensible to others.

If you are a little nervous about speaking into the dreaded microphone, a good tip is to try to forget you are not in eye-to-eye contact with the person you are speaking to. Try to pretend you are talking to your best friend sitting next to you. Speak naturally, as you normally would, and disregard the fact that you are talking into a piece of mechanical equipment.

It will seem strange and may be rather alien at first, but persevere. We promise you that it gets easier as you go and it's one of the more easier 'phobias' to overcome.

FACT OR FICTION?

Myths and legends abound in the world of CB. R. Shireby tackles a few

I have on many occasions heard breakers talk utter rubbish about some of CB's technicalities and as a PMR (private mobile radio) engineer, I will try to bring out the truth from these myths.

1) "How many pounds am I pushing you?
The 'S' reading for incoming signals on different rigs can be totally different and mean very little. According to my information, S9 means that a signal of 100uV is being received. To adjust the meter sensitivity to this figure, an expensive RF signal generator is required. Most CB shops do not have one, so they guess the setting. You can easily pay £16000 for this equipment.

Different makers calibrate S9 to other signals though, and some sets are said to have a 'lazy' or 'generous' needle. Transceivers with 'deaf' receivers are likely to be on the 'generous' side so that the receiver appears better than it really is.

If I calibrated *your* 'S' meter you might complain to me that you now had a 'Lazy' needle, but you would be wrong.

2) "I'm kicking out 9 Watts power"
A 'power' meter on a transmitter reads power output *relative* to the SWR of an aerial system. A 'power' meter is calibrated against a high quality RF power meter and a dummy load. A dummy load is used instead of an aerial and is a perfect match to the transmitter. If the power output reads as it should do with a power meter and dummy load (4 Watts), then the transceiver's power meter can also be set to read 4 Watts. When the transceiver is then connected to an aerial, if the aerial has an SWR of 1:1 (impossible), then the power meter will still read 4 Watts. If the SWR is about 1:1.5 then the power meter will read perhaps 7 Watts or even 2 Watts, but the rig is really giving out the full 4 Watts. Professional power meters cost about £250. Most CB sets can only give about 3.5 Watts; the highest I have ever seen gave out 7 Watts.

3) "My SWR is 1:1"
Even a dummy load isn't quite 1;1 but it is as near as you will get. If your SWR meter has just a PCB (printed circuit board) inside it, then it is cheap and inaccurate. The better 'CB type' SWR meters costing usually about £20 or more have a 'trough line' as well as a PCB. These are the best of the cheap SWR meters available for CB. A trough line looks like a metal bar with a connection at each end held in a metal 'trough'. Professional SWR meters cost over £100.

4) "I had a crystal filter fitted in my rig and I don't get as much 'bleedover'"
Most transceivers which have had crystal filters fitted afterwards are deaf. Sensitivity is lost because the person who fitted the crystal filter didn't know enough about termination impedance. I will not go deeply into this subject but you cannot take out a standard ceramic filter and directly replace it with a crystal type, as many components need to be changed. Sometimes an extra transistor amplifier stage has to be added. I do not fit crystal filters for people, as it works out too expensive. If a person wants a rig with a crystal filter, then buy one which has the filter factory fitted as standard. Some of these rigs are shown below:

Mobiles:
Maxcom 30E
Realistic TRC2003 remote
New Uniden 100
New Uniden 200

Bases:
New Uniden 300

Handhelds:
Realistic TRC1001
Realistic TRC1005
Realistic TRC1007

5) Mobile aerials
There is nothing better than an aerial on the roof of a car. A hole in the car is the very best type of mount. I personally have a boot-lip mount aerial because I don't practice what I preach, and I value my

car! To be truthful though, I have one of the few cars which it is impossible to have a roof mount aerial fitted. This is because the headlining is thick, solid plastic and not removable (the price to pay for Japanese reliability).

I have tried the Tandy range of aerials, the Les Wallen range (Modulator, etc.) the American 'Valor' range and currently have a Bantex 'Ranger' which unfortunately is not available from CB shops but to special order from most PMR dealers at about £40.

6) Base aerials

Now that the 7M height restriction has been lifted on base aerials, then there is nothing better than mounting your aerial as high as is safely possible, but remember that even base aerials may not be longer than 1.65M in length which means that 18ft dipoles, GPA27's, Sigma 4's and all those other big aerials are *illegal*. I have tried the 'Thunderpole' aerial and also the Les Wallen 'Super Saturn' both with great success.

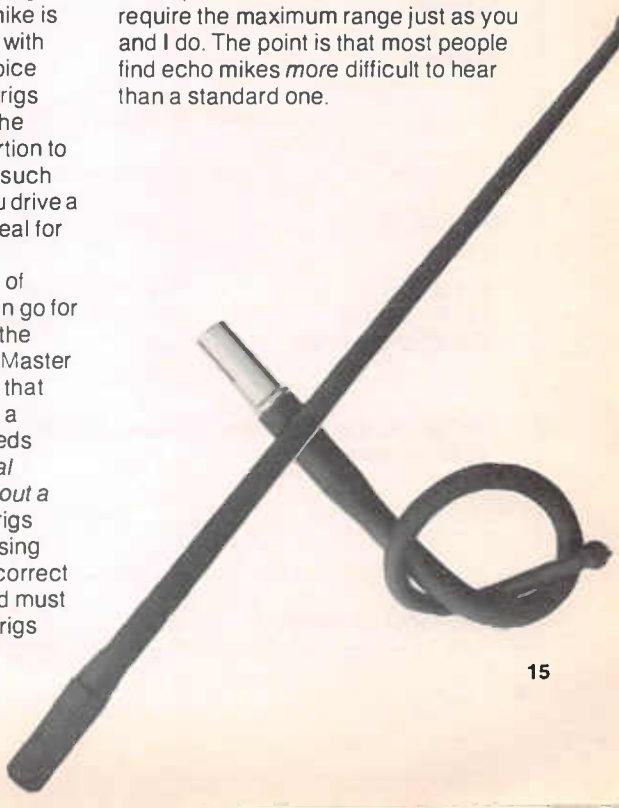
7) Handheld aerials

Contrary to popular belief, 'Rubber duck' type flexible, clip-on aerials do not perform as well as the long telescopic aerials fitted as standard to most handhelds. 'Rubber ducks' are fine for short range communications, or where the telescopic aerial would be too long to use (such as indoors). If you use a rubber duck because you have broken the telescopic aerial, then order a new one; they usually cost between £3 and £10.

8) Power/echo mikes

Most CB radios have sufficient mike gain for you to be heard, and the best mike is usually the one supplied originally with the rig. Power mikes amplify the voice before it reaches the rig and most rigs then cut it all back down again to the correct level and add a bit of distortion to the voice. Noise cancelling mikes such as the Realistic 21-1175 help if you drive a noisy vehicle, and are therefore ideal for lorry drivers, etc.

Base microphones are a matter of choice, but if you like the style, then go for a speech processor type such as the Turner Expander 500, or the Ham Master 4500 to name just two. If you think that your transmitter sounds quiet with a standard mike, then perhaps it needs servicing. *Do not adjust the internal deviation/modulation control without a deviation meter!* Every day I hear rigs which are over-deviating and causing bleedover to other breakers. The correct deviation level is about 2.5Kcs and must never ever exceed 2.5Kcs. Some rigs were factory set at 1.4Kcs, and these rigs do sound on the quiet side. A good deviation meter costs upwards of £400 Echo mikes are the most horrible devices ever invented. You will not find any radio amateurs using them, nor will you see the police, fire, ambulance service, bus drivers or taxi drivers using them. All these professional radio users still require the maximum range just as you and I do. The point is that most people find echo mikes *more* difficult to hear than a standard one.



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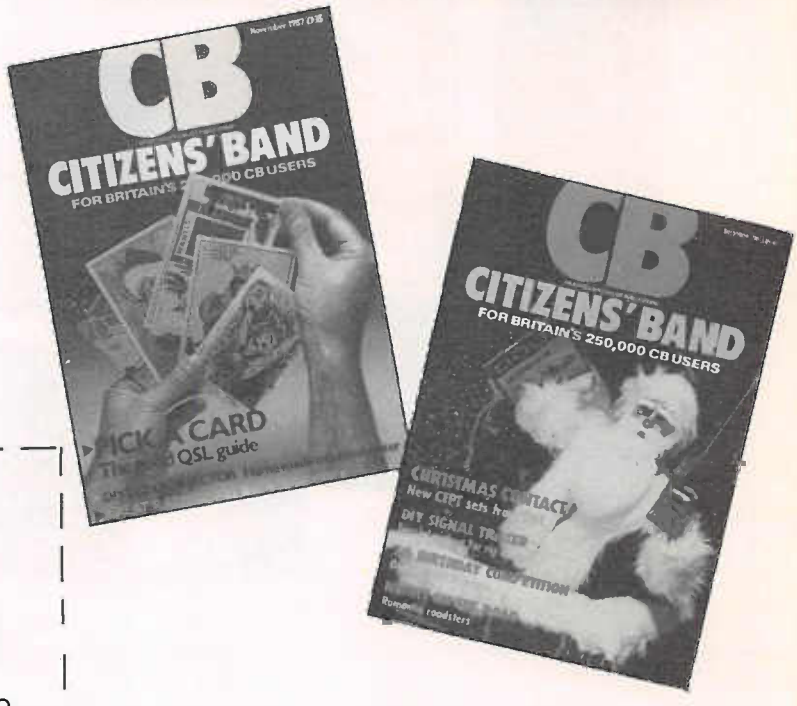

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COMMUNICATION THE QSL WAY

More names and addresses from QSLers all over the world, courtesy of David Shepherdson

This time I seem to have a lot of info about various clubs and the things that many of them are doing! Also, depending on just when you get hold of this issue,you may be getting ready to set off to Stanley for the 1988 "Big Meeting" there or, having been, you'll already know of a lot of what I want to get through this month! Confusing isn't it?

If you have been unable to get up to Stanley (or down, depending on where you live) then don't worry! Reading this might be considered the next best thing to actually being there, not as much fun, but a bit more peaceful! As I write this (well before the actual day) I've news that at least two new clubs will be launched at the Meeting, one called the Formula One Club (or Group, not sure which) and the other, the Blue Star QSL and DX Club. Now, I have the addresses for these new clubs but I've promised not to pass them on until after they are launched at Stanley, so I'll include them for you next month. The meeting itself is held at the Stanley Youth Centre in Stanley and is clearly signposted from the Chester-le-Street turnoff on the A1. There's no parking at the centre itself, so please use the Fine Fare car park by the roundabout, about 200 yards from the Centre; you can't miss it, even I can't! No alcohol is allowed in the centre and security staff will be on duty. There are refreshments inside and as the meeting is held inside, the weather isn't too important! Last year the sun shone so there was as much eyeballing done outside as there was in! Quite a difference from the first Meeting there; it snowed!

Once you've got there, look out for bargains. Many of the clubs will be

QSLer Addresses:

Charlie Cards	26 Edward St, Hartshorne, Burton-on-Trent, Staffs, DE11 7HG
Currie Cards	89 Derwent St, Blackhill, Consett, Co Durham, DH8 8LT
Ensign Cards	58b Market St, Ashby-de-la-Zouch, Leics.
POMA (Ray — UK Rep)	PO Box 106, Canterbury, Kent, CT1 3YN
Raymac Display	No. 2 Showfield Ind. Units, Pasture Lane Ind Est, Morton, North Yorks. (Send £2 for Sample pack & £4 credit towards order).
Scottish CB Newssheet	C/o 'Arnail,' Patison, Neilston, Glasgow, G78 3AT. One year's subscription £2.10.

offering club extras, memberships too at special prices so bring your pennies and don't forget your QSL cards 'cos there will be plenty to swop! For those of you with a problem with your rig, or if you want a new rig, look around, there's usually a couple of traders' stalls who will sell you anything at affordable prices! I will be there and will hopefully be able to meet as many of you as possible! I'll have a couple of new cards which I'll be very happy to swop with you so if you can make it, so come on and have a great day out.

If you can't make it to Stanley, how about trying for Southport in May, or perhaps Sheffield in June? I'm planning on doing my best to get to those at least this year. Come along and say "hi," make yourself known!

There are plenty more events all over the country right through until October, so there's no need to feel left out wherever you live! Among the Clubs at Stanley will be the Yorkshire ones of Gordon *(Disco Three)* which include Zulu Whiskey and Galaxy Group. Gordon has dropped me a line (or ten) to say that he can offer the opportunity to have your own name and address put on to your blank club cards for £3 per 100. All you have to do is send him the £3 and 100 of (quote) "your favourite blank cards" along with your name, handle and QSL address. Gordon will then personalise your cards and send them back within a few days. For any Galaxy members who haven't heard, the club now has four designs of full colour cards available for your own use at £6 per 100 and these can be personalised frmo £7.50 per 100. For details and samples please drop him a line with a SASE (Self Addressed Stamped Envelope).

Seeing how I've mentioned Gordon's overprinting and new cards, I think I can sneak in a mention for Dragonrider members too! The "Five Year" full colour club cards are available to members at £4.50 per 100 and can be personalised; don't tell Gordon, but I'll do it free. Just make sure I know your name, handle and QSL address and Dragonrider number and I'll do the rest! By the way, this only applies to the new Dragonrider cards, not your own. For those you'll have to drop Gordon a line. Also, by now I should have a further set of four "Dragon" club cards available. These will be £5 per 100 (25 each) and again can be personalised! If you are interested in information on either type, then drop me a line with SASE and ask for an order form and sample cards. I've also been told that the Currie Card Collectors Club can also offer personalised club cards. Again, a SASE and polite request will bring details I'm sure. Whilst just on the subject of meetings, please note that the Tango Papa Charity Eyeball and Evening of Entertainment which I've previously said will be on the 7th on May will in fact be on

QSL Services Addresses:

Steven *(Wells Fargo)*	PO Box 275, Uddingston, Glasgow, Scotland, G71 7HP
Audrey *(Twinkletoes)*	PO Box 6679, NL-3002 AR Rotterdam, Holland
Dave *(Knightrider)*	HM 20, PO Box 11, Hampton, Middlesex, TW12 2RL
Bill *(Vigilante)*	PO Box 13, Swansea, SA1 1YA, Wales
Fred *(Trouble)*	26 Malvern Crescent, Holly Hall, Dudley, DY2 0RZ
Ted *(Stones)*	MD 23, PO Box 387, Maldon, Essex, CM9 7PQ
Ellen *(Moneypenny)*	PO Box 23, Brentford, Middlesex, TW8 9NF
Boris Chuistov *(50 AT 380)*	PO Box 20, Yalta, Crimea, USSR

QSL Club Addresses:

Alpha Scorpio DX Int'	UK Rep: Ken, PO Box 17, Leicester, England
Currie Card	29 Morland Ave, Columbia, Washington,
Collectors Club	Tyne & Wear, NE38 7EA
Galaxy/Zulu Whiskey	PO Box 14, Brighouse, West Yorkshire, HD6 2SE
Swooping Hawk	27 Newell Hill, Tenby, Dyfed, Wales,
CB Club	SA70 8EN

When writing to any QSL club, always include return postage to assist with their reply! It does help.

has done this is Fred *(Neptune)* and I cannot find Fred's accompanying letter which I would hope shows his address so I can't pass it on! But how about this; the first QSL I've received from the Union of Soviet Socialist Republic from Boris *(50 A 380 or DR 3087)*. I don't think he has many actual QSL cards, but there are some super view cards coming out of Crimea these days! Well worth a QSL for a different swop, and for those of us who collect postage stamps, some of the Russian ones are very desirable.

As promised, there's just enough room for another "Browse Through a Club's Package," and this time the package under the ol' looking glass is that of the Alpha Scorpio of the Azores. Just a reminder here, this is not a "Club of the Month Slot" but a more detailed examination of a specific clubs' package.

the 14th of May! Although the Tango Papa's provisionally booked the Floral Hall last year, Southport Council in their wisdom(?) have hired the hall out for the entire week including the Saturday which has forced the Eyeball to be delayed one week! For those who intend going, the Floral Hall is on the Promenade and there is some parking around it, though as it is Council property, there is a charge made by the Council.

