

THE PROPAGATOR

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO SOCIETY

PO BOX 1838 WOLLONGONG NSW 2500

VOLUME 83, NUMBER 1

FEBRUARY 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:

This month's General Meeting will be held on Monday, February 14th, 1983, at the Congregational Hall, Coombe Street, Wollongong.

LAST MONTH'S MEETING

The last meeting for 1982 of the Illawarra Amateur Radio Society was held on December 13th in the Congregational Hall and attracted a good roll-up of members.

Among General Business, Denis VK2DMR told the meeting that the 2metre repeater, VK2RIL, has been on test for the last few weeks on 147.275 MHz out, (input 600 kHz up), and is working extremely well.

Paul VK2ZQT then gave details of the Club Barbeque arranged for Sunday 19th December - see separate report.

Mike VK2VXS notified the meeting of the many QSL cards awaiting collection.

A mini-auction was conducted by Denis VK2DMR, with many items going for as low as 10 or 20 cents, a couple of 3" CRO's fetching the best bids. An inadvertent gesture by Geoff VK2ZHU and he unexpectedly found himself the owner of a relay set !

The raffle prize of a Ham Clock with many functions and 5 time zones was won by Phillip VK2PGL of Port Kembla who must be our most recent member. The prize was presented by new novice Kitty, our second YL member.

Although no speaker had been arranged, Ian VK2DGA of ANARTS had come down and gave a talk on some new RTTY gear he had brought with him. He explained the operation of the IC1000 Terminal Unit and its advantages over the DT600. It contains some 50 odd 741's, has 4 clocks to tune, and is based on the commercial Dovetron. He also showed us the 'Robot 800' Specialist Multifunction Terminal with keyboard, which handles all modes, ASCII, Baudot, CW etc., at all speeds. This will cost about \$360 complete and both items should be available early next year. Members showed keen interest in the units during the rag-chew following Ian's talk.

NEW CALLS

Congratulations to Murry VK2KER, and Kitty and Kel who at the time of writing are awaiting their callsigns.

Kitty's Callsign is VK2PSK Kel's, VK2PSU

MOONBOUNCE REPORT FEBRUARY 1983.

We have had several working days since the November Report. Each has been well attended, with seven along on 15th January, including one non ham visitor from U.K. Best wishes Cliff on your travels, good to see you and thanks for the help.

The "old faithfuls" continue to turn up, with other members coming along on various days.

As for progress - the mechanical drive equipment is now operational and the dish has been moved through full travel in hour angle and declination using temporary electrical supply cables. The permanent cable runs have been taken up to the drive motor housing ready for termination at the various motors, limit switches, solenoid clutch and H.A. selsyn and it is hoped to make these terminations on our next working day.

The one remaining declination selsyn and gearing has been removed so that the pair of replacement units can be installed, with appropriate gearing, when this is obtained.

My "homework" has continued to be carried out on the 1296MHz transmitter, construction of which is virtually complete. It has been powered up and the driver and PA stages resonated.

With 0.5 watts output from the 144/1296 transverter the driver stage has given 5 watts O/P. As 10 db gain is optimum from this design, it is doing its stuff nicely. A blower is being installed on it to be on the safe side and also to allow higher power handling capability, if found necessary.

The PA stage is not operating efficiently yet and it appears that one or both of the tubes (of unknown vintage) have "had it" - as with about 3 watts input only 30 watts output has been achieved. As the price of new tubes is almost out of my "pocket money" range, a few feelers were put out around the Moonbouncers and sure enough Chris VK5MC has come to the rescue, sending a pair of his spare 3Cx100 A's over for use, many thanks Chris. Nevertheless if anyone has any of these tubes, or 2C39BA's, or 7829's which are known to be in reasonable/good condition then they would be gratefully received for spares, in case things go wrong (as they can on occasions on 1296 and above!!)

Paul VK2ZQT has promised some $\frac{7}{8}$ " diameter coax and connectors for transmitter to feed connection - which will be great, as low loss coax will be necessary with our none-too-excessive power output.

And last but not least, my good moonbouncer friend, Peter Z25JJ, is sending over circuit boards and some components for a digital callsign keyer together with some chip capacitors etc, for the low noise receiving preamplifier - which is my next construction job.

We have obtained two steel shelving units from the "junk shop" fairly cheaply, so now have somewhere to put the equipment in the operating room. Someone might like to do a clean down/respray job etc. on these if they have time available in late February/early March. Any offers? - thanks. We also need a cover to be made up and positioned over the ends of the cable conduits at the cubicles, and to have the replacement declination selsyns mounted in position - lots of bits and pieces go to make up a viable system - not just electronics. Hi!!

I will be on holidays in February but hope to get along to the club meeting, so anyone interested in helping just say the word!!

Lyle VK2ALU

LEAST SUCCESSFUL ANIMAL RESCUE

The firemen's strike of 1978 made possible one of the great animal rescue attempts of all time. Valiantly, the British Army had taken over emergency fire-fighting and on 14 January they were called out by an elderly lady in South London to retrieve her cat which had become trapped up a tree. They arrived with impressive haste and soon discharged their duty. So grateful was the lady that she invited them all in for tea. Driving off later, with fond farewells completed, they ran over the cat and killed it.

