

THE PROPAGATOR

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO SOCIETY

PO BOX 1838 WOLLONGONG NSW 2500

VOLUME 83, NUMBER 6

JULY 1983

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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 next meeting of the Illawarra Amateur Radio Society will be held on Monday July 11th, 1983, in the Congregational Hall, Coombe Street, Wollongong, at 7.30 p.m. It is hoped that Lyle will be giving a talk on the Moonbounce Project.

LAST MONTH'S MEETING:

The June meeting of the Illawarra Amateur Radio Society, held on Monday June 6th 1983 in the Congregational Hall, attracted a good roll-up of members and one visitor. President Dave VK2DFL opened the meeting by congratulating Secretary Murray VK2MY and Sep VK2PTZ on gaining their new call signs. Congratulations also went to Dave VK2DFL and Ray VK2XCC for their election to the Committee of ANARTS, and for good measure - to Wojciech VK2ETT on his engagement and Denis VK2DMR on his birthday!

Among other business, someone to manage the club station VK2AMW during the Remembrance Day Contest in August is required. Anyone who can help please see Dave VK2DFL.

Ron VK2DKQ told the meeting that Keith Roberts, who was previously Chief Engineer at WIN 4, would be running a tech course on antennas from the first week in July to November, so contact Ron or go along and enrol.

In reply to a question from Ken VK2DOI, Dave VK2DFL told the meeting that a copy of the Propagator is sent to Wollongong Library every issue, and also one to the National Library in Canberra.

The two prizes in the raffle, each a Vacuum Base Vise, were won by Bill VK2PGO and Kevin VK2EBI. We acknowledge with thanks the donation of a socket set from one of our members for a future raffle.

Murray VK2MY then showed the W.I.A. films on Amateur Radio, including segments from ATN 7 and ARRL productions, and in which Senator Barry Goldwater, a keen ham, demonstrated the range of amateur activities from a fearsome spark transmitter to OSCAR (Orbital Satellite Carrying Amateur Radio). We liked the saying of those early pioneers - 'If your antenna didn't blow down last winter, it wasn't big enough'.

As usual the Club Store was in operation, in the capable hands of Kitty VK2PSX and Kel VK2PSI. The meeting concluded with the usual refreshments.

DO YOU BELONG????
(or WHY BOTHER???)

Over the centuries, our civilisation has developed to a very high degree—to such a high degree that we have organisations to handle almost any eventuality. All of the members of any particular society group participate in the benefits of being in that group and, by doing so, are expected to give something in return, by payment of taxes, by working, paying wages etc. The society survives only while each member contributes his own particular talents and skills to the common good. This organisation of skills etc. then assures the well-being of the group. Our own well-being, to a large extent depends on that of the group as a whole. Selfishness or apathy are the great dangers to the society and is one of the reasons for the demise of a society (or of a civilisation).

One of the major threats to our own society is what the insurance companies call "acts of God"—such things as earthquakes, tidal waves, flooding and (in our immediate society) bush fires. These "disasters/emergencies" have a major deleterious effect on our society, primarily because the normal methods of dealing with problems in our society are unable to cope on account of the magnitude of the problems involved. In these type of occurrences the damage affects a large proportion of the population and not only are there large numbers of people needing assistance but also the number of people able to assist is reduced by a proportionate amount. If half the population of the city is affected then only half of the policemen, firemen, doctors etc. are available to assist. In addition many of the usual services on which the society rely, have been reduced or are non-existent—such as electricity, telephones, roads transport etc.

In an emergency/disaster of this sort of magnitude then the survival of society depends on the skills and resources of the individual members of the group working on behalf of the group as a whole.

If you have a look at the problem in less abstract terms (i.e. at the level of your own local community) it is much easier to get a grasp of the problems involved. A disaster affecting only 20% of the population of the Illawarra region would involve about 50,000 people. The medical care, housing and feeding of this number of people would present a massive task to the professional services—indeed it would not be possible. Added to this would of course be the loss of services and utilities and it is easy to see why all of the members of the community would need to assist. Unfortunately, at the time that this assistance is required, most of those who have a desire to help don't have the necessary skills to be of use—not because the skills are difficult to acquire but because they have not been taught (nobody wants to learn—it's called apathy).

So what is all this got to do with an amateur radio publication?? Simple. We all of us have two skills/resources to offer the community and both of these skills are absolutely essential in these situations. They are:

- 1) Practical and Theoretical communication skills
- 2) The equipment to effect those skills.

No-one else in the community has the sheer volume of communications available to them and without communications (and the resulting information) the multitude of other tasks to be done are either not done or are done with very low efficiency. Unfortunately, experience in even minor emergencies has shown that having a radio and the will to help is not enough. Organisation and training before the event are necessary. The level of training need not be great, and the organisation and training should be done in consultation with professionals (besides which most of us amateurs are a pretty apathetic bunch!!).

There are, of course, organisations to whom our society has given the responsibility for such events. However, as the club members who visited the State Emergency Service Headquarters in Wollongong found, they have limited funds, equipment and people. So how can each of us help??