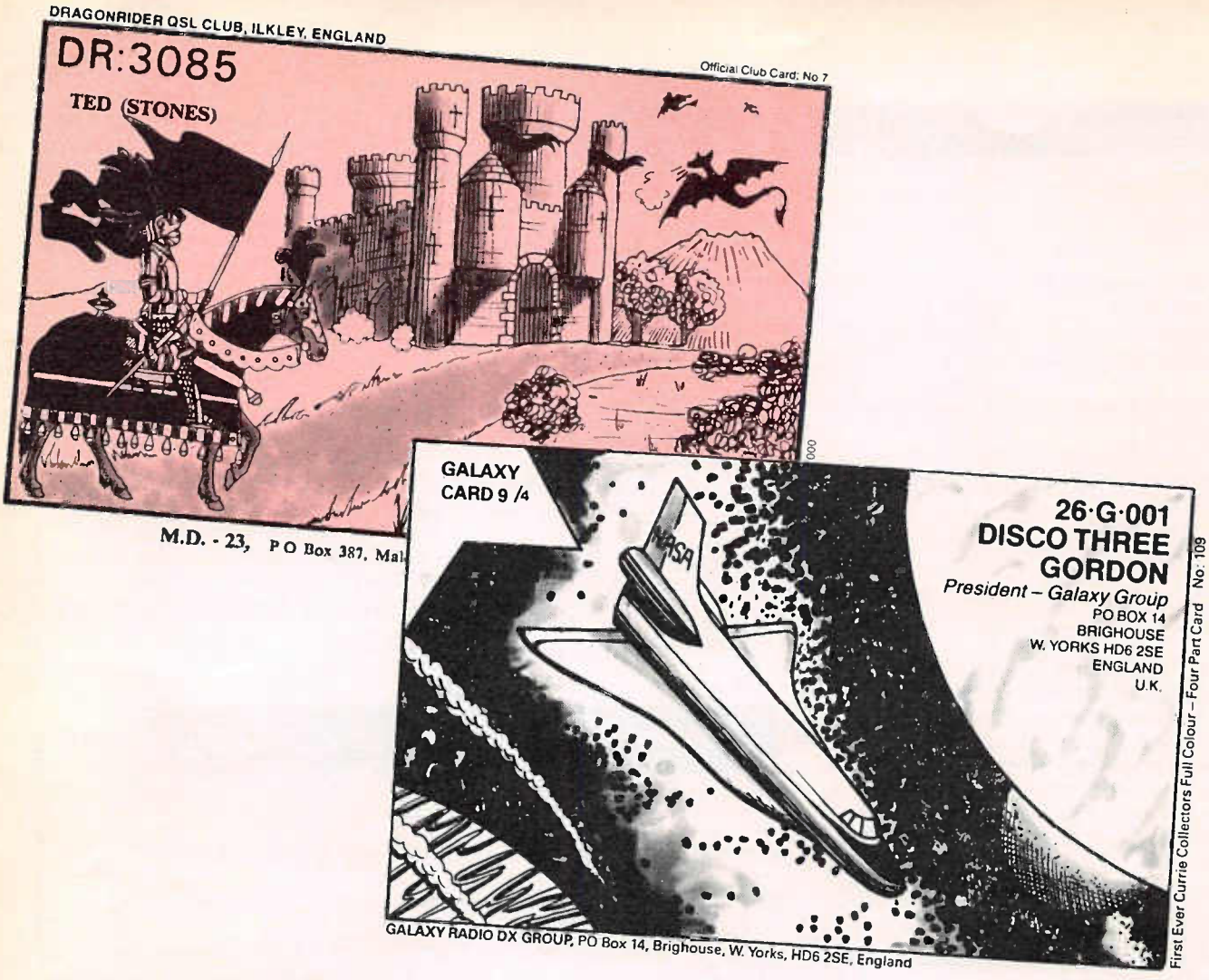
Moving on now with a couple of names and addresses then a few details about a local club who do a lot of good work for charity. To start off with there actually a few new addresses, starting with Steven *(Wells Fargo)* with PO Box 275, Uddington, Glasgow. Audrey *(Twinkletoes)* late of Redhill in Surrey is now at PO Box 6679, Rotterdam, Holland! Also news that the Swooping Hawk Club has moved, though still in Tenby, Wales. From Dave *(Knightrider)* comes the info that the Hotel Mike DX Group is still alive and kicking and always welcomes new members. Membership costs £4 and Dave can be contacted via the PO Box; sorry, but I don't have any details on what your £4 gets. A letter from Bill *(Vigilante)* of Wales has come my way with a request for a mention for him sometime and gives a few details of the Delta Club (Wales) which meets every Tuesday in a little place (his words) called Penllergaer. The Club started back in 1982 in an effort to raise money for disabled breakers in the area, and very successfully too. Bill welcomes QSLs from all over the world and says he will return to any sent.

A few more names now, then as I've about eight club packages awaiting review, time to fit one in this time. The first name here is that of Ted *(Stones)* of Maldon who has a varied selection of personal cards, from Ellen *(Moneypenny)* of Middlesex a number of her new cards, none of which show her return address! Come on now people, when you have a card done, please remember to put your address on them, otherwise they cannot be used as floaters. Someone else who

Forthcoming Events:

April 17th — Stanley Big Eyeball, Youth Centre, Stanley — 11am 'til 4pm.
May 1st — Birmingham Meeting — Contact: Phoenix DX Club, PO Box 592, Kings Norton, Birmingham, B38 8RW.
May 14th — Tango Papa Charity Event, Floral Hall, Southport — Contact: Tango Papa (83), PO Box 13, Southport, Lancs.
May 21st — Mike Alfa Eyeball, Three Rocks Holiday Centre, Ladram Bay — Contact: Mike Alfa, PO Box 3, Sidmouth, Devon, EX10 8TP.
May 21st — Kendal & District Charity Eyeball, Netherfield Football Club, Kendall (8pm 'til Midnight) — Contact Ian *(Winalot)*, PO Box 37, Kendal, Cumbria, LA9 6RJ.
June 5th — MAD Forest of Dean Meeting — Contact: MAD DX Club, PO Box 44, Aldershot, Hants.
June 11th — Nuneaton Carnival Day & Eyeball — Contact: Sylvia, 99 Bermuda Village, Nuneaton, Warks. CV10 7PW.
June 11 & 12 — Worthing DX Group Eyeball, Worthing Rugby Round — Contact: Stuart (WDX 1), PO Box 404, Worthing, BN14 7EB.
June 19th — Sheffield Charity Gala, British Steel Sports Ground, Sheffield — Contact: Derek, PO Box 275, Sheffield, S2 5HY.
June 25 & 26th — Firebirds Hastings POMA Meet — Contact: PO Box 9, Brighton, BN2 5HA.
June 26th — North Wales Breakers Eyeball, Nova Complex, Prestatyn — Contact: Derek *(Red Devil)*, PO Box 35, Prestatyn, Clwyd, LL19 9YH.
June 26th — Kilo Mike 1st Eyeball, Kirby Muxloe Sports Club, Kirby Muxloe — Contact: Adrian *(Gunga Din)*, PO Box 1, Kirby Muxloe.
July 17th — 6th Annual South Coast Eyeball, Portslade Community College — Contact: PO Box 161, Portslade, Sussex.
August 13 & 14th — 3rd Annual Eyeball, Old Vic Hotel, Wolverhampton — Contact: Ann, Trailblazers 001, PO Box 201, Wolverhampton, WV10 9HH.
August 27th-2nd — Big Eyeball, Barton Equestrian Centre — Contact: Tripe City Breakers, PO Box 14, Accrington, Lancs, BB5 6JL.

When writing for details on any of the above, don't forget a suitable SASE for the Club's reply. Also, should you send monies to book, don't forget a SASE if you require a receipt.



The Club is based in the Azores Islands which, if you are as vague as I was as to the location, is some 740 miles west of Portugal in the Atlantic Ocean. The basic package costs four US dollars and five or more personal QSL cards. For this, you get your Alpha Scorpio number, ID card, exchange QSLs, welcome letter and so on. Various extras are available such as club stamp, keyring, roster, QSL cards, newsletters and so on. The club also offers a *full* package for some 15 US dollars which is the one I'm examining.

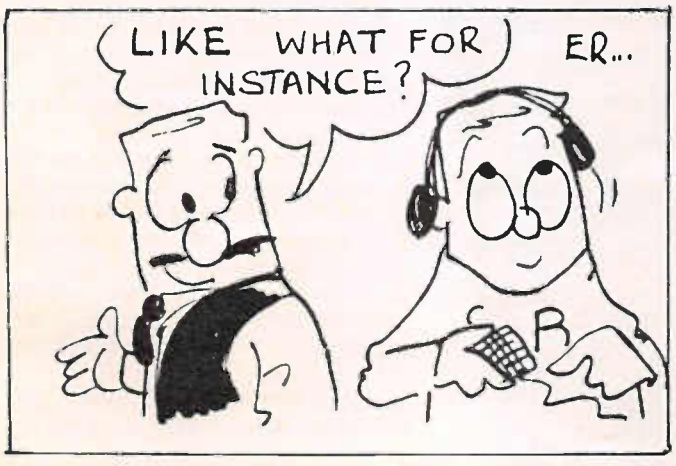
In the package which arrived in a well-packed and padded envelope you'll find your ID card giving your AS number, a bundle of textured club QSL cards (printed by Curries of the UK so you know that the quality is going to be good) a mounted club stamp and stickers by the score of various types overflow from the contents. A colourful keyring and a selection of viewcards from the Islands, a sheet of other club stickers, exchange QSLs, a bundle of 33 club invites for your consideration, a welcome letter, a NAC "Clubs to Avoid" list, a Q/RST codes sheet, copies of previous newsletters, with an option to subscribe to future issues, prefix list, two Certificates, tourist info of the Islands (in English!).

For anyone interested in joining this club, you would normally have to send your money and the club accepts cash only, to the Azores and I do recommend using Registered Post for this sort of thing. However, the club does have a UK Director who can enrol UK QSLers a lot quicker. As a special offer for readers of these pages, you can join this club for a reduced cost of £8 via the UK Director (Ken) quoting this mention within the next two months. Ken also has a supply of Club QSL cards for sale at £2.50 per 100 UK, postage paid.

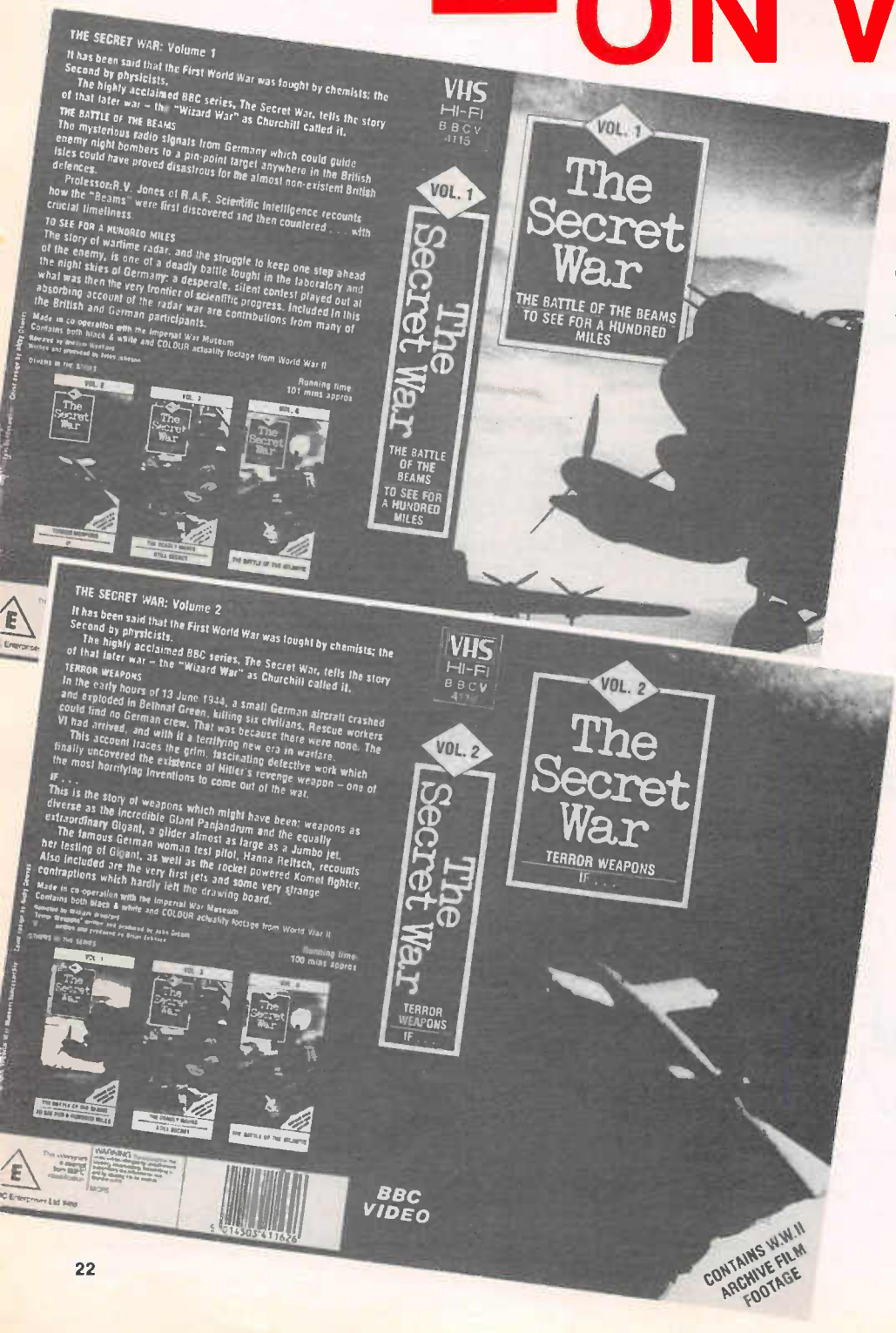
You may have noticed that there has been a slight change in the way the Forthcoming Events have been laid out. This is following on some comments that were made which had not occurred to me. This new way will, hopefully, fit in as many as possible but it does mean I can just give date, place and contact address.

That's it, out of room once more. If you want a mention then please drop me a line direct to: 3 Tarn Villas, Cowpasture Road, Ilkley, West Yorkshire, LS29 8RH. At the moment I'd suggest you send any such to my home address, not via the magazine. Any news of Forthcoming Events are always welcome, the sooner the better please and if you want a reply, then please don't forget a SASE or similar.

WIRES — by Mouse



RADIO ESPIONAGE —ON VIDEO



Citizens Band radio itself owes its origins to World War Two espionage, notably in US designed narrow-beam short-wave sets that could communicate with Allied aircraft flying overhead, without easy over-hearing by the enemy. Although a number of Hollywood movies have hinted at some of these radio marvels, only now has home video offered a major aspect of the story. A quartet of new BBC VHS video titles, and at a mere £9.99 each, relates some of the radio warfare and radar battles of World War Two. At that price, it is well worth raiding the piggy-bank or telling Grandpa he will have to put off getting that new pair of goloshes.