LEAST SUCCESSFUL SAFETY FILM

In 1976 the British Aircraft Corporation showed a film on the dangers of not wearing protective goggles to employees at its Preston factory. It was so horrific that thirteen employees had to be helped out by workmates and State Registered Nurses.

One scene was so realistic that a welder fell off his chair in fright and had to have seven stitches. During the same scene another worker fainted and had to be carried out. In one full-colour close-up a group of machine minders had to be led out feeling sick and faint.

The divisional safety officer, Mr. Ron Hesketch, said the film was being withdrawn because it was not safe. "We are very keen to get over the point of eye protection," he said, "but at this point in time we have decided not to take any chances. We seem to have had at least one person keeling over on every course during the safety campaign."

LEAST SUCCESSFUL PRISON GUARDS

The largest number of convicts ever to escape simultaneously from a maximum security prison is 124. This record is held by Alcoente Prison, near Lisbon in Portugal.

During the weeks leading up to the escape in July 1978 the prison warders had noticed that attendances had fallen at film shows which included "The Great Escape", and also that 220 knives and a huge quantity of electric cable had disappeared. A guard explained: "Yes, we were planning to look for them, but never got around to it."

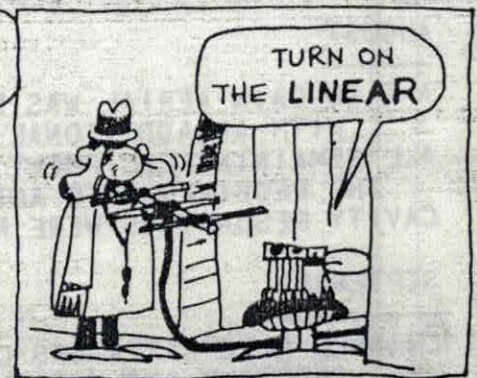
The warders had not, however, noticed the gaping holes in the wall because they were "covered with posters". Nor did they detect any of the spades, chisels, water hoses and electric drills amassed by the inmates in large quantities.

The night before the breakout one guard had noticed that of the 36 prisoners in his block only 13 were present. He said this was "normal" because inmates sometimes missed roll-call or hid, but usually came back the next morning.

"We only found out about the escape at 6.30 the next morning when one of the prisoners told us", a warder said later. The searchlights were described as "our worst enemy" because they had been directed at the warders faces, dazzled them and had made it impossible to see anything around the prison walls. When they eventually checked, the prison guards found that exactly half of the gaol's population was missing.

By way of explanation the Justice Minister, Dr. Santos Pais, claimed that the escape was "normal" and part of the "legitimate desire of the prisoner to regain his liberty."

... from "The Book of Heroic Failures" by Stephen Pile; Futura, 1980.



REPEATER REPORT

THE I.A.R.S. NOW SPONSORS 4 REPEATERS, 2 OF WHICH ARE FULLY OPERATIONAL, THE OTHER 2 BEING ALMOST READY TO PUT TO AIR. THE 2 NEW LICENCE APPLICATIONS ARE NOW BEING PROCESSED BY D.O.C.

BAND	CHANNEL	FREQ (IN)	FREQ (OUT)	CALLSIGN	LOCATION	ON AIR
2 METRES	6850 (CH5)	146,25	146,85	VK2RAW	MT MURRAY	YES
70 CM.	8225 (CH9)	433,225	438,225	VK2RUW	HILL 60	YES
2 METRES	7275 (CH13A)	147,875	147,275	VK2RIL	SUBLIME PT.	NO
70 CM.	8725	433,725	438,725	VK2RIL	SUBLIME PT.	NO

HERE IS A SUMMARY OF WHAT THE REPEATER COMMITTEE HAS BEEN DOING IN THE LAST YEAR:-

MARCH

CONSTRUCTION OF THE STEEL CUBICLE FOR MT. MURRAY FINISHED, CUBICLE INSTALLED UNDERGROUND ON SITE AND MAST ERECTED. ACCESS TRACK BULLDOZED THROUGH ADJACENT PROPERTY. RECEIVER TRANSFERRED TO THE NEW CUBICLE. 2 SEPARATE SOURCES OF INTERFERENCE TO THE REPEATER TRACKED DOWN AND ELIMINATED WITH THE HELP OF D.O.C. NEW MAST BLEW DOWN IN STORM AND TEMPORARY REPAIRS DONE.

APRIL

ORIGINAL TELESCOPIC RECEIVING MAST RE-ERECTED AND FITTED WITH A NEW DIPOLE AERIAL TO BE USED WHILE REPAIRS ARE BEING DONE TO THE DAMAGED MAST. MAST REPAIR PROGRAM STARTED.

