THE PROPAGATOR

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO SOCIETY
PO BOX 1838 WOLLONGONG NSW 2500

VOLUME 81, NUMBER 9
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MEETINGS ARE HELD ON THE SECOND MONDAY OF EACH MONTH (EXCEPT JANUARY) AT 7.30 P.M. IN THE CONGREGATIONAL HALL, CORNER OF COOMBE AND MARKET STREETS, WOLLONGONG. VISITORS ARE WELCOME TO ATTEND MEETINGS.

NOTICE OF MEETING:

The October General Meeting of the Illawarra Amateur Radio Society will be held on Monday 12th October at 7.30 p.m., in the Congregational Hall, Coombe Street, Wollongong.

It is hoped to have a visiting speaker at the meeting.

The club store will be operating as usual - bring your money for some good value buys. 1981 callbooks will be on sale for $3-50 (regular price is $3-95).

A solid-state morse code keyer will be raffled at the meeting.

LAST MONTH's MEETING:

About 50 people were in attendance, and Keith VK2OB provided a demonstration of hard-copy radioteletype with his model 15 teleprinter, ST6 demodulator and cathode ray tube tuning indicator. The raffle prize - a foreign call-book - was won by Jock VK2JT, and the store kept up a brisk trade in components.

RED-LINE ISSUE:

Is there a RED LINE under the postcode on your address label this month? If so, your annual club subscription is terminally ill, and the only remedy is to immediately forward $5 to the treasurer at P.O. Box 1838 Wollongong, or at the October meeting. Without this immediate cash injection, your monthly posting of the Propagator will decease with this issue.

AMATEUR CLASS SUCCESSES:

Keith VK2OB certainly prepared his Friday night tech. class well - of seven who sat for the full licence theory examination in August, six have passed - indeed an excellent result. Among those now waiting for their full calls are Ron VK2VOE, Ian VK2VXN, Paul VK2VES, Bill VK2VYL and Morry VK2VVN. Pat VK2PKJ is waiting for his K call.

The full course class on Friday nights is now producing ST6 teleprinter demodulators which, together with restoration of some of the Creed 7B teleprinters available through the club should see an increase in local RTTY activity.

The novice class, also on Friday nights, is preparing for the November novice examination, and also looking at designs for an inexpensive receiver and low power transmitter for the 80 metre band.

CLUB AUCTION:

This year the club auction will be held on the Saturday afternoon of November 14th, beginning at 1.30 p.m.

This is being done because club meeting auctions are lasting more than four hours.

This year you can deliver your goods to the auction site at Fernhill Auctions, Princes Highway Fernhill, up to two weeks prior to the sale. Please make sure that you mark your gear with a name and adequate description of the goods. Start clearing out your shack and getting all the good stuff (?) out of the way.

HELPFUL HINTS DEPARTMENT

Log and Linear Pots: It's hard to tell whether a potentiometer is of linear of logarithmic law by using the resistance scale on a multimeter, as this is itself not linear.

My method is to turn the slider of the pot. to approximately centre position, and compare the resistances measured from the slider to each end. It it's a log. pot the resistances will be very obviously different.

- Ken VK2DOI.

My Etch Resist Pen Ran Out! Well go and chase it! Seriously though, it's irritating when this kind of thing happens on Friday night of the long weekend, isn't it? What can be pressed into service?

* Nail polish.
* Stencil correcting fluid.
* Acrylic or Duco car paint.

A suitable thinner-cleaner for these is nail polish remover or acetone. If you have none of these, then Texta pen or artline marker will work all right as long as you use cold etchant - cleans with turps.

- Zero Beat, May 1981.

ILLAWARRA AMATEUR RADIO SOCIETY - INFORMATION

MONTHLY MEETINGS: Second Monday of each month (except January) at 7.30 p.m. in the Congregational Hall, corner of Coombe and Market Streets, Wollongong.

CLUB NETS: Phone nets are held on six metres (52.525 MHz FM, 8.30 a.m. Sundays), and on eighty metres (3.565 MHz, 8.00 p.m. Sundays). An informal morse net is held on 28.44 MHz, at 8.00 p.m. on Tuesdays - nervous newcomers to CW are expecially welcome on this net.

MONTHLY NEWSLETTER: The Propagator is usually posted to reach members during the week before the monthly meetings. Technical, news, and humerous items are always wanted. "For Sale" and "Wanted" advertisements are free for members. Give your material to the Editor, or any Committee Member, at meetings or during the month. Copy deadline is the last Tuesday of each month.

MONTHLY BROADCAST: 7.15 p.m. on the Sunday night before the monthly meeting, on VHF repeater 6850 (Ch 5), UHF repeater 8225 (Ch 9), 28.46 MHz, and 3.565 MHz. The broadcast officer is always looking for news items, and would appreciate any contributions.

SLOW MORSE BROADCAST: From VK2AMW on Monday nights (except meeting nights), 7 to 8 p.m., on 1.805 MHz in the 160 metre band.

W.I.A. BROADCAST RELAYS: Sundays at 11 a.m. and 7.30 p.m. through VHF repeater 6850 (Ch 5). The 11 a.m. broadcast can also be heard on 7.146 MHz A.M.

AMATEUR RADIO CLASSES: Provide all the theory, regulations, and morse tuition needed to obtain the amateur Novice, Limited, and Full licences. Classes are held on Fridays, 6-9 p.m. during term time. Contact any committee member for further information.

VHF REPEATER: VK2RAW, Channel 6850 (old Ch 5) - 146.25 MHz in, 146.85 MHz out.

UHF REPEATER: VK2RUW, Channel 8225 (old Ch 9) - 433.225 MHz in, 438.225 MHz out .

QSL SERVICE: Club members who are also W.I.A. members can deliver and collect their QSL cards at club meetings.