There are at least four ways and each of these require different amounts of time, energy, skills and application (there's that apathy again). I will detail these in Part 2 but first the following needs to be said:

- 1) we amateurs have a legal responsibility to assist in an emergency. (The degree of preparedness for such an emergency is however not stated.)
- 2) We, as amateurs, are allowed to carry traffic on behalf of a third party.
- 3) because of 2) WICEN may be part of these plans but need not be.
- 4) Your help is needed in your own local community and really, the community is entitled to expect your help.

de VK2DMR

DE DOC - ARRANGEMENTS ARE NEAR COMPLETION FOR RECIPROCAL LICENSING AGREEMENTS WITH POLAND.... AMATEURS ARE NOW PERMITTED TO PARTICIPATE IN, AND CONDUCT 'ON THE AIR' CHESS SESSIONS OVER THE AMATEUR NETWORK. SESSIONS MUST BE CONDUCTED IN ACCORDANCE WITH CORRECT AMATEUR PROCEDURES.

From the ANARTS Weekly Broadcast, 19th June 1983

DR OWEN GARRIOTT, W5LEL, IS STILL SCHEDULED TO OPERATE AN AMATEUR RADIO STATION ON BOARD STS9, WHICH IS SCHEDULED TO LIFT OFF SEPTEMBER 30TH. THERE IS NO CHANGE IN THESE PLANS. STS10, A MISSION NOT HAVING ANY AMATEUR RADIO ACTIVITY, HAS BEEN POSTPONED. STS7 AND STS8 ALSO WILL NOT HAVE ANY AMATEUR RADIO ACTIVITY.

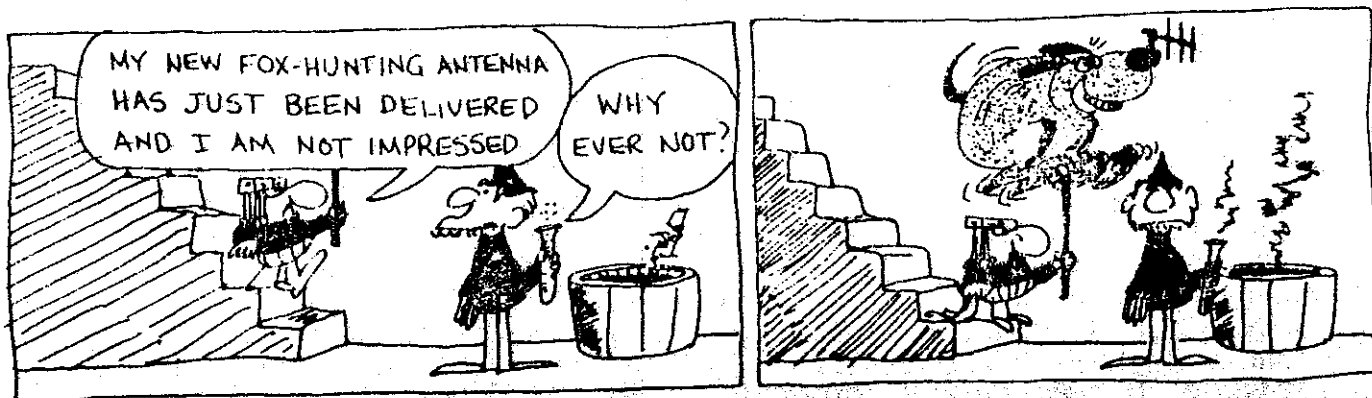
From the ANARTS Weekly Broadcast, 19th June 1983

Did you realise that next year's kindergarten enrolments in this area will be made up of boys and girls who will graduate in the 21st century? Our television-tuned office cynic didn't like the sound of that at all. He reckons the 21st century has been reserved for people like Flash Gordon, Buck Rogers and the like.

LARD FINES

Adam blamed Eve; Eve blamed the serpent and the serpent hadn't a leg to stand on!

"Oxtales"



REPEATER REPORT

RESULTS OF THE APPEAL IN LAST MONTHS 'PROPAGATOR' FOR A.W.A. FILTERS WERE DISAPPOINTING. NO-ONE OFFERED US ONE. MAYBE THERE IS A GOOD USE THAT CAN BE MADE OF THESE, IF SO THEN WHY NOT LET US ALL KNOW BY PUTTING A NOTE IN THE 'PROPAGATOR' AS TO HOW USEFUL THEY ARE TO YOU. OTHERWISE THEY CAN BE UTILIZED EFFECTIVELY IN THE DEVELOPMENT OF DUPLEXERS FOR OUR 70CM. REPEATERS. ONCE AGAIN, IF YOU HAVE PURCHASED ONE OF THE VHF CARPHONES FROM CAVIONS AND HAVE NO USE FOR THE AERIAL FILTER IN THE RECEIVER, THEN WE WOULD BE VERY PLEASED TO RELIEVE YOU OF IT.

IT IS VERY RARELY THAT YOU SEE AN APPEAL FOR HELP IN THE 'PROPAGATOR' BY YOUR REPEATER GROUP. USUALLY YOU READ OF THE ACHIEVEMENTS WE HAVE MADE, MONTH AFTER MONTH. IF IT WERE NOT FOR THE EFFORTS OF A VERY SMALL GROUP OF PEOPLE IN OUR SOCIETY, THERE WOULD BE NO WAY IN THE WORLD THAT WE COULD AFFORD TO INSTALL AND MAINTAIN ONE REPEATER, LET ALONE 4 REPEATERS AT 3 SEPARATE SITES. THE AMOUNT OF MONEY SPENT BY THE IARS ON REPEATERS IS INSIGNIFICANT COMPARED TO HOW MUCH OF THE COST HAS BEEN BORNE BY OUTSIDE HELP.