MAY

SUBLIME POINT REPEATER APPLICATIONS COMPLETED AND SUBMITTED TO W.I.A. SUBLIME POINT 70 CM. REPEATER (PHILIPS SC9) FITTED WITH CRYSTALS FOR THE NEW CHANNEL IN READINESS FOR THE LICENCE.

JUNE

MT MURRAY MAST REPAIR PROGRAM COMPLETED. NEW BASE SECTION WELDED INTO PLACE AND ONE SET OF GUY WIRES FITTED WITH ANCHOR POINTS SET IN CONCRETE. UHF CHANNEL 9 REPEATER MOVED FROM ITS TEMPORARY SITE TO ITS PERMANENT HOME IN THE COASTGUARD BUILDING AT HILL 60, PORT KEMBLA.

JULY

AERIAL MOUNTING HARDWARE MADE UP FOR MT MURRAY. A 25 WATT SOLID STATE P.A. STAGE MADE UP TO REPLACE THE VALVE UNIT.

AUGUST

A 6 DB GAIN AERIAL WAS PURCHASED AND INSTALLED AT MT MURRAY, ALONG WITH AN ADDITIONAL SET OF GUY WIRES. ALL REMAINING EQUIPMENT INCLUDING THE TRANSMITTER WAS MOVED UP TO THE RECEIVER SITE AND INSTALLED IN THE NEW CUBICLE. CAVITY RESONATORS WERE FITTED TO ELIMINATE DE-SENSE PROBLEMS.

SEPTEMBER

CHANNEL 5 REPEATER WAS COMPLETELY RE-ALIGNED AND TESTED ON THE D.O.C. SPECTRUM ANALYSER. REPEATER USAGE SURVEYS WERE CARRIED OUT TO DETERMINE POWER REQUIREMENTS

OCTOBER

NEW BATTERIES AND CHARGING SYSTEM FITTED AT MT MURRAY.
CONFIRMATION RECEIVED THAT OUR LICENCE APPLICATION FOR SUBLIME POINT
IS IN THE HANDS OF D.O.C. AND IS BEING PROCESSED.
DECISION WAS MADE TO MAKE THE SUBLIME POINT REPEATERS SUITABLE FOR
VOICE AND RTTY OPERATION, WITH CONTROL TELEMETRY AND SEL-CALL.
CONSTRUCTION COMMENCES ON THE NEW 2 METRE REPEATER.

NOVEMBER

TRANSMIT AERIAL AT MT MURRAY DAMAGED BY STORM. THE BROKEN PART WAS
RETURNED TO THE MANUFACTURER. MEANTIME A 5.5DB AERIAL ON LOAN
FROM VK2KSS WAS FITTED.
CONSTRUCTION OF NEW 2 METRE REPEATER CONTINUES.

DECEMBER

NEW REPEATER COMPLETED IN ITS BASIC FORM (VOICE SECTION).
ON-AIR TESTS DONE ON AN ATTENDED BASIS.
A SPECTRUM ANALYSIS CHECK WAS DONE ON D.O.C. EQUIPMENT.

JANUARY

THE OLD 80 FT. MAST IS BEING DISMANTLED AND REMOVED FROM ITS OLD
SITE.
SUBLIME POINT REPEATER ID UNIT AND RTTY REGENERATOR UNDER CONSTRUCT-
ION.

GRAEME VK2CAG

CHRISTMAS BARBEQUE

The 1982 Christmas Barbeque of the Illawarra Amateur Radio Society
was held on December 19th at Macquarie Park Nursery, Albion Park.
Unfortunately it had not been possible to notify members of this
event in the December Propagator because of the printing deadline,
but Paul VK2ZQT announced details at the December meeting. It was
therefore disappointing that only half a dozen members and their
families turned up as the weather, whilst threatening, remained
fine and enabled us to have a very pleasant barbeque. Some of us
afterwards visited Paul's QTH at Albion Park for afternoon tea,
had a look at his old and new shacks, and tested out his new
pool table.

It is hard to believe that more members could not have
made the effort to join the barbeque and we hope that future such
functions will be better supported. After all, it is about the
only occasion in the year that hams' families are able to meet
socially, and this aspect is surely important to the survival and
growth of any club.

VK2DOI

LOW LOSS COAXIAL OR ANTENNA SWITCHER.

DAVE VK2PBP.

This coaxial switch offers several features not found elsewhere at any price.

- a. Six selector positions, including:-
 - * Up to three antennas or a ground plane and dual polarity antenna.
 - * A built-in, low SWR dummy load for visual observation of modulation.
 - * A position offering some protection against the effects of nearby or direct lightning strikes to the antenna, tower or coax.
- b. Very low insertion loss (0.2dB) or less.
- c. High power handling capability (3Kw or more; "Hams" take note!).
- d. All metal case providing 100% sheilding against RF leakage.
- e. Internal wiring with RG-8u coax to prevent radiation loss and signal absortion.

The DUMMY - 20 WATT (two resistor combination) provides a near-perfect load for transmitter when off-the-air testing is desirable. The dummy can handle up to 20-watts for short periods of time, but it is limited to 4-watts continuous power handling.

