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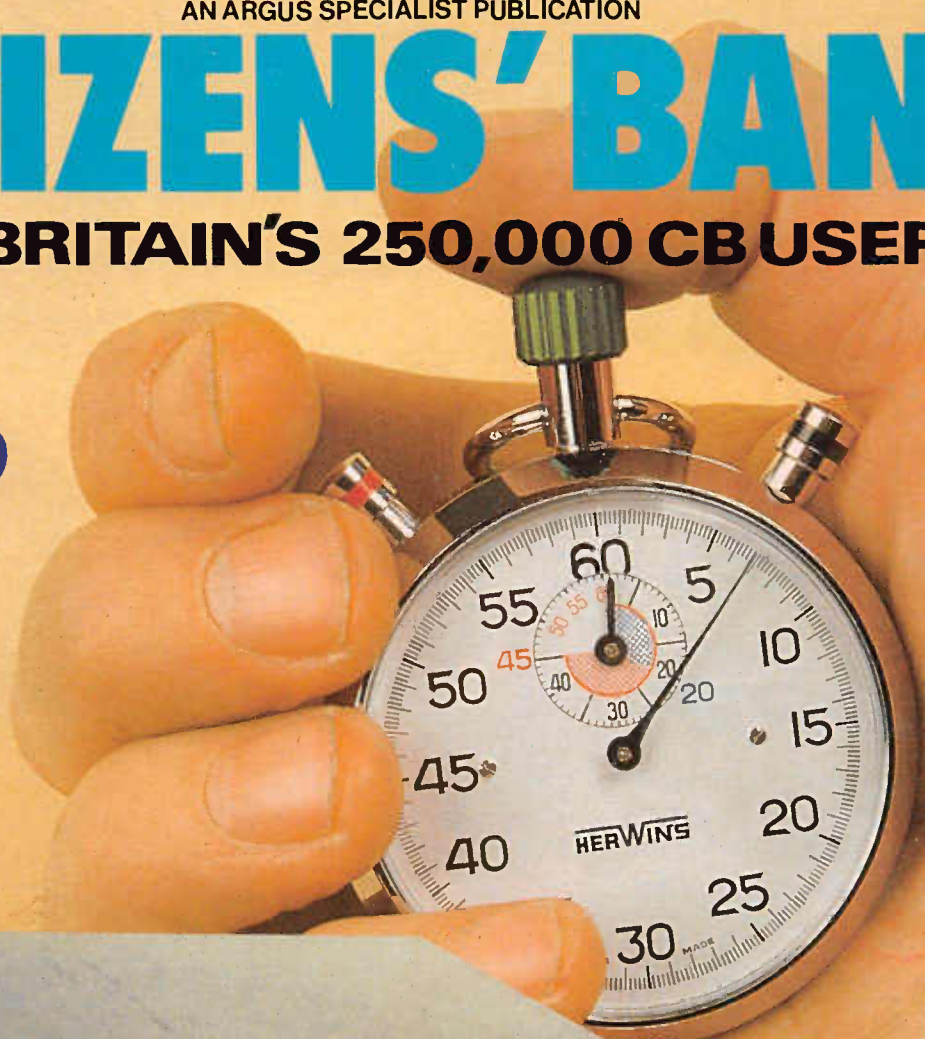
AN ARGUS SPECIALIST PUBLICATION

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Satcom
40F reviewed



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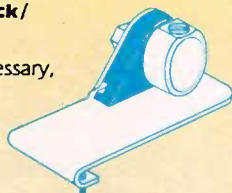
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CB

CITIZENS' BAND

February 1988

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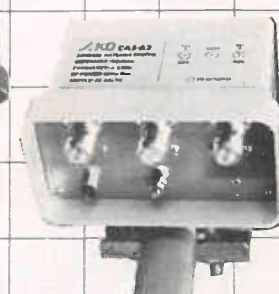
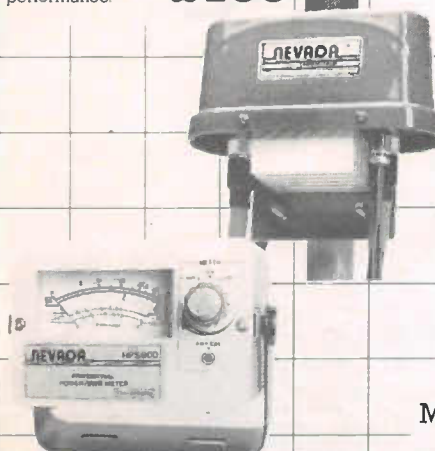
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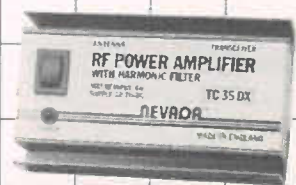
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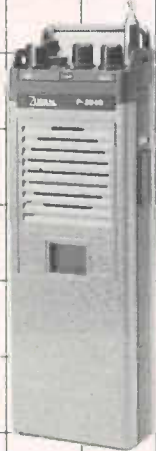
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UPDATE

Editorial

Well, it's now six months since the introduction of the CEPT frequencies and the channels still appear to be fairly quiet. What's gone wrong? Is the equipment too expensive? Are we all too afraid to invest in what many must think of as a white elephant? Or, more worrying, is the majority of CBers too complacent, too set in their ways, to imagine anything beyond the original FM - or even AM?

Come on, people, if anything is to be done with our system, we must be prepared to experiment. The same goes for 934MHz. OK, you might not be able to

afford the gear straight away but why not start thinking about it? Try and find someone you know on the frequency and just have a listen in. At long last, and after a long battle, at least we now have a choice.

Elsewhere in this issue, you will find reviews of the new Satcom rig plus the just-off-the-rack Albrecht radios. Please note that, at the time of going to press, these rigs were *not* type-approved.

Also, we take a look at a recent 'underground' publication, *Radio is My Bomb*, which appears to be causing some concern in certain circles.



Simon Brival



Uniden Prices Down

After extensive negotiations with Uniden, the three UK distributors, Nevada, Pama and Knight Communications have managed to negotiate a substantial reduction in the cost of several Uniden models of transceivers.

For the C.E.P.T. frequencies, the Uniden 400 (fully approved radio) has been reduced in price from £139.95 to £99.95. This reduction has been possible since the high cost of initial tooling has now been recovered and of course, Uniden are selling to all the C.E.P.T. countries.

This price move must be good news for the users and hopefully will enable more people to sample the new frequencies with a legal radio.

A similar reduction has been negotiated on the Uniden 300 Base Station for the standard 40 channels. The set will now sell at £149.95, a reduction of £50 on its original price!

Uniden are also to introduce a 40 channel handheld for the C.E.P.T. frequencies, which at the time of writing is awaiting D.T.I. approval.

New MSGB Ltd Document

Recently, Monitoring Service Great Britain Limited produced several discussion documents, including "A Study of Introducing a Short Range Radio Service into the UK", "Deregulation of the Radio Spectrum" and "Radio Choices and Opportunities". Their latest document is entitled "CB Radio: A Period of Change".

This document covers the history of CB radio from its American origins over 40 years ago to the introduction of CB to the UK, present changes to the UK service, the proposed introduction of SRR, licensing and regulation – plus lots more.

It's an interesting read and is available from MSGB Ltd's registered office at 6c Linden Gardens, Chiswick, London W4 2EG. The price is £2.

C.B. RADIO: A PERIOD OF CHANGE

COMPLETING THE CIRCLE

by

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CB Radio Licensing

The revised CB radio licences have been causing a bit of confusion in recent months. Mr Robert Pringle of the Radiocommunications Division of the Department of Trade and Industry kindly put pen to paper to set the record straight:

"There have been many recent letters both to your magazine and direct to the Department commenting on the revised CB licensing system introduced on 1 September. Many users appear to be under the misapprehension that separate CB licences are now required for spouses.

This is not necessarily the case;

Clause 6(b) of the CB Licence permits operation of a CB Station by a person operating under the 'general supervision' of the licensee. Whilst of course, interpretation is a matter for the courts, this can be reasonably seen to include spouses living at the same address, on the basis that the licence holder accepts full legal responsibility for all use under his or her licence. The Clause may also cover use by members of youth groups, such as the Scouts or Guides under the supervision of the group leader.

There has also been comment on the changes in the CB Licence fee. The CB

licence now covers use of any number of CB sets for one, simple fee of £12. Hitherto a user who had more than 3 sets would have been charged upwards of £20, the new system as well as being simple represents a big cost saving for some users. This year's fee change was the first since CB was launched in 1981. The fee is used to cover the cost of offering the CB Services including a contribution to the funding of the Radio Investigation Service (RIS) the body charged with dealing with interference and abuse.

I hope that this information is of help to your readers."



Cree Valley Breakers

On 29th April through to 1st May, the Cree Valley Breakers play host to breakers and clubs alike at their Auchenlarie Mass Eyeball.

Six and seven-berth caravans can be hired for £13 per night. Sites for 'vans and tents cost £3.50 per night and trade stands can be hired for £10.

The event includes stage shows, club quizzes, Miss Eyeball 1988, Glamorous Granny competition, darts, dominoes and lots more.

Interested parties should send a stamped addressed envelope to: Mass Eyeball, PO Box 1, Wighttown, Scotland O8 9HA.

SEVEN SECOND SCAN

Paul Coxwell takes a close look at the Satcom Scan 40F, the latest set on CEPT frequencies



Satcom may be an unfamiliar name to most British CB users but mention of Cybernet should start a few bells ringing, and it is this Japanese manufacturer that makes the Satcom Scan 40F. Most likely the Satcom will sell on the reputation of the Cybernet Corporation and the built-in scanning facility. We must point out, however, that the set is still awaiting type-approval at the time of writing.

First Impressions

The radio is a fairly normal sized unit, measuring roughly 9 x 7 x 2 inches, and is built with the usual steel wrap-around chassis and two-part cover. Both the covers and front panel are grey-black in colour with a touch of chrome on the controls; all standard Japanese trim. Across the top half of the front are a concentric volume and squelch control, the 5-light S-meter/RF-meter, green channel display, transmit, receive and channel-9 warning lights and channel up/down buttons. These allow single channel steps by a quick press or quick scanning up or down by holding in. On the lower half of the front panel are the microphone connector (a standard 4-pin locking type), power switch, tone, RF gain and mic gain controls and a bank of five press switches. The first of these, marked 'PRI', is just a channel-9 selector. Next along is the auto-scan switch which when pressed sets the receiver zipping up through the channels until it finds a signal at which

point it stops. When the signal disappears the scanning continues. The third switch is a mic compressor, intended to make you more readable over a weak signal path. Next along is a squelch fix switch which over-rides the manual squelch adjustment and selects a preset setting. Finally there is a noise blander for getting rid of horrible crackles and bangs from ignition circuits etc.

On the back panel we have a regular SO-239 socket for the antenna, an external speaker jack and power input connector. Also present is a 6-way socket for the addition of a selective calling unit.

The instruction book looks as though it has been hastily revised for British use with a paragraph slipped in about Post Office rules (Post Office?!). There is also a section on antennae which mentions beams but nowhere does it state that they are illegal in Great Britain. The only technical information included is a specification list and schematic diagram (drawn in the usual fashion so you have to trace lines right around a page).

Under the Covers

Removing the covers gives no surprises – a good clean-looking board with everything neatly marked, just as we've come to expect from Cybernet. The main PC board is single-sided and separated into two sections. For those technicians who collect such information the main part is PBCM001S

and the front section carrying the PLL and VCO is numbered PBCX001S. The two sections are actually joined as one board however. A few other PC boards are fitted up front to carry the controls, which are in turn fixed to a metal panel behind the plastic bezel as usual.

The PLL is an LC7131, which has been used in American transceivers for a good many years. This is fed by an LC7181 controller to give the button channel change and scan facilities and the final IC in this section is an LC7191 to drive the display. The mixing scheme for the 7131 is a little different to that for the 7137 used in many CB-27/81 sets. Basically, the oscillator runs at 10.695MHz below the required carrier frequency on receive and 10.240MHz below it on transmit.

The transmit chain has an IC amplifier followed by pre-driver, driver and power transistor stages with just a little extra filtering added for the tighter requirements of MPT1333 apparatus. Output power is controlled by a series pass transistor in the power feed to the driver and PA. On receive the front-end is a bipolar common-emitter stage followed by a dual-gate MOSFET first mixer. The rest of the mixer/IF strip is made up from discrete transistors with an IC being used for the demodulator, just as with previous Cybernet equipment. A crystal filter is fitted at the first (10.695MHz) IF and a ceramic filter at the second (455kHz) IF. In short, a pretty standard line-up. Claimed figures for the receiver section are less than 1uV for 20dB S/N sensitivity and better

than 60dB for adjacent channel selectivity, spurious rejection and intermodulation. These are about average and nothing spectacular.

In Use

The lack of activity on the CEPT channels at the moment makes it a little difficult to run enough subjective tests to give a detailed report but from those tests conducted the performance of the Satcom is reasonably good. Audio quality is good on both receive and transmit, though the sensitivity of the receiver was not quite as good as that obtained with the new DNT mobile (reviewed in December). It is natural to compare this transceiver with the British-type Cybernet sets such as the Rotel series. In this respect the Satcom's selectivity and ability to reject inter-modulation is better, no doubt due to the crystal filter and MOSFET mixer stage. Unfortunately time did not permit a full specification test on the bench. The noise-blanker was only tried briefly but unfortunately failed to make much noticeable difference to ignition noise, which is probably the most likely source of interference to a mobile receiver. The preset squelch setting is fairly tight and is useful to quickly eliminate all those distant noisy signals to leave just the 'loud and clear' locals.

On the transmitter control side there's not much you can do to your voice except adjust the gain and compress it. The compressor circuit certainly works and for long distance with weak signals when parked or home-based may be handy. For run-of-the-mill mobile use though all you'll succeed in doing is bringing the background noise in the car up to the same level as your voice so it's not much help.

Now how easy is the set to use? Well, the volume and squelch controls being on one concentric unit can be fiddly to adjust properly. It might have been better to group these with the one control on the bottom right and have the mic gain and RF gain together as they would not be used so much. Alternatively the squelch control knob (at the



back of the pair) could have been a little larger and therefore easier to turn. The channel buttons have a good firm action but the display contrast could be improved as it is difficult to read in sunlight. As with many sets that use the up/down method of channel selection the Satcom has the annoying habit of reverting to channel 1 every time it's switched on, but you can get used to it after a while!

I can tell you're all waiting for the news on the scanner section, so wait no longer. Assuming there are no signals to stop the scan it takes around seven seconds for one complete trip from channel 1 through to channel 40. For the scanner to work you have to set the squelch control to a suitable position, the higher you set it the stronger the signal has to be to stop the scan, just like a normal squelch action. There is however a position you can reach (with careful adjustment) where the scan will start but the receiver is not squelched. This allows all the hash to be heard right around the dial, but of course the scan will not stop at all until you turn up the squelch some more or switch it off, and less than a quarter of a second per channel is not a lot of time to hear what's there! When working manually pressing in and holding the channel up button causes an instant jump to the next channel, then a slight pause, then the rig steps upwards at its fast rate. When the scanner is on and a signal

disappears (i.e. the squelch operates again) the same thing happens. You get a slight pause before scanning resumes but it is on the channel above the one you were listening to. This is unfortunate because, if the set paused on the channel it was on, there would be time for the next part of the conversation to keep the receiver on that frequency. If you decide to stop on a particular channel, turning off the scanner leaves the radio set at that point. You must turn off the auto-scan before the set will allow you to transmit.

Conclusion

As was mentioned at the start of this review the Satcom has got the Cybernet name behind it which is bound to help sales, but at around £160 it is perhaps a little over priced. Considering that there are other transceivers offering similar or better basic performance than the Scan 40F for less money, you should consider very carefully whether you can justify the extra cost for facilities that you may not use. The microphone compressor is unlikely to be used a great deal in mobile installations and you should ask yourself if a scanner is really going to be of use once the novelty of it has worn off. Remember that in a couple of years mid-band will be swamped with signals from around the world most of the daylight hours and with more people in this country here as well there will be signals on all 40 channels all the time!





LADY BREAKERS

NO MORE WALLIES

Filly gets depressed about the state of CB in 1988

It struck me a few weeks back that CB life around here has really been pretty calm and contented for the last year or so. Anyone tuning in to our favourite channels could be forgiven for thinking they were listening to The Archers on a quiet day. And I fell to wondering what had brought about this sense of peace. I had a vague feeling that something was missing. But what?

Flicking back through old Ladybreaker articles, I saw the answer immediately.

No wallies.