FOR INSTANCE, CHANNEL 8225 AT HILL 60:- ONLY THE AERIALS WERE PURCHASED BY US. THE REPEATER ITSELF WAS DONATED BY VK2CAG, THE MAST AND FITTINGS WERE DONATED BY BARNETTS COURTIERS, THE INSTALLATION WAS DONE BY OUR MEMBERS, AND THE PREMISES, WHICH INCLUDE FREE POWER AND SECURITY, RENT-FREE, IS SUPPLIED BY THE VOLUNTEER COASTGUARD ASSOCIATION. THIS REPEATER HAS NO RUNNING COSTS.

THEN THERE IS THIS MONTHS EFFORT INVOLVING SUBLIME POINT. LAST MONTH IN THE 'PROPAGATOR' WE MENTIONED THAT WE WERE NEGOTIATING PAYMENT OF POWER AT THE SITE. WE ARE PLEASED TO REPORT THAT THE NEGOTIATIONS WERE SUCCESSFUL, AND THE POWER BILL FOR OUR INSTALLATION AT SUBLIME POINT IS BEING PAID BY A WOLLONGONG BUSINESS WHO HAVE INSTALLED THEIR 300MHZ. POINT TO POINT RADIO LINK ADJACENT TO OUR REPEATER CUBICLE, AND ARE USING OUR MAST TO CARRY THEIR AERIAL AND OUR BATTERY AND CHARGER SYSTEM. SINCE WE ARE A NON-PROFIT HOBBY ORGANIZATION, WE ARE NOT BEING CHARGED RENT, AND NOW THAT THE POWER IS BEING PAID FOR, THIS REPEATER SITE IS ALSO FREE OF RUNNING COSTS.

LAST BUT NOT LEAST, MOUNT MURRAY. POWER AT MT. MURRAY IS COSTING US \$100 A YEAR, AND IS TAKEN FROM A NEARBY FARMHOUSE, TRANSFORMED DOWN TO 32 VOLTS AND PIPED UP THE HILL TO THE REPEATER BY BURIED FIGURE 8 CABLE. IT IS REGULATED AND IS USED AS THE CHARGING SOURCE FOR 180 AMP-HOURS WORTH OF BATTERIES. WE ARE LOOKING AT ALTERNATIVE POWER SOURCES THAT WILL ELIMINATE THE ON-GOING EXPENSES FOR POWER, AND THAT WILL REMOVE OUR DEPENDENCE ON THAT BURIED LANDLINE WHICH IS SO VULNERABLE TO DAMAGE AND DIFFICULT TO REPAIR. A GENEROUS OFFER MADE BY A SOLAR CELL DISTRIBUTOR IS BEING DISCUSSED AT COMMITTEE LEVEL. THERE IS MUCH DISCUSSION ABOUT WIND POWER ALSO.

ON SUNDAY 19TH JUNE, A WORKING PARTY WAS AT MT. MURRAY ALL DAY IN THE THE WET AND MISERABLE WEATHER REPLACING THE AERIALS. THE TEMPORARY 5.5DB AERIAL ON LOAN FROM STAN VK2KSS WAS FINALLY REPLACED WITH AN ARRAY OF 4 PHASED DIPOLES, WHICH WAS BUILT BY STAN. THE DIPOLES ARE ARRANGED VERTICALLY IN LINE TO GIVE A CARDIOID PATTERN WITH 9DB GAIN OVER A DIPOLE IN ALL DIRECTIONS EXCEPT FOR ALBION PARK - SHELLHARBOUR DIRECTION, WHICH ALREADY RECEIVES A LION'S SHARE OF SIGNAL. THE RECEIVING DIPOLE WHICH WAS MADE BY ERIC (VK2YVF) WAS REPLACED WITH THE GPV5 6DB GAIN OMNI-DIRECTIONAL WHICH WE PURCHASED LAST YEAR, AND WHICH BROKE THE BASE LOADING COIL IN A STORM LATE LAST YEAR. THIS TIME WE FITTED NYLON GUYS FROM THE RADIATOR TO THE RADIALS AND DOWN TO THE MAST SO AS TO PREVENT A REPEAT OF THE LAST CATASTROPHE.

ALSO THE 32 VOLT STEP-DOWN TRANSFORMER IN THE BATTERY CHARGER WAS REPLACED WITH A SMALLER AND MORE EFFICIENT ONE WHICH RESULTS IN SLIGHTLY MORE AVAILABLE CHARGING CURRENT. ONE AMP IS ALL WE CAN GET DUE TO THE LOSS IN THE RESISTANCE OF THE LANDLINE, BUT IT APPEARS TO BE ADEQUATE.

GENERAL MAINTENANCE WAS DONE SUCH AS PAINTING THE MAST AND WINCH AND FITTINGS TO PREVENT CORROSION.