'The Battle of The Beams' recalls the Luftwaffe's plan of using dual tracking radio beams, from different sites, to create that triangular navigation effect, used by officialdom these days to find pirate radio operators. The Luftwaffe's idea was not entirely new, and similar techniques had been developed in the 1930s for 'blind landings'. But the Luftwaffe had some extra techniques built in, and these seemed likely to add to the effect of the Nazi bombing of these shores. However, we did have some occasional strokes of luck, like the Nazi bomber that landed in North Devon under the assumption that he was in Nazi occupied France (even the best of us have days like that). Operating procedures on board permitted the RAF to learn much more about 'the Beams'. Professor R.V. Jones of RAF Scientific Intelligence recalls the events, in this video programme which includes black/white and colour actuality footage from the time. Also in this same video package is 'To See For A Hundred Miles', the story of war-time radar, with recollections from those involved 'on both sides'. A fascinating story which

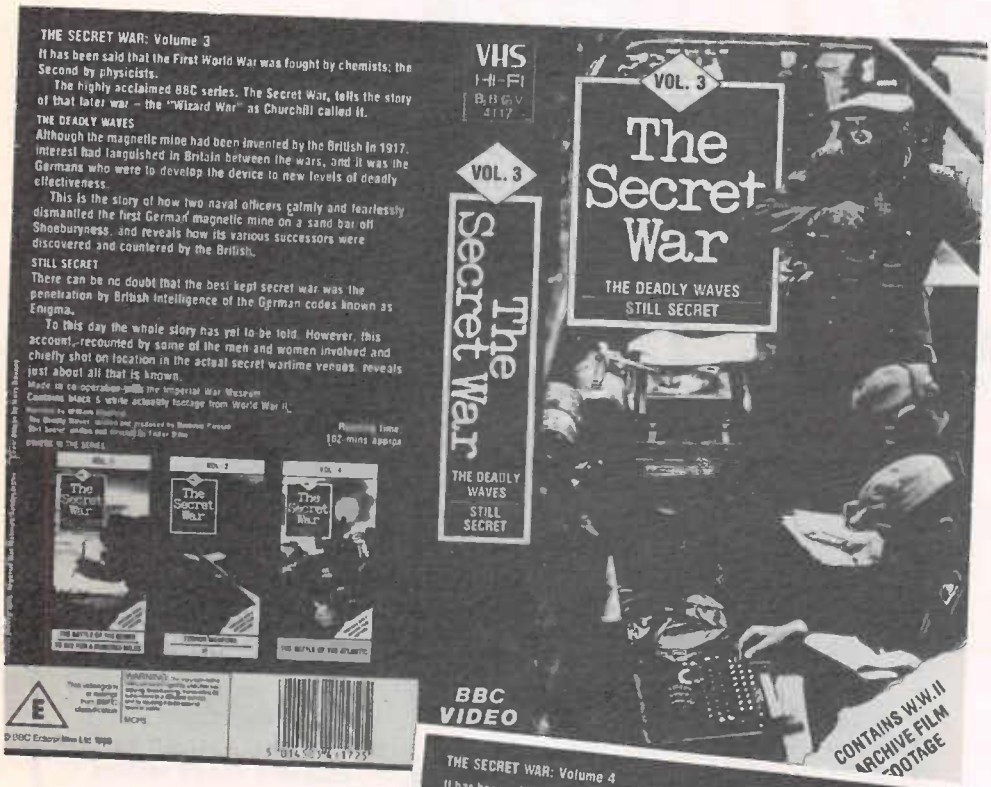
would reawaken all-but-forgotten decisions to study electronics at night school. (BBC Video V 4115, 101 minutes approx).

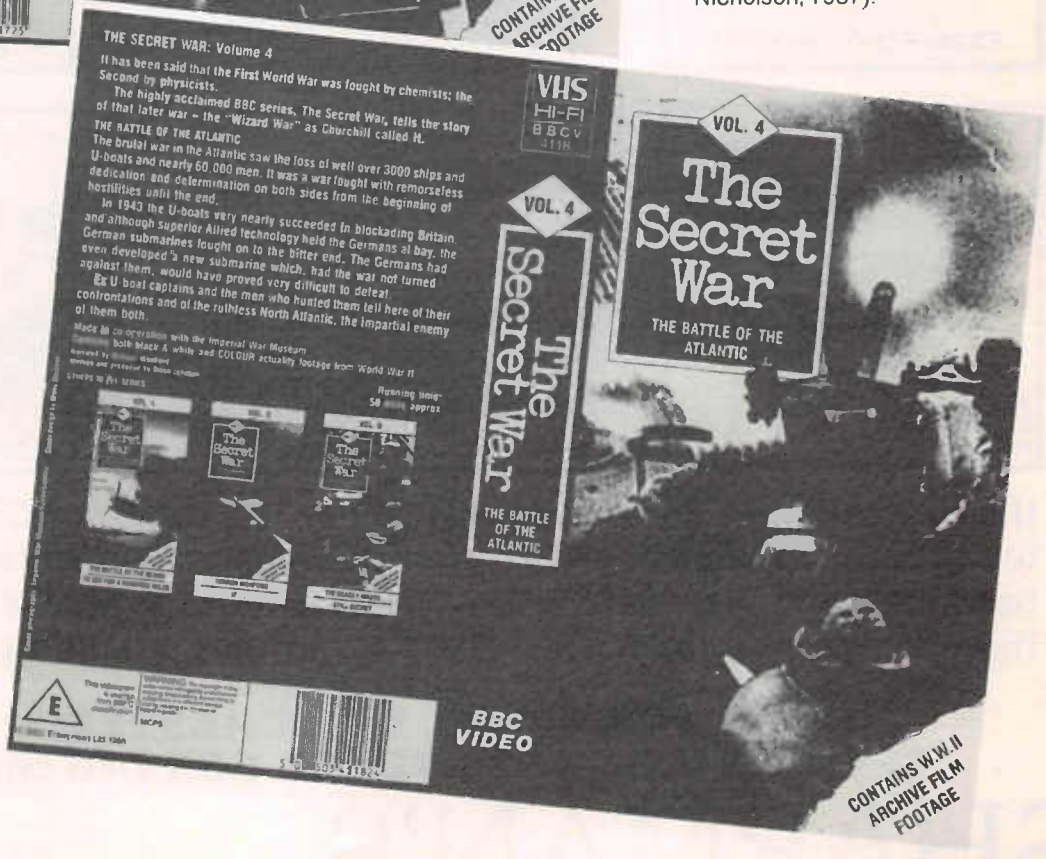
'Still Secret' is an outline of the German coding system known as Enigma, and how it was cracked by the Allies. Indeed, this whole affair is sometimes credited with curtailing the way by a couple of years (which if true means that we avoided the worst of the terror weapons being developed towards the end of the war). Possessing something of the appearance of a lashed-up typewriter, the Enigma Cypher Machine was a clever bag of tricks, theoretically providing complete security in view of its infinitite variations of coding. The British however, unravelled the Enigma mystery at Signals Intelligence, Bletchley Park in 1942, and not long afterwards the Russians grabbed hold of a neat Enigma machine collection at Stalingrad, before they could be destroyed.

The whole business of Enigma continues to fascinate writers, an article appearing in 'The Daily Telegraph' as recently as 20th January 1988. In this BBC Video some of those involved in the war-time work tell their story, the video being shot on location, where some of the major war-time work was done. It would be hard to think up a better thriller video, methinks. Coupled with 'Still Secret', 'The Deadly Waves' looks at the war use of electro-magnetic devices, developments of the magnetic mine, etc. originally invented by the Brits in 1917. (BBC Video V 4117, 102 minutes approx).

The remaining two titles have incidental interest, though are still worth seeing. 'Terror Weapons', the story of the V weapons (doodlebugs et al) can give you a creeping of the hairs on the back of you neck if you were around during the 1940-1944 bombing, but even more fascinating, and coupled with this, is 'If', a review of some of the monster weapons that were on the Nazi drawing board, and some that somehow got off it. (BBC Video V 4116, 100 minutes approx). 'The Battle of the Atlantic' recalls the fight for supremacy in the Atlantic (BBC Video V 4118, 50 minutes approx). All video titles have been made in co-operation with the Imperial War Museum, and were originally made for network television. These are 1988 video releases, narrated by William Woollard. The radio espionage titles mentioned here are first rate, worth mentioning to young CB operators as to what they might start using one day, if they keep their noses clean.

If, after you enjoy the videos, you want to know more, Professor R.V. Jones' absorbing book, 'Most Secret War' (Hamish Hamilton 1978) should fill the gap, together with the more recent 'GCHQ — The Secret Wireless War 1900 — 1986' by Nigel West (Weidenfield and Nicholson, 1987).





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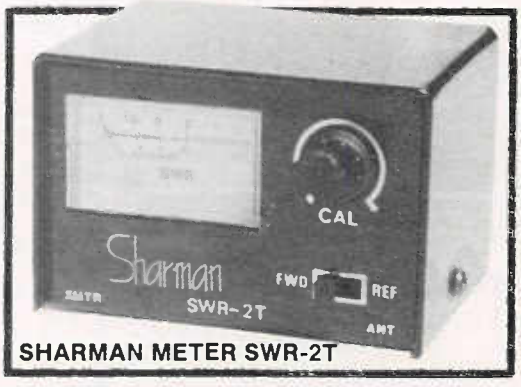

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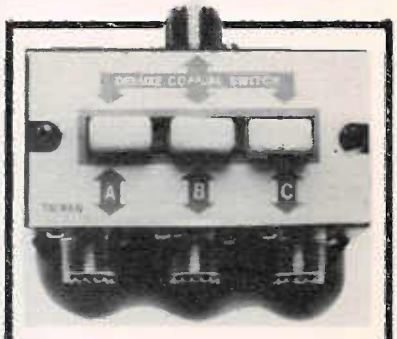

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CB QUIZ

As promised last month here's the moment of truth when you can see how much you've remembered from the last year with the quiz. There are no trick questions and all the answers are reasonably short; if you really get stuck, of course, you could look back to the appropriate issue but that's cheating! Good luck!

1. Transducers convert one form of energy to another. Name the two most important transducers used in a CB.

2. What name is given to the process of putting your voice onto a carrier wave?

3. (a) Name as many advantages of SSB over AM as you can.
   (b) Name as many disadvantages of SSB over AM as you can.

4. Referring to the block diagram of a simple AM transmitter in fig. 1, what is in box X?

5. Tuned-circuits are used extensively in radio equipment such as CB. What is the name given to the frequency to which any particular circuit is tuned?

Most modern receivers are of the superheterodyne type. What is the main advantage of this type of receiver?

7. In which stage of the superhet is most of the amplification applied to the signal and why?

8. Why do we use double-conversion superhets?

9. Referring to the amplifier in fig. 2:
   (a) What function do resistors R1 and R2 achieve?
   (b) What would be the effect of removing C3?

10. What class of operation (A, B, or C) would you expect a microphone preamplifier circuit to use?

11. Class C amplifiers are often employed as the RF power stage in FM transmitters. Why aren't they suitable for SSB?

12. Limiters are fitted to transmitters to prevent the modulation exceeding 100%. Why is it so important to prevent over-modulation?

Which part(s) of a typical CB circuit are responsible for the selectivity of the receiver?

14. What is AGC and why do we have it?

15. With regular carrier-operated squelch how does the circuit detect when to mute the receiver?

16. What is the name of the circuit shown in fig. 3?

17. Using the circuit of fig. 3 it would be possible to switch individual crystals for each channel. Why is this not seen in modern 40 channel radios?

18. What component is used in a VCO to enable the PLL device to change its frequency?

19. How do we change the frequency at which the VCO/PLL runs to select different channels?

20. Many earlier PLL circuits could be easily altered to allow operation outside of the allocated band. How is this prevented in newer radios?

21. (a) Most modern 40-channel sets have just one crystal oscillator in them. What frequency does this usually run at?
    (b) Apart from generating the reference for the PLL what other use is this signal?

22. Voltage regulators are often found inside sets to feed the oscillators. Why is this done?

23. What purpose does decoupling serve?

24. (a) In an FM transmitter how is the audio applied to the carrier?
    (b) Why doesn't the PLL counteract the frequency changes caused by FM modulation?

25. Name the three types of FM demodulator often found.

26. (a) In what type of radio would you find a balanced modulator?
    (b) What other component is required to generate that particular type of signal?

27. What is ALC and why is it used?

28. (a) Why do we use a BFO?
    (b) Where in the receiver is the BFO signal injected?

29. How does the clarifier control shift the receiver frequency?

30. How do we make sure the clarifier affects only the received frequency and not the transmitter as well?

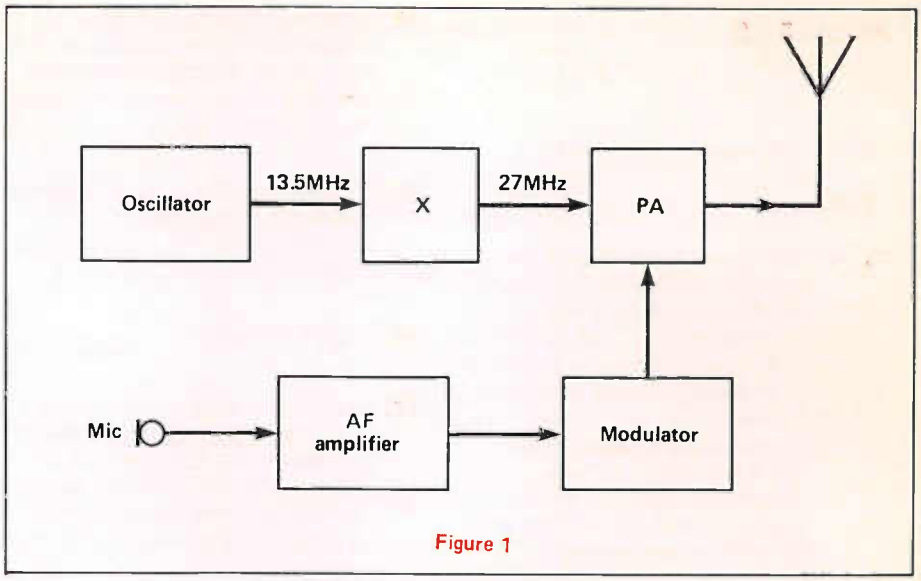


Figure 1

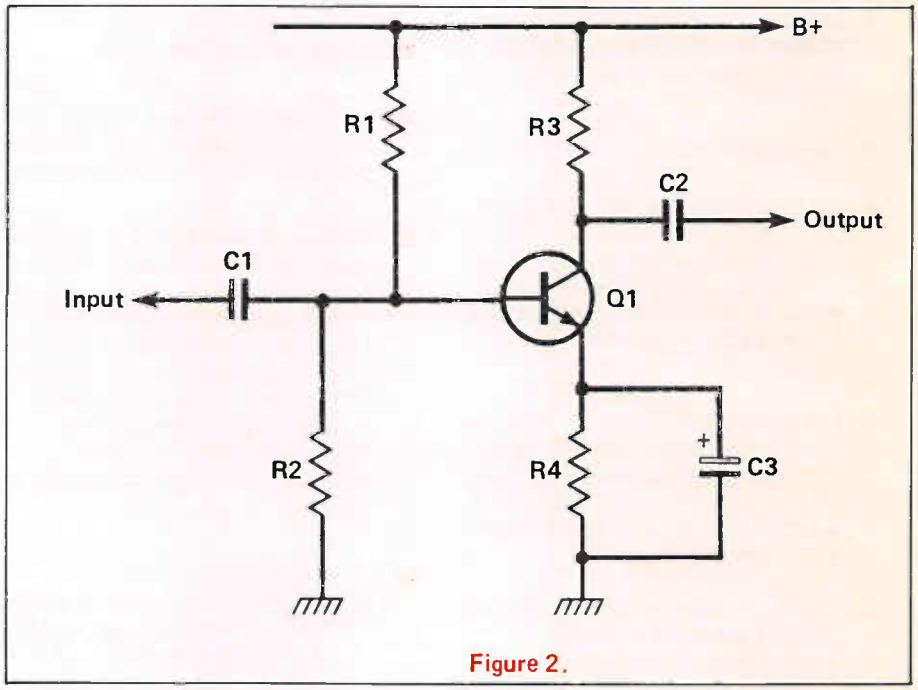


Figure 2.

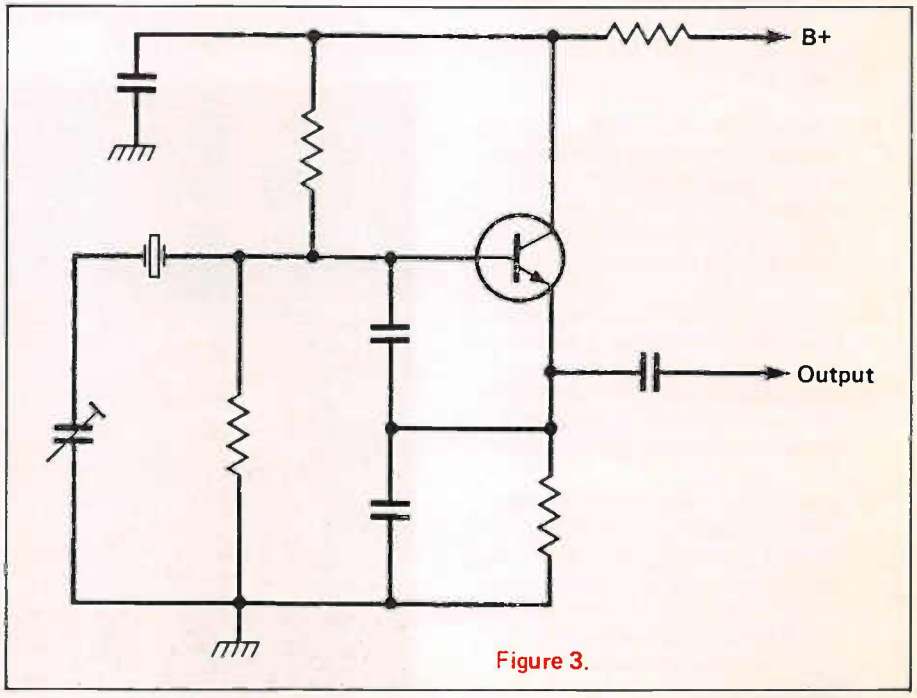


Figure 3.