Early articles were full of complaints about wallies, bucketmouths, button pushers, male chauvinists and other weirdos and undersirables in general. At one time, it looked like CB was sinking under the weight of the discourteous or downright nasty behaviour of a yobbish few. But for many months now, Ladybreakers has been relying on local (if eccentric) characters and events to provide the material for the column. Not a horror story in sight.

Aha! I thought. There's my column for this month. The Death of the Wally, hip-hip-hooray. Why should people always to read about the downside of life in their newspapers and magazines? Let's have a bit of good news for a change. I hauled out the typewriter and chewed a few pencils, thinking. A Quiet Year on the Little Puddlefoot Airwaves, I typed. Everyone Speaks Nicely To Each Other. No One Uses Bad Language - er, no, that's not strictly true, let's make it Very Few People Use Bad Language. Breakers Settle For Harmless Amusements. No One Causes Any Trouble . . .

At this point my nose hits the key as I fall asleep over the typewriter.

When I woke up and read what I'd typed so far, I was forced to realise that while people behaving decently towards each other is all very laudable and as it should be, it makes for very dull copy. What else could I write about? Perhaps things were livelier in the towns? I decided to visit a few friends, urban dwellers, to see if they had any ideas for

the column. Not of course that I intended to put it that way. Can't have it known that Filly is short of ideas, I have my reputation to think of.

"Oh, hello, Filly, long time no see," said my friend, opening her suburban front door. "Short of ideas for your column again?"

Who needs friends, anyway?

We sat down with coffee and I put it to her that we had surely seen the last of the wally, who had presumably got fed up with respectable, law-abiding CBers and had gone to make life miserable for some other unsuspecting section of society.

My friend, a well-known local monitor, choked into her coffee.

"You've got to be joking," she said. "If you haven't got any out in that backwater of yours, you can have a few of ours. Come and listen for a bit."

We listened in to a few conversations, and within about 15 minutes in came a snarling voice. This is a family magazine, so here is a censored version of what it said:

"xxxxxxx xxx xxxxxx in your xxxxxx xxxxxxxxxxxx xx x you xxxxxx xxxxxxxx xxxx off."

"It's always worse in the evening," my friend sighed. "And at weekends. You'd think they'd have something better to do, wouldn't you?"

"They ought to lose their licences, at the very least," I said, frowning disgustedly at the rig.

"We report the ones we can identify,"

said my friend, "but we have a lot of through-routes passing by here, and most of these characters seem to be passing through, spreading their very own brand of joy and comfort. I'd be surprised if any of them have CB licences to lose, anyway."

I asked her if she had any trouble with them personally, seeing as she was often on the air passing on traffic reports and helping lost motorists. She grinned, rather wickedly.

"You know how it is, a lot of the truckers on regular runs know me," she said. "Since the day some little rat gave me a mouthful, and one of my pals weighed in and told him to watch his mouth if he didn't want to open his door one day and find an eight foot eighteen stone trucker on his doorstep, well, I haven't had too much trouble! It's discouraged the local bucketmouths, anyway."

I drove home rather depressed. If my friend's daily experiences are anything to go by, the wally, it seems, is still with us. Perhaps he always will be. Bullies and show-offs love an audience, and unfortunately, CB provides them with a readymade audience - allowing them to stay safely anonymous. We had been lucky in our village to stay so relatively free of them.

I sat down at the typewriter again and frowned at it. Suddenly, an article on A Quiet Year on the Little Puddlefoot Airwaves didn't seem such a bad idea after all . . .

7TH BIRTHDAY

To celebrate seven glorious years of the existence of *Citizens' Band* magazine, here is your chance to win some fabulous goodies from some of the top suppliers in the world of CB.

The total value of the prizes to be won is over £1,000, thanks to the help of Nevada Communications, Truck King, Sharman's Wholesale, Pama & Co and Freeman and Pardoe.

All you have to do is to fill in three answers correctly on the form below and – this is the important part – cut out and save it! The next two issues will have similar forms (but naturally with different questions). So, on completing the third form in the February issue, send all three in TOGETHER to: BIRTHDAY BONANZA, *Citizens' Band*, 1 Golden Square, London W1R 3AB.

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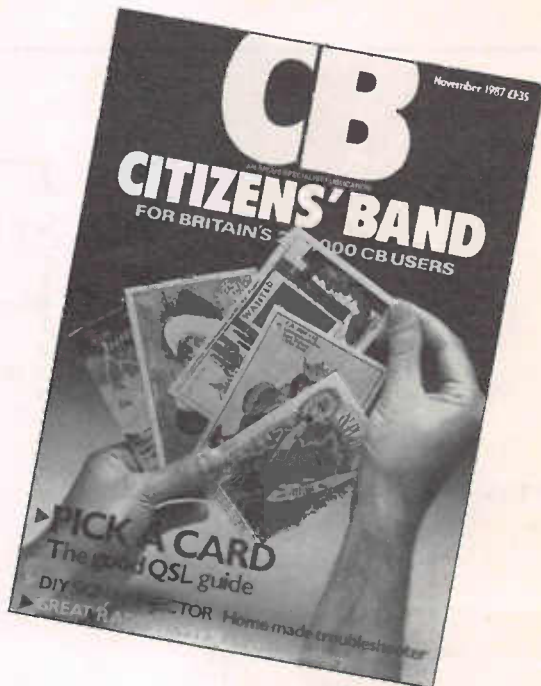
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Entries to: BIRTHDAY BONANZA, *Citizens' Band*, 1 Golden Square, London W1R 3AB. All entries are non-returnable and become the property of Argus Specialist Publications on submission.

RULES: Winners of the competition will be the first picked from the bag with all answers correct. By entering, all competitors will be deemed to have accepted and agreed to the rules and instructions. The Editor's decision on all competition matters will be final. No correspondence will be entered into and there will be no cash alternatives to the prizes. Winners will be notified by post. The closing date for the competition will be March 26th 1988. Please note that ALL THREE entry forms must be submitted together. Separate entries will not be eligible.

Name

Address

Telephone

- QUESTION 7: In which year was the film 'Convoy' released?
- QUESTION 8: Which American singer recorded the song 'Convoy'?
- QUESTION 9: Which British DJ recorded a comedy version?

ANSWERS

- 1
- 2
- 3

CB IN DEPTH

(part 11)

Paul Coxwell now looks at the odds and ends of a typical rig

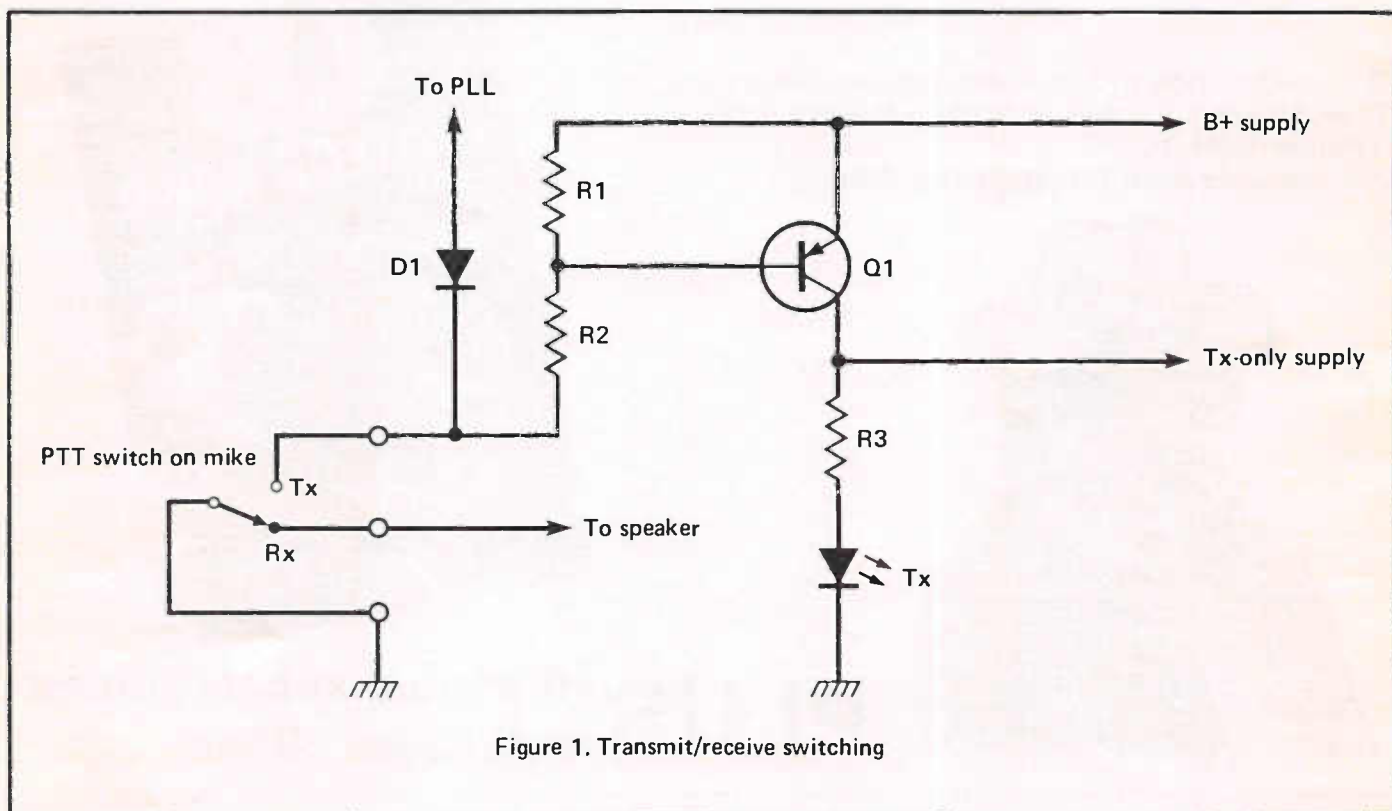


Figure 1. Transmit/receive switching

We have now examined the bulk of the circuitry in a typical rig that logically fits into a sequence. To finish off we have a few odds and ends that don't conveniently slot into one of the previous categories of circuit. These are all small, simple pieces of circuitry that tie the others together and complete the transceiver; there's no more complex math as with the PLL so at least for this month it's all downhill.

Transmit/Receive Switching

In the early rigs it was common to employ relays to change over between reception and transmission. The coil would be wired across the incoming supply with the push-to-talk switch of the microphone in series so as the relay was energised during transmission. One set of contacts would then switch the antenna from the receiver RF amplifier

to the transmitter final, another would remove power from the receiver section and apply it to the transmit chain and so on. These beasts have largely disappeared from modern rigs, although there are still one or two newer designs using them. Transistors are much cheaper and more reliable than relays however, as well as taking up less space in a crowded radio.

In figure 1 one such transistor switch is shown. Note that the transistor is PNP rather than the more usual NPN used in most other parts of the rig. Switching circuits often make use of combinations of PNP or NPN transistors in this way. With the set on receive R1 keeps the base of Q1 at the positive supply voltage and because the emitter is connected straight to this rail the transistor remains cut-off. When the mike is keyed the base of Q1 is grounded through R2 causing the voltage at the base to fall and so turning the transistor on. Power is applied to the transmitter sections and

the "Tx" LED lights.

At the same time the T/R line to the PLL (if needed) is grounded via diode D1 and the normally-closed contacts of the mike switch break the circuit to the speaker. Remember that in many designs the audio amplifier is used on transmit too so this prevents one's own voice being heard. The switching transistor does not have to be very large as the current passing through it during transmission is minimal. The main driver and output stages have power applied all the time and usually all that is done to disable the transmitter is remove power to the amplifiers between the VCO and driver.

A more elaborate switching circuit involves an extra transistor to remove power to the receiver stages during transmission as well, though obviously any audio sections common to both must be left energised. This is another area of the transceiver where there is wider variation between manufacturers

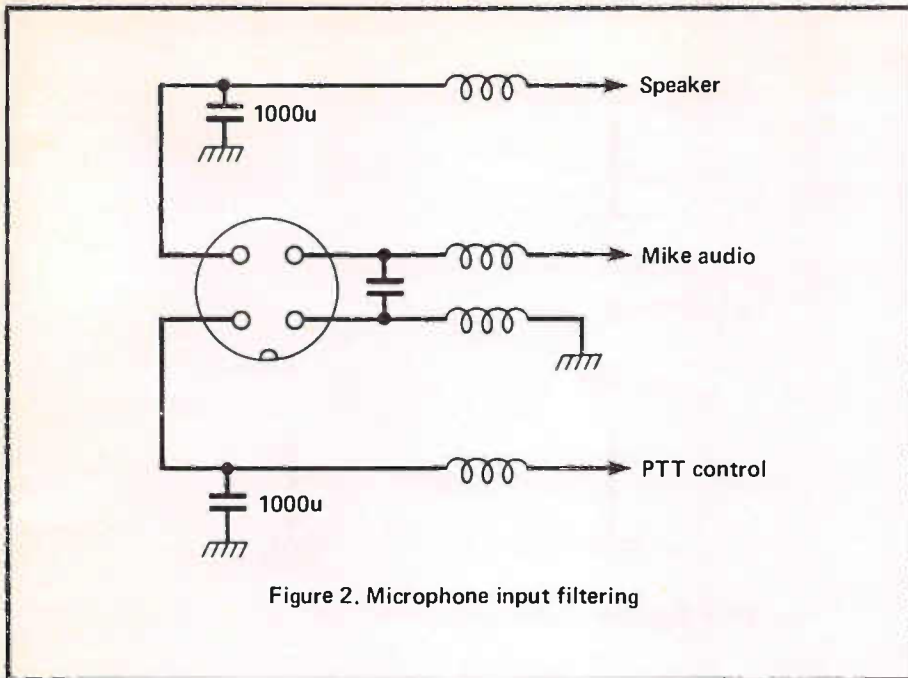


Figure 2. Microphone input filtering

than with say an RF amplifier. All the circuits work around simple DC transistor operation however so there should be little difficulty. The main point to look out for is whether a particular transistor is NPN or PNP as this is sometimes difficult to tell with the smudged photocopied schematics we often find in CB service manuals.

Whilst on the subject of switching it is worth mentioning the filtering used at the mike connector. Usually a small choke is inserted in-line with each conductor and capacitors used to decouple to chassis. This is to prevent stray RF being fed back into the rig. Considering that the time the microphone itself is in use is while the transmitter is delivering power to the antenna this is important. The audio level on the mike input is very low and RF signals there could easily upset the proper operation of the audio

amplifiers. Figure 2 shows how such filtering is wired. The capacitors are placed as close to the input as possible, usually right on the tags of the socket. Sometimes a small PC board is soldered to the socket for all the components.

Power Input and Filtering

Power is fed to the rig from the usual two-core cable with fuse into the connector at the back. Here you will find coils and capacitors that are intended to filter the supply and remove unwanted hash from the vehicle's electrical system. Figure 3 shows a typical method. Quite often the two in-line inductors are placed so as to connect the power plug to the main PC board. The diode normally has no effect as it is reverse biased, but in the event of a careless user connecting the supply the wrong way round it becomes forward

biased placing what is almost a direct short across the input and blowing the fuse, thus protecting the rig. This diode incidentally, is often found to be burnt-out when a rig has been so connected with too large a fuse in-line! Luckily they generally short out completely but if they go open circuit the chances are that the rig will need extensive replacement parts.

The larger iron-cored choke will always be on the main board and it resembles a small audio transformer. This provides filtering at lower frequencies in conjunction with capacitors. The exact arrangement varies but the idea is the same. In some rigs for instance the protection diode is soldered right across the power connector just inside the chassis. From here power passes to the on/off switch and then onto the rest of the rig. The switch may be before the filtering of course but the modern trend is to wire it as in the diagram, after the filters and protection diode.

At this point it is appropriate to mention grounding arrangements. Looking at the schematics of many transceivers you will notice the use of two different symbols. Figure 4 shows the two normal types and originally these had distinct meanings. The symbol at (a) meant a connection to ground (earth) and that at (b) a connection to the equipment's chassis, which may or may not also be grounded. The exact meanings have become somewhat blurred but often on a diagram you will see one symbol used to indicate a connection to the main common negative rail on the PC board and the other to signify a connection to the set's outer metal chassis.