LAWRENCE HARGRAVE AWARD: - the award of the I.A.R.S. - Stations in VK must work 10 members of I.A.R.S. Stations outside VK must work 5 members of I.A.R.S. Club station VK2AMW is worth the award by itself for any amateur. Cost is $2 or 4 I.R.C.s (within Illawarra only, cost is $1 and award must be collected personally from a club meeting). QSL cards are not needed for verification - send callsigns, frequencies, GMT, and payment to Box 1838, Wollongong, 2500.

MEMBERSHIP ENQUIRIES: For information about W.I.A. or I.A.R.S. membership, see Geoff Cuthbert VK2ZHU at club meetings. To join the I.A.R.S. by post, send your $5 annual subscription to the Treasurer, I.A.R.S., P.O. Box 1838, Wollongong, N.S.W., 2500. For general enquires, write to the Secretary at the same address.

SOCIETY PRESIDENT: Keith Curle, VK2OB, 24 Beach Drive, Woonona, 2517.
VICE PRESIDENT: Ron Dorin, VK2VOE. SECRETARY: Dave Meyers, VK2PBP
TREASURER: Geoff Cuthbert VK2ZHU. COMMITTEE: Mike Keech VK2VXS, Jock Taylor VK2JT, Eric Fien VK2YVF, Paul Engbo VK2DTZ, Denis McKay VK2DMR, Brian Wade VK2AXI.
QSL ENQUIRIES TO: Mike Keech VK2VXS and Paul Engbo VK2DTZ.
LAWRENCE HARGRAVE AWARD MANAGER: Mike Keech VK2VXS.
BROADCAST OFFICER: Denis McKay VK2DMR (phone (042)847786).
PROPAGATOR EDITOR: Brian Wade VK2AXI, 72 Murray Road Corrimal 2518, phone (042)841381.

THE ACCUKEYER AND ACCUMEMORY

Ned McIntosh-VK2AGV/7
Aust. Maritime College,
PO Box 788
LAUNCESTON TAS 7250

Introduction: The Accukeyer and Accumemory are circuits designed by James Garrett, WB4VVF, which provide CW enthusiasts with low-cost, high performance morse generating circuits for use with either iambic (i.e. squeeze type) paddles or sideswiper keying units. In addition, the hand key can be interfaced, allowing great flexibility in use.

The purpose of this article is to encourage potential constructors and give some hints and tips based upon the successful completion of two Accukeyers, one including the Accumemory. Also, a modification to produce an adjustable "Tune" pulse is given, This may be repeated as many times as necessary, or cancelled part way through once the transmitter/aerial has been satisfactorily resonated.

Source Material: The most up to date circuitry and information on the circuits appears in the 1980 edition of the popular ARRL Handbook, and constructors should refer to the chapter entitled "Code Transmission" for detailed description and circuits.

THE ACCUKEYER.

This circuit has proved to be a durable and dependable one. It first appeared in 7400 TTL form, but has since been re-worked to 74C series CMOS, in which form it is familiar to Australian amateurs as the very popular Dick Smith Keyer Kit, and many of these are to be heard around the bands. If you want the keyer only, then this kit is probably the best way to go about it.

My remarks in this article will be directed to the TTL version of the circuit only.

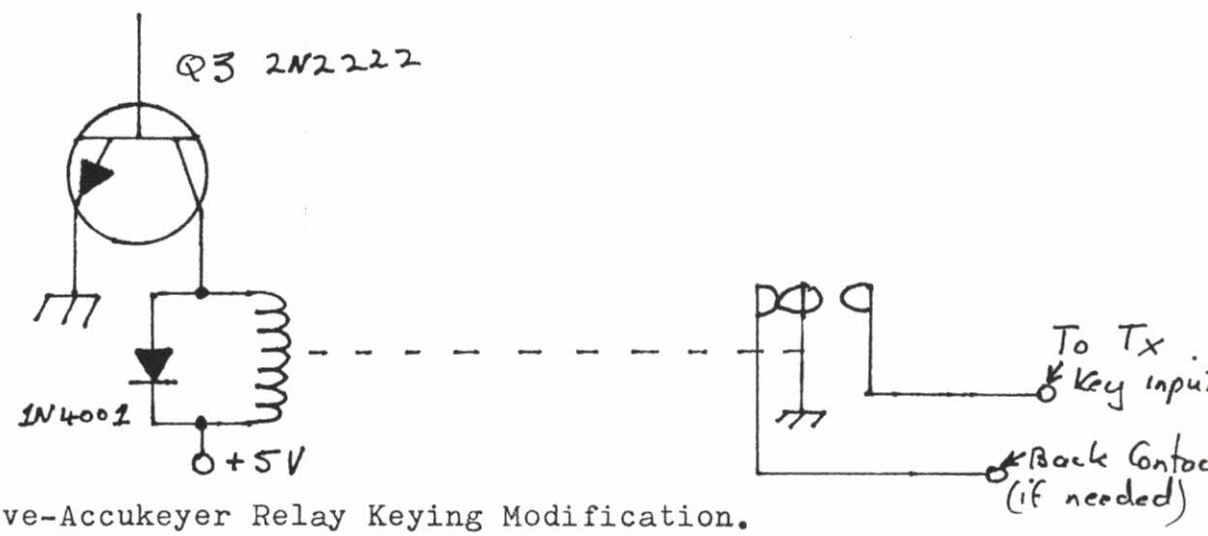
Power Supply: The TTL circuit requires something a little more robust than the 9 volt battery which easily powers the CMOS version of the circuit. The 7805 regulator provides a convenient, on-board power supply, and it should replace the 5.1 volt zener diode power supply shown in the article. The input of the 7805 should be bypassed with a 10 microfarad tantalum (watch the polarity!) and the output should be bypassed with a 0.1 microfarad ceramic capacitor. To protect the 7805 from total destruction should reverse polarity be applied at the input I strongly advise the addition of a 1N4001 diode in series with the input. The voltage at the input should be between 8.5 and 12 volts, and for the keyer only a current maximum of about 350 mA will be ample. Such a voltage might be easily obtained from your transceivers, but I used a small transformer, full-wave rectifier, and a filter capacitor to make up a simple power supply from the mains.