The SWR of the dummy should be less than 1.05 to 1 and is suitable for the most exacting tests and analytical efforts.

The TEST 4-watt (lamp bulb) is a lamp type dummy load with a SWR of less than 2 to 1. The lamp will glow when the transmitter is keyed, and will flash brighter or dimmer on modulation when applied.

The TEST 4-watt fuction is not suitable for precision transmitter tests, but is good indicator of modulation and of transmitter alignment.

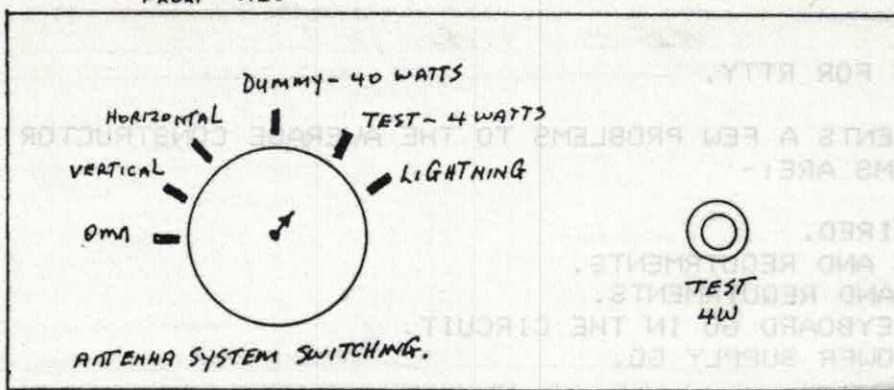
The OMNI, VERT and HOR position are for antennas. These positions will handle up to 3 Kw or more with negligible loss. This maximum rating applies ONLY if the CERAMIC WAFER switch is used as specified.

The LIGHTNING protection position disconnects the antennas from the INPUT to the equipment, and places a direct short circuit across the INPUT to the equipment. If the antennas are struck by lightning the charge will have no easy access to the equipment and should discharge to ground if your ground system is functional.

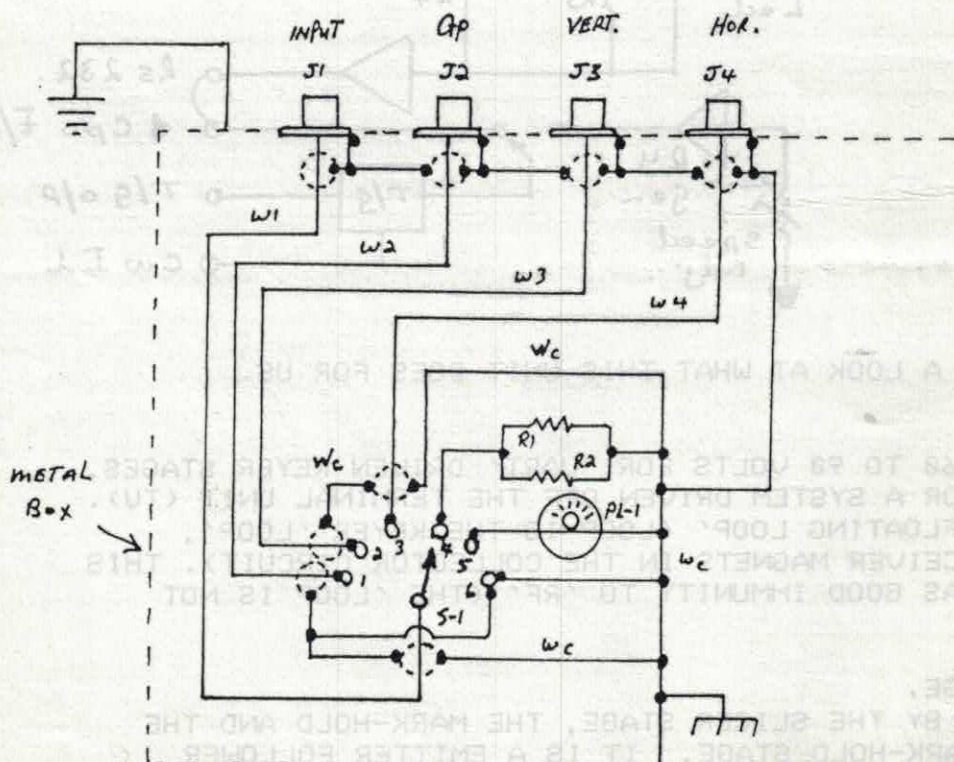
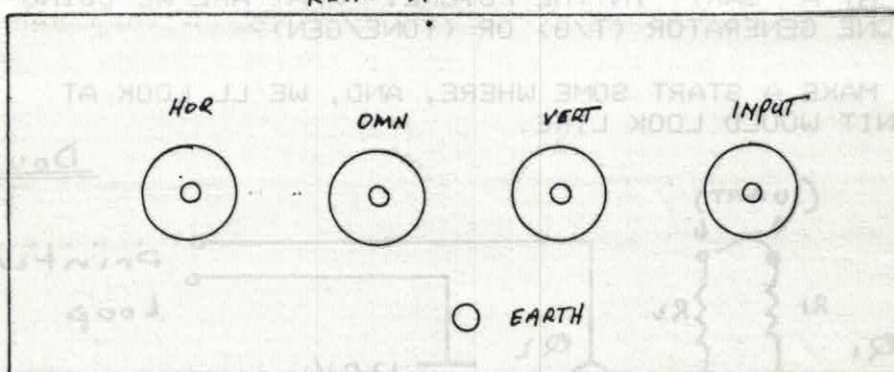
Coaxial switch parts list.