Strictly speaking of course in a mobile environment there is no ground connection at all, everything is running on four rubber insulators! At radio

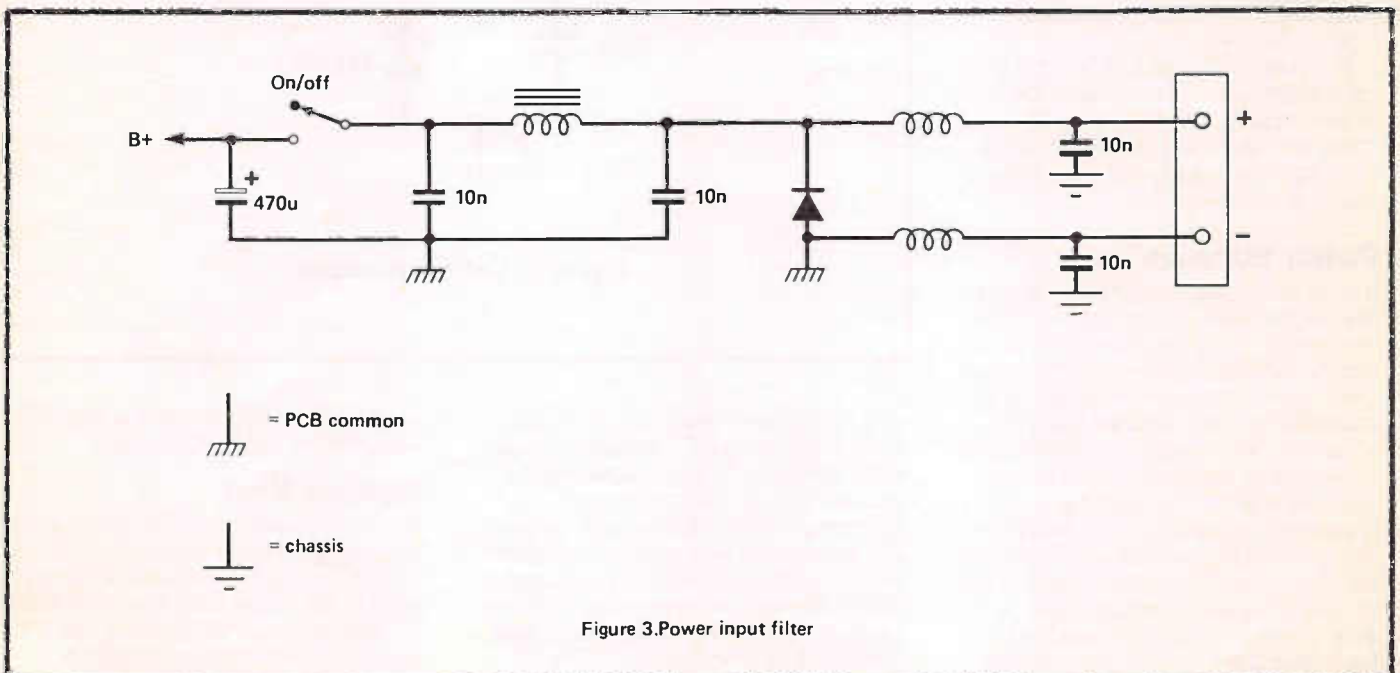


Figure 3. Power input filter

frequencies the capacitive effect causes the car body to be effectively grounded. In some radios the negative common rail on the main board is directly linked to the metal chassis but more often it is not. In this case the chassis is said to be *floating* and you will almost always find a handful of capacitors between the chassis and negative rail scattered around the outer edge of the board. These prevent stray RF getting where it shouldn't. Of course with a rig installed and wired to a car electrical system the negative line will be connected to the chassis anyway (assuming a negative-ground car) but RF is sneaky stuff and can manage to creep in the most expected places!

Voltage Regulators

The input to a rig may vary between about 11 and 16 volts depending on the state of the battery, whether the engine is running and the alternator charging and so on. To some of the rig's circuitry this is not too important but to sections such as the crystal oscillators and PLL it can make a world of difference. A separate voltage regulator is therefore used inside the rig to supply these circuits that need extra regulation. Figure 5 shows what is involved. The audio amplifier and RF output stages of the transmitter aren't too fussy and are usually fed straight from the incoming power. R1 feeds power to D1, a zener diode, which results in a stabilised voltage appearing at the top end of diode. On its own however this circuit is too sensitive to changes in load so an emitter follower is inserted. The voltage at the base of Q1 is held at a steady value determined by the voltage of D1 and the emitter will always be 0.6 below this value because of the forward voltage drop on a silicon junction. Sometimes an integrated circuit is used to replace these discrete components, these just have three connections - input, output and ground.

A regulator such as this is not always used depending on how critical the rest of the circuitry is and you may also come across individual resistor/zener combinations feeding just one or two sections where needed.

Power Supplies

It is no secret that many base stations are just the equivalent mobile transceiver in a larger box with a power supply. The PSU design resembles that used in separate units consisting of a mains transformer, rectifier and smoothing and voltage regulator to give a reasonably constant 13½ volts or so. The regulator is often based around the type we have just seen but using a zener rated at about 15V and transistors capable of handling more current. A pair of transistors are commonly used arranged in the complete supply as in fig. 6. With the 15v zener we therefore

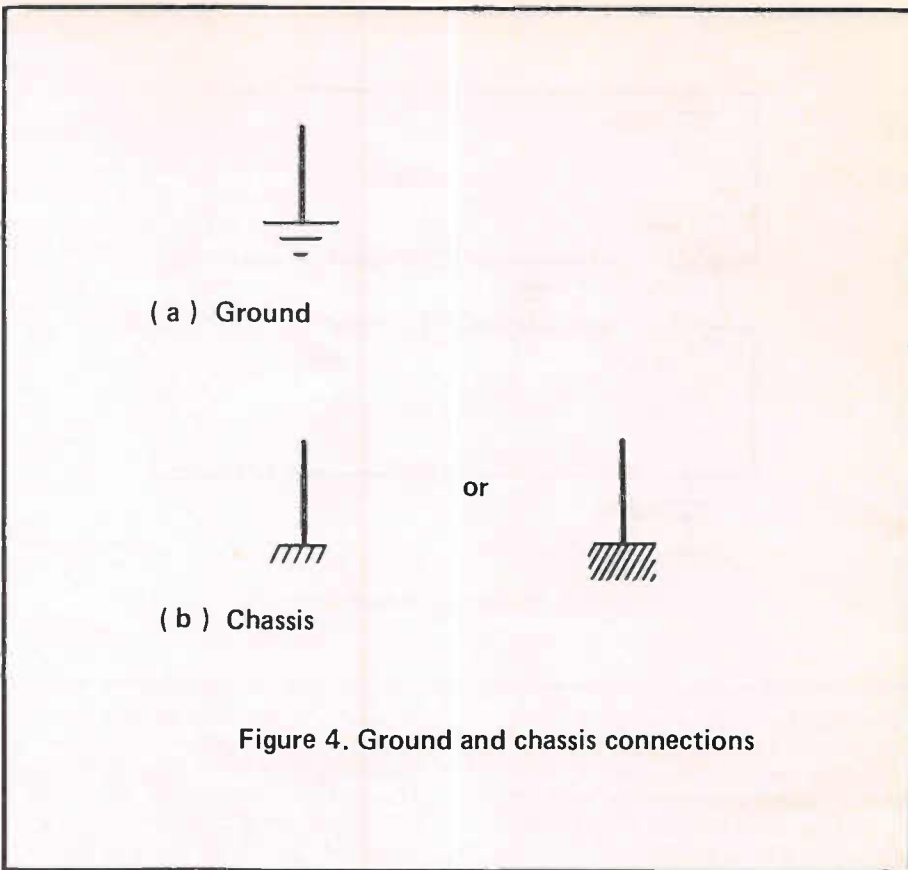


Figure 4. Ground and chassis connections

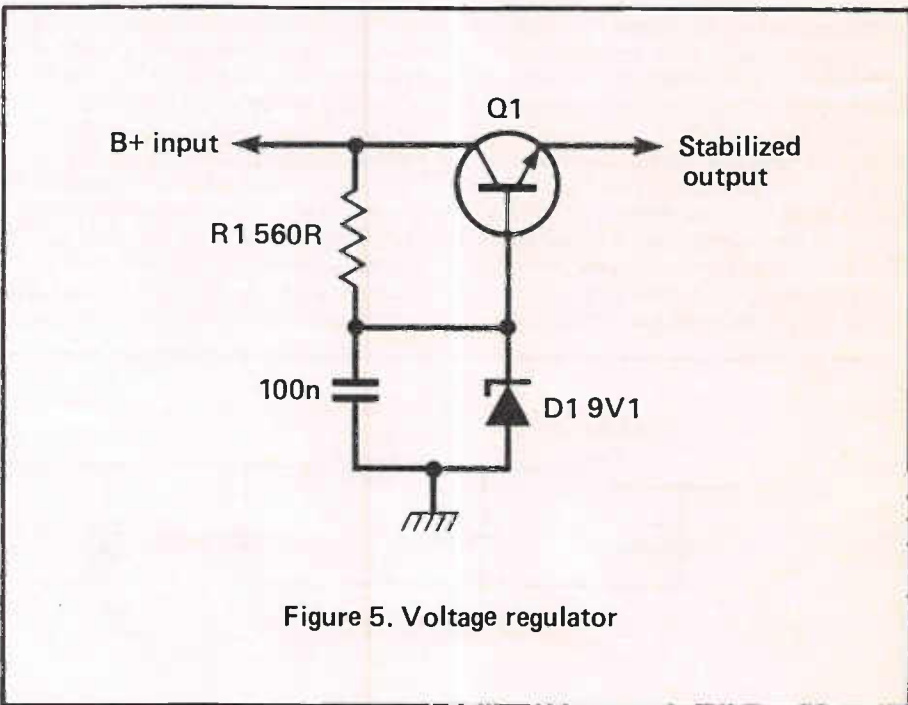


Figure 5. Voltage regulator

end up with a stabilised supply of 13.8 volts, there being 0.6V dropped through each transistor. The circuit shown incorporates provision for running the set from an external 12v supply as well, this is achieved by a selector switch on the rear panel. Note that the set's on/off switch does not remove power from the complete set, only the main board itself. This is the case in quite a number of

such transceivers; only a few include a switch in the 240 or 120v input.

Coming Next

We've now covered all the circuitry in a typical rig, although obviously much more could have been said about each section. So far we have only seen basic AM operation so next month it's time to see how an FM transceiver differs.

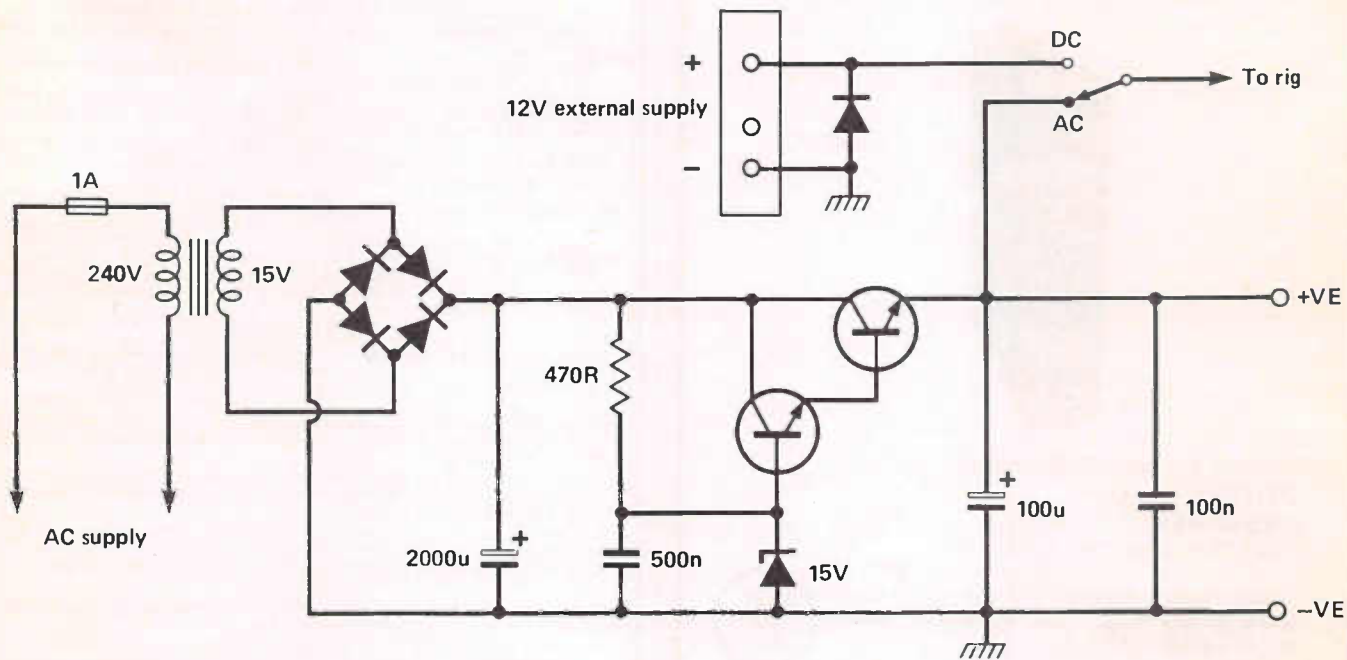
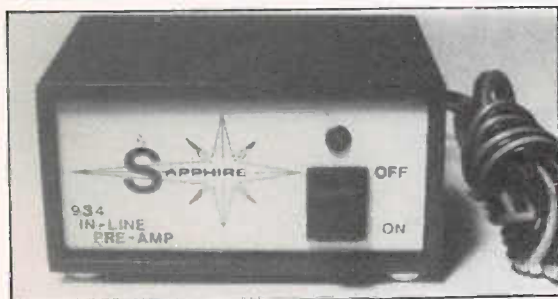


Figure 6. Power supply unit

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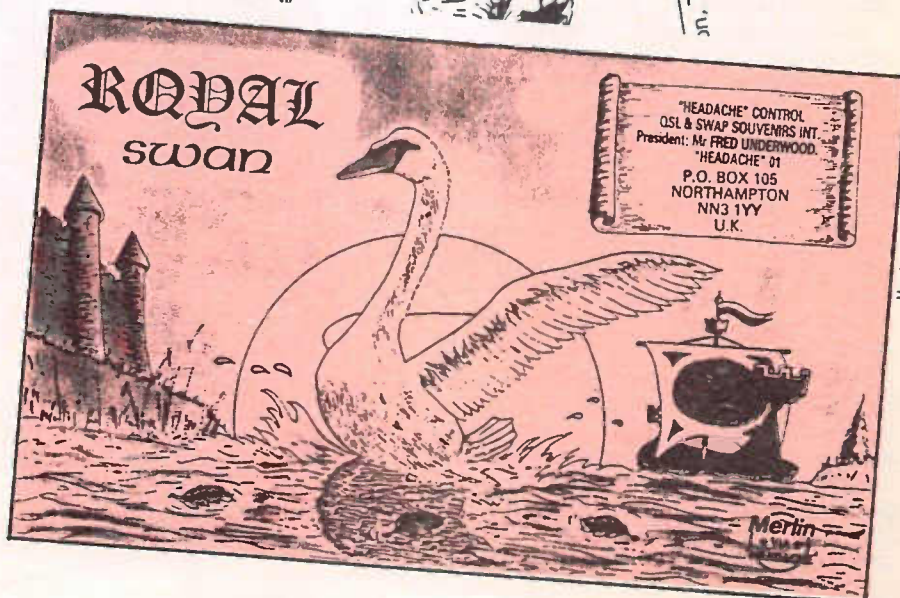
More names and addresses from QSLers all over the world, courtesy of David Shepherdson

Once again I'd like to say thanks to everyone who has been in touch with details or updates of various events being held later this year. To those of you who are organising a "do" and as yet haven't let me know please do get in touch with even outline details as surely your event would benefit from a mention in these pages? Come on, please put pen to paper and let me know of any more events going on around the country this year. As I said last month, it can be a general all-round Eyeball, a card-specific meeting, a sponsored modulation or anything to do with CB radio! If you send it via the magazine's address, please allow at least an extra month before I see it and do please remember that I will need plenty of notice of the event.

Last month I mentioned that Keith (*Canal Man*) was not replying to QSLs sent to him, and was not swapping a collector series card in the spirit of the series or QSLing. I did say then that I had been informed that he was actually a DXer and only QSLed on a QSO. Well, I've since been informed, by a friend, that Keith's collector cards have been taken over by Ken (*Beerman*) as the cards were asked to have a Collector's Number by a friend of Keith so Keith didn't know about the Collector Series Guidelines. The card can be obtained by writing to Ken and I'm sure a SASE would be appreciated. Over the past few months I've asked for info on the Freightliners Club and I've since heard (that's right, gossip) that there will be some delay before Ian will be able to reply, so please bear with him and be patient.



on, Telford, Shropshire, TF1 1SD, England.