If the memory is added, then the current rating goes up, and your power supply needs to be able to deliver a 5 volt regulated supply at about 1 Amp all up. Choose a suitable transformer, and an appropriate regulator. The Fairchild UA78H05SC is a 5-volt, 5-Amp regulator, and is very suitable, but should be mounted on an external heatsink. The actual design of the power supply I leave to the constructor, but don't forget to place a fuse in the AC active line, and use the smallest rating of fuse you can possibly get away with for safety.

Relay Keying: The circuit in the ARRL Handbook uses transistor keying, but this type of circuit may not key all types of gear likely to be

encountered in the amateur service. The use of a keying relay, although it may appear to be a rather stone-age solution to the problem, allows anything from land-line systems to marine transmitters to be keyed and if a back-contact is necessary to mute an associated receiver, the use of a DPDT or SPDT relay allows for this. There is no shortage of small, high speed, highly reliable relays around, and you can always keep a couple of spares.

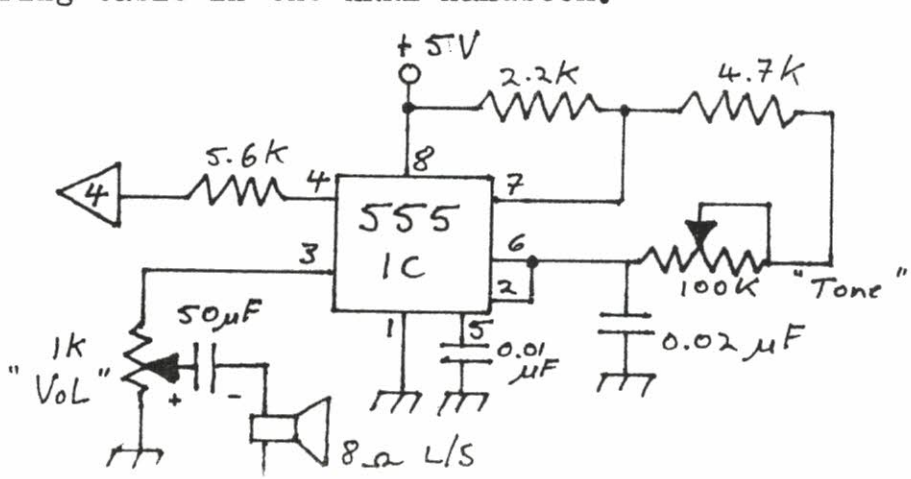
The modification for relay keying appears below. Q4 in the circuit is removed, and the relay coil is used as the collector load for Q3, the 2N2222. Since most 5 volt relays have coil resistances of about 50 to 60 ohms, the 2N2222 easily drives it. A diode is placed across the relay coil in reverse polarity, and prevents inductive transients damaging the transistor when the relay coil is de-energised. A 1N4001 diode is ample.



Above-Accukeyer Relay Keying Modification.

The relay I use is an Email SRG1-200A, which is actually a 6 volt coil, but happily keys away up to 30 wpm on 5 volts. It has huge contacts, as the keying line in some older types of marine transmitters can be quite high. If a smaller relay is desired, try the Dick Smith S-7105, which fits in a 14 pin DIL socket, and is very quiet.

Sidetone Monitor: Since most of your transceivers will probably have a built-in sidetone, you may leave this out. However, if your rig hasn't sidetone, or if you wish to use the keyer off-air, say in a classroom teaching morse, then the circuit below performs very well. It did appear in the earlier editions of the ARRL, but has been left out of the 1980 edition. Basically, it is the ubiquitous 555 chip set up to run as an astable multivibrator. I suggest that the tone pot be a small trimmer, rather than a panel-mounted control...one less hole to drill, one less knob to buy. The number "4" in the triangle refers to the wiring table in the ARRL Handbook.