ANSWERS

1. Microphone and loudspeaker.

2. Modulation.

3. (a) SSB makes more efficient use of power due to the lack of a carrier and no duplication of information in two sidebands; it also allows more users in any given band due to its greatly reduced bandwidth.
   (b) On the minus side, SSB requires careful tuning for acceptable results thus placing more demands on the user; the equipment is more complex and therefore more expensive.

4. Frequency multiplier, in this case a doubler. This stage would probably also provide some amplification of course.

5. Resonant-frequency.

6. Improved selectivity over TRF types.

7. The I.F. amplifier. It is easier to apply amplification at lower frequencies so the signal is converted down from 27MHz before most of the gain is applied.

8. The choice of I.F. frequency must be a compromise. The lower it is the easier it is to get good selectivity; the higher it is the easier it is to get good image rejection. Double-conversion gives us the best of both worlds.

9. (a) R1 and R2 provide a fixed bias on the base of the transistor.
   (b) Removing C3 would increase the negative feedback, thus lowering the gain of the amplifier.

10. Class A.

11. A class C amplifier is non-linear, i.e. its gain is not constant for different levels of input. With SSB the signal is modulated before the power amplifier stage so to prevent distortion the final RF amp. must be linear.

12. Over-modulation causes the signal to be distorted at the distant receiver and also causes splatter onto adjacent channels and quite often frequencies far removed from the CB band, giving rise to interference to other services.

13. Mostly the I.F. filter(s) and tuned-circuits. These achieve selectivity against close signals interfering such as from a couple of channels away. The tuned circuits in the RF amplifier and input to the first mixer prevent signals at image frequencies from being received.

14. Automatic Gain Control. AGC ensures that, as far as possible, the signal at the detector remains at a constant level by varying the gain of the preceeding stages.

15. The AGC line has a DC voltage that varies with the strength of the incoming signal. The squelch circuitry is wired into this line.

16. Colpitts oscillator.

17. Just to transmit on 40 channels would require 40 separate crystals which is very expensive. To receive as well would require at least 80 crystals in all, the total cost probably being more than the rest of the main circuit-board put together!

18. A varactor or varicap diode.

19. By changing the digital signals fed to the programmable divider. This in turn drives the loop to its new frequency.

20. Firstly loop mixers were removed as PLL I.C.s became capable of handling higher frequencies directly. This left just the programming to change channels. The introduction of ROM (Read-Only Memory) PLL devices meant that only the frequencies programmed into the device at manufacturing time could be selected, even with invalid codes on the input.

21. (a) 10.240MHz.
   (b) It is commonly used to downmix in the receiver from the first I.F. of 10.695MHz to the second I.F. of 455kHz. In some older-design sets it may also be doubled to use as a loop mixing signal.

22. A slight change in supply voltage can often cause a shift in the frequency of operation. Oscillators therefore require a more stable supply than many other parts of the transceiver.

23. It prevents two or more stages interacting with each other due to signals being coupled back through the supply lines.

24. (a) By using a varicap diode in the VCO and connecting the audio stages to it.
   (b) The low-pass filter between the output of the phase-detector and the VCO allows corrections only for longer term variations in frequency.

25. Ratio detector, discriminator, quadrature.

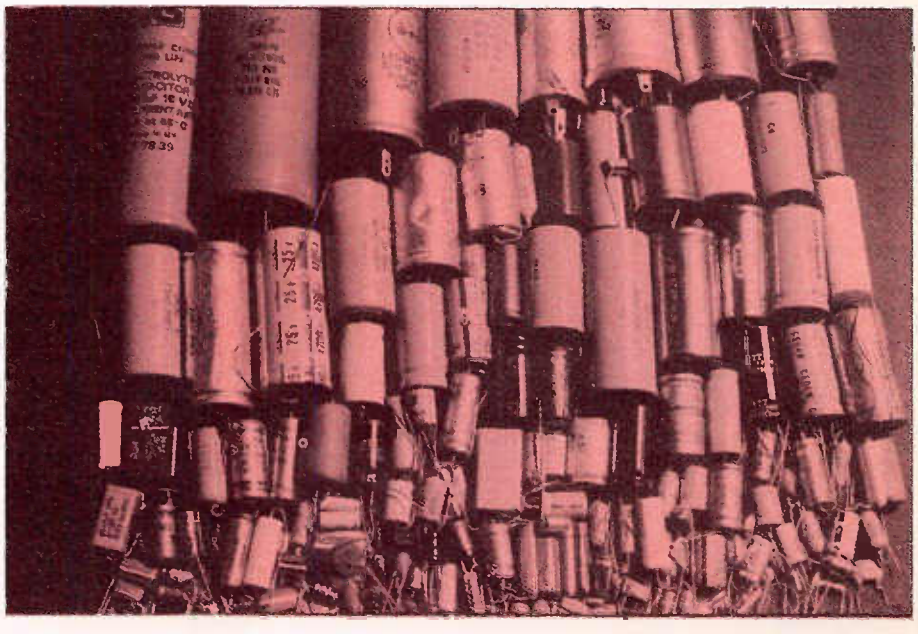
26. (a) An SSB type radio.
   (b) A crystal filter. The output of the balanced modulator is suppressed-carrier double-sideband. The filter is used to remove one sideband.

27. Automatic Level Control. Applied to SSB this ensures that the RF output never tries to exceed the maximum output of the amplifier stage. This would result in "flat-topping" causing distortion and interference to other users.

28. (a) To re-insert the carrier to receive an SSB signal.
   (b) At the detector, just following the output from the last I.F. stage.

29. By applying a DC voltage to a varicap diode placed in an oscillator, often the loop mixing section.

30. Diode gates are used to override the clarifier during transmission. Older sets may use relay contacts to do this.

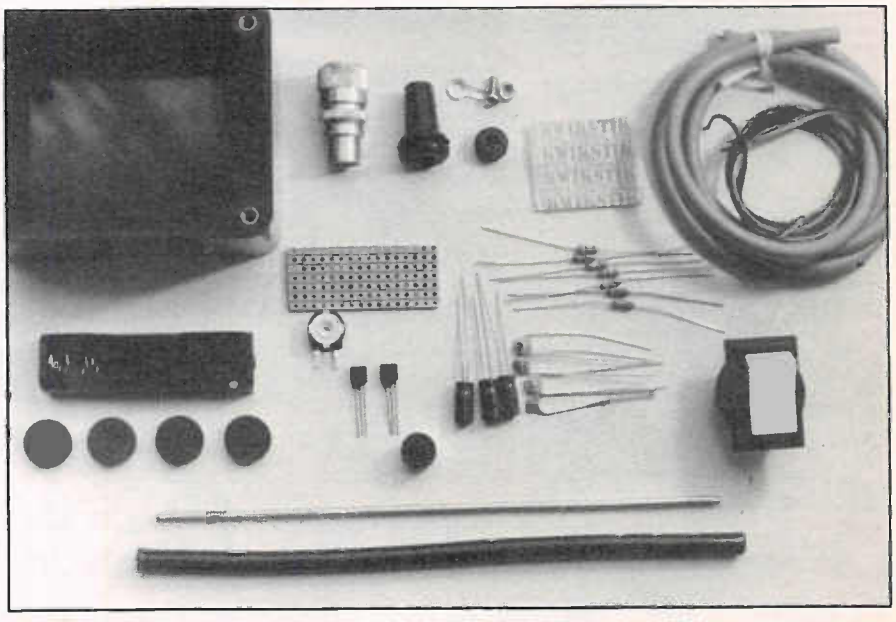



JOHN RICHARDSON
TWONG
SEE THIS GUY! HE A GODLING! HE FELL OUT WITH HEAVEN 'COS HE'S DEEF, ALSO 'COS HE DUMB, ALSO 'COS HE LEAVED OUT TOO FAR OVER THE EDGE!!
BUT NOW, HE DOWN HERE WITH US.. WOTSMORE..
..HE GOT TWONGY EARS THAT CAN PICK UP C.B. ON ALL CHANNELS!.. WOTSMORE.. HE CAN SEND ON ALL CHANNELS!.. WOTSMORE.. HE REAL NIEVE, HE DON'T KNOW FROM BOO! WOTSMORE.. THAT'S SHANKS'S BEAR COMIN' IN THE BACK DOOR!!
ELLO ELLO ELLO! GOT A RIGHT TWONEY 'ERE!
RIGHT THEN! FREEZE, YOU TRANSVESTITE HIPPY GIT!
WOT'S YOUR NAME?
WHY'S MY RADIO KEEP GOIN' 'TWONG'?
C'MON, YOU! WOTS YOUR 'KIN NAME, EH?!
BZZT
TWONG
FOR THE LAST TIME, WOTS YOUR...
ACK!
STRAIN
SNAP
TWONG!
BEEP BEEP
HERO
AND SO ALL THE LOCAL CEEBIES TAKE OUR HERO TO THEIR HEARTS AND CARRY HIM OFF TO A SECRET EYEBALL...
10-4
..WHERE THEY GAVE HIM ADVICE.. AND FAGS.. AND INFORMATION... AND INSTRUCTION... AND NEWCASTLE BROON ALE... AND A LITTLE BOOK BY RICHARD NICHOLS, CALLED C.B. RADIO...
KIN GOOD THIS
MUP
C.B.
BREAKER
GOOD BUDDY
27MHz
10-4
NEGATORY
...WHICH HE THOUGHT WAS DELICIOUS, AN' THEY GAVE HIM THE Q-CODE... THE TEN CODE.. AN' SOME MORE NEWCASTLE BROWN... AN'... AN'.. EVERYTHIN'!!
'KIN AMBROWN
BY GEORGE!! WE THINK HE'S GOT IT!!
SETTA KNACKA LIGHT
SUDDENLY, OUR HERO GOES INTO ACTION, HIS BRAIN BURSTING WITH NEW C.B. KNOWLEDGE...
TWONGAAAAH!!
PHW
ACK
KIN EH
...HIS BLADDER BURSTING WITH NEWCASTLE BROWN..
GENTS
TWONGAAAH!!
KRUMP
DIDDABUM DIDDABUM
FOR MANY DAYS, TWONG SITS IN CONTEMPLATION OF THE MAGIC VOICES ON THE ETHER... NOT TO MENTION THE METHANE...
BIP
...BUT THEN ONE VOICE IN PARTICULAR REACHES THROUGH EA...UM...THINGS!
MAH! LOOKIT THIS GOLDILOCKS SON, LETS AVE SOME FUN!
10-4, DAD
MAYDAY
BREAKER, BREAKER! MAYDAY, MAYDAY! HELP! SOME GUY IS TRYING TO TRUCK ME! HELP! MAYDAY, MAYDAY!
HAH! SOUNDS LIKE A JOB FOR...
...BATMAN OR SUPER C.C. OR ONE OF THEM TYPE GUYS!
SHLUP
NEWCASTLE BROON ALE
SOON OUR HERO RUNS OUT OF PATIENCE, AND WITH A GREAT LEAP IS ON HIS WAY...
KIN RACKET
MAYDAY
MAYDAY
MAYDAY
MAYDAY
..ON HIS WAY TO THE OFF-LICENCE THAT IS, 'COS HE'S ALSO RUN OUT OF BOOZE!!
MAYDAY! MAYDAY! HALP! BWAH! SAVE ME! MY HERO! HELP! HALP! MAYDAY! BWAH!
HE COME
C'MON, SON! DADDY'S GONNA SHOW YOU A COW NOW
WITH UNERRING ACCURACY OUR HERO HOMES IN ON THE SOURCE OF THE PROBLEM!
FROM
ACK!
TEK THAT
POK!
SPLE
KIN ELL
BACK IN DA CAB SON WE'VE BEEN GRAMMED!
AND SO OUR HERO COMPLETES HIS FIRST MISSION, AND ANOTHER TANKER OF NEWCASTLE BROWN ALE CONTINUES UNDELAYED TO SLAKE THE DRY THROATS OF ALL US C.B FREAKS! HAH!!
TWONG
C.B. TRIUMPHS AGAIN!!
NEWCASTLE ALES
PUT THE HAMMER DOWN, DAD!
BIG 10-4 ON THAT, SON

DIY BASE MIKE

Vic Brown comes up with a home project for a base mike

The base microphone about to be described is the result of the writer's conviction that a good quality unit should be able to be built as a do-it-yourself effort at reasonable cost. Several circuits were derived from those used in existing microphones, but using these with standard dynamic and crystal inserts did not seem any better than the questionable quality of the "power" hand-microphone. At this time an old tape recorder which had an electret condenser type microphone insert fitted was given to me, and as the motor was non-operative, the insert was removed and it was decided to experiment with this using the best of the circuits previously tried. With a couple of alterations and additions a working microphone was put together, 'breadboard' fashion, and was tried out with local breakers with very good reports. It was then fitted into a plastic box and a crude base unit was formed. This was then tested by my good friends Tom *(King Edward)* and Sue *(Golden Wonder)* who have a Silver Eagle microphone. The local breakers who were familiar with the quality of their signal were asked which microphone was being used, but found it difficult to tell. It was then given to a Sheppey breaker friend *(Fisherman)*, also an Eagle owner, with similar results in Kent. The microphone has been tried on a large number of rigs, with Cybernet and Uniden boards; on amateur rigs by Yaesu, Trio, FDK etc., and on PR27GB CEPT rigs — Satcom, Uniden and Zodiac — all with excellent results, so it has good compatibility. All parts are easily obtainable, but to save shopping around, the writer will do a full kit including the ABS box — (undrilled), so that only a microphone connector and a 1.5v AA battery will be needed. The tools required are the usual soldering iron — with small bit, hand drill and a few drill bits, cutters etc., which most enthusiasts will already have to hand. So now we will start with the amplifier.



Amplifier Construction

Prepare a piece of .1 veroboard with 16 holes lengthwise (tracks also lengthwise) by 7 holes width. With the plain side upwards, lightly file the top right hand corner as a means of position identification (Fig. 1A). Turn the board over to the copper track side (Fig. 1B), and with the identification at bottom right-hand corner, using either a veroboard cutter or suitable drill, break the track at the seven points shown, i.e. 5F, 6C, 9E, 10B, 10C, 10D, 13C, making sure that the tracks are completely parted, and then turn the board plain side up again. Take resistor R1 and fit it horizontally on the board from point C2 to G2, and solder. Cut off the surplus wire and use this for the two links, one from LA to 1F, the other from D13 to F13, and solder in position, cutting off any surplus. The remaining resistors are all mounted vertically as are all the capacitors, in the appropriate holes. The rundown of this is shown on the board in Fig. 1.

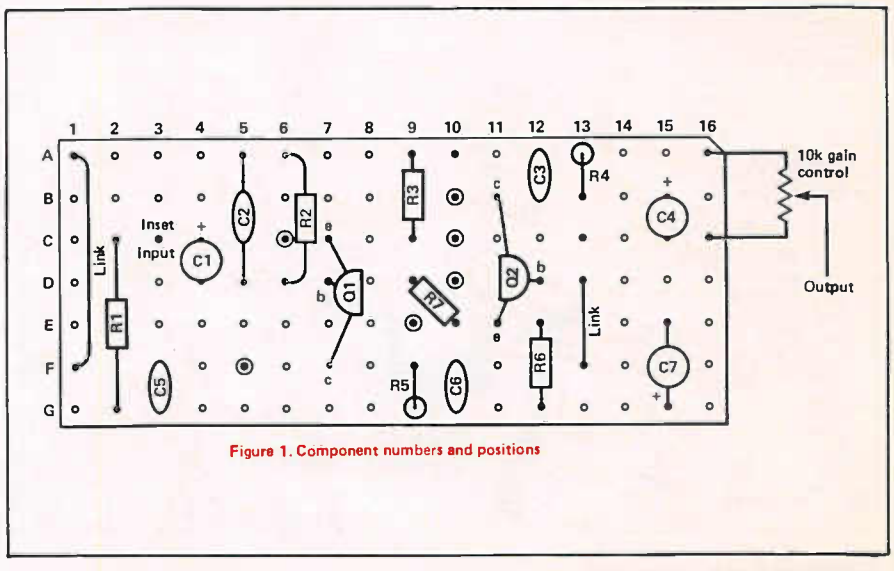


Figure 1. Component numbers and positions

Take care with C1, C4 and C7 with regard to the polarity and C7 has to 'jump' one hole so it will be a little above the board, and the other four capacitors can stand 3mm proud of it also.