Headache - Currie Collector No. 466

To start off with the names and such forth this month I've some bad news passed to me by Harry (*Rusty Bell*) of Norfolk who asks if I will let you know that Bill (*Ironsides*) who is seriously ill and would appreciate a friendly card or two, but please don't expect or ask for a reply. So, come on, please help to cheer him up a little!

A request in from France now from Nicolle Philippe who has a collection of over 200,000 QSL cards but has now stopped collecting them. However he is still active with postage stamps and wonders if there is anyone who would like to exchange stamps with him. A card comes to hand from Tricia and Stephen (*Honeydew* and *Centurion*) of Tyne & Wear and as she's a fairly new QSLer, I'm sure she would like any help anyone can manage to swell her collection.

Last year I received a letter from Karen (*Action Lady*) or the Organised Radio Club regarding the ORC Grand Social Night which had unfortunately arrived just too late for inclusion in the Events slot. The ORC meets every Wednesday in the Glasshouse, Codnor and I'm sure anyone visiting the area who calls in would be welcome. The Club has a DX Section which costs £5, for which you receive your Unit number, ID Card, QSL cards, stickers, DX Certificates, club stamp, use of the PO Box and a quarterly Club Magazine, of which Karen is the Editor.

A couple of changes of addresses have been passed on to me and they are those of Steven (*Wells Fargo*) formerly of PO Box 288, Eastkilbride who now uses PO Box 275, Uddingston, Glasgow. Kate (*Funny Bunny*) has moved to 38 Mill Bank, Wellington who has had some new Black Rabbit cards done along with her sets of hot foil cards.

Some super cards in from John (*Green Falcon*) who sends out an absolutely massive package of cards, tourist information leaflets and so on! Well worth a good QSL for.

Another bumper bundle of cards in from Andrew (*Andy Pandey*) of Cleveland who even sent a History of CB sheet. This one claims that the Romans brought it to the UK, they called it *Bandus Citizenicus* (BC). I've seen one other that claimed the Red Indians invented it for rainy days, but I can't lay my hands on that one! If anyone has any other versions I'd be very pleased to see them.

Moving on to some Club News now, I've a few details of the Bravo Charlie International Radio Group of Belfast here. The Group was founded for all 11 meter band operators and any mode of transmission is acceptable. Membership costs £2 for package "A" and £10 for package "B". Package "A" consists of Unit Number & ID card, 10 QSL certificates, 10 envelopes, selection of

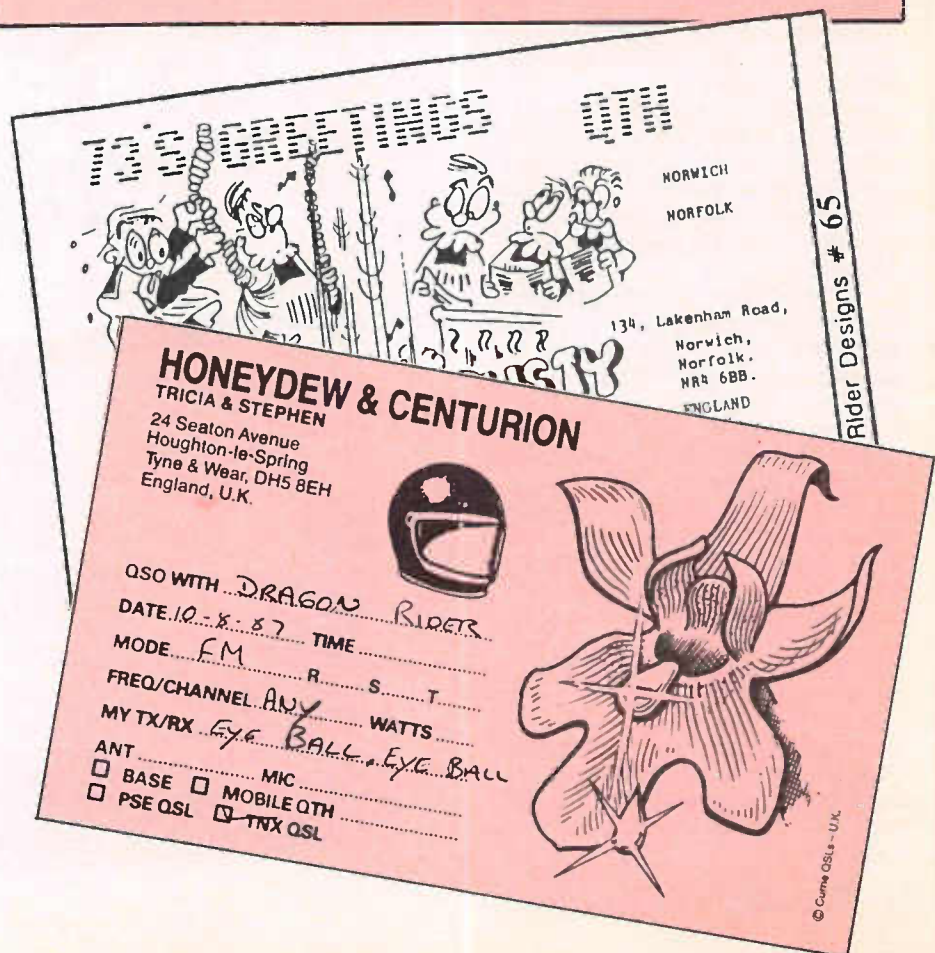
QSL CLUB ADDRESSES

Bravo Charlie Int	PO Box 245, Belfast, Northern Ireland, BT14 6JW
Headache Control Organised Radio Club	PO Box 105, Northampton, NN3 1YY. PO Box 3, Heanor, Derbyshire, DE5 0HW
Sunshine State QSL Swap	PO Box 260, Mayborough, Queensland 4650, Australia
Dragonrider 001	3 Tarn Villas, Cowpasture Road, ILKLEY, West Riding of Yorkshire, LS29 8RH

When writing to a QSL Club or Service always include return postage to assist with the reply, it really does help!

QSLer ADDRESSES

Ken (<i>Beerman</i>)	42 Eastbourne Gardens, Beacon Lane, Cramlington, NE23 8JP
Harry (<i>Rusty Bell</i>)	134 Lakenham Road, Norwich, Norfolk, NR4 6BB
Bill (<i>Ironsides</i>)	"Cherry Trees", Camerton, Thorngumbald, Hull. PO Box 10, 88480 Etival, FRANCE.
Nicolle Philippe	24 Seaton Ave, Houghton-le-Spring, Tyne & Wear, DH5 8EH
Tricia & Stephen (<i>Honeydew</i>)	PO Box 275, Uddingston, Glasgow, G71 7HP
Steven (<i>Wells Fargo</i>)	38 Mill Bank, Wellington, Telford, Shrops, TF1 1SD.
Kate (<i>Funny Bunny</i>)	17 Fell View, High Spen, Rowlands Gill, Tyne & Wear, NE39 2BW
John (<i>Green Falcon</i>)	56 Miller Crescent, West View, Hartlepool, Cleveland, TS24 9QX
Andrew (<i>Andy Pandey</i>)	



viewcards, tourist info, welcome letter & application forms. Package "B" is the same as "A" plus a Group stamp, a gift and one for your XYL. It's cash only so as in all cases of sending cash through the post, I do suggest that you use Registered Post for safety.

Now, I've had a whole bunch of letters and stuff from a club that puts out a real package and only charges £3, though if you want a club stamp, then the cost is £5.50. This is the Headache Control QSL & Swap Souvenir International which is, in fact, shortly to celebrate its fourth birthday! Details of the Club package first, then details on something that Fred (HC 001) is running. For your £3 you get your Headache Unit number, ID Card & colour wall-mountable certificate, 10 full-colour Club QSL cards, QSL tips, 100% Headache members List, price list, welcome letter, exchange invites and QSLs, pen and so on. Extras available include packs of 50 FCC Club QSL cards for £3, and envelopes at £1 for 25 and an embroidered patch for £2. Alternatively you can send for the Special Full Pack for, £6 which has 20 items plus a souvenir included. Now, what is Fred up to? He is running a competition this year which is open to Headache members and non-members too. Any member who copies Fred on the air gets a prize of 50 of the new design Club cards or a sew-on patch or whatever. For non-members who make contact with Fred, the quiz is: what does his callsign stand for? The prize for getting this right



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Scottish C.B. Newsheet	C/o 'Arnail', Patison, Neilston, Glasgow, G78 3AT. One years Subscription £2.10

FORTHCOMING EVENTS 1988

Sponsored Marathon Walk between Arbroath and Stoke on Trent starting Monday April 4th in aid of Multiple Sclerosis/Blackfriars Special School by Phillip (*The Wanderer*) & brother. Anyone on the route who wants to eyeball or sponsor them will be most welcome. Contact Ad: PO Box 4, Arbroath, DD11 1HS, Scotland.

April Bank Holiday Weekend - Co Durham Giant Eyeball '88 held by GBQDC at the Stanley Youth Centre, Stanley. Contact Ad: GBQDC Eyeball '88, PO Box 5, Consett, Co Durham, DH8 8LT.

April 1988 - Cutty Sark POMA Meet - Cutty Sark Club, 116 Bradenham Ave., Welling, Kent, DA16 2JG.

April 1988 - Cutty Sark POMA Meet - Cutty Sark Club, 116 Bradenham Ave., Welling, Kent, DA16 2JG.

May 1988 - Southport Charity Eyeball - Tango Papa (83), PO Box 13, Southport, Lancs.

June 11th & 12th - Worthing DX & QSL Group 1988 Eyeball being held at the Worthing Rugby Football Ground. Sat. Car Boot Sale & Evening Disco/Supper, Sun. WDX Eyeball, Club/Trade Stands etc, etc. Contact Stuart (WDX 01), PO Box 404, Worthing, West Sussex, BN14 7EB.

June 19th 1988 - Sheffield Charity Gala & CB Eyeball held once again at the British Steel Sport's Ground, Tinsley, Sheffield. The venue is approximately one mile from Junction 34 (M1). Contact Derek (*Roadrunner*), PO Box 275, Sheffield, S2 5HY for further details a little nearer the time.

June 26th 1988 - North Wales Breakers 1st Annual Eyeball held at the Nova Complex, Central Beach Prestatyn, North Wales from 11am until 1630hrs, with an evening of entertainment from 1930hrs to 2300hrs. Contact Ad: Derek (*Red Devil*), PO Box 35, Prestatyn, Clwyd, LL19 9YH, (or 0745686564)

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.

is a bumper Headache package upon receipt of their QSL Cards. Now, shall I tell anyone who's not sure what Fred's callsign stands for? Hmmm, no, that might be cheating!

Just for a change, always providing I can find where I put the details, how about some info on a "Down Under" Club? The club in question is the Sunshine State QSL Swap Club of Queensland which is run by an old friend of mine and I'm sure, yours, Graham Habler. Membership costs £8, or £10 including Air Mail, and 10 of your

own QSL cards, or viewcards, each showing your full name, QSL address, signed and dated. For this you will receive your SS Unit No, ID card (XYL free), wall certificate, mounted stamp, roster, 10 club QSLs, state map viewcard, car sticker, exchange cards and invites, local tourist info, stamps and coin, etc. Graham has also started what he has called a "New Concept in QSL Clubs"! This is where each member automatically QSL's 100% with every other member of the group and every member of each group of 50 members

is therefore assured of receiving a card from all other members. Cost of membership is £15 and I recommend you send for an application form here so that you can see exactly what information is required and what you get for, as Graham himself says, it is a new concept!

Basically what happens is that upon receipt of your application, 120 personalised Club cards showing the details supplied by you (which is why I recommend you send for the necessary application form). You are then sent your ID card, 50 of the personalised cards for your own personal use, 20 of these cards, with an application form on the back, personalised group QSLs up to your number. As membership increases, you receive more cards until you have the full set of 50 in your group. For each application received for your special cards, you then get a voucher for A\$1 redeemable against memberships to future groups. If you encourage 20 members to join, then you get *free* membership! Should you send for further info on this club, please remember that a UK stamped SASE is *no use* outside the UK, therefore to assist overseas clubs to reply, you should send at least a couple of IRCs (International Reply Coupons) which are available from your local Post Office. An IRC, although it costs some 55p (as I write this) is, in fact, only worth some 22p when redeemed, so it is worth remembering that two are usually enough for postage from Europe, but three or more are required for post from the States or Australia, and even then, it will depend on the weight of the package being sent whether or not it goes Surface or Air Mail.



Currie Collector No. 520

BRAVO

CHARLIE

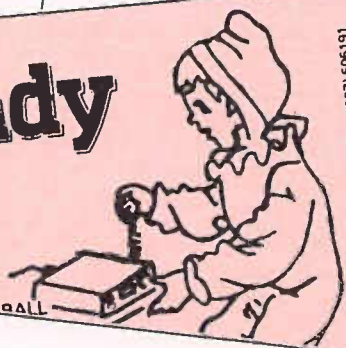
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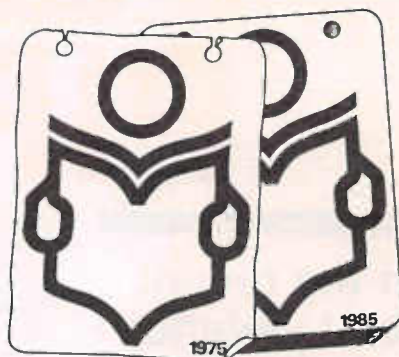
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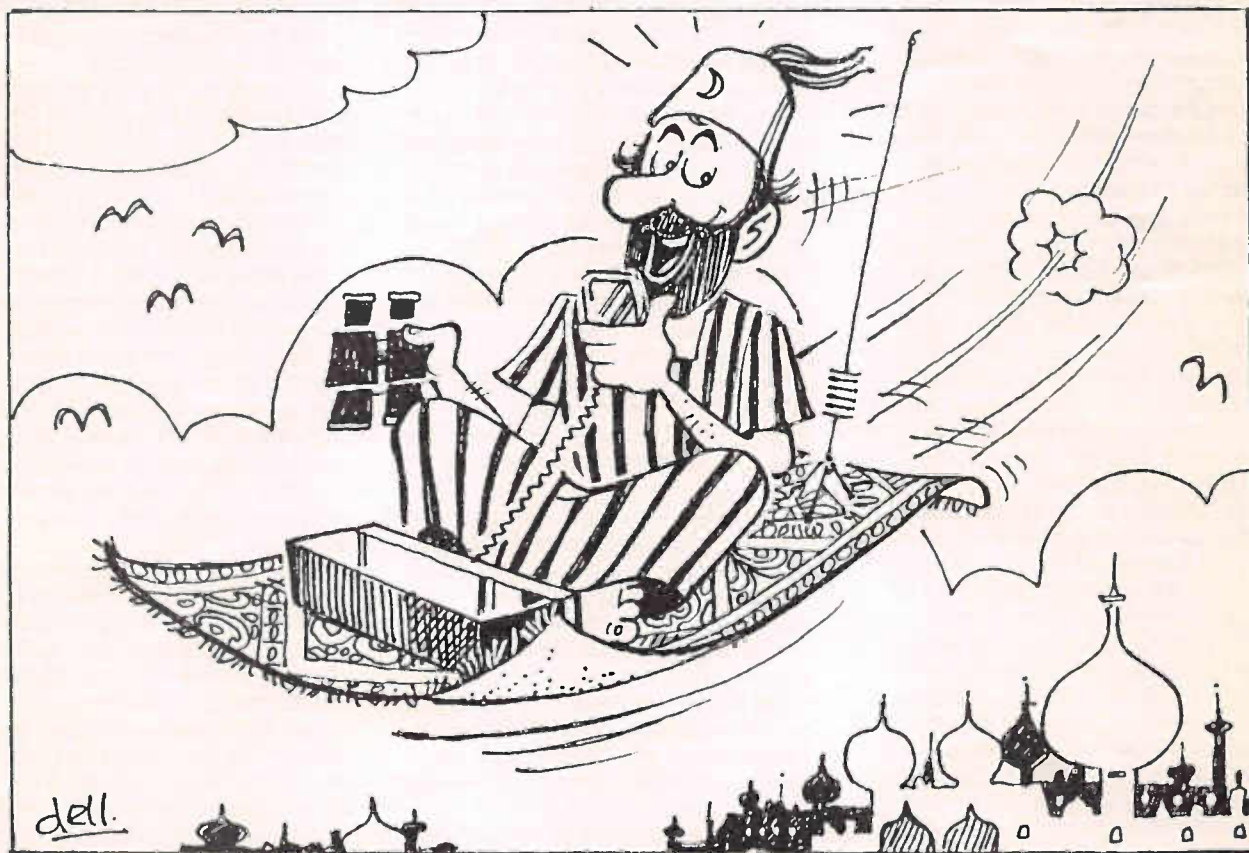
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"... A CAMEL HAS SHED ITS LOAD ON THE BY-PASS - BUT THEN IT'S ALL CLEAR THROUGH TO BAGHDAD!"