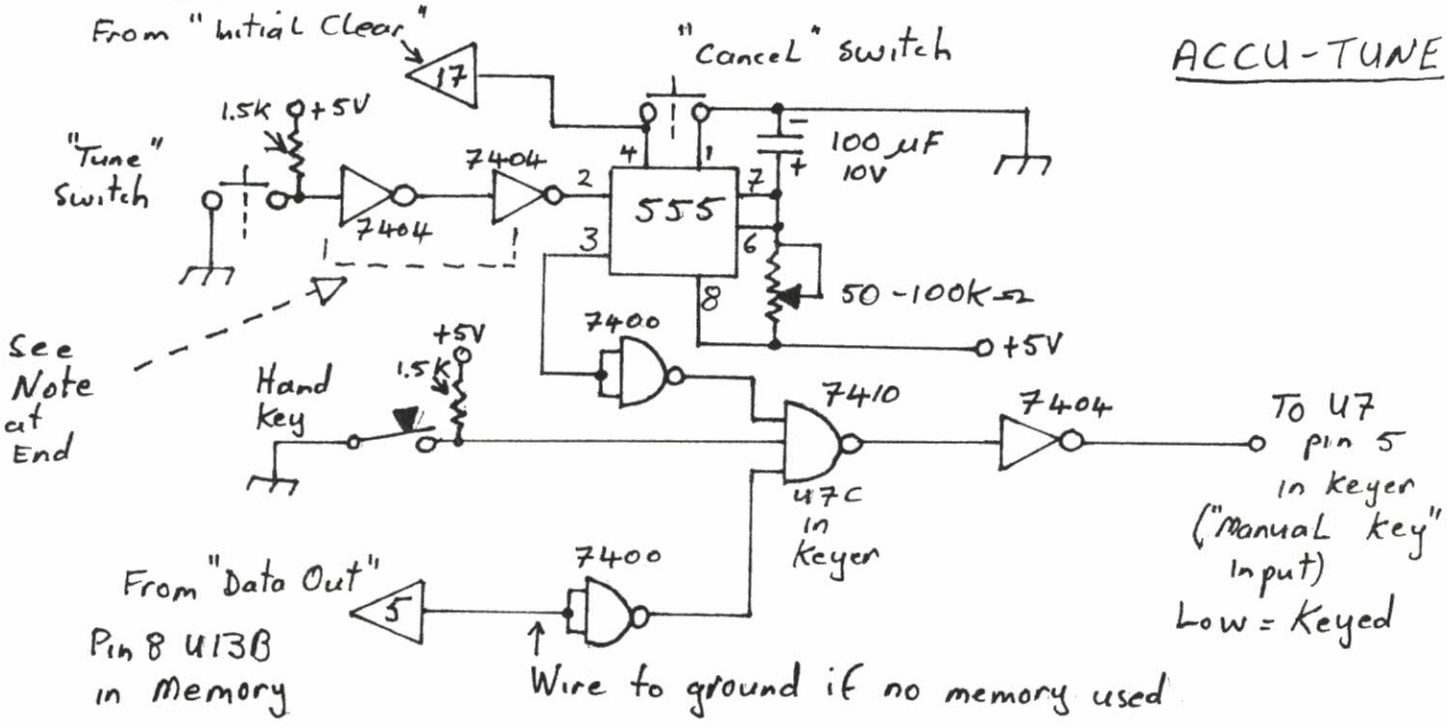
SIDETONE MONITOR

Auto Character Spacing Defeat Switch: I strongly advise that this switch be left out of the circuit, as there seems little point in negating the excellent automatic character spacing. Also, it means one less hole to drill, one less switch to buy! By leaving the switch out altogether you have the auto character spacing permanently on.

"Trailing Dit" Modification: Those of you who have used an Accukeyer will soon have realised that it is very quick to let you know if you don't get your finger off the dit paddle as soon as the last required dit has been sent. The result is the unwanted trailing dit, resulting in QSD morse, frustration, rising blood pressure etc. Therefore I strongly advise the incorporation of this modification. Only two extra IC's are needed, as shown in the ARRL Handbook. There is an extra bonus from the addition of this modification...the unused gates are used later in interfacing the "Accu-tune" modification to the rest of the circuit.

The Weight Control: Leave this one out. Why spoil the classic sound of perfectly formed morse by fiddling around with the dot and dash weighting. If you want to sound like you're using a Vibroplex bug... then use a Vibroplex bug! (Note: I have nothing against the Vibroplex bug. I have one myself, and they are fun to use.)

The "Accu-tune" Modification: This is my own addition to the circuit, but since all it does is add a 555 as a monostable multivibrator, it is neither world-shattering or very original. It is however, useful, and economical, as it uses all the unused gates left over from the "Trailing Dit" mod, plus the unused gate remaining in U7 (the 7410) in the keyer. The circuit below is to interface with the keyer and memory, and permits the hand key to be interfaced also, something which the keyer and memory don't allow as the circuit stands in the ARRL Handbook. To prevent the 555 firing up and putting the unit in "Tune" mode when first powered up, the "Initial Clear" modification is also used here to inhibit the 555. (The "Initial Clear" modification is also set out in the 1980 ARRL, and is very simple, and effective.) Again, the numbers "5" and "17" in the triangles refer to the table of wiring given in the ARRL.



The "Accu-Repeat" and "Accu-Stop" Modifications: I haven't built

these two into my keyer...there just isn't room. However, for the avid DX'er or contest worker, they would be of great assistance, particularly if your rig has full QSK. The "Accu-Repeat" permits the contents of memory 1 to be sent repeatedly whilst the operator drinks tea, coffee, fills out log and so on, whilst the "AccuStop" permits the repeated message to be halted by a single tap on the dit paddle.

A Word About Circuit Boards: It is reasonably easy, using the artwork provided in the ARRL Handbook to produce a board for the keyer on its own...and you could easily add the sidetone monitor, and perhaps the trailing dit mod as well. A further refinement would be to bring all inputs and outputs to an edge-connector, and make up a wiring loom to go to the switches and pots etc. Neatness counts.

There is no artwork for the memory, memory readout driver, and memory readout display boards, nor for any of the modifications. To build my Accumemory, I wrote to James Garrett at the address given, and after a couple of months the boards arrived. They were top quality fibreglass, drilled and solder-plated, and I suggest that intending constructors avail themselves of this service. Details are at the end of this article.

The board for the digital readouts was designed to have a special type of pushbutton switch (the "Reset" switches) mounted directly on it. I have ascertained that these particular switches are no longer available. Accordingly you can either hacksaw off the bottom half of the readout board when it arrives...or make up your own. If you do the latter, remember to allow space for the current limiting resistors for the memory number display, as these resistors mount on the readout board whereas those for the message bit numbers mount on the readout driver board.

Alternatively, constructors could use Veroboard for the various boards, particularly the modifications.