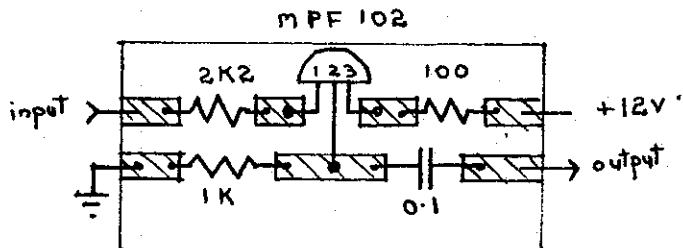
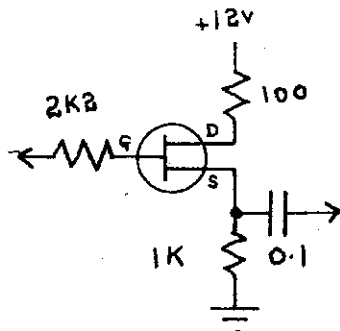
REPEATER COVERAGE SEEMS TO BE IMPROVED AS A RESULT OF SUNDAY'S EFFORT

GRAEME VK2CAG

DOI DOINGS - (DT600 Continued).

Following completion of the DT600 RTTY Demodulator Unit, I asked Graeme VK2CAG to give it a check over. He discovered one joint that had somehow escaped solder, and a break in continuity elsewhere that turned out to be due to the absence of a link between top and bottom p.c. pattern - not covered in the instructions. Graeme was unable to fully test my unit as the DT600 for some reason is designed for an 8 ohm input, (presumably meant to be connected across the speaker terminals) whereas Graeme's uses a high impedance input. I agreed that a high impedance input was a better idea as copy could then be received with the speaker turned right down, so I made up a simple RET high/low impedance matcher for use with the DT600. It connects across the 500 ohm side of the input transformer and appears to be quite effective, as it enabled me the same afternoon to copy the RTTY transmission of VE5RG in Regina, Saskatchewan, on 20 metres.

Here's my circuit and Veroboard layout.



Ken, VK2DOI

LEDS IN THE TERMINAL UNIT. IAN DE VK2DGA

LEDS HAVE THERE PLACE IN THE RTTY SHACK. INDICATING A LARGE RANGE OF FUNCTIONS THAT EQUIPMENT IS PERFORMING. LISTED IS A FEW OF THE JOBS LEDES CAN DO IN THE TERMINAL UNIT.

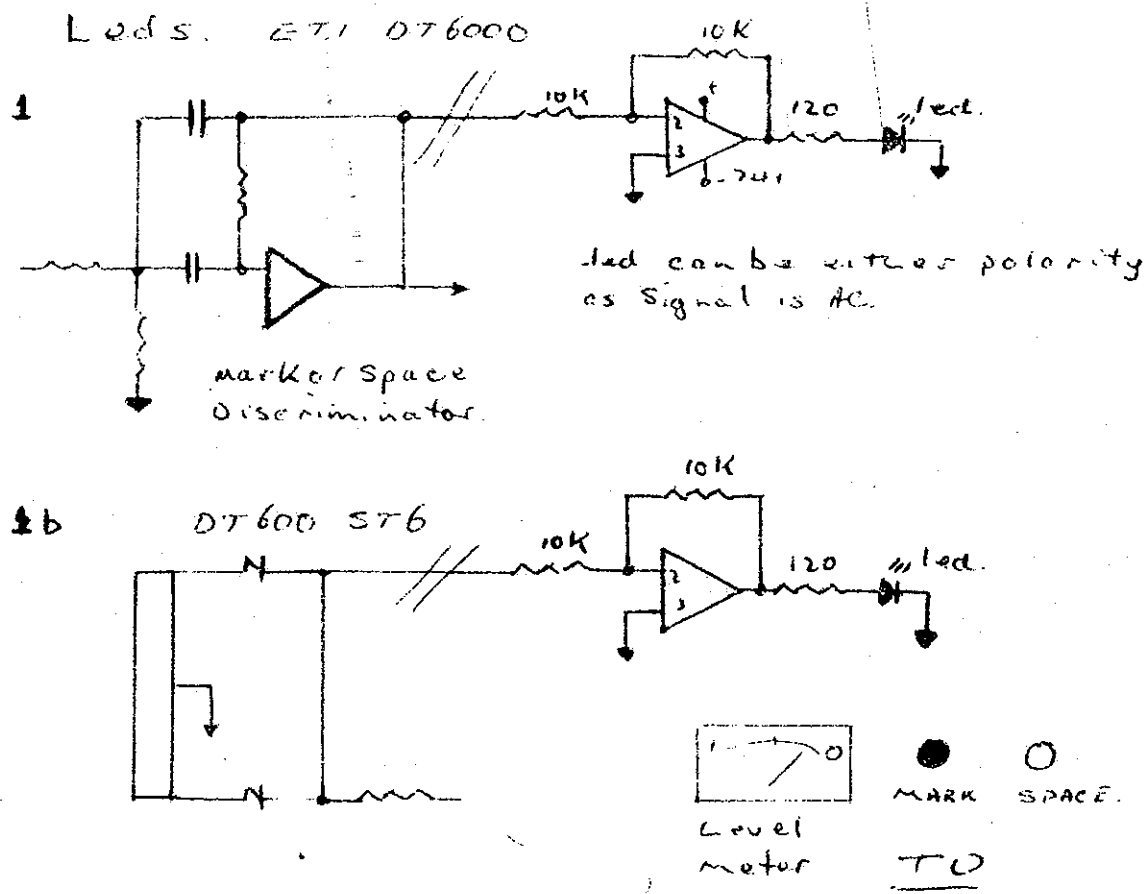
DIAGRAM 1A AND 1B INDICATE HOW A LED IS CONNECTED TO THE DISCRIMINATORS OF THE ETI 730 AND THE DT-6000 TYPE TERMINAL UNIT AND THE POT CORE TYPE DT-600 AND ST6 TERMINAL UNITS. THIS TYPE OF CONNECTION WILL CAUSE THE LED TO LIGHT TO A LEVEL CORRESPONDING TO THE LEVEL OF RECEIVED SIGNAL ENERGY. THE CIRCUIT IS CONSTRUCTED THIS WAY SO NOT TO 'LOAD' THE DISCRIMINATOR AND PULL IT OFF FREQUENCY.