When the 14 components are all fitted and checked, the two transistors (T1 and T2) can be fitted, with the leads around 6mm above the board. Again, these are shown on Fig. 1A, and on the listing but make sure that the right transistor is fitted to each position and that the two 'flats' face each other towards the centre. With all components, solder as quickly as possible, ensuring that the solder flows across the component wire, leaving a tidy joint. Cut off all surplus ends.

Cut a piece of the black wire 80mm long and strip off the insulation both ends about 3mm. A tip on stripping plastic wire is to use the iron to melt the plastic at the 3mm point and then pull the surplus plastic with the fingernails while it is still warm. This bares the wire without any chance that it will be cut or weakened, as when a knife or other means are used. Push this wire through hole 14A, bend it over and solder it. Tin the other end of the wire by placing the hot tip against the end and feeding a small amount of solder onto it. The final component to fit is the 10K pre-set gain control, which is fitted as follows.

Take the control and bend the centre connection as shown in Fig. 3, to be at right angles to the other two contacts, with the two other connections towards you, and the centre connection facing downwards. Cut off 2mm of the left-hand tag. With the board copper track upwards the two tags are soldered direct to the copper track, over the identification corner, with the body of the control resting against the veroboard (Fig. 3). An alternative gain control that can be adjusted with a knob on the top panel will be shown later, and if this is more suitable to your requirements, do not fit the preset as above, but leave the board as it is for now.

Finally, check that holes 3C and 16G are clear, as wires will be fitted to these points during the final wiring.

The completes the amplifier.

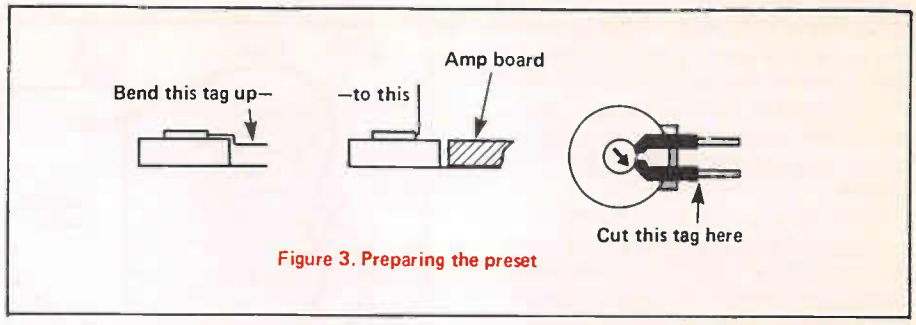


Figure 3. Preparing the preset

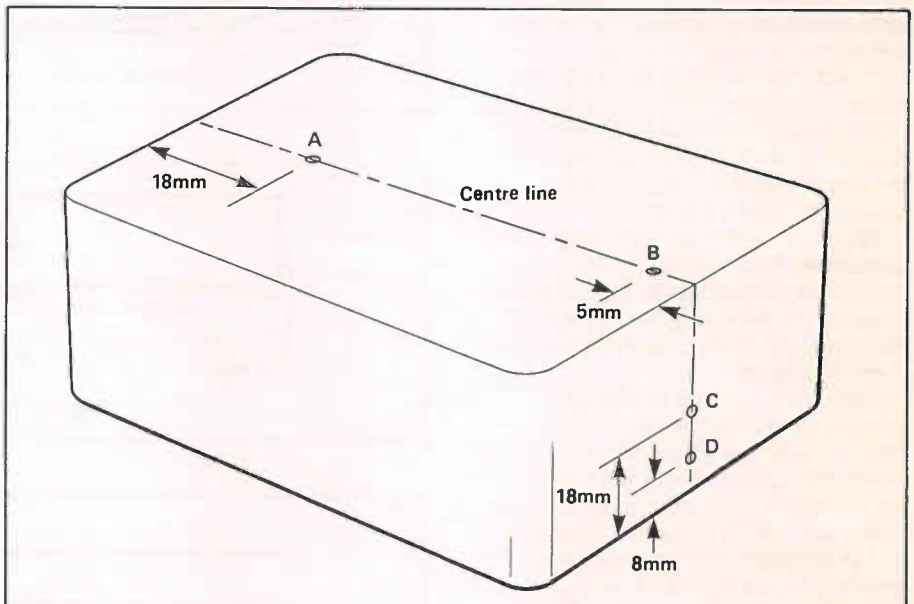


Figure 4. Box hole positions

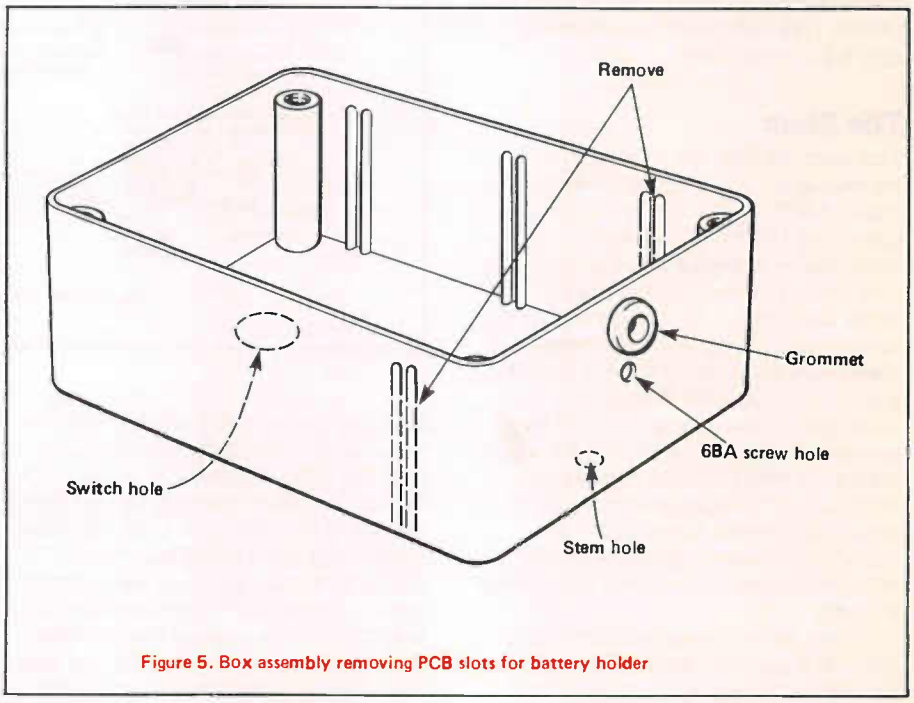


Figure 5. Box assembly removing PCB slots for battery holder

Box Preparation

Take the ABS box and remove the base plate and the four screws inside. Handle the box carefully as it is easily marked with rough handling, spoiling its presentation. Refer to Fig. 4 which shows the position of the four initial holes that are to be drilled with a 6BA clearance drill. (A-B-C-D). All these holes are on a centre line across the box. Hole A is the centre of the switch hole which needs to be 18mm in diameter. As you may not have a suitable cutter for this, if you have a ½p coin and place this centrally over the hole, by 'drawing' around this with the point of a pin you will have a slightly undersized mark to work to. Drill out the small hole with a ⅜ or larger drill and then using a round file or a Stanley knife, carefully remove the plastic to the marked hole. Using the switch as a guide, continue to enlarge the hole until the switch just drops in. *Do not* fit the switch at this time. Two of the other holes have to be enlarged to 6mm, (B and D), as shown on Fig. 4, one for the cable grommet and one for the microphone stem. Fit the 6mm grommet into the hole, the other hole, C, is left as it is.

Next, take the box and, using a sharp

wood chisel or a Stanley knife, chisel out about 20mm of the twin PCB slots in the box at the end which has the grommet, to make room for the battery box (Fig. 5). (See alternative method 2 suggested later). If this method is used then the battery box should be prepared as follows:-

Cut 100mm of black and 80mm of orange wire and strip 9mm of insulation from one end of each colour, and 3mm off the remaining ends. Take the battery box and fold over the solder tag on each end, pressing it firmly into the recess to keep the length of the box to a minimum without the tags protruding. Quickly tin both ends, as the plastic is the type that melts quickly, and then tin the 9mm ends of both wires. Solder the wires as in Fig. 7 so that only the bare wire rests against the end of the battery box, not the insulation, to save space.

Fit one of the double-sided pads to the underside of the box and set the box in position at the opposite end to the switch hole, resting the side of the box against the screw pillars and then pressing down firmly into place.

The switch can now be fitted, so remove the nut, washer and rubber washer. Note that where the thread meets the top plate, there is a small locator that is not required. Break this off either with a knife or file, making sure that it is all removed. Insert the switch into the hole, put on first the rubber washer, then the metal and finally the nut. Hold the switch in position across the front of the box, the narrow side, and tighten the nut sufficiently to hold the switch firmly, but not too tightly, as both nut and switch are plastic. This ends the box preparation until the stem is fitted.

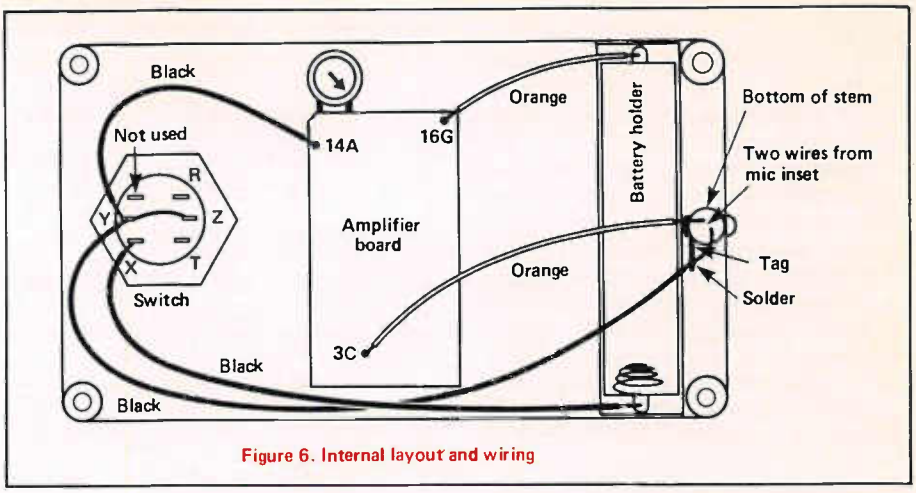


Figure 6. Internal layout and wiring

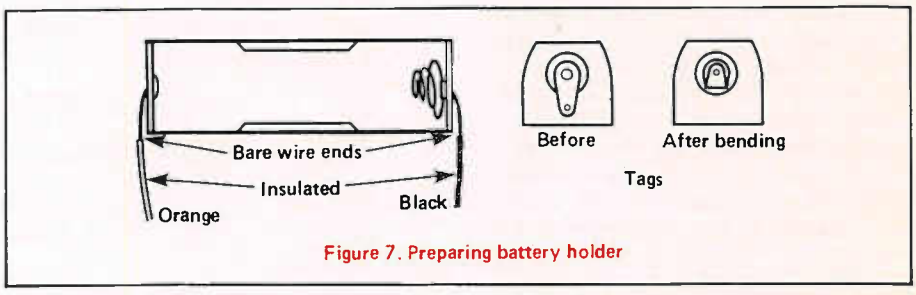


Figure 7. Preparing battery holder

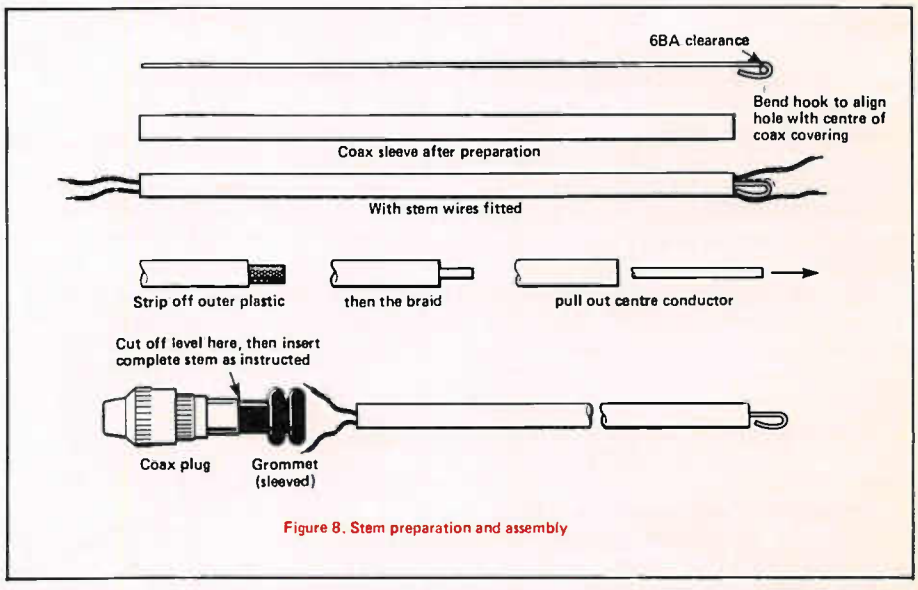


Figure 8. Stem preparation and assembly

The Stem

This uses the ever-handy wire coat hanger, about 2.5mm thick, as the main support, and a piece of black coaxial cable. Cut 150mm of coat hanger, choosing as straight a piece as possible, and fold over about 11mm to form a 'hook' as shown in Fig. 8. This should be able to pass through the stem hole in the plastic box, so squeeze it with a pair of pliers until it just slips through. Place the hook against the support, with the hook positioned as shown, and then drill a 6BA clearance hole carefully, making sure that the hook is facing as shown, as this will enable the drill to keep the hook closed as it breaks through otherwise it will force it open and possibly break off at the hole.

Take a piece of standard black coax cable and cut it to 160mm length and cut through the plastic and braid for about 10mm from one end exposing the inner plastic covered conductor (Fig. 8A). Now place the coax against the metal stem and measure it from the top of the hook to the end of the wire and cut off the surplus cable. Holding the coax lightly, pull out the centre conductor complete and put the outer casing down with the end that the inner was withdrawn from towards you. Cut 190mm black wire, and 230mm orange wire, and insert both about 25mm into the hole in the coax. Check that the unbent end of the metal stem is not sharp, as this will catch on the braiding, and if it is, then file it to a rounded finish. Insert this into the coax a few mm and then keeping the two wires and the stem untwisted, feed the three lengths right through until the stem has reached the hook, leaving this exposed. Pull each wire individually so that 25mm of each wire protrudes out of the stem.

Next, take the coaxial plug and the sleeved grommet, remove the screwed ring and the centre contact and the metal grip from the plug, and insert the sleeve section of the grommet into the small aperture for about 10mm and then cut off the protruding grommet with a Stanley knife level with the end.

Wet the small end of the stem slightly and push this and the wires into the grommetted coax plug about 7mm, using a twisting action. Cut or pull back the protruding wires so that they are 8mm clear of the plug and remove 2mm of insulation (Fig. 8B), and tin both connections. Solder these to the microphone insert, making sure that the joint is made quickly and that the black goes to the connection that is shorted to the insert case (Fig. 8c). Move the insert around to force the surplus wire into the

'holder,' and if the insert will fit into the holder, then push it home and screw on the knurled ring. If it will not go in, but only rest on top, this will be quite all right as the ring has sufficient thread to hold it in this position. Tighten ring finger tight.

Now insert the hooked end and wires into the hole prepared in the box and line it up with the 6BA hole. Take the ¼in. 6BA bolt and insert this through the box hole from the outside, through the hook and place the 6BA solder tag over the bolt. Put the nut over this and tighten bolt, holding tag so that it points to the right when facing the nut. Check that the stem is upright both from the front and the side, and if not, the stem can be easily bent until it is straight. Once this is in position, carefully bend the stem towards the front about 35mm from the end of the insert holder, to the required angle. Again check that the stem is straight, and it is quite easy to twist the stem if it is not in line after bending.