PLAYING PIRATES

With the recent spate of violence against the RIS, Smart Alec is concerned about a recent publication

Did you see Industry Minister John Butcher on the haunted goldfish bowl, not long ago, asking the public for help in protecting RIS officers in the course of their duties? Why should such a request be necessary? Way back in the early days of the CB campaign, the occasional fracas occurred between enthusiasts and the men from the ministry, but lately things have been getting out of hand, with reports of no less than nine officials have been attacked in six months.

By its very nature, radio investigation work has its difficulties but this state of affairs cannot be allowed to continue if we are all to have a fair share of the airwaves. Although many of the reported attacks have been blamed on pirate broadcasters, all of those we contacted were vehement in their condemnation of such action. One gentleman summed up their collective opinion in the following terms: "Like the early CB users, we believe we are being denied a basic freedom. Our eventual aim is to persuade the authorities to recognise the value of local, especially ethnic minority interest broadcasting. At the moment our task is hard enough and nobody in their right mind would seek to make matters more complicated by introducing violence. However much we might disagree with the job they do, our argument is not with the RIS but with the outdated and outmoded laws they are trying to enforce. The use of violence can only damage our cause and we are beginning to believe that that is the precise aim of those involved in it."

As this seemed to be the honestly

held view of most pirate broadcasters, we began to wonder where the violence really did originate. The apparent answer lay in Mr Butcher's televised comments, he made brief mention of a book which he ascribed to an anarchist organisation and which, according to his comments, exhorted pirate operators to violence and much more. Intrigued, we went in search of this underground publication. We were amazed and disgusted at what we found!

The first thing I learned from a publication riddled with inaccuracies and, to say the least, economical with the truth, was that as licensed radio users and regardless of how we vote, you and I are the lackeys of the fascist capitalist system. I cannot speak for you but, in my own case, I can name a number of MPs, a few civil servants, and even the odd government minister or two who might tend to disagree. Even the majority of pirate broadcasters, whom the book claims to support, fare little better. If the publishers of "Radio is my Bomb" are to be believed, then most of them have been set up with the connivance, possibly even the co-operation, of the government, in the guise of MI5, in order to crowd out "real" pirate radio, which apparently consists of endless anarchist propaganda. As an example of their twisted thinking, those of you who remember the London-based pirate station, Radio Jackie, will doubtless be interested and perhaps even amused at the suggestion that it was no less than a CIA organisation. The sole idea behind the concept of community radio broadcasting, if these people are to be believed, was to get Radio Jackie a licence.

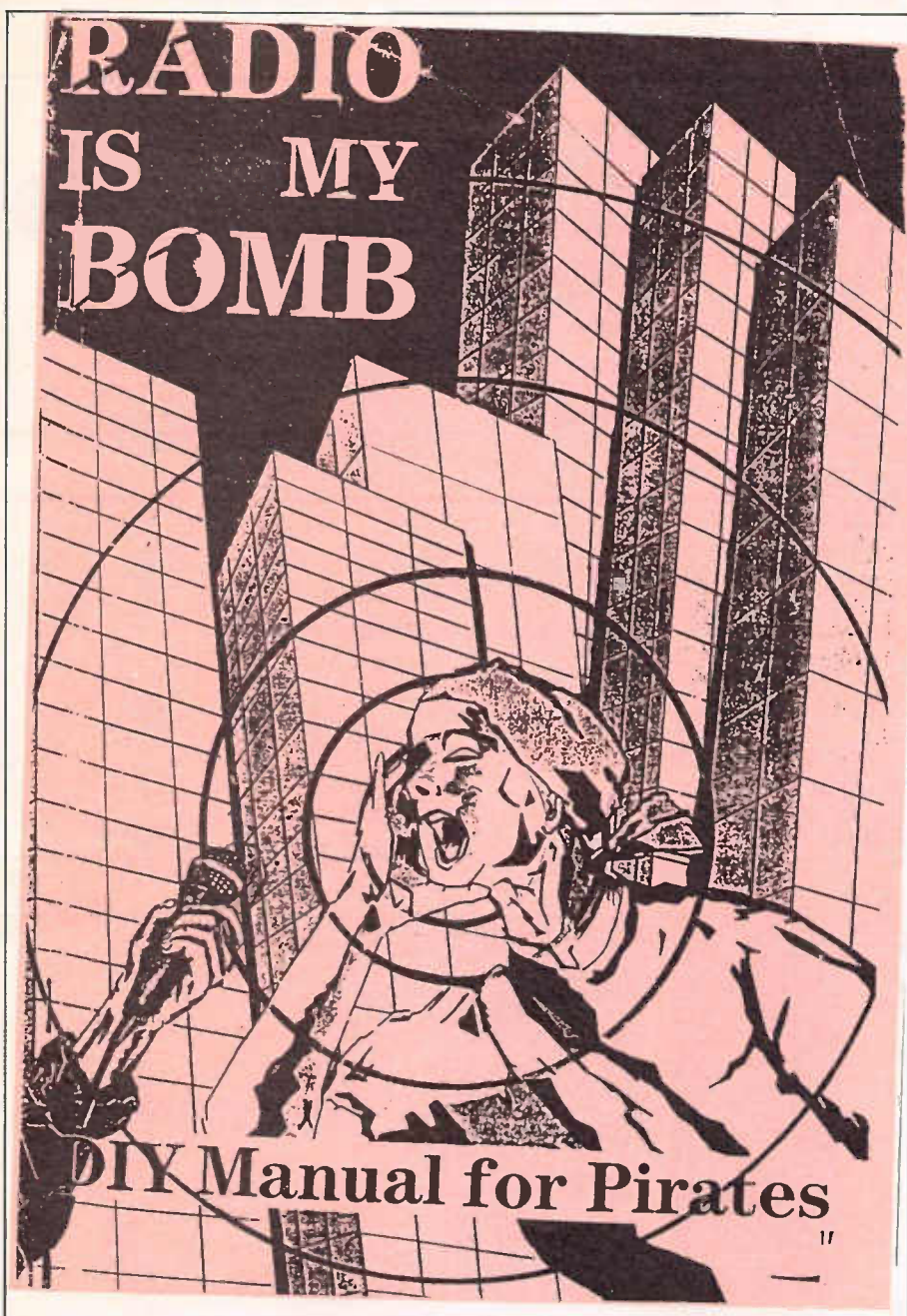
Couched, in places, in the language of the gutter, the booklet demonstrates a degree of paranoia which would send the average "trick cyclist" into paroxysms of glee. Its main theme seems to suggest that the only pirate stations worth supporting are those which aim to overthrow everything from democracy to the Milk Marketing Board. The politics of both left and right are viewed with equal cynicism. Listening to music is dismissed as bourgeois and this would seem to be all the justification needed for "political" (invariably anarchist) radio pirates to broadcast over the signals of popular licensed stations and then complain of victimisation if they are caught. Stations

which the book claims have suffered from such activities include LBC and Radio Hallam, whilst Nottingham's Radio Trent was, for a time, overlaid with anarchist propaganda in the name of Radio Arthur, an apparent tribute to one Mr Scargill. It seemed that nobody bothered to ask whether or not he was flattered.

A dissertation on the virtues of "political" radio in which we are regaled with the supposedly glorious histories of several anarchist or "peace" stations is closely followed by a thumbnail sketch of pirate broadcasting throughout Europe and much of the rest of the world. Time did not permit a thorough check on its contents, but the number of provable errors and inaccuracies with which other sections of the book are peppered left us with little choice but to treat some of the "facts" with deep suspicion. If this section is wholly accurate, then we can only conclude that the rest of Europe and much of the rest of the world is controlled entirely by pirate broadcasters, nearly all of whom are financed by the CIA!

On reading "Radio is my Bomb", the uninitiated might be forgiven for believing that even the most basic radio technology was a closely-guarded secret. A large number of its pages are devoted to reproducing information on simple transmitter and antenna design, complete with diagrams. Whilst the book's publishers would have us believe they were revealing the great mysteries of the universe, we found nothing in this section which could not be gleaned from the pages of any number of more conventional radio magazines. The only significant difference appeared to be the fact that, in this case, we were being exhorted to use them for illegal purposes.

Another fascinating section, headed "Legal Briefing", attempted to explain the offences which pirate broadcasters commit, the penalties they face and their rights in the event of apprehension. I would strongly recommend any would-be pirate to pointedly ignore its advice! Not only is it riddled with statements beginning "We think . . .", it is, in many instances, simply wrong and anyone following its advice too closely is likely to end up in even greater difficulties. Although its assessment of the main offences under the 1949 Radio Telegraphy Act and their relevant penalties was pretty accurate, its advice



on illegal manufacture and importation stated that, up until 1984, "the only order in force was for importation - though this appeared to apply only to CB rigs (with an inbuilt or connected microphone or socket) and that the only penalty was confiscation . . ." The writers appeared to have not noticed the fact that by this time CB had been legal for three years. Neither do they seem to realise that a similar prohibition to that once applicable to CB rigs still covers transmitters intended for use between 88 and 128MHz, one of the bands which they describe elsewhere as being ideal for pirate operation. In their own inimitable wisdom, they even quote the wrong Act of Parliament in wrongly describing the possible penalties. The ban on manufacturing similar equipment in this country is totally unknown to them!

Among other misleading information contained within this section is the

categorical statement that "Proceedings must be brought within six months. After that, you can forget it." The clear implication is that you cannot be prosecuted more than six months after the date of the alleged offence when, in reality, an alleged offender must be advised of the intention to prosecute within six months from the date on which information was laid before the court. This might be some short time after the date of the alleged offence and still allows for the case to come to court some time after the six months is up. Clearly, the author of this section has spent some considerable time poring over the relevant Acts. What a pity he did not understand them!

The next section, headed "Radio Electronics - a General Introduction", begins by saying that it is *by no means* an introduction to Electronics. (If you are confused, then think how we feel. We had to read the entire book!) It then goes

on to offer a sort of thumbnail guide to the way in which radio waves are transmitted and received. Interesting enough, but I have read far more lucid explanations elsewhere.

On close inspection, it is not hard to understand why Mr Butcher and his colleagues are slightly alarmed by this publication. It variously recommends the use of violence, resisting arrest and producing false names and addresses in an attempt to avoid prosecution. Its authors clearly care nothing for the rights of anyone who does not share their views, as it advocates all other manner of other criminal acts, including theft and the unlawful use of other people's property. We do not attempt to suggest that its authors have been personally responsible for any of the alleged attacks on RIS officers but it is easy to see how their particular brand of propaganda might tempt others into actions which have far more serious consequences than those applicable to running a pirate radio station. What is more, the majority of radio pirates seem to agree that publications like "Radio is my Bomb" only serve to undermine their genuine desire for legal recognition.

Citizens' Band has often been at odds with the Radio Investigation Service but our position on violence is unequivocal. We are completely against it! The day cannot be far away when ethnic and other minority interests are properly served by their own radio stations, many of which might once have operated as pirates, but that day can only be delayed if pirate radio attracts a reputation for violence. Or are we missing the point? Is that really what the authors of this booklet seek to achieve? Could their campaign be directed towards preventing freedom of the airwaves whilst pretending exactly the opposite? To those involved in pirate broadcasting, we can only offer the past example of CB. We understand their frustrations and many of us sympathise with their aims. The wheels of government may grind exceedingly slow but at least they are going somewhere. Or would you prefer the spectre of true "freedom" of the airwaves, in which no-one can be heard because lack of regulation entitles everyone to transmit on top of everyone else?

In their introduction, the book's authors suggest a number of uses to which it might be put. We have found a really useful one. We punched a hole through one corner, tied on a piece of string and placed the whole thing in what we consider to be the most appropriate place.

Our final through must be purely mercenary. If the publishers of "Radio is my Bomb" would care to call us, in the style of self-respecting capitalist lackeys everywhere, we will be pleased to negotiate a price for correcting a few of their so-called facts, along with most of their spelling.

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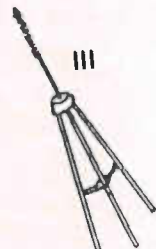
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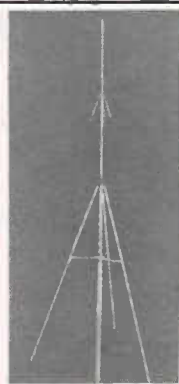


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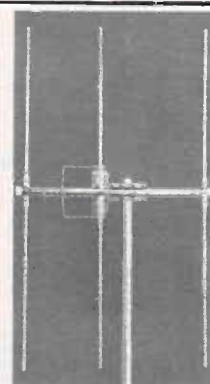
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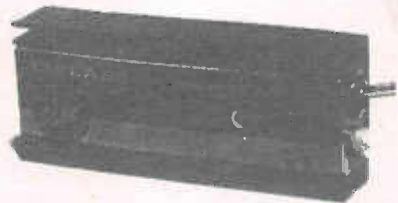
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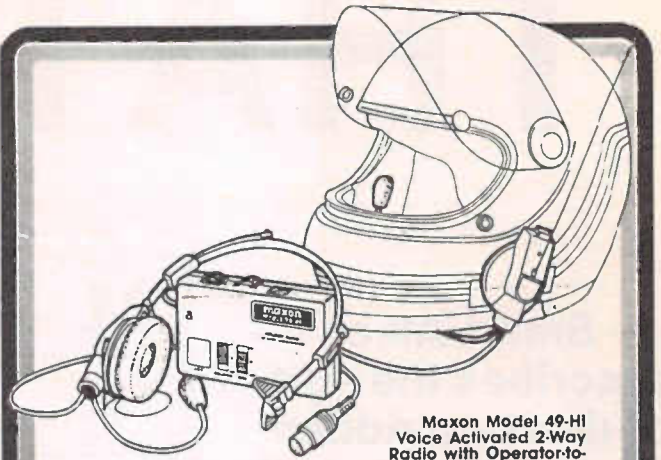
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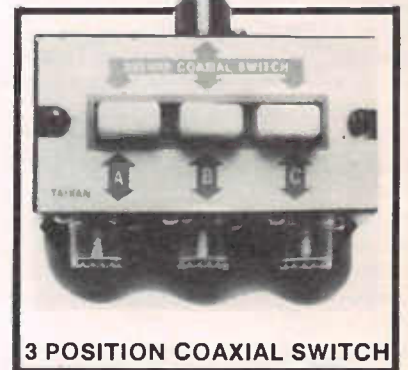
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SHARMAN'S

THAT SORT

Smart Alec describes the sort of disaster-ridden day most of us will recognise

You know the sort of day. The wife's got a headache, the dog's pinched the bacon, the kids are late for school, the postman just delivered the rates bill and the car refuses to start. To cap it all, it's raining. Again! Naturally, you have an urgent appointment and a quick phone call assures you that the guy you were to meet at nine o'clock has already left home.

CB to the rescue! The first priority is to get some form of response from that metal monster lying dormant in the garage, so you put out a call for Fred, from round the corner, who knows all about such things. Not unexpectedly on a day like this, he doesn't answer. What is more, another breaker assures you that Fred's rig is out of action. Aha! A glimmer of hope. You see, for all Fred knows about the intricacies of the internal combustion engine, he knows next to nothing about how to fix a busted rig. A few more pence in British Telecom's coifers and a deal has been struck. Fred will come round and do his best to coax life into that - what was it you called it? - Oh, no. Can't print that, can we? All he asks in return is that you spend the best part of this evening, or however long it takes, endeavouring to put him back in touch with the rest of the world. Well, at least that part of it which can be reached with 4 watts into a mag-mount stuck on top of a biscuit tin.

Fifteen minutes later, a bedraggled Fred emerges from under the bonnet, cursing roundly because the floggle toggle, or some such part has given up the ghost. Needless to say, he doesn't have one and it will take at least two hours and an appreciable decline in your bank balance to locate one. Meanwhile the day is getting worse. The local taxi firm are all out to breakfast. All you can think of by now is that appointment! Visions of a large slice of business going down the drain. Back to the rig. Two or three calls later and you

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have located a breaker going your way. What is more, he has agreed to make the small detour necessary to pick you up. Nothing for it but to put the kettle on and wait until he arrives.