DIAGRAM 2, THIS A A SIMPILAR CIRCUIT WORKING OFF THE BACK OF THE SLICER STAGE. THE TWO LEDES ARE PLACE BACK TO BACK AND SHOW MARK AND SPACE ACCORDING TO THE SIGNAL THAT IS BEING RECEIVED. THIS OPERATION

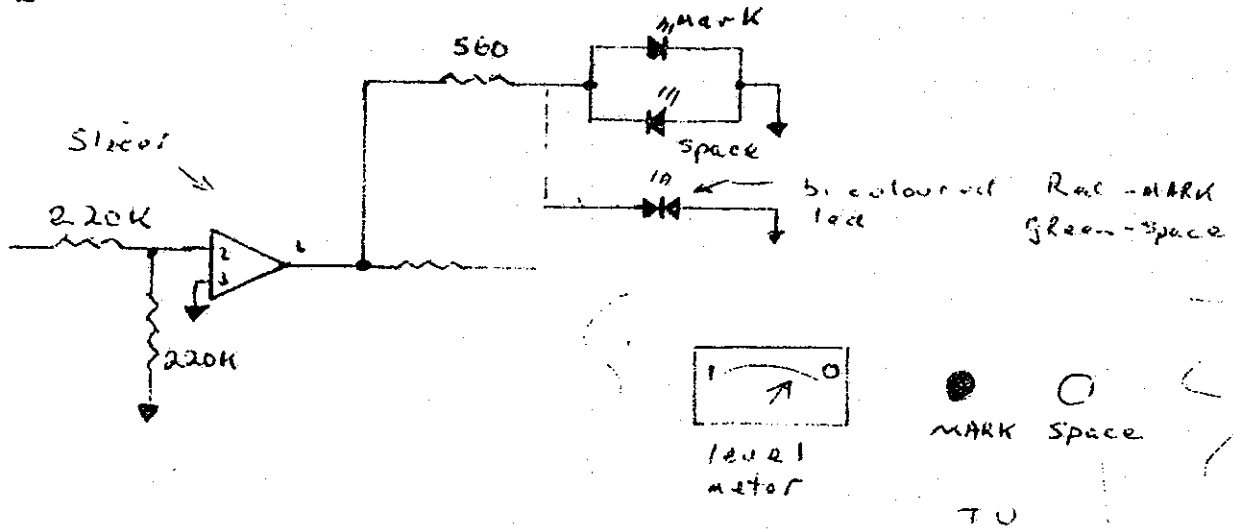
DOES NOT SHOW THE SIGNAL 'GOODNESS' (LEVEL DUE TO FADING ETC OF THE MARK AND SPACE INFORMATION AS SEEN ON CIRCUIT 1A AND 1B) BUT RATHER THE DECIDED SIGNAL FROM THE TERMINAL UNIT.

DIAGRAM 3A AND 3B SHOW HOW THE PRINT LED IS CONFIGURED TO SHOW AOS (AQUASITION OF SIGNAL) AND 3B LOS (LOSS OF SIGNAL). THIS CIRCUIT WORKS OFF THE MARK HOLD CIRCUIT OF THE TERMINAL UNIT.

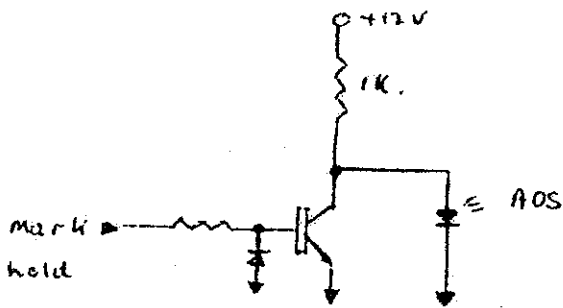
DIAGRAM 4 SHOWS HOW TO OBTAIN A PRINTER 'LOOP' LED INDICATOR. THIS IS A STANDARD CIRCUIT CONFIGURED TO SHOW THE LOOP ACTIVITY IN BOTH RECEIVING FROM THE TERMINAL UNIT AND KEYING THE LOOP FROM THE KEYBOARD.