This completes the stem, so we now go on to the internal wiring.

Wiring

The black wire entering the box through the stem is stripped for 3mm and is threaded into the hole in the 6BA solder tag, and bent over so that it stays in position. Solder this, leaving a neat blob. Take 120mm of black wire and strip 2mm at one end, and 7mm from the other. Thread the 7mm end through the back centre hole and then the front centre hole of the switch and bend any surplus wire around the front terminal. Solder both these connections, which are Y and Z on Fig. 6. Take the black wire already soldered to the battery box and solder into connection X of the switch. Take the orange wire from the battery box and push through hole 16G on the amplifier board, and solder it to the track underneath. Take the orange wire from the microphone stem and push it through 3C and solder it to the track. Take black wire that is already in the amplifier and solder this to switch terminal Y.

Now to fit the screened cable.

This needs to be a 3 core plus screen, and if you have not purchased the kit, the colours will not be known by the writer, so the best way to explain it is as follows: On the end that will go into the box, strip off 45mm of insulation, and if the cable is a 4 core, remove one colour by cutting it off at the covering. Separate the braiding from the cables and twist this around to make it a self-supporting wire. Tin around 10mm of the end of this and then cut off 3mm, to make this the shortest lead, which will act as an "anchor" should the cable get a sudden pull. Remove 2mm of insulation from the other 3 wires and tin them. Wet the plastic covering where the wires emerge from the outer cover and feed the cable into the box via the grommet, until the braid will just reach over terminal Z of the switch. Lay the wire over this and solder securely to the terminal. The other 3 wires go to switch terminal "T" — for transmit contact, "R" for receive contact, and the final wire to the centre contact of the gain control on the amplifier. This wire is the microphone input to the rig.

With the microphone in the upright position, pushing the left side of the switch is receive, and pushing the right side is transmit. Make sure the switch is in receive and fit an AA battery in the holder.

A suitable microphone plug will have to be fitted onto the rig end of the cable, and the microphone can then be tested. Push to transmit. If all is satisfactory, then the other double sided pad should be fixed to the underside of the amplifier and it can then be positioned as shown as pushed firmly into place.

If the amplifier fails to operate, make sure that the output cable is correctly connected and that the rig functions with the original microphone. If the switch gives reception and transmission indication on the rig, then the amplifier should be double checked for shorts between track components fitted in the correct places etc. To help to inspect the amplifier easily, feed in some slack cable through the grommet and the amplifier can then be pulled out to the length of its connecting cables.

Many of these amplifiers have been built and most have worked right away, only one or two didn't and solder across tracks was usually the fault.

Take a small drill bit, around 2mm, and on the right hand rocker switch section drill an indentation slightly into the white plastic centrally, near the right hand edge. With a pointed matchstick put a small blob of red nail varnish into this hole to act as a "transmit" position of the switch.

Alternative Battery Fitting and Gain Control

If cutting of the PCB slots in the box is too difficult for you, then the battery box can be fitted to the base plate instead and the battery wires will have to be longer than suggested (Fig. 9).

The battery will clear the amplifier whichever side it is when you replace the base plate, and this allows the fitting of externally controlled volume control if needed.

If you intend doing this, then the amplifier will have to be placed up against the microphone stem, after removing the 10K preset from this board, and this will leave enough room for a 5K log law control with body diameter of 18/20mm maximum. This should be fitted by drilling the hole exactly central between the switch and the amplifier, the shaft cut to accept a suitable knob and the control wired as shown in Fig. 10. This will allow the microphone to be adjusted to different rigs, especially those that have had the deviation turned up to increase gain (not recommended), to allow for low output standard microphones.

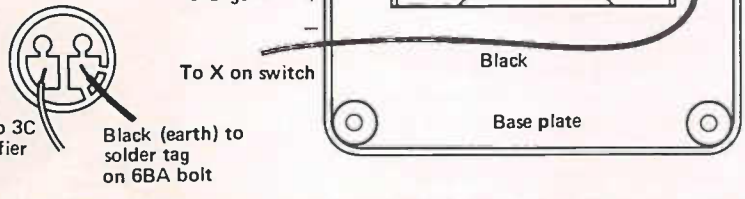
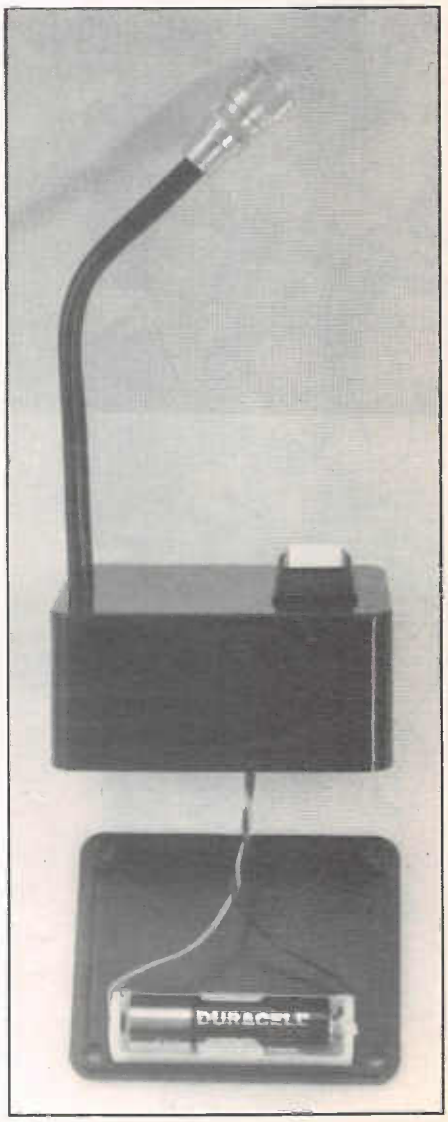


Figure 8d. Mic insert connections

Figure 9. Alternative battery position for external control



CAPTAIN SPARX

RADICAL RADIO

The Captain takes a fresh look at community radio

Apart from the inevitable cloth-heads who hold their cussing hours on CB (maybe to frighten any listening Martians) CB seems to be getting more intellectual these days. This could be the result of all those education reforms being organised by the government, though travellers along diverse and somewhat repair-oriented motorways have other explanations.

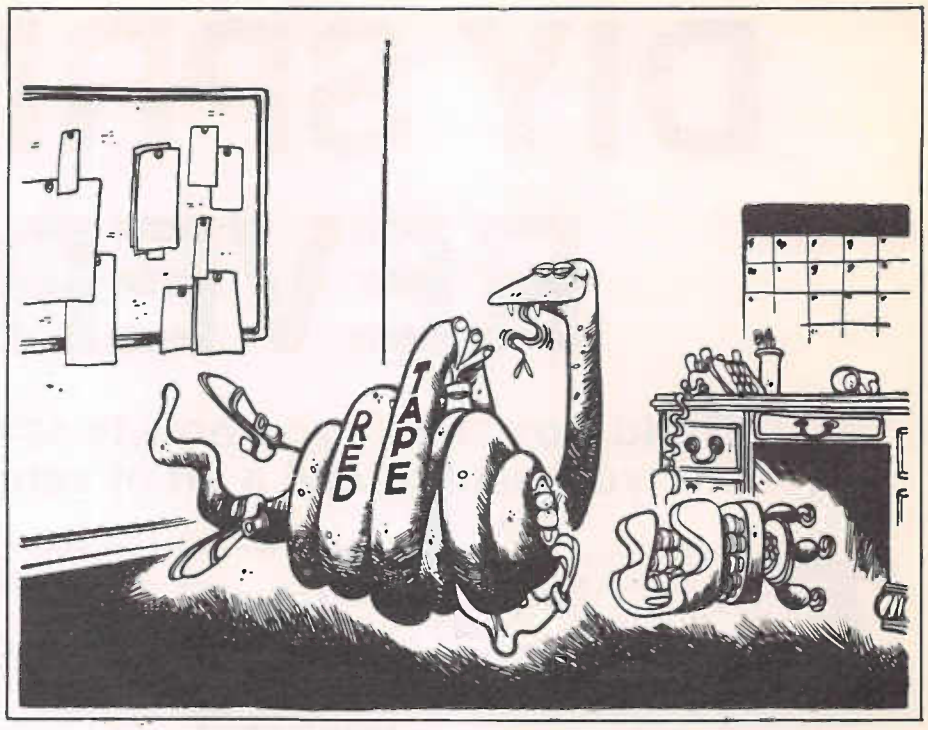
One taxi-man had a theory that all the CB cussers in the land were being moved onto a certain housing estate in the Midlands (he mentioned which one — but I won't) seeing that things were so bad there. It was on this same estate in the early days of CB that a group of the radio uprights slightly demolished a rig being used wrongfully by a wayward teenager and his chum, while his parents were upstairs asleep in bed. Other suggestions from CB itinerants include the misuse of equipment resulting in the need for repairs which the loud-mouths cannot afford. Another view is that some normally very helpful and economic repair-men quote astronomic prices for repairing CBs owned by reckless juniors, in the fervent hope that the gear will be consigned to the dustbin. One or two gents of my acquaintance might say they know car repairers of similar mind, but that's mere rumour!

There is little doubt that the long awaited introduction of Community or Neighbourhood Radio will once more stir the muscles of those who want to play worn-out cassettes down the CB mike all day. During the early months of this year (1988) there have been reports of pirate radio interference with Heathrow Airport's Instrumental Landing System. Depends what you mean by 'instrumental,' of course, though the funky music coming through the pilot's headphone is largely vocal. CB users are sensitive to this sort of problem; back in the pioneering days, those within hearing distance of airfields checked out their equipment — a good example of this co-operation with the authorities being in the

Isle of Man. But, as some of the present land-based pirates get their community radio licences at last, and no longer have to drop transmitters in dusty attics, etc, so a new wave of aspiring operators are likely to arise — like the Gorgon's Head, which no doubt some resemble, at least first thing in the morning. It would be ironic if the much-delayed radio millennium, giving the neighbourhood real access to the airwaves, resulted in more illicit operation. But then, life is full of irony, as the man said as he heard that the FCC had introduced a forty channel system the day after he had bought a bundle of 22 channel rigs.

Community radio, so called, will be based on a 'community of interest' as much as actual location, so that stations offering a diet of soul and reggae, for example, or country and western music can be expected, in addition to those with a clearly identifiable neighbourhood base. Illicit operators awaiting the opportunity to apply for licences have had a tricky balancing act, namely to keep active to hold their supporters and potential market, yet being respectful to their betters in authority. Some have been successful to a marked degree, grabbing audiences which once tuned to BBC Radio One and other show-offs.

Anyone visiting London, with a decent FM radio receiver, can pick up an interesting variety of pirate operators, most of them with a professional polish. When 'The Independent' attempted a current list at the end of January, it supplied a total of around ninety, most though not all in London. But, as the paper pointed out, some pirate stations suddenly disappear, a low hissing sound replacing their commercials and tunes on the frequency. This hissing sound is made by a specially trained member of the staff of the Department of Trade and Industry, that famous Enterprise First organisation. He also has a good line in wolf whistles and piggy grunts, which may also crop up on the pirate frequencies — I will say no more as he is frightened of having a fan club, in case it gets privatised.



As anticipated in an early literary doughnut by the Captain, some ethnic groups somewhat aghast at the way community radio was postponed in 1986, have moved onto the airwaves. Running on FM in London of late, you might hear output in Greek, Turkish, Arabic and languages from the Indian sub-continent. Indeed, old hands on the London radio scene may be pleasantly surprised at the amazing cosmopolitan nature of the metropolis these days. Behind the reprimands of illegal operators there is, one senses, a view that tourist interest in the capital (and thereby business) can be improved much by the advent of 'diversity radio.' We'll see; as one brought up in the grassy steppes of Tooting Broadway, Captain Sparx wonders if the Granada, Tooting may yet become the multi-cultural version of the RKO Radio Centre in New York.

A London radio listener poll early this year suggested that one of the more famous pirate stations, Kiss-FM, gets more support than BBC Radio One, i.e. during hours when they are competing for audiences. Odd, when one thinks of it, that BBC Radio One was launched as the off-shore pirates sank in the 1960s. Media specialists working in radio can argue that just as print magazine titles have a life cycle — and change their styles, format and content from time to time — so radio has to become more dynamic. That is, radio stations may need a total revision every few years, a new brand image, new presentation. As a community radio advocate pointed out, "We're bound to succeed because we've got no bureaucracy to please. We just please the listeners." This may be over-simplification; in Britain, there is always some kind of bureaucracy you have to get along with. But radio is itself becoming a far more accessible medium, in the same way that desk top publishing via computer makes magazine production accessible to virtually anyone who can secure a market. In short, radio has lost the Mumbo Jumbo Factor, and know what? CB was in the vanguard of all that, long years ago. First advocacy for a Citizens Band service in Britain came in community radio magazines like "Wavelength" in the earlier 1970s.

How CB will relate to community radio, heaven alone knows, but our guess is that users wishing to take some role in local programming will have their chance. Courses in radio programme making are now offered by local colleges, for example, including basics in scripting, interview techniques, editing and so on. Of course, any magazine from a responsible publishing agency must frown on illegal operation; pirate radio may be an interesting social phenomenon, even give some idea of the future, but can be a pain in the neck.

There are also rumours of profound punch-ups between those competing for use of a frequency, or equipment, illegally, but as they say, it makes a change from soccer. Responsible community radio will certainly do a great deal to show how all citizens' access can help modern and secure living — maybe even proving a lifesaver. However, a final warning from the Captain 'e're he saunters into his Gloster Gladiator: legal community radio will solve some problems and possibly create some new ones. That, as they say, is progress. Seems a pity though that the BBC is further cutting back in local radio at this time in human affairs. Could it be that Mrs Thelma Pankhurst's Clean Washing and Home Cooking Community Radio will put in an offer for the Beeb?

DIY SPRING REVERB

David Cox shows you how to save a few quid if you want to add a bit of echo echo echo

The project to be described this month is that of a reverb unit suitable for either homebased or static transmissions. With a standard microphone connected, the unit will add a smooth and clear reverb effect to the transmission. Total control is allowed over the volume, tone content and reverb content of the sound.

Echo-Dynamics

In order to produce an echo, an audio delay circuit must be set up. The amount of delay used varies, depending on the type of echo that is required. For CB echo units, the delay time is normally between 100 and 200mS. Note that one millisecond = 1/1000th of one second.

The delayed signal is then mixed with the original, undelayed audio signal and as one sound preceeds the other, an echo is the result. However, one or two hundred milliseconds of delay can hardly be noted as an echo. Many musical delay systems have delays exceeding 3000mS. Fortunately, there is a simple solution.

Fig. 1 shows the basic delay set up and Fig. 2 outlines a modified circuit that uses the same delay techniques, but with the addition of an extra route for the audio. The result is a much improved echo sound.

Following the audio path, we can see that initially the sound is split into two directions. One part is delayed before being mixed with the other part. Therefore, at the output, we have our echo. Including the extra route shown in Fig. 2, note how some of the sound emerging from the delay block is tapped off and directed via an attenuator back to the input of the delay. This sound will be delayed all over again. The amount of sound which is allowed to undergo a second pass is governed by a feedback control. This can be panel-mounted or, in the case of CB, set inside the unit. Either way, the finished effect is that we have an echo sound that slowly dies away.