s-1	Ceramic wafer switch		
s-1	Phenolic rotary sub. switch.	275-1386	(Tandy)
J1,2,3,4	SO-239 chassis connectors.	278-201	"
PL-1	Lamp holder and #1891 bulb.	272-325	"
		272-1112	"
R1,2	Resistors, 100 ohm, 2-watt (carbon or metal film)		
W1,2,3,4	RG-8/u (2 ft)		
Wc	#12 or #14 solid or standard, bare copper wire. (4 ft)		
	Metal Box. (13.3x7.6x14.9 cm)	270-253	"
	Pop-rivets, or small machine nuts and bolts.		

FRONT VIEW



REAR VIEW



○ = COAX SHIELD
• = SOLDER CONNECTION.

⏏ = CHASSIS CONNECTION.

⏏ = CONNECTION TO EARTH GROUND

Wc = #12 OR #14 COPPER

W1-4 = RG 8/u.

SWITCH POSITIONS

1 = GROUND PLANE (GP)

2 = VERTICAL.

3 = HORIZONTAL.

4 = DUMMY LOAD.

5 = MODULATION TEST.

6 = LIGHTNING.

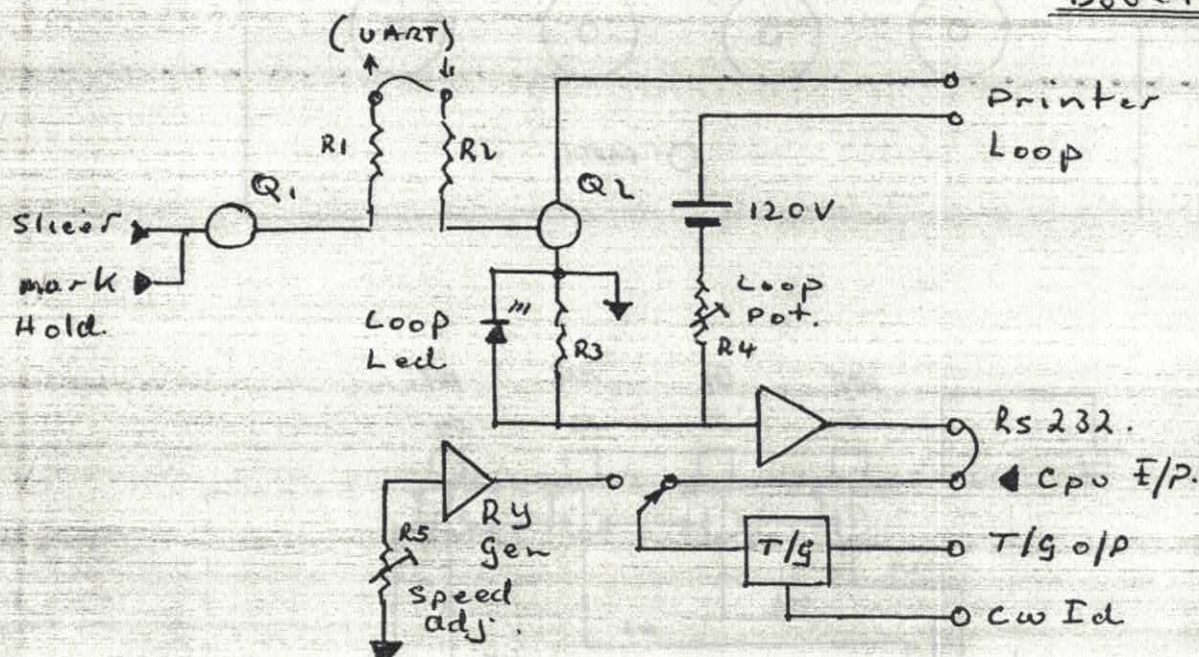
LOOP POWER SUPPLIES FOR RTTY.

A POWER SUPPLY PRESENTS A FEW PROBLEMS TO THE AVERAGE CONSTRUCTOR
A FEW OF THE PROBLEMS ARE:-

- 1) THE VOLTAGE REQUIRED.
- 2) THE DRIVER STAGE AND REQUIRMENTS.
- 3) THE KEYSER STAGE AND REQUIRMENTS.
- 4) WHERE DOES THE KEYBOARD GO IN THE CIRCUIT.
- 5) WHERE DOES THE POWER SUPPLY GO.