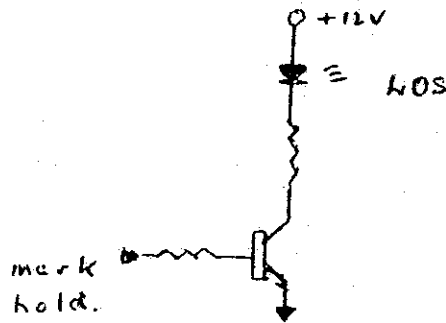
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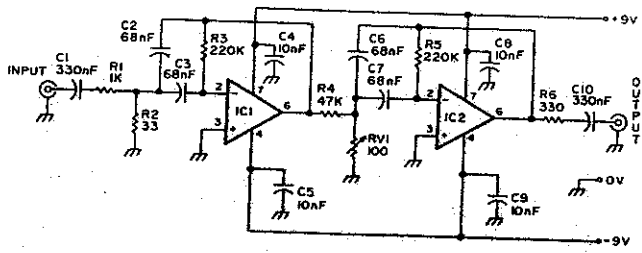
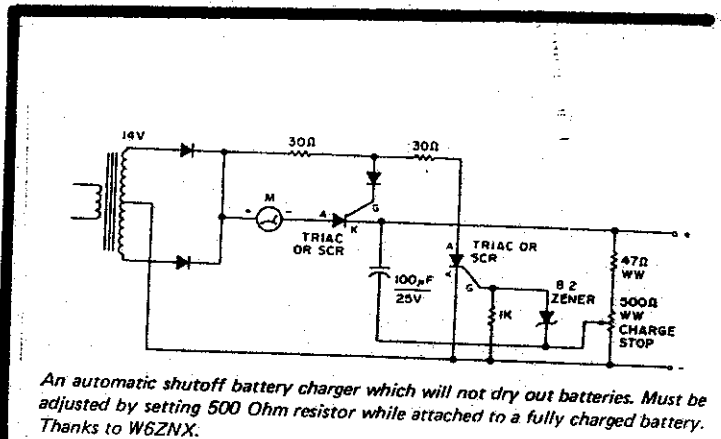
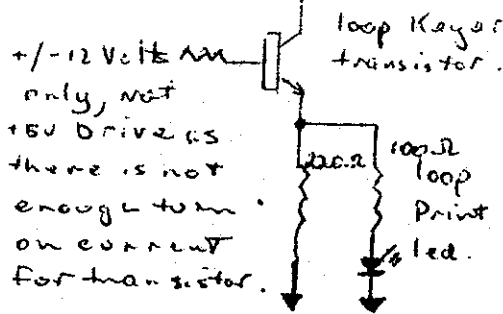
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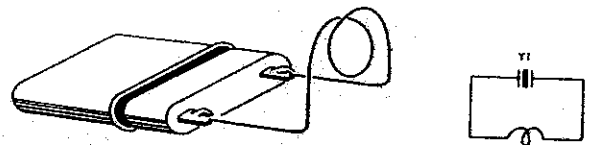
b



4



An active CW filter that can use a variety of ICs, including the 741, 748, and 301A series. The first stage is fixed-tuned. The second can be set the same, or slightly offset to provide double humped bandpass. Reprinted from Radio ZS.



The simplest circuit yet for checking crystals. Attach a one-turn coil to a crystal socket and plug in the crystal. A grid dip meter coupled to this turn will dip at the resonant frequency. Thanks to W5QFH.

From '73'

SOME MORE NOVICE NOTES

Of all of the homebrew projects you are likely to undertake probably the handiest and easiest to build would be a GDO. Now it is probable that you were taught in your course about a GDO and almost had a fit when you found out how much they cost. Well don't despair, they need not cost the earth and they are certainly easy to build.

A GDO is a simple oscillator with an external coil as part of the tuned circuit of the oscillator. Usually the coil is made removable so that a number of coils can be used to increase the range.

The design is very simple and need not tax your skills either as a designer or a constructor. I claim no originality for the circuit since it comes in essence from the ARRL handbook.

The circuit can be either a Colpitts or a Hartley oscillator depending on the components available. If you have a small dual section air-spaced variable capacitor use a Colpitts circuit, and if it is only a single section use a Hartley circuit. The diagrams for both are given at the end of the text.

The capacitor should have a maximum capacitance of about 50 pF. I used an old broadcast band tuning capacitor and removed all but 3 of the moving plates (maximum capacitance was about 45 pF).

Similarly the coils are nothing special. I used 75 mm. lengths of 16 mm. plastic conduit as the formers (that was all I could find). The range of frequency coverage was from 1.5 MHz to about 120 MHz. I started off with about 50 turns of fine enamelled wire for the first coil and made a range of coils with progressively less turns (e.g. 50, 30, 20, 12, 8, 5, 3, 1, turns) and this gave me a good range with an overlap on each range. I mount the coils on bases and fitted a mating socket on the case of the GDO. The case was a plastic one from the local Tricky Dicky Emporium as was the FET. The rest of the bits came from the junkbox and from the junkshop at Bulli (Thanks again Fred).

The cardinal rule is to keep the leads as short as is possible- no need for PC. boards or anything fancy.

The most important thing is it worked first time. The only problem I found was that it would not oscillate below about 3 MHz. The reason was that the RF choke was too low in value, and a larger one fixed that in double quick time.

This would have to be a recommendation as one of the first projects for a novice to built on account of the usefulness and ease of construction (and because you can save mucho dinero).

Happy constructing.