Another thirty minutes finds you painting out breathless apologies for being almost twenty minutes late. Keep cool, son! After all, it's not his fault that you have gone through Hell and high water to get there, only to have him wave your apologies aside with an airy "Oh, forget it old chap. Only just arrived myself, you know." So you sit down to discuss business. Given the way today has gone up to now, it is hardly surprising to find that you have left your briefcase at home. Perhaps this meeting was not such a good idea.

By about noon you have managed to get back home. So it took nearly an hour and a half! So you got soaked to the skin! So what? The customer signed the order, didn't he? The kids finally got to school, so maybe the world is not such a bad place, after all. But wait! There is the car, exactly where you left it. Only now its bonnet is gaping wide, like the jaws of some bestial iron monster. Where is Fred? "Don't know," says the wife, putting in a quick reminder that she still has a headache, "He went off to get the thingummy a couple of hours ago and hasn't been seen since. He brought his rig round, though." The last thing in the whole world you need, right now, is Fred's lifeless rig. The boss has phoned three times, the weather is getting worse and that bacon didn't do the poor dog a lot of good. Serves the stupid brute right

if he hadn't the sense to wait until it had been cooked before wolfing your breakfast. Still, it looks like a job for the vet! Things have to get better. Or do they? Wasn't that the mother-in-law who just pulled up outside?

By now, if you have any sense you would give up and go back to bed. Where the deuce has Fred got to? At long last he returns, brandishing a replacement for the worn-out whatsit. "Take about ten minutes to fix," he announces, so cheerily that you could happily hit him. "Just hold it in place while I tighten it up." Did madam really have to choose precisely that moment to announce that lunch was ready and wouldn't keep?

Two o'clock. At long last Fred has that expensive heap of tin making the right kind of noises and - wonder of wonders - it has stopped raining. The good lady's headache seems to have vanished miraculously, as soon as her mother came through the door. Even the dog is showing signs of revival. better late than never, so time to hit the road. of course the traffic is atrocious - could it be anything else? A quick check on the rig tells you that a big wheeler has shed its load right across all four lanes of the road you intended to use. of course the only alternative is a wide detour and that is full of roadworks. Where on Earth did that speed cop come from?

Okay, so you got away with it that time but now you are running even later. All you need now is a puncture. No. Let's not tempt fate. Suddenly the rig springs into life. It seems that 'Warrior One' has

OF DAY!

had his van pinched, complete with all his tools and, believe it or not, his best suit. He doesn't seem to be concerned about the van or his tools but he must have that suit back before tonight. It is his wedding anniversary and he has promised to take the XYL for a slap-up meal. She will kill him if he offers to go out in a boiler suit.

"Never mind all that," cuts in another breaker, "Give us a description!"

"Well, it's a grey, single breasted two piece."

"Not the suit, you wally. The van!"

It takes about thirty minutes for the excitement to wane, during which you, and presumably every other breaker in town, have been giving every white Transit the eye. Anyway, no luck and you have reached your next port of call.

By the time you are back on the street it is almost five o'clock. The traffic is building up and you are torn between making just one more call and heading straight for home to avoid the rush. The airwaves are already buzzing with traffic reports. It must be bad, because even the local bucket-mouth hasn't come up yet, and he is usually home well before this. Suddenly, there it is, right in front of you. Warrior One's missing Dagenham Dustbin. Yes, the number is right. It must be the one. It takes a couple of minutes to break into a channel. Doesn't it always at times like this? The breakers already on channel know nothing of Warrior One's loss and it takes two more

precious minutes to convince them that this is not a wind-up and you really do want them to call the law. Where is that speed cop, now that you need him? A few seconds later comes the news that your 999 call has been made, so now you try to stay with the van. Not an easy thing to do in this traffic, especially as you are sure its occupants must have sussed you out and will shoot off at any moment, at what passes for high speed in a Transit. For almost ten minutes you follow that damned van. No sign of the boys in blue. Wait! A pair of headlights come up fast from behind! As he sees you, he flicks them off, then back on again. On goes the siren and the van does a good imitation of a Le Mans start, as the jam sandwich all but takes the side out of your car in its hurry to get past. The chase is on!

Two minutes later it is all over. Warrior One will get his van back and two undesirables look like spending the night in strange beds. Yes, in answer to the question from Warrior One, who is now on channel, his suit is there. Still in the cleaners' bag. No, he is not really interested in the couple of dents which the van has collected as the result of its adventures. Can you please ask the cops to let him have the suit back straight away. The sergeant seems a bit puzzled at your insistence that he come to your car but agrees, reluctantly. After a few minutes spent listening to Warrior One's tale he agrees, with equal

reluctance, to release the suit into your custody. Naturally, the van must remain in his tender care for the time being.

A quick signature, a promise that you will be at home all evening, ready and eager to make a statement and you are off. It goes without saying that Warrior One lives on the other side of town. By now it has turned five-thirty and it will take at least half-an-hour to get the suit to him. Only two more miles to go, when, with a gentle cough the car comes to an undignified halt. Right in the midst of the traffic! Has the doohickey packed up again? No. In all the excitement you forget to check the fuel gauge and now the traffic is piling up behind you. Half the drivers in town appear to believe that sounding their horns will magically remove you from their path and Warrior One has begun to panic at the thought that he might not get his suit back in time after all. Still, it has been that sort of day, hasn't it?

You did get your petrol, thanks to a passing motorcyclist. Warrior One did get his suit back and Mr Plod spent most of the evening scoffing your wife's home made cakes as he listened to your account of the afternoon's excitement. To cap it all, early next morning the Warrior had sent a huge bunch of roses for the XYL. When all was said and done, what had she done to deserve them? Her only comment? "You never buy me flowers!" Ah well, it had been that sort of day.



LATEST ON THE

CB in the UK has been revitalised by the introduction of the new CEPT frequencies and a whole host of new rigs. Amongst the most recent new arrivals are the Albrecht AE4002 and Alpha 4000 from Kernow but how new is new?



What a difference a couple of months makes! CB is alive and well, and living on the CEPT frequencies. Perhaps the effort and expense of buying a new rig is acting as a deterrent to the less savoury elements that inhabit the 27/81 system; whatever, this is CB as it should be. One (or two) ways of experiencing the delights of these still largely unsullied channels is via the **Albrecht AE4001** and **Alpha 4000** rigs from Kernow. A word of caution though, at the

time of going to press these units had yet to receive their type-approval certificates so do check up first if you want to stay on the right side of the DTI.

These are not particularly new designs, indeed by current standards in other areas of the consumer electronic industry they're almost prehistoric, first seen at least six years ago. Rigs of this vintage use a goodly number of individual electronic components, a manufacturing technique which does not lend itself to miniaturisation. Consequently they're both fair-sized units; but who cares – the most

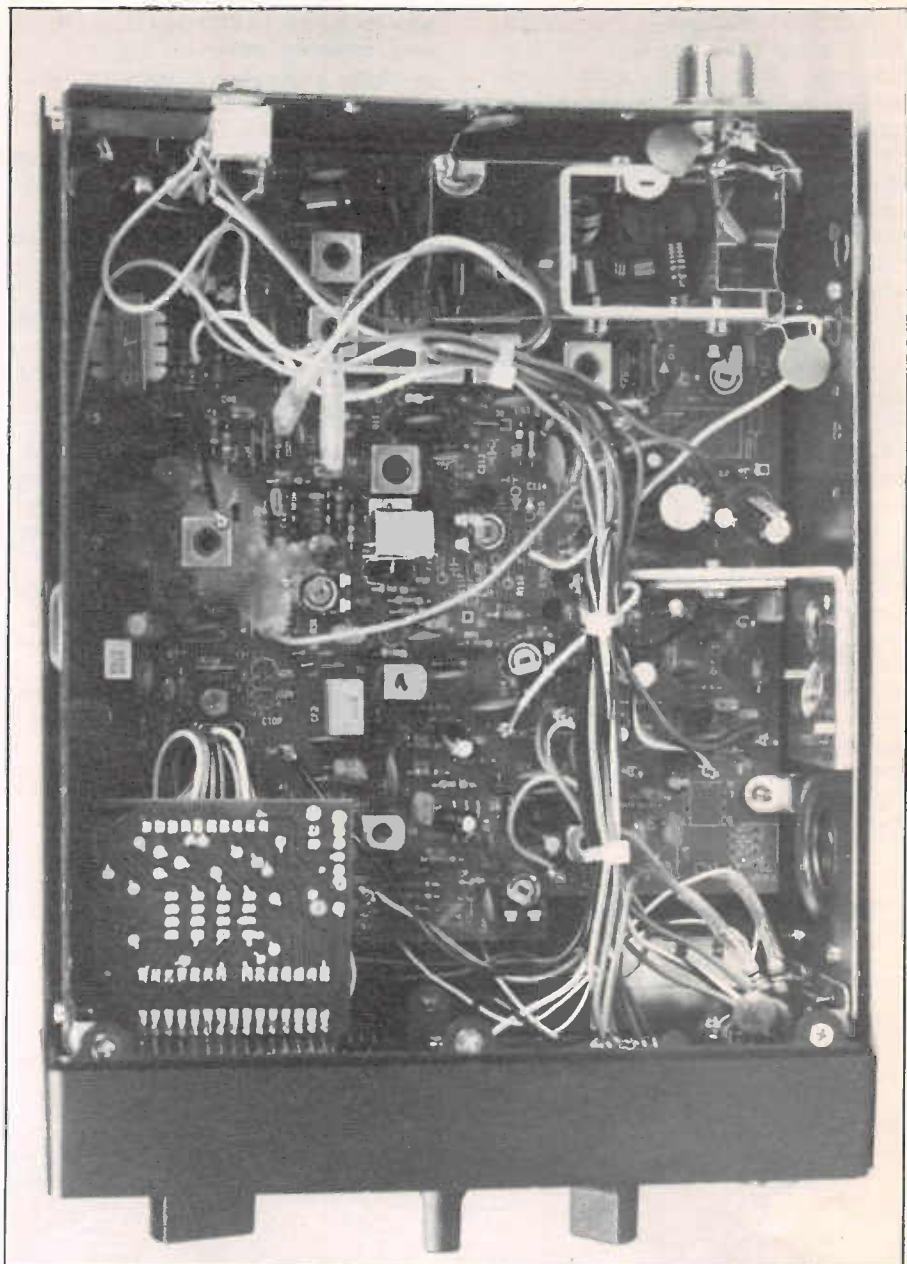
important thing is that they work, and work pretty well, and once installed inside the average tin box it doesn't really make a lot of difference how big, or small they are.

An internal examination revealed that these rigs which were built in the Far East and were originally destined for the German market – a good sign, those Germans are pretty fussy about what they buy. One surprising discovery, though, was the number of additional components soldered onto the back of the circuit boards. This usually signifies that the designers have modified a

E AIR

standard design to comply with local regulations. This may well be the case and we shall not pass judgement at this stage as our review rigs were early production samples but we hope that future models will not rely on so many 'extras' as they are both untidy and potentially liable to failure.

We'll begin with the AE4002. This is a straightforward and basic 40-channel rig. Just three controls (on/off volume, squelch and rotary channel select). There's a PTT switch on the mic and around the back there are sockets for DC supply, external speaker and antenna. Displays too are kept to a minimum, a red LED shows when the rig is in the transmit mode, two-digit readout shows channel number and an illuminated edgewise meter gives signal strength and relative TX power indications. Yes, we've seen it all before - it's a standard layout on a standard rig and has appeared in a number of thinly-veiled guises and specifications over the years - whatever the label or badge this basic design has stood the test of time well and rarely given us cause for complaint. The flip side is that it is such a common design and by now so familiar that it lacks any glitz or sparkle. Not necessarily a bad thing - CB is, or should be 'black box' technology, there's plenty of excitement elsewhere in the CB market if you're looking for thrills, and sometimes spills ...



Much the same applies to the Alpha 4000, though this is the 'GLX' model in the range – fancy trim but similar under the skin. Notable extras include controls for RF gain, mic gain and a dimmer for the display. A bank of switches, just above the rotary controls give: two-position tone control, internal/external speaker, channel 9 priority, noise cancellation, CB/PA and delta tune. The 4000 has a slightly more elaborate display panel with illuminated 'TX' and 'RX' legends but the edgewise S-meter is identical to its stablemate, the AE4002. There's just one additional socket on the 4000's back panel for an external PA speaker; the only other significant difference is a side-mounted mic socket.

Both rigs come with the standard assortment of mounting hardware and identical, bog-standard crystal mics, (despite their different stick-on model numbers). Unfortunately for us they also came with German instructions which in spite of a Grade 3 CSE remained largely impenetrable; fortunately the design is so well known that instructions are, for the most part, redundant anyway. Hopefully these too will be modified for the UK market.

In use

There are no surprises with rigs as

well established as these. Fitting into the average family saloon will pose no problems whatsoever to the seasoned CB'er. There's a secondary bonus for anyone who has a 27/81 rig of the same basic design – the two rigs can be simply swapped over without any need to modify the mounts. These two rigs benefit from at least ten years of more or less continual development and the result is a reliable, if rather unexciting design that does what it's told, when told to do so with a minimum of fuss and bother. The controls on the AE4002 are so few and far between that there's virtually nothing to say about them. If there has to be a note of criticism then it's the sadly fashionable all-black livery which makes the knobs blend into the fascia and consequently difficult to find in the dark.

The 4000 suffers from the same black cosmetics so the control problem is magnified as there are more knobs and switches to grope around for. Come back shiny chrome – it may have looked gaudy but at least you could see what you were doing!

On The Air

Again no unpleasant surprises. If it wasn't for the comparative peace on the channels it would be impossible to tell

this rig from a similarly specified 27/81 unit. Audio quality on the AE4002 is reasonable, there's little in the way of noise suppression but treble content is good and there's plenty of volume. The Alpha 4000 has a simple two-position tone control, this makes a little bit of difference, lifting the bass frequencies slightly but to be perfectly honest it doesn't have any real impact on the clarity, (or otherwise) of reception. Sending and receiving to other nearby rigs revealed no inherent problems. Copy was clean and fairly crisp – an external speaker yields even better results.

Conclusion

If this sounds like a pretty downbeat review it's not meant to be. These are good rigs that perform well and their ancestry is such that complaints will be few. The problem is they are rather dull, somewhat jaded and most definitely old designs – perhaps it's our fault, perhaps we're getting blasé and anything with less than ten microprocessors is considered old hat . . . Don't let that affect you – if you're looking for a simple CB, or one with a few extra buttons, that you know you can plug in and use, then start looking here.



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BANISH TRASH

Wallies still abound, according to the good Captain



Citizen's Band radio in Australia did great things for the outback. An Oz chum of mine confirms that serious-minded CB users had to leave town in order to find a quiet channel. Somewhere, south of Ayers Rock, he found DXing no problem at all. In fact, if the Australian government wanted to expand the internal population, it need only mention the quiet CB channels still available north of the wire fence that keeps the dingos out of New South Wales. The occasional gentle complaint about ratbags and other less literate users of CB prompted me to ask about the telephone. You will hardly be surprised to learn that the noble gents of Australia are also much into mobile telephones of all shapes and sizes. However, they have yet to 'enjoy' some of the esoteric wonders UK

citizens enjoy with British Telecom, including a recently criticised group chat for youngsters. According to Channel 4's TV consumer affairs programme, "4 What It's Worth," transmitted in October, Trading Standards Officers in Liverpool have been monitoring these allegedly supervised group chats by phone, and been somewhat unimpressed by the lewdness and obscenities thereon. Nostalgia buffs may well sigh, 'it sounds like the old days on the rig.'

Naturally, a British Telecom spokesperson - a sort of nice lady in charge of innocent pleasures via landline - said that all such group talk was monitored and supervised. Just shows what torture people have to go through in order to earn a living. Given the abundance of boondogglers, kids, lids and fetishists that grabbed CB channels at one time, one should congratulate British Telecom for

organising a land-line service, in which around nine people can get, as someone put it, 'near to the knuckle.' A super advertising campaign could promote *this* aspect of the British Telecom campaign: 'We Cater For People Who Don't Have Anything Sensible To Say.' Just as long as the service above does not get mixed up with telephone advice on motorway roadworks or what's going on in The City. After all, BT gets some extra income, and the telephone meets of boondogglers keeps them away from the CB radio frequencies.

There was a time when the telephone suggested a 'serious hobby for thinking gents' much as shortwave radio does today. Although the great Professor C. E. M. Joad made his remark in reference to radio, he might also have been thinking of the telephone when he declared that men of science had laboured hard to



invent it, then the ape had got hold of it. Much as we truly admire the marvellous gadgetry on offer – excellent value for money, too – the sight of a mobile whiz-kid driving on a motorway whilst fiddling with his telephone is reminiscent of Professor Joad's views (to be fair, he was thinking mainly of broadcasting, and even worse, Light Entertainment). If we are to revive the public appreciation of telephony, as an art form rather than a verbal street fight, we need to restore its original somewhat austere but trustworthy image.