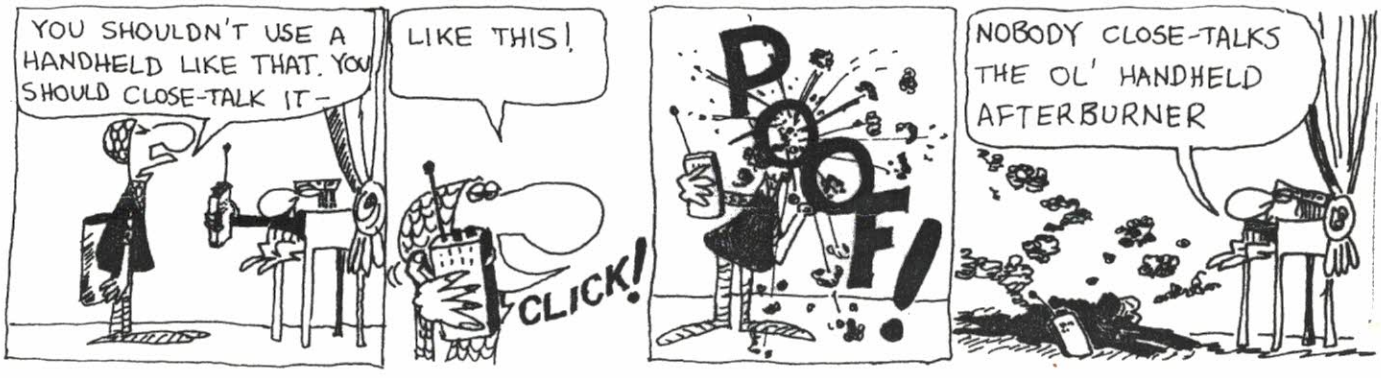
(Thanks Ned for this article. The second part of the article, "The Accumemory" will appear in the November issue of the Propagator.)

CLUB NOTES:

Our thanks to Paul VK2DTZ , who has provided high quality printing for the Propagator for over a year. The ability to reproduce diagrams, sketches and the like has helped immensely to improve the newsletter. Dave VK2VAV is now providing facilities for the high quality pages - thanks Dave.

Morry VK2VVN has been appointed to the committee position left vacant by Paul - Morry's voice is very familiar on the 80 metre net, and the magnificent "VK2AMW" sign was painted by Morry.

Dave VK2VAV has been co-opted (coerced? press-ganged?) as publicity officer, and has been responsible for those references to the Illawarra meetings which are appearing in the Sunday WIA news.



AMATEUR ARTHROPODS

An arthropod has antennae, a tough hide, very little brain, and is very shortsighted - and unfortunately a few have crept into the Amateur ranks. You can recognise them on air by the way they repeatedly choose the frequency, time, and mode of their activity in a way which causes maximum inconvenience to other band users.

A few examples are:

The Eighty Metre Earwig

In his eagerness to get on the band, the earwig spends most of Saturday evening trying to reduce the SWR on his new dipole. As a result, he makes a channel completely useless over several states at a time when the band is most congested. It wouldn't occur to him to do his tuning in daylight, when the band is relatively empty and he won't be heard over a great distance anyway.

When he's all set up, the earwig can be heard most evenings, for hours on end, in an exclusive QSO with his mate in the next suburb. He doesn't stop to think that he is hogging valuable spectrum space across several states, and that he would help everyone by moving to 10 metres.

The Forty Metre Fruitfly

The fruitfly tunes up on top of the nearest RTTY or SSTV signal because he either (a) thinks the signal is a commercial station, not knowing that some amateurs use modes other than 'phone, or (b) knows the signal is an amateur station, but believes that amateurs shouldn't use such non-phone modes! At other times he is heard buzzing about complaining that third party traffic destroys the dignity of amateur radio.

The Twenty Metre Termites

These come out of the woodwork all over the place because of harmonics produced when they overdrive their linear amplifiers. Ten metre operators are frequently foxed when they call back to the termite's second harmonic! The termite also does lengthy antenna tune-ups whenever the band is open to Europe.

The Fifteen Metre Funnelwebs

These specialise in long, cross-town rag-chews in the novice sub-band whenever the band is open, and are very successful in irritating lots of other users. They tie up a channel halfway round the world, and cause interference to local users trying to work weak DX stations on nearby frequencies. The fifteen metre novice band is only 75 KHz wide, so it only takes a few funnelwebs to completely fang out a Saturday or Sunday afternoon DX session for novice operators. The funnelwebs never consider moving to 80 metres or 10 metres to keep out of everyone's way.

The Ten Metre Ticks

These either get into the beacon band, or come up on top of the Oscar downlink.

The Six Metre Centipedes

The centipedes use the calling frequencies for long cross-town rag-chews, and are so quick on their buttons that the band can open and close to Scandinavia without their realising what's afoot (or in this case, 100 feet).

The Two Metre Trapdoors

The trapdoors have a line-of-sight path of 400 metres or less between their stations, but persist in conducting their rag-chews through the most distant repeater which both can access. They need high power to access the repeater noise-free, so they wipe out the neighbour's TV set as well as needlessly tying up the repeater.

= contd. next page

Amateur Arthropods - contd.

Now for the sixty-four dollar question - are there any amateur arthropods in our club? Of course, everyone would hope not, although at a recent meeting - for a fleeting moment - it almost looked as though one chap sitting near the back had six feet tucked under his chair...

- VK2AXI

JAMBOREE OF THE AIR

This international event occurs over the weekend 17/18 October. The Illawarra club station VK2AMW will be operating for the weekend from the usual site at Bass Point. (See the map elsewhere for exact site location). The weekend provides an ideal opportunity for a combined camping and DX'ing event, with interested scouts in attendance to assist with setting up and operating.

In addition to those who will be spending most of the weekend camped out, visits are welcomed from amateurs who are able to get out for an hour or two of operating, or who would just like a look around in preparation for next year.

FOR SALE: Hi-mound marble morse key as new $30 o.n.o. See Andy VK2DVB or phone 71-3156 after 4 p.m.

WANTED - A transverter, or designs for a transverter, to enable a novice to use his CB set on 80 metres. Merv VK2PJS, phone 965681.