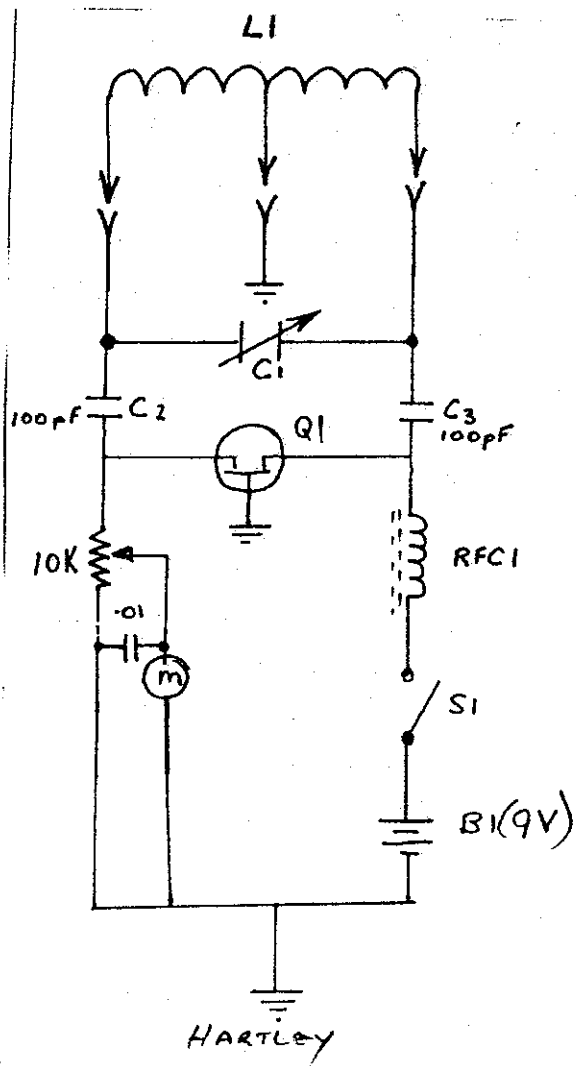
de VK2DMR

A woman went to the doctor with a baby and complained that it cried all the time. The doctor thought the baby looked undernourished and asked the lady to strip to the waist so he could examine her. After spending some time on a careful examination he exclaimed in amazement. She was breasts in no condition to feed the baby.

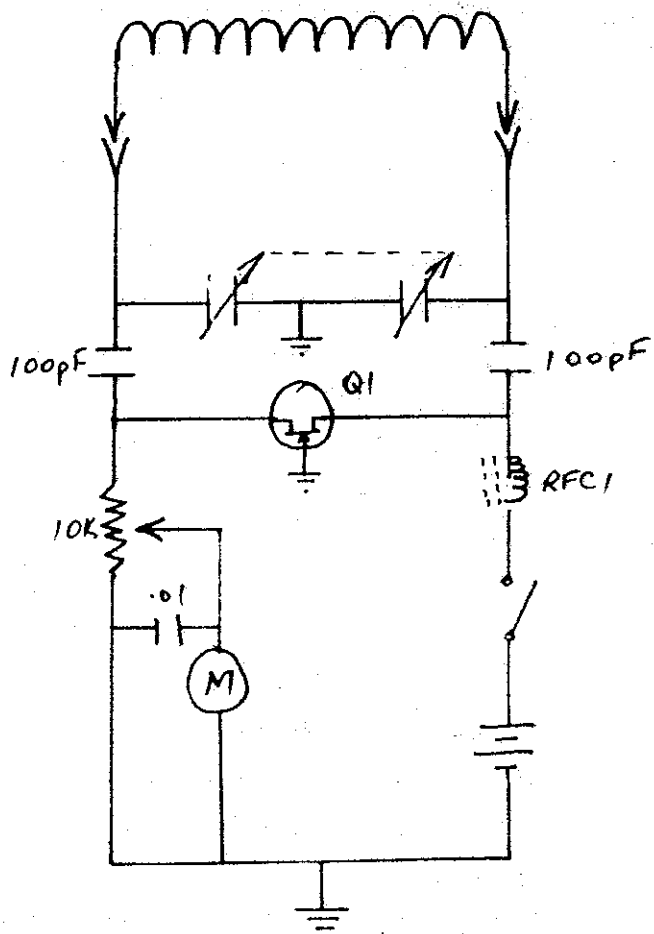
It may be a new year but it certainly won't stop me sharing another new Irish joke with you . . . Did you hear about the Irishman who turned up for work wearing only one glove. Apparently the weather forecast said that it would probably be cold.

Hats off to the quick-thinking Shellharbour man who was out with the boys one evening, and before he realised it the morning of the next day had dawned. At first he hesitated to call home, but finally he took an idea. He rang his house, and when his wife answered he said, "I'm home."

Tax avoidance, with bottom of the harbour, and the like has really made the news. You'll be pleased to know the problems with tax evasion are not restricted to Australia. In Britain last month an embattled businessman was fighting a case against the taxation commission. He told the judge, "As God is my judge, I do not intend to pay a penny more tax than I am legally entitled to."



HARTLEY



Colpitts

Loran Joly WB0KTH
432 Central Ave.
Mora MN 55051

From "73"

Quick Vertical

-- for 20 and 40

Verticals have always performed well on the long haul DX contacts that many hams enjoy participating in. The vertical radiates power at a very low angle, enhancing the possibility of a DX contact. The dipole radiates power at a much higher angle.