WELL, WE HAVE TO START SOMEWHERE AND MAKE A DECISION. OK WELL THE FIRST QUESTION WE HAVE TO ASK OURSELVES IS, IS THIS PROJECT GOING TO RECEIVE ONLY (RO) OR SEND AND RECEIVE (SR)? ARE WE GOING TO BE LOOKING AT A 'UART' IN THE FUTURE. WHAT ARE WE GOING TO BE USING FOR A TONE GENERATOR (T/G) OR (TONE/GEN)?

WELL LET US AT LEST MAKE A START SOME WHERE, AND, WE'LL LOOK AT WHAT A COMMERCIAL UNIT WOULD LOOK LIKE.



OK NOW, LETS HAVE A LOOK AT WHAT THIS UNIT DOES FOR US.

1) VOLTAGE.

WE NORMALLY FIND 60 TO 90 VOLTS FOR 'UART' DRIVEN KEYSER STAGES, 90 TO 120 VOLTS FOR A SYSTEM DRIVEN OFF THE TERMINAL UNIT (TU). THE SYSTEM IS A 'FLOATING LOOP' (LOOP IS THE KEYSER 'LOOP', THE KEYBOARD & RECEIVER MAGNETS IN THE COLLECTOR CIRCUIT). THIS TYPE OF CIRCUIT HAS GOOD IMMUNITY TO 'RF' (THE 'LOOP IS NOT TIED TO EARTH').

2) THE DRIVER STAGE.

THIS STAGE IS FED BY THE SLICER STAGE, THE MARK-HOLD AND THE ANTI-SPACE/AUTO MARK-HOLD STAGE. IT IS A EMITTER FOLLOWER STAGE, THEREFORE, THE OUTPUT IS A LOW IMPEDANCE DRIVER TO THE KEYSER STAGE. ITS OUTPUT IS MARK-HIGH. ITS EASY TO BREAK THE DRIVER-TO-KEYSER STAGE TO PLACE A 'UART' IN CIRCUIT.

3) THE KEYSER STAGE.

NORMALLY THIS IS A HIGH VOLTAGE LOW CURRENT TRANSISTOR (8F337/8). CURRENT IN THIS STAGE IS 20/40/60 MILLIAMPS (mA). ITS NORMALLY STRAPPABLE TO SUIT THE INSTALLATION WITH A POT FOR FINE ADJUSTMENT. THE KEYSER STAGE IS EASILY DRIVEN FROM THE EMITTER FOLLOWER STAGE PRECEEDING IT, THE HIGH (MARK) VOLTAGE TURNING IT ON FULLY (ZERO VOLTAGE DROP COLLECTOR TO EMITTER) AND A SPACE VOLTAGE OF ZERO VOLTS TURNING IT OFF (MAXIMUM POWER SUPPLY VOLTAGE ACROSS THE COLLECTOR TO EMITTER) THEREFORE IN THEORY THE TRANSISTOR DOES NOT DROP ANY VOLTAGE LESS THAN THE POWER SUPPLY VOLTAGE, THEREFORE THERE IS NO POWER DISSIPATION ACROSS THE TRANSISTOR, THEREFORE THERE IS NO REQUIREMENT TO HAVE A LARGE POWER DISSIPATION TRANSISTOR IN THE CIRCUIT.

4) KEYBOARD.

WELL AS CAN BE SEEN THE KEY-BOARD IS IN THE LOOP CIRCUIT. WE HAVE TO LOOK AT THIS AS THERE ARE MANY THOUGHTS ON THIS SUBJECT. IF THE PRINTER IS GOING TO PLAY UP ON YOU, YOU WILL SEE IN ANYWAY. IF YOU HAVE TO CHECK THAT YOU HAVE TONES ON AIR WELL, YOU BETTER CHECK THE ANTENNA IS PLUGGED IN SO WE BETTER HAVE ANOTHER RIG TO LISTEN TO OUR SIGNAL, THEN WE NEED ANOTHER TU AND PRINTER. HMMM SO YOU SEE YOUR ONLY PICKING A PART OF THE STORY, THE BEST WAY, LEAST COMPLICATED, LEAST COMPONENTS AND EASIER TO FIND FAULTS WITH IS TO HAVE THE KEYBOARD IN SERIES WITH THE LOOP, AND, HAVE THE TONE GENERATOR MONITOR THE LOOP, THIS WAY WE CAN HAVE THE TRANSMITTER CONNECTED TO THE TONE GENERATOR ALL THE TIME. PLUG IN A TAPE RECORDER AND TAPE THE TONES ETC. IF WE WANT TO CHECK THAT WE HAVE TONES WORKING FOR US, ON TRANSMIT SWITCH BACK THE TONE GENERATOR ON TO THE FRONT OF THE TU, NOW THE SIGNAL METER OR SCOPE WILL BE ACTIVATED.