DEFINITIONS:

Kilocycle - bicycle with a broken seat.

Sync Separator - an excuse to get out of the washing up.

Egg Insulator - a device to keep eggs warm.

- from "Zero Beat".

REPEATER NEWS

From the questionaire in last month's Propagator, there were 27 returns, giving the following information:

1. Equipment currently operated: 2m handheld 8; 70 cm handheld 4; 2m mobile 13; 70 cm mobile 2; 2m base 15; 70 cm base 2.
2. Equipment which would be operated assuming repeater access: 2m handheld 16; 70cm handheld 13; 2m mobile 20; 70 cm mobile 16; 2m base 17; 70 cm base 11.
3. What kind of service should 2m and 70 cm repeaters provide?
   Local handheld/mobile links only: 2m nil, 70cm 7.
   Links out of Wollongong only: 2m nil, 70cm 6.
   Local AND links out of Wollongong: 2m 27; 70cm 15.
4. Where should the present 2m repeater be sited?
   Robertson 18; Bulli 8; Other location 1.
5. On 2m, would you prefer -
   One only repeater 1; One "local" and one "DX" repeater 20;
   A "local" and a "DX" repeater linked together 5.

Offers of help are acknowledged from VK2's DKS, YSB, FE, OB, VAV, CAG, YWJ, ZVX, KEY, VOE, VVN, PKJ, NTD, VXS, ZAG, VXN, YVF, BHO, PGB, JT.

General comments:

1. Some were confused by the meaning of "DX". This was meant to mean coverage to Sydney, Blue Mountains and down to Ulladulla under normal propagation conditions. "Local" means the immediate Illawarra District, bounded by Helensburgh, the escarpment and Kiama.
2. Some concern for the future availability of the Robertson site - this is being investigated.
3. Local operation to receive priority.
4. Sublime Point location gave better all-round local coverage, but Ch5 to be retained as a DX repeater.
5. Linked repeaters would give all local amateurs access to both systems.
6. Local repeater should be located closer to town and run low power.
7. WICEN would welcome two repeaters.
8. Suggestion for continued development of Roberston site and second repeater at Sublime Point with directional coverage of 180° up and down the coast.

Conclusions:

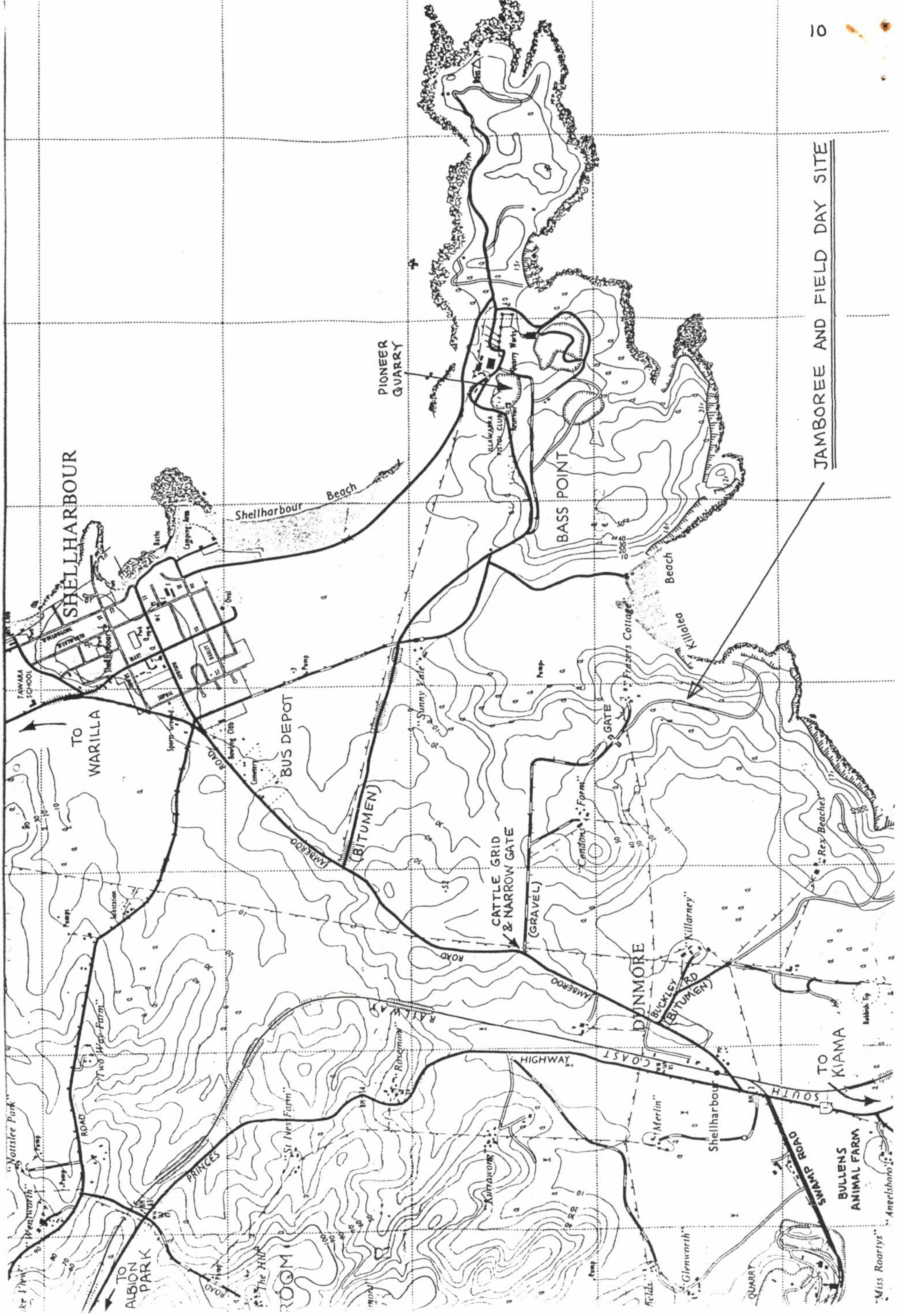
We have decided to go ahead with improvements to the existing Channel 5 repeater at Robertson, pending the outcome of discussions with the owners of the land regarding future availability and access.