More than ninety years ago, The Boys Own Paper was providing advice on making your own home telephone, though without any reference to telecommunications approval symbols. The 'BOP' (as the magazine was more often known) certainly concentrated on then imminent technology. For example you may find in a summer 1894 issue, a piece on 'Making a Talking Machine' by H. F. Hobden, this gadget having manifest uses for any fellow about to explore the unknown on land, sea or the business world. Unfortunately, the text of the article is written with such reference as might require a minimum GCE A Level in Physics and possible, Pure Mathematics. Far more easy to comprehend is Roland Rivington's 'How I Killed My Moose' which may have something to do with the Bulls on the Stock Exchange, all these months after Big Bang. Having recourse to a spring-wound, mahogany cabinet, Victorian mobile telephone was no doubt useful in Moose-tracking.

Only a fellow eager to write a TV mini-series would see in the friendly rivalry between Mercury Communications and British Telecom, echoes of the keen competition between the Edison and Bell Telephone interests more than a century ago. Contemporary reports were obviously much exaggerated. Yarns of rooftop competition for business,

involving installers from the rival companies of the time, were to be taken with a pinch of salt. At any rate, the British Government undertook some state intervention between 1878 and 1879, a sort of a reverse thrust to the Privatisation which is now virtually part of the British Constitution. In fact, the Government set up a sort of Great-Grandad of British Telecom, namely the United Telephone Company.

In return for acquiring a thirty-year licence (thirty years! satellite TV franchise companies eat your heart out!) the United Telephone Company was required to give a decent percentage of the profits to the Post Office, around 10% in fact. This helped to keep the Penny Post to a penny, and brought what passed for a well-ordered commercial stability. Even so, some self-respecting towns and boroughs were not entirely enthusiastic about permitting the telephone cables across the civic boundaries. Indeed, my present home town in the east Midlands took some two years to say 'yes' to the idea, though, compared with some of the things happening in community radio these days, such official action may seem really fast. By the time that the 'Metroland' out-of-town developments were providing material for future historians and programme makers, The Telephone Development Association was assuring potential users that the instrument was really harmless. Incidentally, definite overtones of the Garden City Movement seem to have crept into some of the Association's adverts, with bright-eyed ladies using the phone, close to windows that looked out onto terrain such as might have been planned by Ebenezer Howard himself. This gentleman was sometimes called the father of the garden city movement, and he possibly had a telephone, too – and may even have read The Boys Own Paper.

Yet as long ago as the 1890s, a certain consumer disenchantment seems to have set in. Combining elements of evolution with telephony, Mr. T. E. Donnison, an artist contributor to The Boys Own Paper produced a lively 1895 full page 'comic strip' feature showing a member of the monkey family attempting to conduct an intelligent conversation with a person at the other end of an apparently noisy line. From initial optimism of the kind known to even veteran telephone users today, to bewilderment and rage, the dark-shorts clad creature finally tears the instrument from the wall, and leaps on it. Perhaps the poor animal had been trying to get through to Sheffield like that affable chap who calls me up every now and then, to say that's what *he* has also been trying to get (I live miles from NUMs home town, by the way). The monkey that reportedly became free of restraints in a recent Russian satellite, and thereafter explored the controls of the craft, could have been just a frustrated pay-phone user.

So complaints about the land-line are not new. In any case, as we are often told, the communication consumer lives in that state of tension generally known as 'changeover to improved technology.' Many of the best radio men Captain Sparx has met during his vibrant career were reluctant to throw out *any* equipment that still worked when they bought the new stuff. That which wives have unkindly described as 'clutter,' the wise old-timers call 'stand-by' or 'passive alternative.' I could never imagine any of these sages wanting to share much of the saggy-brained chat heard during the group chatting up times allowed or encouraged by British Telecom.

As they say, it's horses for courses, every man to his own power mike. Still, those wistful public relations gents in the Telecom Tower could remember 'The Boys Own Paper.' Now that Lord Nelson's monument in Trafalgar Square has had its clean up treatment, a pay-phone for patriots could be introduced, in red, white and blue decor, with a portrait of Her Majesty therein. A special 'call in' service could be provided for any Brit wishing to hear 3 minutes readings from Assorted British Heroes – including Nelson, The Duke of Wellington, General Allenby, Winston Spencer Churchill, and others I might mention.

I enquired of my Australian colleague in the CB arts if he ever tunes into heroes via the rig or land line.

"In Australia," he replied, "the way things have been, anyone who sticks with 27MHz Am has to be a hero."

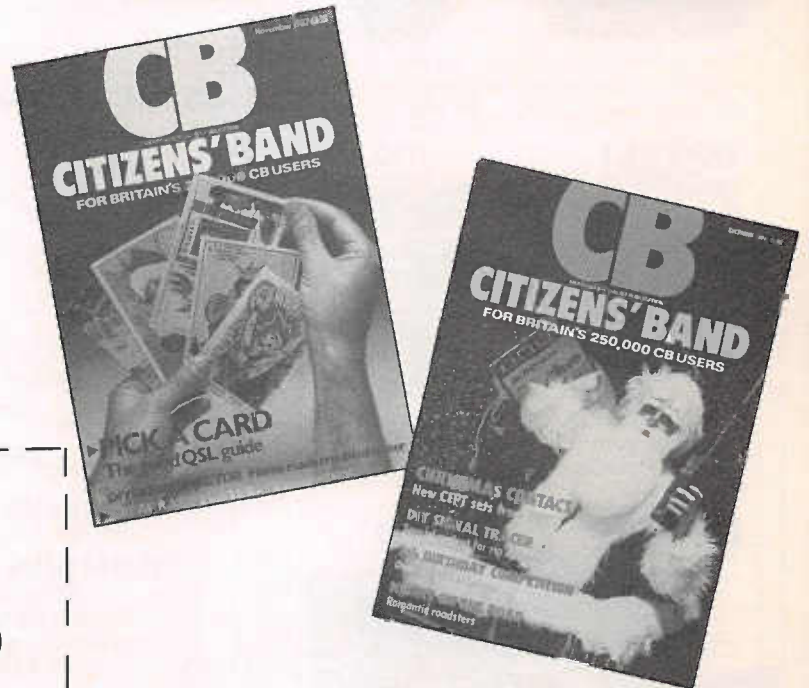
I am going to send him a copy of The Boys Own Paper containing instructions on how to stuff a crocodile. It might come in handy if ever he catches any of those loud-mouths, which (he says) you can hear clear across Australia.

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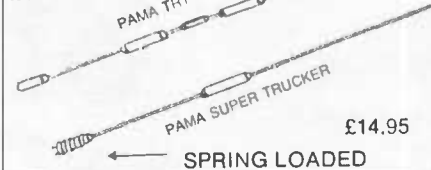
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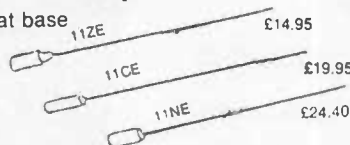


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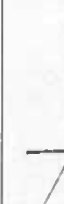
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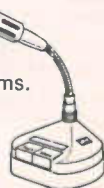
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DIY VOLTAGE DROPPER

David Cox comes up with a simple-to-build voltage dropper for CB radio

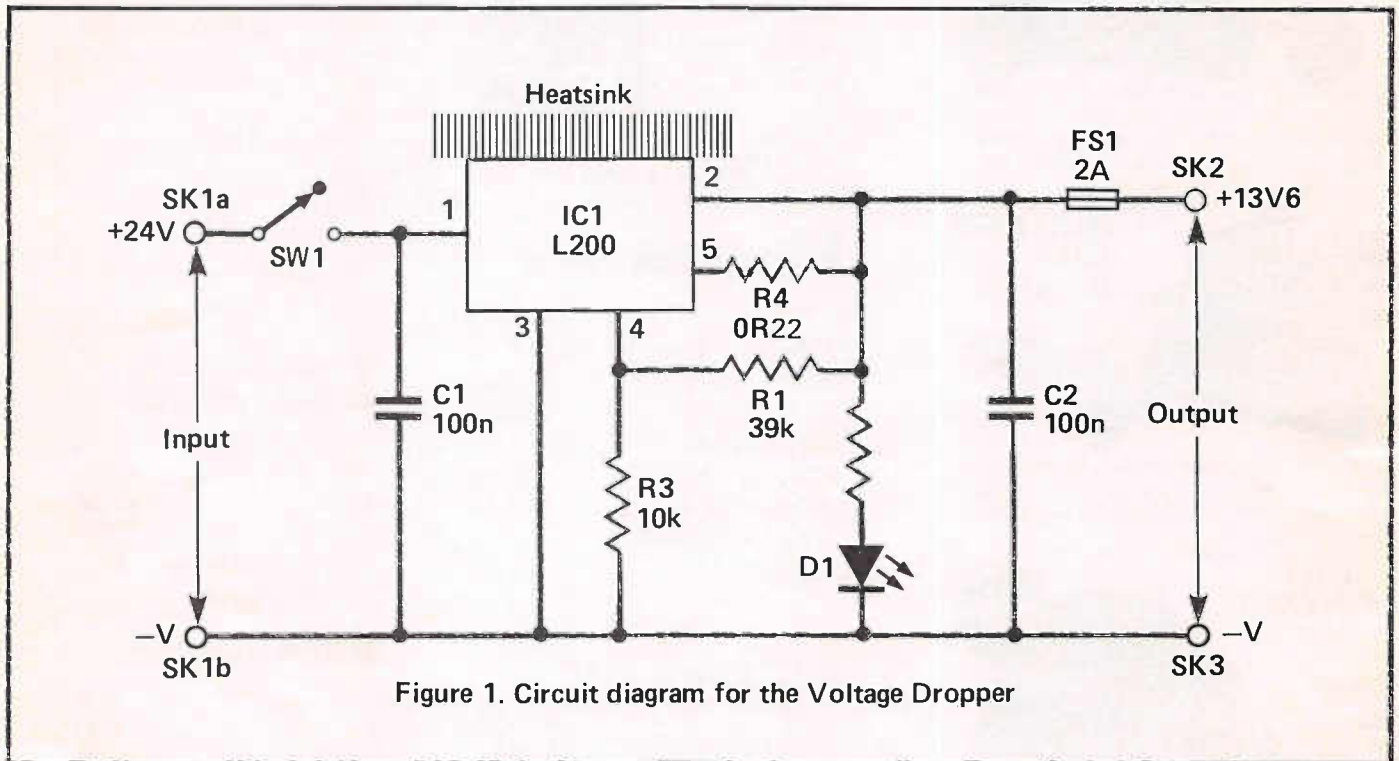


Figure 1. Circuit diagram for the Voltage Dropper

Units of this nature have been available for some time now, making possible the connection and use of 12 volt automobile equipment on 24 volt systems. The project described here costs about a half of the price of ready made units and can be built easily, even by a complete novice.

The Design

The circuit diagram for the Voltage Dropper is outline in Fig 1. The system is based around IC1 which is a current and voltage regulator. For those readers who are unfamiliar with the workings of a regulator circuit, please read on.

Any regulator circuit serves two useful purposes. Firstly, it maintains an output voltage at a constant level; a level dictated either by the regulator system itself or by a handful of external components. Secondly, the regulator

makes sure that a high and harmful current is not allowed to flow.

Normally, regulators are of the fixed voltage, fixed maximum current type, e.g. designed to supply 5 volts at up to 100 mA or perhaps 15 volts at up to 1A. The values commonly available are 5, 12 and 15 volt types rated at 100mA, 500mA, 1A and 1½ amps.

Also available are variable voltage and variable current regulators, which allow the maximum output voltage to be between say, 2 and 30 volts, depending on external components.

The regulator used in this project is one of the fully variable types and is labelled the L200. Fig 2a shows the pin out of the device and fig 2b shows a demonstration circuit.

The output voltage of the circuit can be calculated via the formula:

$$V_{out} = 2.77 \left(\frac{R_a}{R_b} + 1 \right)$$

The input voltage to the circuit should be about 3 volts higher than the intended output voltage. The maximum

current available from the circuit is determined by the resistor R_c , and can be calculated by:

$$\text{Current (max)} = \frac{0.45}{R_c}$$

The maximum current available from this particular regulator is two amps. It should be noted that these equations are only suitable for the L200 and may vary for other regulators. Also, when using the formula, the resistor values must be inserted in Ohms.

The Circuit

As can be seen from fig 1, the system is no more than a basic regulator circuit. The input voltage is applied to pin 1 of IC1. Resistors R1 and R3 set the output voltage to approximately 13.6 volts and resistor R4 sets the output current limit at about 2 amps. Also included is a "unit on" light and this is represented by D1. The resistor R2 sets the current for this LED. The pair of capacitors at the input and output are utilized in most regulator

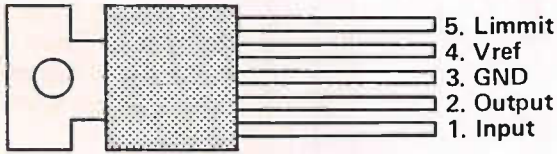


Figure 2a. L200 pin-out

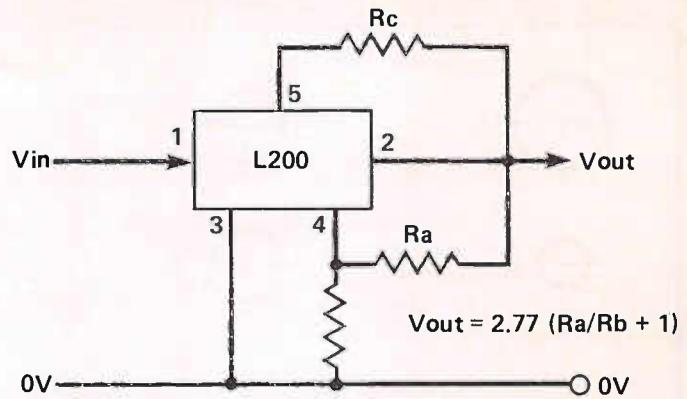


Figure 2b. L200 demonstration circuit

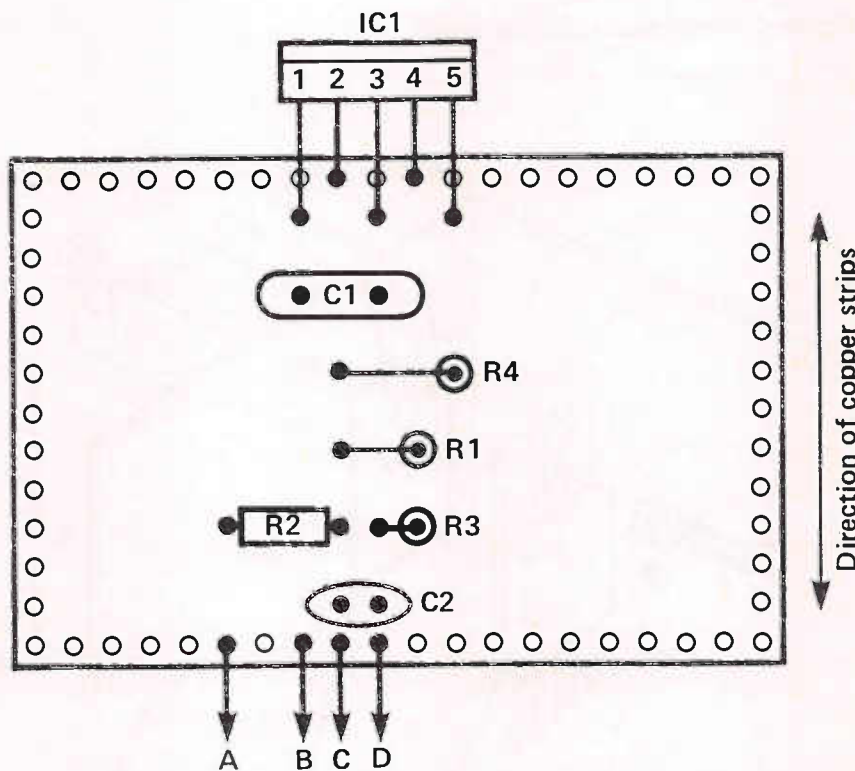


Figure 3. Veroboard layout

circuits as they maintain overall stability. Finally, a fuse is fitted at the output as an extra precaution.

Heatsink Arrangement

As IC1 operates, it will produce a great deal of heat and in order for the unit to operate at a safe temperature, this heat needs to be transported away from the regulator. A heatsink is the answer and these are just shaped pieces of metal which are designed to conduct and disperse heat. The efficiency of a heatsink is usually measured in degrees Celcius per watt; i.e. for every watt

dissipated from a device, the number of degrees Celcius above normal temperature to which the unit will rise.