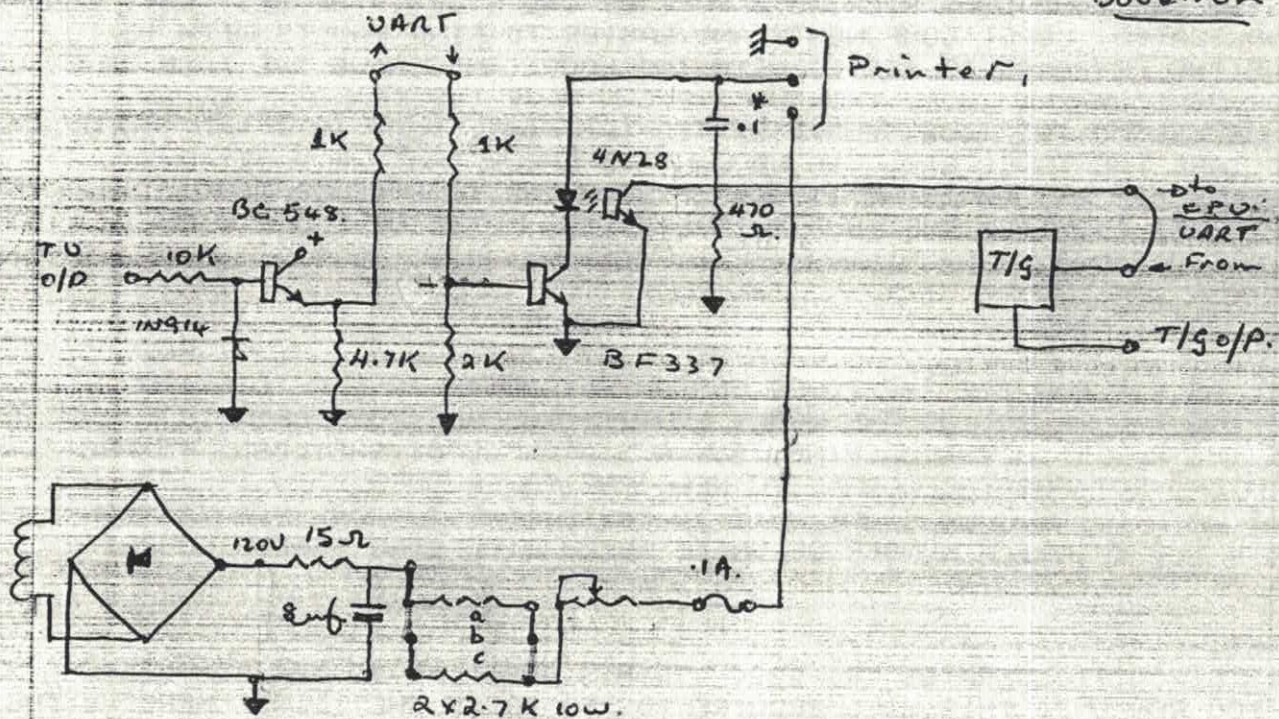
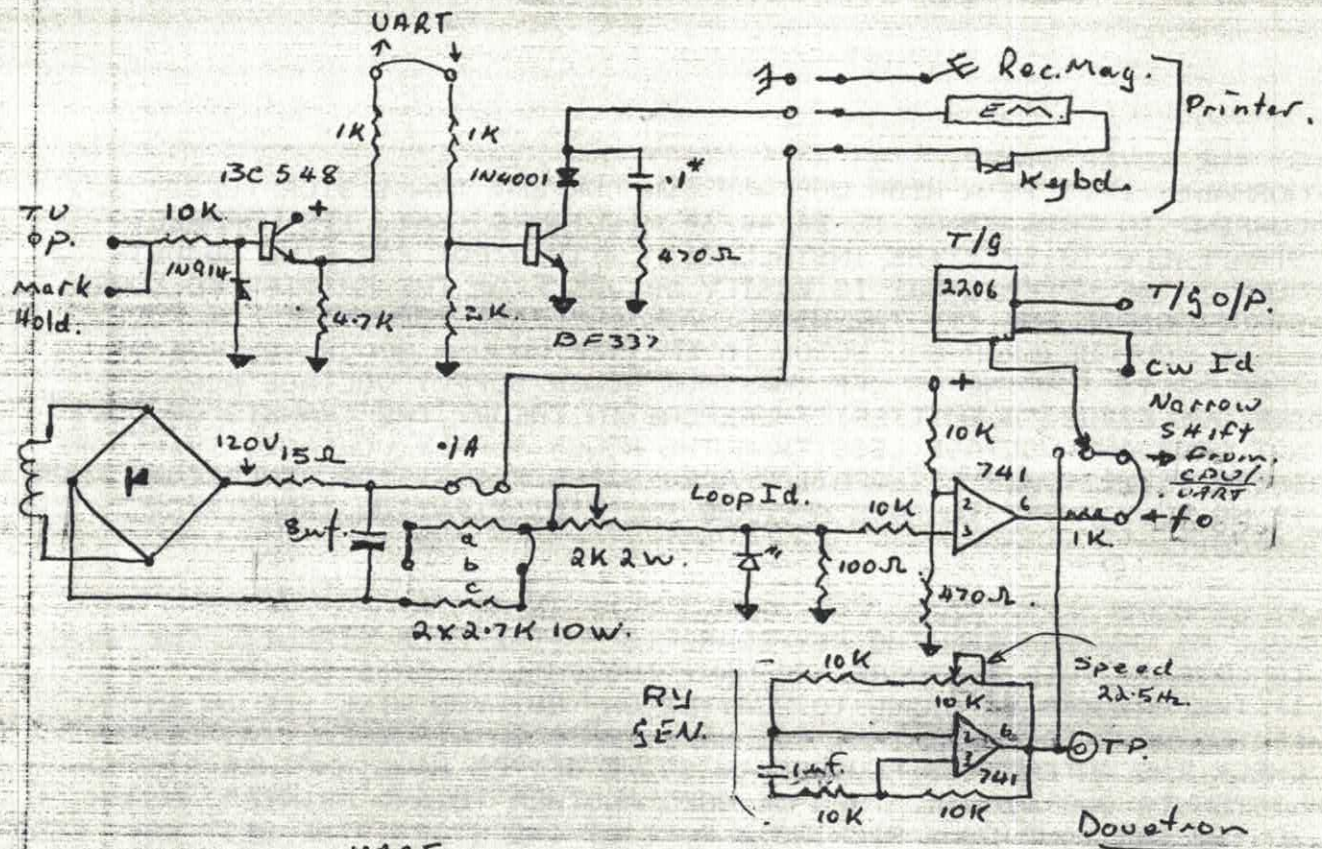
5) POWER SUPPLY.