The antenna I am going to describe was designed for simplicity. It is simple to erect, taking a matter of an

hour or so, and will not make a dent in your wallet!

The radiating portion of the antenna is made of #18 wire. Many other sizes may also be used. Cut the wire to a length of 28 feet. The wire may then be held up in a number of ways. A well-used scheme has been to run the wire up a wooden pole.

Once the wire is held up vertically, you can proceed to hook up the feedline. The

feedline used is ordinary speaker wire, commonly sold at Radio Shack stores. It just so happens that the speaker wire has an impedance of approximately 45 Ohms, and works beautifully as a balanced feeder. Hook up one side of the line to the base (the wire) of the vertical, and the other wire to a ground rod, at least 5 feet long. It is also advisable to have 4 or more ground radials each 33

feet in length connected to the ground rod.

After the feedline has been brought into the shack, it will have to be trimmed to a length that will reflect the least amount of current, as the antenna does not resonate exactly on the 20 and 40 meter bands. A bit of juggling with the length of the antenna feedline will give you a respectable match. If you start by tuning the antenna up on the 40 meter band, the 20 meter band will also have a low swr with the same length of feedline.

This antenna works well on both 20 and 40 meters, with an swr of 1.3:1 on both bands. The antenna is quite broadbanded; it is possible to operate both CW and SSB on both bands. After putting up this antenna, the first station I worked was a Russian. Although this antenna works well as a regular home-QTH antenna, it is especially suited for portable operation and use, due to its ease of construction and erection. ■

THE ILLAWARRA AMATEUR RADIO SOCIETY - P. O. BOX 1838 WOLLONGONG 2500

Meetings: Second Monday of every month except January at 7.30 p.m. in the Congregational Church Hall, Coombe Street, Wollongong. Committee Meeting - 3rd Monday of each month.

Repeaters: VK2RAW - 6850 VHF Mount Murray. VK2RIL - 7275 VHF Sublime Point.

VK2RUW - 8225 UHF Hill 60 Port Kembla. VK2RIL - 8725 UHF Sublime Point.

Broadcasts: On Sunday night prior to Club Meeting - 7.00 p.m. RTTY on 6850 VHF Repeater; 7.15 p.m., Voice on 6850 VHF, 7275 VHF and by relay on 3.562 Mhz. Call backs after the WIA relay at 7.30 p.m.

W.I.A. Relay: On 6850 VHF at 11.00 a.m. and 7.30 p.m. weekly on Sunday.

Club Nets: 3562 Khz SSB on Sunday at 8.00 p.m. and slow morse net on 28.440 Mhz on Tuesday at 8.00 p.m.

Newsletter: "The Propogator", published monthly to reach financial members in week prior to meeting. All articles, ads etc. to the editor, Leo Kleeborn, VK2YJK at 33 Lombard Avenue, Fairy Meadow 2519. Telephone 84.9751. Copy deadline 3rd Tuesday each month.

Membership: The Secretary, I.A.R.S. P. O. Box 1838, Wollongong 2500. Full membership is \$7.00 per annum; students and pensioner concessional members \$4.00 per annum.

QSL's: For financial members who are also financial members of the W.I.A. ONLY.

Inwards: Mike Keech VK2DFK, QTHR; Outwards: Ian Callcott VK2EXN QTHR.

Awards: The award of the I.A.R.S. is "The Lawrence Hargrave" award. VK stations require 10 contacts with I.A.R.S. members; overseas stations require 5 contacts with I.A.R.S. members or contact with the Club station VK2AMW is sufficient in itself for the award. Band details - time, day, date, frequency, station worked + \$2.00 or 4 I.R.C.'s to Award Manager, I.A.R.S., P. O. Box 1838, Wollongong 2500. No QSL cards required.

Store: The Club store operates at each Club meeting.

Committee: President - Dave Myers VK2DFL, 78 Highlands Pde., Bulli.

Vice President - Keith Curle VK2OB, 24 Beach Drive, Woonona.

Secretary - Murray McConnell VK2MY, 62 Ramah Avenue, Mt. Pleasant.

Treasurers - Geoff Cuthbert VK2ZHU, 2 Nioka Avenue, Keiraville.

Richard Fox VK2ERF, P. O. Box 1120, Wollongong.

General Committee: Mike Keech VK2DFK, Ian Callcott VK2EXN, Ray Ball VK2XCC Morry Van-De-Vorstenbosch VK2EMV, Jim Mead VK2EJM, Jock Taylor VK2JT, Roy Parton VK2K0.

Repeater Chairman: Graeme Dowse VK2CAG.

Repeater Committee: Mike Keech VK2DFK, Morry Van-De-Vorstenbosch VK2EMV, Ian Callcott VK2EXN, Dave Colless VK2EZY.

Broadcast Officers: Denis McKay VK2DMR, Paul Gardiner VK2ZQT.

QSL's: Mike Keech VK2DFK and Ian Callcott VK2EXN.

Propogator Editor & Staff: Leo Kleeborn, Editor VK2YJK, Ken Frost VK2DOI, Cartoonist Brian Wade VK2AXI.

Storepersons: Kitty and Kel Smith VK2PSK, VK2PSI.

Life members: Graeme Dowse VK2CAG Keith Curle VK2OB