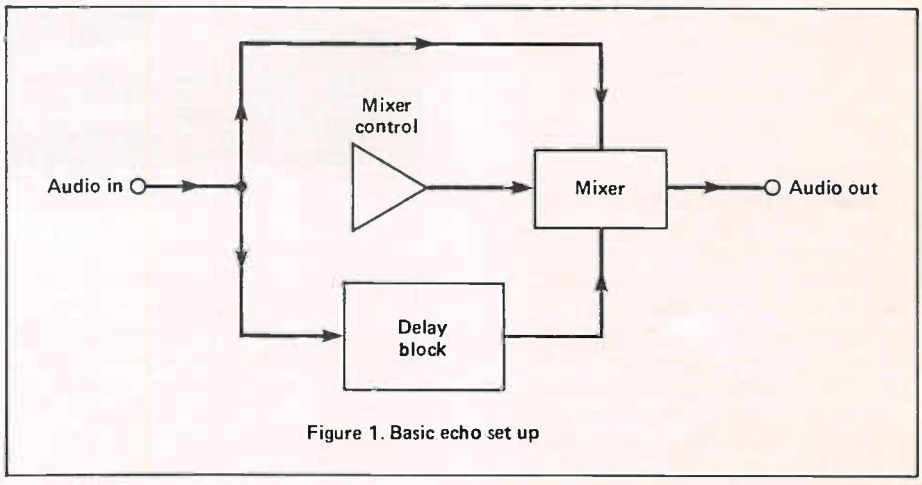


Figure 1. Basic echo set up

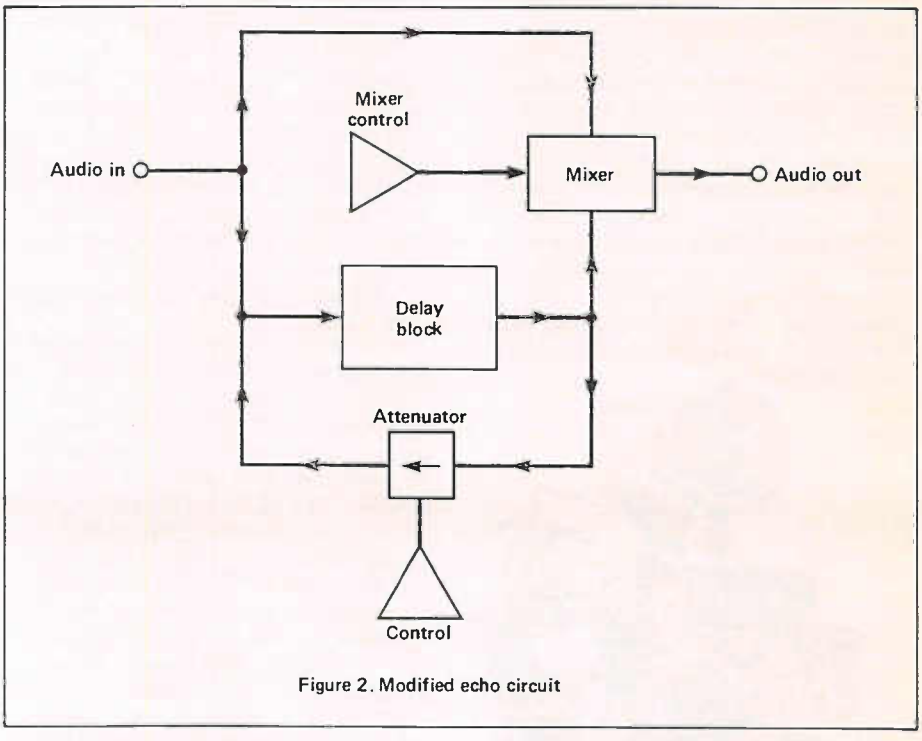


Figure 2. Modified echo circuit

The Delay

Until now we have just assumed that a signal can be delayed without going into how it is actually done. There are in fact two ways of performing this function. The solid-state bucket brigade delay line or the cheaper, mechanical springlines.

The bucket brigade delay lines or charge-coupled devices (CCD's) come in the form of microchips containing many charge storing units. Simply, an audio signal is sampled by the first charge storing stage. Then, after a minute delay, this is passed onto the next stage whilst the first stage samples some more of the audio input. This chain continues as the signal is passed bit by bit through all of the stages in the chip. Finally, the last stage deposits its charge

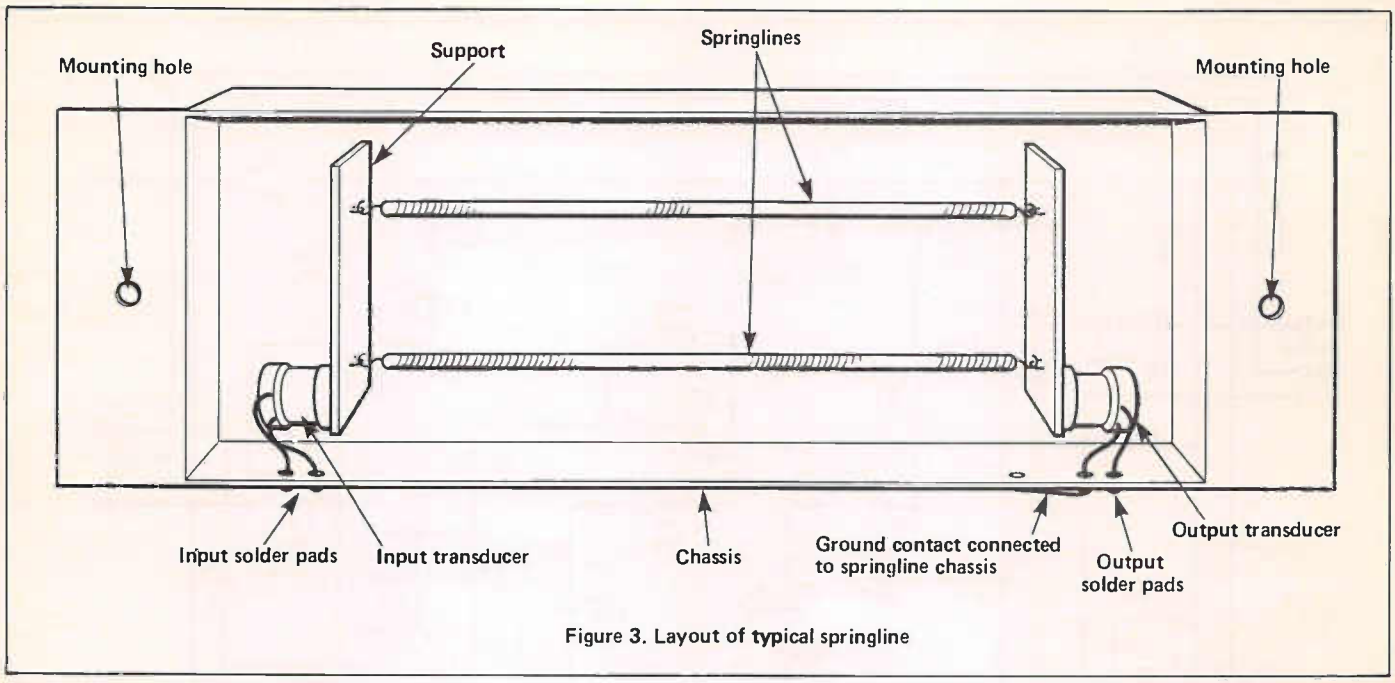


Figure 3. Layout of typical springline

onto the output. The total number of stages in a chip usually ranges from a few hundred to a few thousand stages.

These delay lines are extremely versatile. However, they do require many external components. This, linked with the chip's high price tag, makes the whole system quite expensive.

As mentioned earlier, the mechanical springline gives us a cheaper and less complex alternative. Both the delay and the feedback is effected mechanically. Fig. 3 shows the layout of the springline. At one end of the unit is a small transducer that makes a voltage change into a movement. Connected to the moving part of this transducer are a pair of 'springlines'. These are coupled to a second transducer which changes a movement into a voltage alteration. All is contained in a metal chassis.

The system operates when an audio signal is presented to the input. The input transducer immediately starts moving. This movement travels along the springline to the output transducer which provides an electrical output. The actual delay is produced by the time it takes for the movement to travel along the full length of the springline. The delay is typically only about 35mS, but it is the feedback arrangement that does the real work.

When the movements come to the end of the springline, not all of its energy is absorbed by the output transducer. Some of this energy actually bounces back up the springline. The same happens at the other end — the remaining energy bounces back. So once again, we have our complete echo that slowly dies away.

Alas, there are a few drawbacks with the springline. Firstly, the delay and feedback levels are fixed and cannot be changed. As the unit is mechanical, it is capable of translating physical shocks into sound. On top of this, the drive levels are high and so external amplifiers are essential. We must bear in mind, though, that this is a cheaper unit and so we must take the rough with the smooth. With careful design and use, the above listed faults can be tailored to a minimum.

The Circuit

The input to the circuit is taken from the usual 4-pin microphone connector and fed through the DC blocking capacitor C2, to the inverting amplifier based around IC1a. This is an LM324 quad operational amplifier. R1 and R2 are used to bias this amplifier with C1 and C3 adding stability to the system. Resistors R4 and R3 set the gain of the amplifier to 40dB (100 times). As was the case in Fig. 2, the output of this stage is split.

One part is used to operate the springline whilst the other bypasses it. So that the signal can operate the springline properly, further amplification is required. This is again achieved by an inverting amplifier based around IC1b. In this segment, R5 and R6 adjust the gain to approximately 22dB (12 times). As the springline input has a very low impedance (8-16 ohms), R7 is coupled in series with the input coil so that the previous amplifier is not overloaded. C4 is implemented to block the DC bias voltage.

On the other end of the springline, VR1 is used to control the amount of reverb sent to the next stage. The reverberated signal is passed via the DC blocking capacitor C5 and into the mixer stage

Parts List

Resistors

R1, 2, 12, 13	10K
R3, R14	560 ohms
R4, R6	56K
R5	4K7
R7	33 ohms
R8, R11	47K
R9, R10	560K

Potentiometers

VR1, VR3	10K LIN
VR2	100K LIN

Capacitors

C1, C3, C4, C5	100uF elect
C2, C7, C9	2.2uF elect
C6	100nF Polyester
C8	1nF Polystyrene
C10	10uF elect

Semiconductors

IC1	LM324 OR LF444 (see text)
D1	5mm Red LED

Miscellaneous

Short springline.
Metal box.
Copper stripboard.
Mic connector(s).
Knobs, screws, board fixings, wire, solder, switch fuse, inline fuse holder, etc.

Components available from most suppliers, e.g.
MAPLIN ELECTRONICS SUPPLIES LTD,
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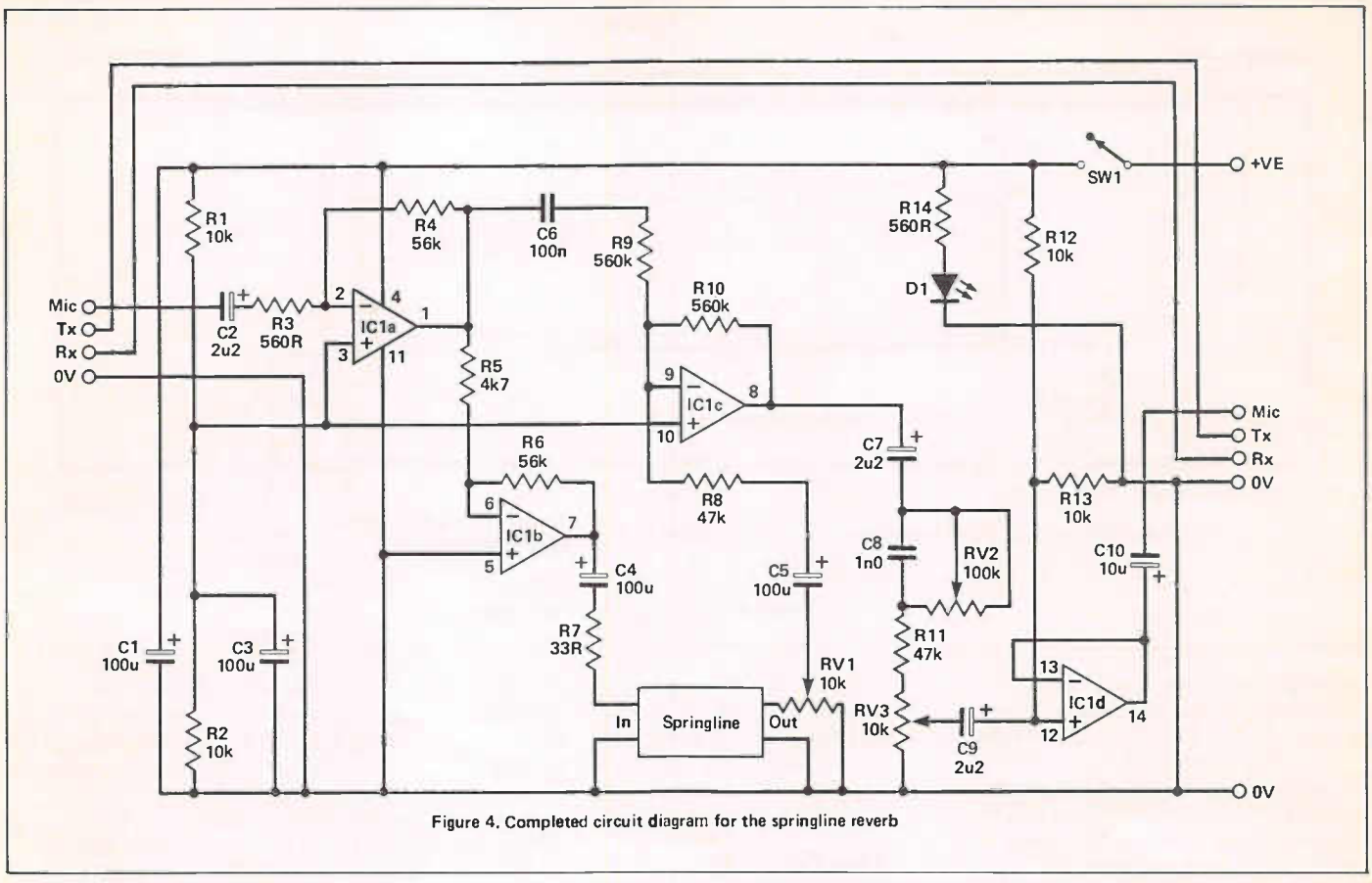


Figure 4. Completed circuit diagram for the springline reverb

comprising of R8, R9, R10 and IC1c.

This arrangement is a basic mixer set up where two or more signals are mixed through resistors into the inverting input of an op amp. In this case we have two signals to be mixed. They are reverberated and straight signals and are mixed through R8 and R9 with negative feedback provided by R10. This section is also biased by R1, R12 and C1. In a standard mixing circuit of this type, the feedback resistor and the mixing resistors have the same value, but in this case, the resistor from the reverb unit (R8) has a lower value than R9 and R10, since this allows for a greater reverb content to be included.

Capacitor C7 blocks the DC bias from the mixer and from here the signal enters the tone correction circuit.

The stage was inserted into the signal path so that, if necessary, the heavy bass response of the springline could be corrected. Capacitor C8 forms a high pass filter when working into the combined load of R11 and VR3. In theory, through this capacitor frequencies below 1.5KHz are reduced. VR2 provides a variable bypass facility such that when it is turned fully clockwise, most of the signal travels through C8 (High tone). When VR2 is turned fully anticlockwise, C8 is effectively shorted out and no filtering occurs. In practice, the high cut off frequency of C8 is reduced to a more modest level by the maximum resistance of VR2 and therefore a more realistic tone control range is produced.

Apart from its roll in the filter, R11 also serves to reduce the maximum output level of the unit; VR3 provides full control over the actual output level.

IC1d is used to provide the final task of buffering the output to prevent a loading effect on VR3 which may upset its action. C9 and C10 are the final DC blocking capacitors and R12 and R13 bias the buffer's input.

Switch S1, resistor R14 and the LED D1 are optional extras to indicate the state of and to switch the power supply.

Construction

Construction of the board is reasonably straightforward provided that every care is taken when observing the board wiring details. Fig. 5 shows the layout of the copper strip board and the routes of the external wires. The complete unit can be constructed on a board with roughly 30 copper strips, each containing 50 holes.

Before any solder is laid to rest, the copper strips must be severed in seven places. These voids lie directly below IC1 and in between its two columns of seven pins. An easy way of making these breaks in the circuit is to use a relatively large drill bit (say ¼in) and just turn it once or twice over a hole in the strip. This should cleanly remove the copper. Check that no copper swarf is left crossing the holes or bridging the individual tracks.

When producing any board, it is always a good idea to first solder all of the low profile components followed by the components of larger size. Make sure you do not forget the wire links on this board.

With this particular board, many leads come close together on the underside and great care must be taken to prevent accidental connections. Use no more solder than necessary and look out for solder bridges across the tracks. If you do not feel completely confident about your soldering capabilities, you may well benefit a great deal from reading the article 'Successful Soldering' in the July issue of your favourite mag. (That's CB for those who are not sure). It might also be beneficial to practice on a smaller project such as the Signal Tracer (December) as this will help to test the reverb unit.