A second allocation has been applied for and is being processed by the WIA repeater committee. The proposed channel will be Channel 13A, 147.875 MHz in and 147.275 MHz out, with callsign VK2RIL. Since the Sublime Point site will not be available for a few months for permanent occupation (lack of building and power), we have time to plan the construction of the equipment so we will be ready when the site is.

Very little cash outlay will be involved because most of the equipment is to be built by club members from components received mainly by donations.

A second UHF allocation is also being applied for; the proposal being to operate 433.725 MHz in, 438.725 MHz out, with callsign VK2RIN, from the same site as Channel 13A.

Thank you all who have offered their assistance.


JAMBOREE AND FIELD DAY SITE
SHELLHARBOUR
Shellharbour Beach
PIONEER QUARRY
BASS POINT
Killalea Beach
Frazers Cottage
GATE
TO WARILLA
BUS DEPOT
Sunny Vale
AMBEROO ROAD
(BITUMEN)
CATTLE GRID & NARROW GATE
(GRAVEL)
Condons Farm
Rex Beaches
DUNMORE
BUCKLEY RD (BITUMEN)
Killarney
TO KIAMA
SOUTH COAST HIGHWAY
Shellharbour
Merlin
SWAMP ROAD
BULLENS ANIMAL FARM
Glenworth
QUARRY
PRINCES
Rosemont
St Ives Farm
Two Ways Farm
ROAD
TO ALBION PARK
The Hill
Wentworth
TAWARA SCHOOL
Pump

Pixilated Patents

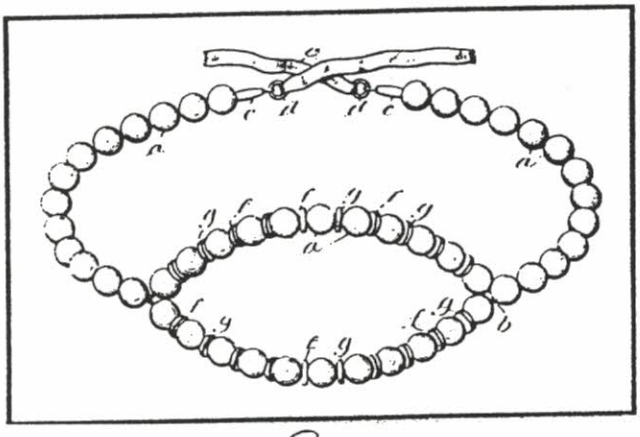
By Mike Rivise

"A Novel Navel"

This is No. 132 in a series of odd and interesting inventions in the electrical/electronic field from the files of the US Patent Office.

Do you know a lady or a hippie who is distressed by the ownership of a goiter? If so, you might pass along to them the fact that way back in 1916 F. C. Werner patented an appliance for treating goiter. And what is special about this invention (No. 1,190,831) is that it looks more like a string of pearls than a goiter treatment. Thus, a lady could treat her goiter while she is entertaining her friends. Or, if she is a hypochondriac and is bored with her friends, she could tolerate her friends while she entertains her goiter.

Those circular objects in the drawing look like pearls, and they could be. The only requirement is that they not conduct electricity. And those discs between them are zinc and copper plates which, along with the copper wires on which they are all strung, form an electrochemical cell when in touch with the wearer's skin. The result is supposed to be a mild electric current through the neck for treating the goiter. In addition, the inventor suggests that an ointment be applied to the neck to increase the electrical conductivity of the skin. Unfortunately, one of the early users reported that he had to quit using the device after he singed his psyche while trying to shock some sense into his goiter.



Another user was a fellow who told his wife that he was using it to treat his German goiter, which his wife didn't realize was slang for beer belly. However, the poor fellow had too many belts under his belt when he put the goiter appliance around his stomach and it nearly caused him to blow his cool as well as the sides of his stomach. It seems that the current through the beer in his stomach caused the beer foam to rise to nearly ear level, intoxicated his spleen, and thoroughly fermented his navel.