So that we can locate a suitable heatsink, we must first calculate the maximum number of watts that will be generated. The power in watts is quite simply equal to the product of current and voltage. In this case, the current maximum is 2 amps and the voltage is the difference between the input voltage and the output voltage. Therefore:

$$\begin{aligned} \text{Power (in watts)} &= \text{volts} \times \text{amps} \\ &= (24-13.6) \times 2 \\ &= 20.8 \text{ watts (max)} \end{aligned}$$

The next step is to assess the maximum

temperature to which we want the unit to rise. For safety, we will take this maximum figure as 80°C. This means that the maximum temperature rise should not exceed 55°C, assuming that the ambient temperature is 25°C. Hence:

$$\begin{aligned} \text{Heatsink required} &= \frac{\text{Max temp change}}{\text{Max power}} \\ &= \frac{55}{20.8} \\ &= 2.64^\circ\text{C/watt (or lower)} \end{aligned}$$

Fortunately, a 2.1°C/watt heatsink is

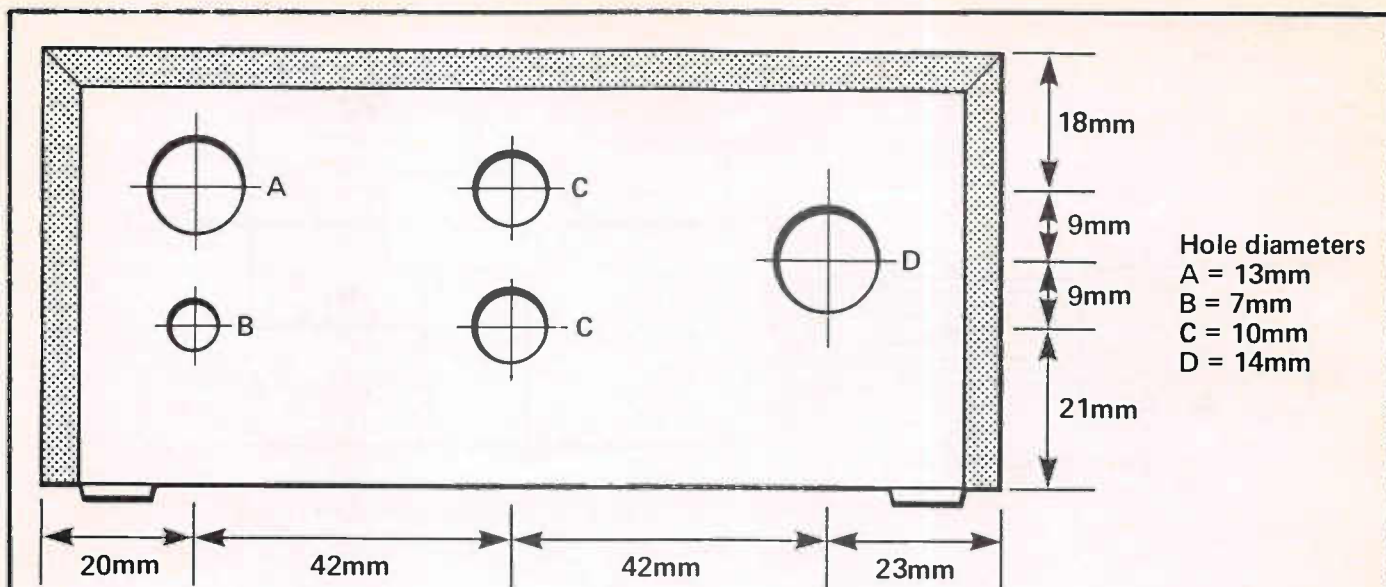


Figure 4. Front panel drilling details

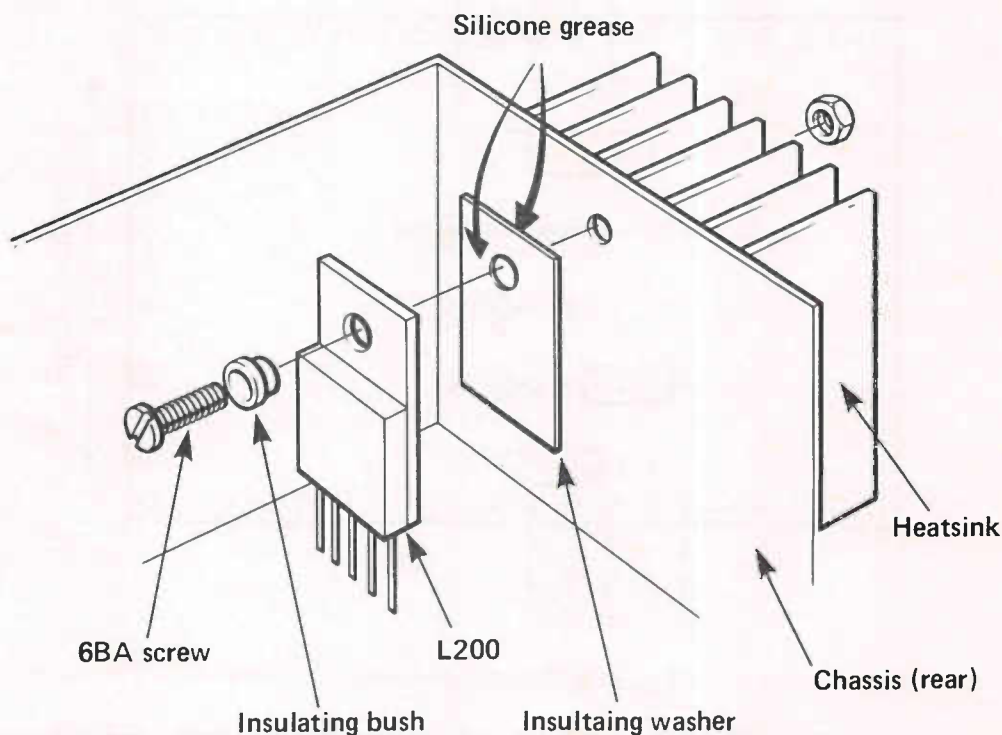


Figure 5. L200 mounting arrangement

available and this will be sufficient for the needs.

Construction

The units is very straightforward to construct and the majority of electronic components are mounted on a small piece of veroboard. Construction should begin with the insertion of the four

resistors followed by the two capacitors. The IC should be inserted last of all, making sure of its orientation. (The metal tab on IC1 should face away from the board.)

A metal box of dimensions 127 × 64 × 57mm was used for the prototype and was found to be an ideal and inexpensive housing. The front panel

was drilled to accept the necessary components as detailed in fig 4. The heatsink was also drilled to accept two mounting screws, one of which was also used to secure the regulator in place. The rear panel also displayed a socket for the 24 volt connection in the form of a 2-way terminal block.

When mounting the regulator, an

insulating system should be used and the arrangement is shown in fig 5. The silicone grease is used as it aids the overall heat transfer characteristics. It is smeared on either side of the insulating washer before the arrangement is bolted into place.

Once the off-board components have been mounted, suitable lengths of wire can be cut and soldered into place. Fig 6 demonstrates the wiring details. Once this task has been completed, the unit is ready for testing before the finishing touches are applied. If the unit fails to work correctly then check all hard-wired links, check that the resistors have been correctly identified and connected and also make sure that there are no solder "bridges" between parallel copper tracks.

Installation

Provided that there is no electrical connection between metal case and

circuit, the unit will work equally well for both negative and positive earth vehicles. The unit should be connected to the battery via an inline fuse and a length of twin cable terminated in a "Paros" plug. The inline fuse should be as close to the battery as possible to protect the cable, and the fuse installed should be in the order of 2 to 5 amps. A convenient place for the unit can be found and it can be held in place by a bracket or by adhesive strips. As the unit is rated at 2 amps, it is only suitable for a CB radio or small music radio. It is *not* suitable for high power car radios or linear amplifiers.

Component List

Resistors

R1 39K
R2 560R
R3 10K
R4 0.22R E.G. Maplin WO•22R

Capacitors

C1 & C2 0•1uF (2 off)

Semi-Conductors

IC1 L200 Regulator (Maplin YY74R)
D1 5mm Red L.E.D.

Miscellaneous

S1 Locking push switch (Maplin YW41U)
FS1 2 amp fuse.

SK1, 2 way terminal block

SK2 Terminal post (Maplin FD72P)
(Red)

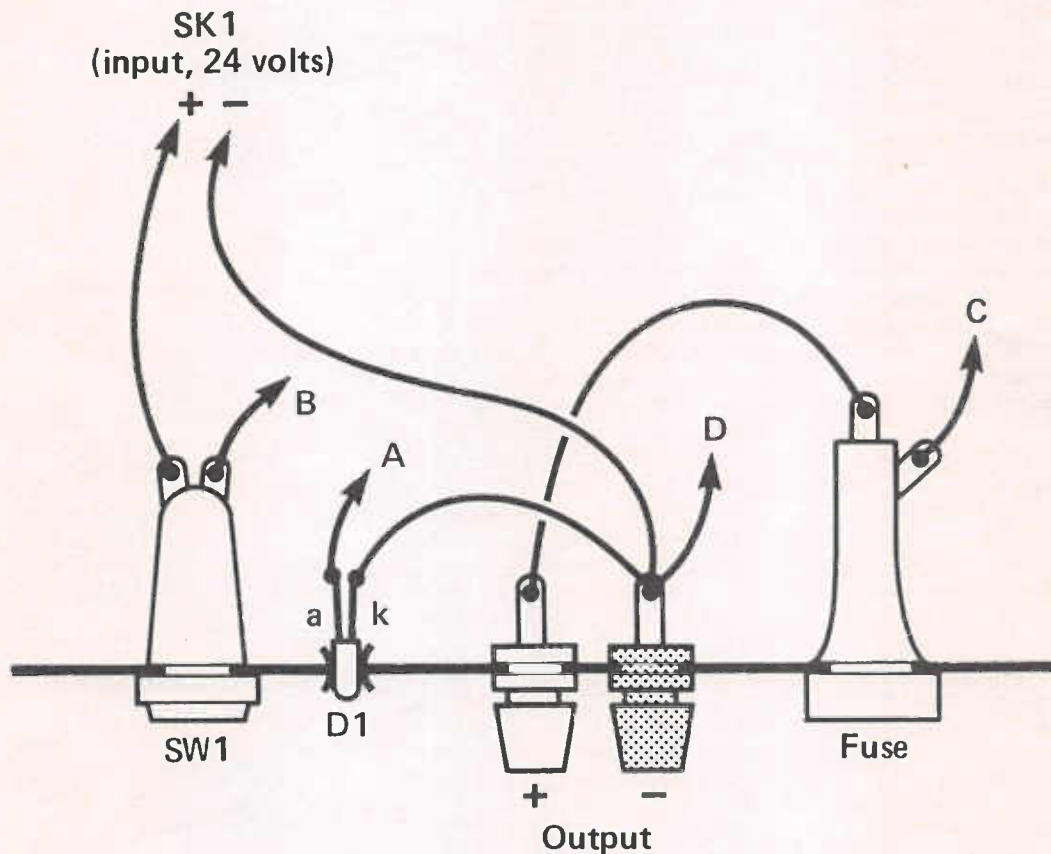
SK3 Terminal post (Maplin FD69A)
(Black)

Also required

Metal box 127 × 64 × 57mm (LF02C), panel mounting fuse holder, heatsink 2 C/W or lower (Maplin HQ70M), insulator (WR23A) Veroboard, 6BA nuts & bolts, stick-on feet (x4), connection wire, 5mm LED clip, solder etc.

All components available from Maplin Electronic Supplies Ltd. At P.O. Box 3, Rayleigh, Essex, SS6 8LR.

Approx cost £13.00



Note that the cathode of D1 is denoted by a flat on the package

Figure 6. Hard wiring within the unit

LUXURY FROM SCANIA

Brandybird appears to be excited about a new range of trucks

We had some news in from Scania at the end of November, of the introduction of a "newish" range of trucks with lots of new features. The old '92' becomes the '93', the old 112 becomes the 113 and the much-loved 142 now becomes the 143. A new engine power code will be displayed on the front grille of each truck.

The obvious differences have to be on the interior and the exterior of the range, though there are lots of changes under the bonnet as well. The interior is all new, with totally new controls and instruments, on a new curved instrument panel now lit by a soft greenish light and all the dazzling light spots have been eliminated. New steering wheels, the heater/fresh air is now controlled by two dials and a four-speed fan. New interior panels and new textiles with better noise-damping and more insulation in cab walls and thicker floor matting. All models have recessed, stronger door handles set into panels and the gear change knob is now spherical in shape. Scania now have a one-key system for doors and starter locks and electric windows on both sides on all models. The new 'Topline' has central door locking as standard and the 'R' models have a new storage bin situated on the engine tunnel.

The CR19 Sleeper can be ordered with a 220mm higher roofline, providing more storage room above the radio shelf, and obviously more space for the occupants. Interior height is 1.7m. Both seats have integrated seatbelts. Also four pointair suspension with auto-level control. That sounds like a major re-organisation for the interior, proving yet again that continental manufacturers consider driver comfort a priority instead of as an afterthought.

Looking at the exterior, the basic shape stays the same, with a number of useful changes. Mirrors are now fitted with aerodynamic cowlings to reduce wind noise. More efficient cab corner spray deflectors are standard on all models and the air intake is re-designed so that it ends at the rear of the cab, below the roof line, and behind the aerodynamic cowlings.

Well, that's the looks dealt with. Unfortunately, I don't have enough room to cover all the changes, of which there are lots. Steering and suspension improvements for example. Twin-steer models have the option of air suspension on the rear which reduces rear overhang, and the steering linkage

has been revised and now runs above the fuel tank giving more space for PTO's. There's been improvement on the 93 series so that the platform can be extended 22cm further towards the rear wall of the cab, giving an increase in payload of 1.5 cubic metres.

The press release states; "More power, more torque, less emission and a new electronic diesel control." So, if you want to hear more of the new Scania range, the engine, steering, suspension technical info, then order your copy of next month's issue now, 'cus that's where it will be.

Enough of the serious stuff. First I can tell Ron (Red Robin) that I was deeply offended by the birthday card that he sent me. "You are what you eat," says the front. Inside, it said, "You must have been eating an awful lot of pilchards lately!" Well, thanks, Ron, now I know what you really think of me.

Right, back to the memories. What's happened to Animal, (Paul) who used to drive for P.E.T.S. or Action Man (Andy) from Clitheroe on the tippers? Or (Ayotolah) from Dumfries, or BBM (Big Bad Mouse) from Sugar Town? Black Abbott (Neil) from Macclesfield driving for Air Products (or was it the other way round? He hasn't spoken to me since he got married! Where's my adopted dad, Colin (Skinhead) of the Alf Garnett squadron? Cue ball for the 432 squad? Whatever happened to the 432 squad? Crumplehorn (Paul) from Crewe, Chicken Bone (John) from Manchester, Daffy Duck (Pete) from Coventry, driving for Bedworth Haulage and Gravel Chip and Tony from Tamworth? I don't half miss my natters with the old crowd off AM. It would be lovely to hear that they are back on the FM. Don't forget, if you know any of the blokes I mention, please give them a nudge for me. I'd love to hear from them again. If you'd like to see your name in print, or better still, to embarrass a mate, then please drop me a line: PO Box 158, Coventry CV6 6BD, or give me a call round Junction 3 of the M6. I'm not fussy, I'll talk to anyone.

Well, that's about it for another month, make a note in your diaries to keep Sunday 5th June free, so you can all come and see what sort of an idiot I really am. I shall be attending the Mercia QSL Club Eyeball at Caludon Park, Wyken, Coventry on that date. Have to give them a mention as they very kindly let me use their PO Box for your letters.

Take care now, lads and lasses. Truck 'em easy and, most of all, Stay Lucky.

Brandybird

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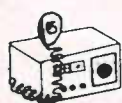
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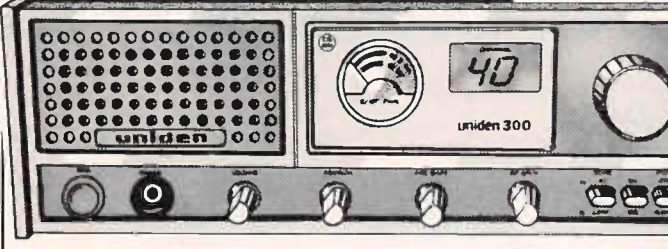
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