Whatever you decide to do, remember not to solder directly to the integrated circuit (IC1), but to solder to a DIL socket instead and then insert the IC into this socket at the very end.

When making the audio connections to the off-board components, use a short length of screened cable. Where applicable, connect the uninsulated screen of the cable to 0V.

On the prototype, the output was taken to a four-pin DIN socket on the rear of the box. If preferred, it could be directly connected to a length of cable terminated in a microphone plug. If the latter is employed, use a P-clip or similar device to take any stain away from the soldered connections. Should an output socket be used, try to avoid using a standard mic socket as this may lead to some confusion as to where to stick your microphone plug (interpret that as you will!).

When wiring up the tone control VR2, note that two of the three pins are joined together and that the remaining gap is bridged by C8.

Be a little cautious when soldering to the springline. Be certain that you don't disconnect the wires on the inside of the chassis. Also check that the uninsulated wires leading to the input transducer don't touch as this will prevent any reverberation from being generated. One of the output pads on the springline is connected to the chassis and this should be wired to 0V.

Power Supply Options

The reverb unit can either be powered by internal batteries or an external power supply. The full supply range is in the order of 5 to 20 volts DC but it is recommended that the supply level is kept between 8 and 14 volts. This range is ideal for 9 or 12 volt batteries or a standard 13.8 volt power pack.

For power pack or car battery usage, the negative wire from the supply can be connected directly to the board whilst the positive wire should be connected via an inline fuse (500 mA) and a switch.

For battery powered use, it is wise to connect the positive wire to the board with the negative wire connected to the TX wire from the PTT switch. In this mode, the unit will only be switched on when the mike is keyed. The battery life will be extended if IC1 is changed to the more expensive LF444. A good battery to choose would be the PP6 or PP9, as the usual PP3 may not give an adequate lifetime.

Mechanical Construction

The prototype was housed in a sloping front box with the controls facing upwards. However, there are no particular requirements when selecting a box except that it must have plenty of room for the springline, board and front panel components.

The springline can be mounted directly to the box with suitable screws but it would be better to use the purpose-made couplings. These consist of two threaded studs; one at each end of a short rubber shock absorber. Using these, the likelihood of the springline being affected by external vibrations is much reduced. Note that the shock absorbers also insulate the box from the springline and if these were not used, a metal box would be effectively coupled to 0v.

Be extra careful when mounting the board. Place metal screws through tracks that are not in use. An easier alternative is to use plastic board supports that are either clip-on or have self-adhesive pads. Should you be required to drill holes in the board to accommodate the mounting hardware, check that they do not break tracks in between wires.

Finally, prepare the front panel with dry, rub-down transfers. Finish with a clear protective for that professional finish.

In Use

As explained earlier, the springline is capable of turning physical vibrations into sounds. Therefore, when in use, it must be kept still. It is most certainly *not* suitable for mobile use although it is perfectly okay to use it when static.

The level control has been arranged such that when turned up, it allows a standard microphone to be used like a power-mic. The amount of power available is secured by R10 and so, if the unit does not give sufficient volume, increase this component's value (and vice-versa).

The same goes for the reverb. If there is not enough, simply decrease the value of R8. In any case, turning VR1 fully anticlockwise will remove all reverb.

The tone control helps to reduce the number of headache victims amongst your breakers as it helps to remove the throbbing bass content of the reverb and also sharpens up your voice.

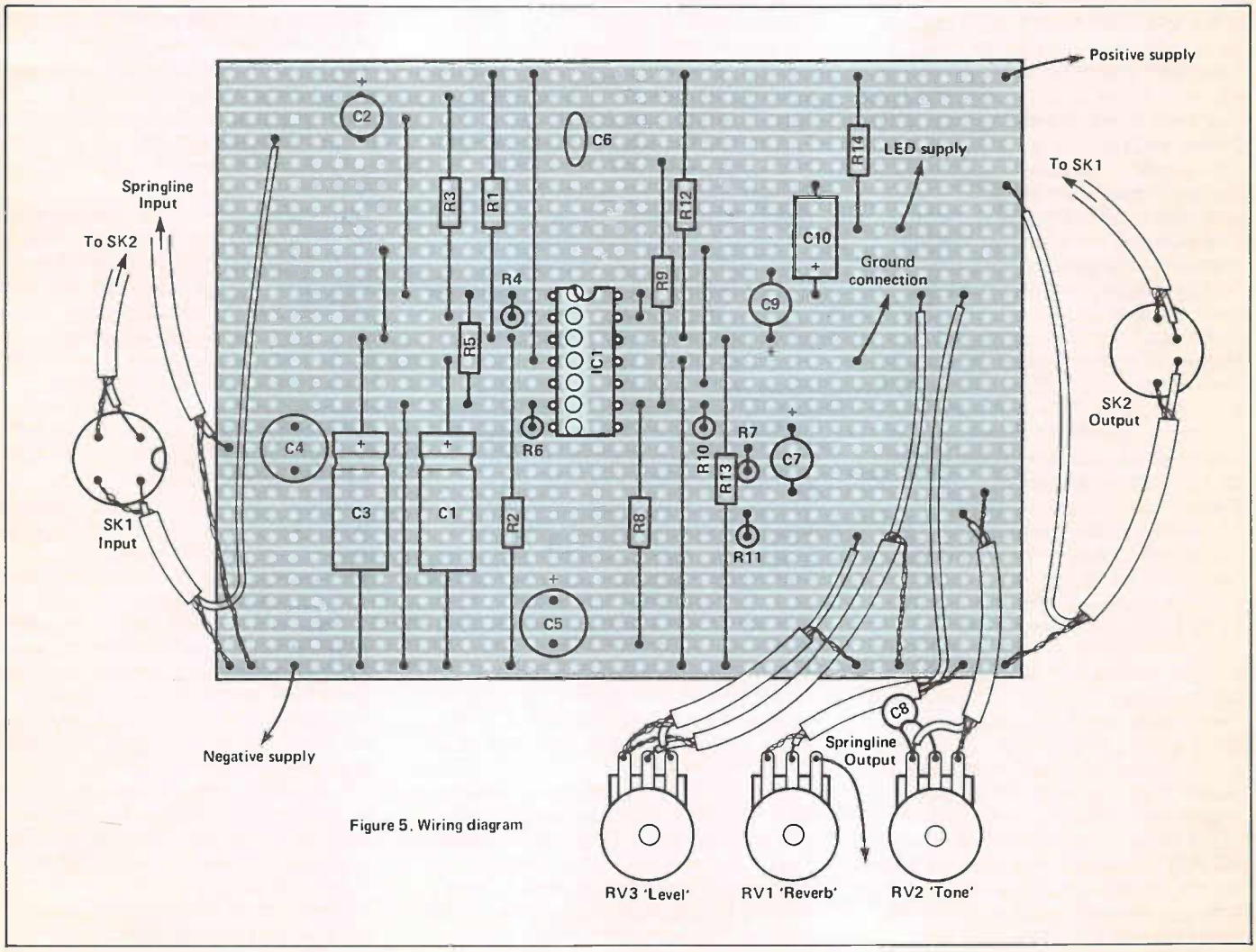
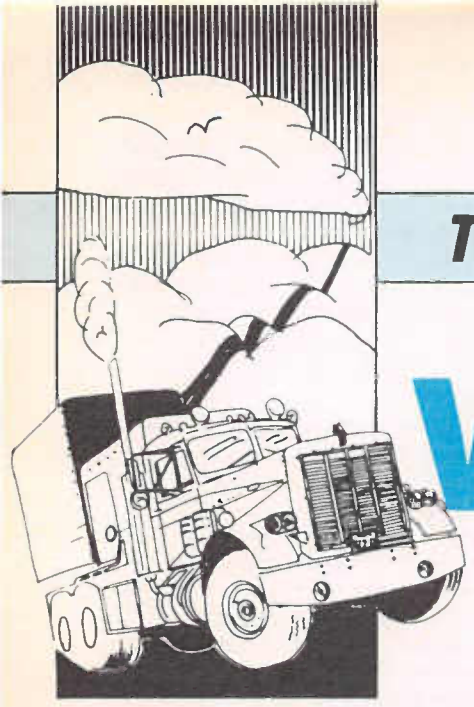


Figure 5. Wiring diagram



TRUCK STOP

WATERING HOLES

A few places to look out for on your travels

According to the recent Readers' Survey, lots of people have asked for a comprehensive, accurate list of channel 19 monitors around the country. Most of the lists that I have seen in various other publications are hopelessly inaccurate and out of date. The only way we can compile a correct one is to enlist your help. What we need to know is the people that *you* call for when you want road reports or directions during your journey. Please drop me a line addressed to PO Box 158, Coventry CV6 6DB. Let me know the handles, approximate area of contact, days and times available, channels used, and any other info that you can provide. The homebases that provide this help to mobiles can also write in and nominate themselves. The magazine is hoping to run a regular 'Monitor of the Month' column, so you could have an article written about you. Where possible please enclose a telephone number so that we can contact the monitor concerned to ask questions.

I've been asked recently to cover a few of the 'watering holes' used by truckers, so, we've been out and about, trying to get some names, getting them to stock the mag for *your* benefit, and trying to get them to advertise with us! So, here goes. If you're anywhere down Devon way, we've got a couple of good spots for you to try. Tony's Truck Stop, which is on Battle Road, Heathfield, Devon. The proprietor, Mr Cox, extends a very warm welcome to all. Or how about Mont's Cafe and CB Centre on the old A38 at Liverton, near Newton Abbot. As the name suggests, whilst filling your turn, you can also stock up on all the latest CB goodies. They have full facilities, including TV lounge, shower and toilet facilities, B&B with full evening meal, and they're open from 6.30am to 7pm weekdays and 6.30am to 12 noon on Saturdays. Approved by the South West Truckers, they also supply *and* fit CB equipment.

I hear that the Ace cafe on the A45/A5 Junction at Weedon, Northants, is open again, under new management. Also, it seems that the owners of the famous Penrith Truckstop have recently bought the Rendezvous cafe on the A5 at Lilbourne, just outside Rugby. This has always been a popular stop for drivers, it will be interesting to see what improvements will no doubt appear.

A place that I will certainly recommend for short breaks is a small coach, in a lay-by on the A426 Lutterworth Road. Off the M1 at junction 21, she's in the first lay-by or, if you come off the M6 at junction 1, the third lay-by. Once owned by Silver Lady, the coach is now owned and run by Passion Flower (Babs). Although a newcomer to CB she's already collected a very loyal band of followers, including a lot of the 'gay' truckers, so if you're dying to meet one, then this is the place to go. The coach is spotlessly clean and tidy (well it is when she leaves home) and the food is good and inexpensive. And if you're into leather gear, I'm told that Babs is a sight for sore eyes! Give Babs a call around junction 1 (M6) or junction 21 (M1). If you're lucky, she'll have your meal ready when you get there.

Trudging further North, (a lot further) try a stop at Briggs Cafe and Motel on the Whitehall Road, Drighlington, Leeds. Here, Mrs Jubb will proffer a warm welcome to you mucky truckers. Here there is double and single rooms, central heating, H&C showers, choice of menu for good food, colour TV lounge, licence bar and club. Plus a Shell and BP Agency garage. Mrs Jubb is the new owner and you'll find Briggs on the A58 Leeds Road. Give her a call.

This is where I need your help again (well, it is *your* page). Write and tell me where you like to stop, pass on your favourite caravans, coaches, cafes and truckstops to the rest of the lads, especially those in the out of the way places. You can also give me a call on 1-9 around the Coventry area (junction 3 M6).

OK, back to the gossip. I've heard two stories recently about our continental trucking friends, which I felt you might appreciate. A few months ago, my other half had to go our near Blenheim Palace. He was amazed to see two foreign trucks parked up, curtains closed, right in the ornate gateway to Blenheim Palace. When they were moved on by the local smokey, they held up the traffic for ages, trying to do a three-point turn out onto the main road!

Another story from one of my favourite gay truckers; Honky Tonk was trucking up the motor with his 'boyfriend' when over the CB came the call to back it off, square-wheel traffic up ahead. Trying to find out the cause of the holdup proved difficult. The most they got was: "Wait till you get here because you're not going to believe it." Totally intrigued, they battled their way to the front to see two foreign trucks stopped in the *middle* lane, one behind the other. The two drivers were outside between the trucks having a no-holds barred fist fight . . . and they reckon that British drivers have no patience! Thanks to Peter (Honky Tonk) for that one.

Another thing mentioned to me just lately is that Coventry seems to be

getting a bad name, amongst the trucking fraternity, for wallies. Well, don't get me wrong, Coventry does seem to have more than its fair share of idiots, but the ones that you are all getting upset about are from the Nuneaton area. These fools have just had visits from the DTI and are trying to entice them back when they are ready for them. They also are trying to pay back those that they think have 'shopped' them. You don't need to shop them. They are doing a grand job all by themselves. But please don't blame us innocent (well nearly all of us) breakers in Coventry. We've got most of our wallies trained to stay on 14.

I've even had a couple of moans about truckers this month. First, if you're after directions in a strange town, please don't just call, "1-9" for directions". Apparently, there are a lot of homebases who would gladly give you directions but don't want to look a fool by asking where you want, and then them not knowing where it is. Rather than look a fool, they'd rather keep quiet. So, if you want directions, please shout "1-9 for directions to ..... Road", then people that know the particular place *will* come forward and help you.

Another homebase breaker was telling me this week that he wishes mobiles in trucks wouldn't use power mikes. Nine times out of ten, we have problems understanding what they are saying, because of the amplified engine noise. If you need to use a power mike, use a noise-cancelling mike, like the Realistic sold by Tandy at around £15. This will amplify *only* your voice and cut out the unwanted background noise. The disadvantage with the Realistic one is that it takes a tiny 7-volt battery, which is not easy to obtain and costs about £3. The advantage is that it's one of the few power mikes, that, when the battery runs out, you can whip it out, and use the mike as a standard one. Very handy, if you're away from home all week. Don't panic because it has a five-pin plug on it either. Any sensible person with a soldering iron can change a mike plug, especially when you have a mike that fits the rig, to compare the wires. Other than this, try using an echo box. The famous ES880 echo box gives fantastic results from a truck. If you use the M6 regularly, look out for Leyland Trucks' fleet of wagons, who go between Leyland, Coventry and Watford. (Mind you, with the Daf takeover, by the time this is printed, they may not be about so much.) Give Buffalo Bill (Bill) or J.D. (John) a call; they both use the ES880 echo box, and I think they have the best modulation that I've heard coming from a truck. The ES880 box will set you back around the £40 mark but once you've heard the two mentioned above, you'll be convinced.

Now Daf have taken over Leyland, it will be interesting to see what does happen to Leyland styling. I heard recently, that the people who style Leyland's cab also do work with Volvo and the other big continental manufacturers. It's a pity that some of it hasn't rubbed off. Mind you, I must admit, Leyland does have about the best cab interior of the British trucks. It's certainly the interiors that are years behind. The continentals look to giving the drivers a comfortable home to live in, whereas the British look upon the truck as a place of work.

By the way, I've just received news about a rally that should interest most truckers. It's for Seddon and Atkinson trucks built before June 1975 and is to be staged at the British Commercial Vehicle Museum, King Street, Leyland, Lancashire on Sunday 31 May. There is no vehicle entry fee and there are commemorative plaques to be awarded for all entrants. There are various awards including one for the furthest-travelled entry under own power. Entry forms are available from any Seddon and Atkinson dealer or telephone 061-624 0566.

Well, that's about it for this month. By the time this comes out, this year's Truckfest will be almost upon us. Don't forget to write in, with your views, criticisms, comments, ideas, questions, 19 monitors, caravan, coach cafe and truckstops.

Truck it on easy lads. Take care and Stay Lucky.

Brandybird

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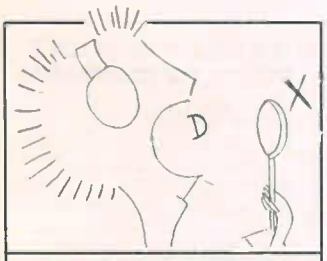

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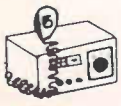

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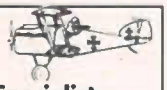

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