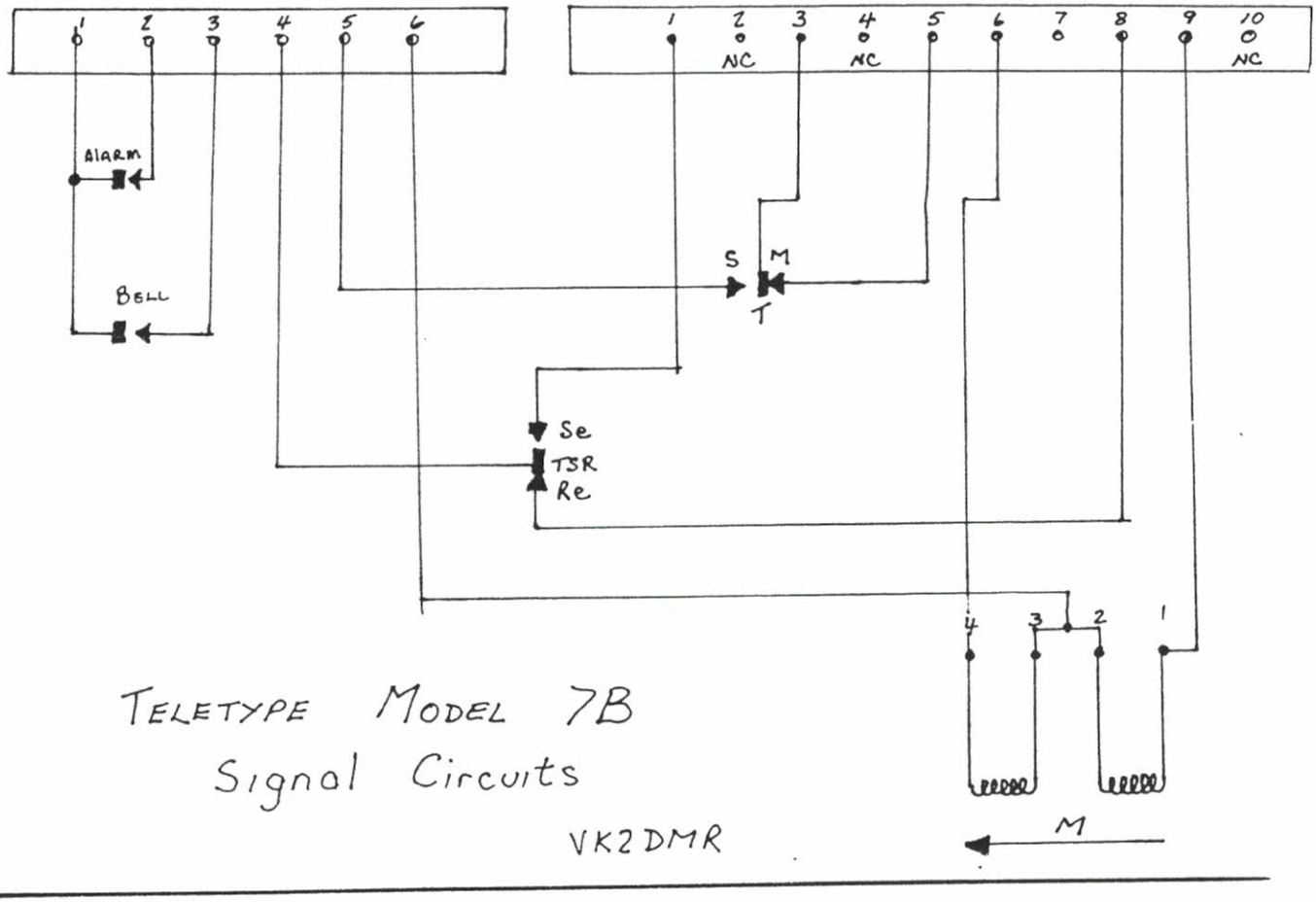
One can also see possibilities for use of the invention by the "further out" members of the younger generation to remove any goiterous blemishes they may have. The necklace surely wouldn't look out of place among the flowers, love beads, etc. And some of that body paint could serve as the ointment for improving the electrical conductivity. So, they could sock it to their goiters and even their best friends wouldn't know. However, they would have to be careful to avoid some of the more potent ointments floating around today. Otherwise, they might end up with a psychedelic esophagus or a hallucinogenic goiter. And there is said to be only one thing worse—a freaked out gallstone.

CREED 7B WIRING

Denis McKay, VK2DMR.

Some time ago I embarked on a project to get my Model 7B Creed teleprinter operational. After much heartache, hair tearing and sack-cloth and ashes I discovered that the schematic I found in the RSGB Teleprinter Handbook bore no relationship to reality.

To ensure that the tonsorial elegance of other 7B owners remains intact, here is the schematic of my printer. The magnet loop is Pins 6 and 9 and the keyboard loop is Pins 3 and 5.



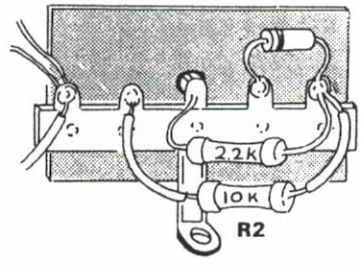
TELETYPE MODEL 7B
Signal Circuits
VK2DMR

REDUCING SWEEP INTERFERENCE FROM THE SM-220

Amateurs using the Kenwood SM-220 station monitor with their TS-520 or TS-180S might have encountered sweep interference from the monitor back into their transceiver. This is easily cured by the addition of a small shield plate in the SM-220.

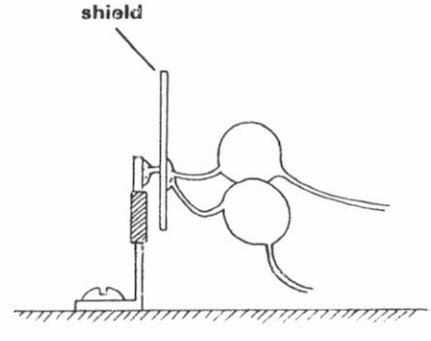
Proceed as follows:

1. Disconnect the power cord from the back of the scope.
2. Remove the scope top cover.
3. Loosen the Function and RF ATT shaft couplers using a 1.5mm Allen key. Withdraw the shafts away from the RF compartment.
4. Remove the RF compartment screws from the rear panel.
5. Remove the four screws to open the RF compartment.
6. Remove the screw holding the internal shield and remove the shield.
7. C6, a 0.01 uF capacitor, runs from the Function switch to a ground point under the RF ATT switch, Cut the ground lead, shorten and connect to the ground point under the Function switch.



Note wiring changes to the Function switch terminal strip.

8. R2, a 10k ohm resistor, is attached to the terminal strip directly under the Function switch. Reposition this resistor from the top to the bottom of the terminal switch.
9. Now install another small shield plate to the ground point under the function switch. This may be fashioned from any scrap metal around the shack that will take solder.



Mounting the shield to the terminal strip.

10. Reverse the disassembly instructions in steps 1-6 above to reassemble the monitor.

- From A.R.A.