WELL AS YOU CAN SEE THE POWER SUPPLY HAS TO BE IN THE TU AGAIN. KEEPING THE RF OUT OF THE WORKS. BUT IF YOU ARE JUST PRINTING, USE THE POWER IN THE MACHINE, RUN A SIGNAL LEAD (SHEILDED) TO THE PRINTER, BUT FOR THE NORMAL TU KEEP THE POWER SUPPLY IN THE TU THIS WAY YOU ONLY HAVE ONE UNIT TO EARTH (THE TU) TO YOUR STATION EARTH SYSTEM NOT A NUMBER OF UNITS WHICH WILL START EARTH LOOPS.

NOTES.

THIS CIRCUIT GENERATES 'RS-232C'. THIS GOES OFF TO THE COMPUTER IF YOU RUN ONE. THIS WILL REQUIRE YOU TO BREAK THE 'LINK' HERE AS THE COMPUTER OUTPUT WILL NOW FEED THE TONE GENERATOR. THE 'RY' GENERATOR, ITS A CHEAPY, BUT IT WILL PRODUCE CONTINUOUS 'RYRYR' WHEN FEED BACK TO THE INPUT OF THE TU, ITS USED TO LINE UP AND TEST YOUR SYSTEM.

OK NOW LETS HAVE A LOOK AT THE 'FULL' SYSTEM OK WHATS THE DIODE FOR IN THE COLLECTOR CIRCUIT? WELL THATS KEYSER TRANSISTOR PROTECTION, WHATS THE CAPACITOR/RESISTOR AROUND THE KEYSER USED FOR? WELL THATS TO SOAK UP THE THE INDUCTIVE ENERGY OF THE RECEIVER MAGNET WHEN THE KEYSER TRANSISTOR TURNS OFF. THIS STOPS THE KEYSER TRANSISTOR BREAKING DOWN. THE 2.7K OHM RESISTORS, WELL IF YOU LOOK AT THAT COMBINATION YOU CAN STRAP IT TO WORK 20-40-60 mA. THE POT IS USED TO GET THE



* speeds over bootbauds change to .015μf.

cheapie

CURRENT EXACTLY AS REQUIRED. THE FUSE, WELL ITS .1 AMPS IF YOU LOOK AT THE CIRCUIT THE RESISTANCE IN SERIES WILL PROTECT THE POWER SUPPLY IF THE PRINTER LOOP IS SHORT CIRCUITED TO GROUND. SO YOU COULD MAKE IT OPTIONAL. THE STERIO PLUG TO THE MACHINE, USE FIGURE EIGHT SHEILED FLEX TO THE PRINTER AND EARTH THE SHEILD AT THE PRINTER CONNECTOR AND THE TU CASE. IN THE CHEAPIE CIRCUIT THE OPTO-COUPLER PROVIDES 'TTL' TO DRIVE THE TONE GENERATOR, WHERE AS IN THE MORE EXPENSIVE CIRCUIT THE RS-232 OUTPUT DRIVES THE TONE GENERATOR.

OK NOW YOU ARE ASKING WHERE DO YOU GET THE TRANSFORMER?

WELL THE QUICKEST AND CHEAPEST WAY HERE IS TO PULL APART A TV TRANSFORMER. WHAT YOU DO FIRST IS TO MEASURE THE LOW VOLTAGE LEVEL, WHEN YOU ARE PULLING OFF THAT WINDING, COUNT THE AMOUNT OF TURNS. FROM THIS YOU CAN THEN WORK OUT THE TURNS-PER-VOLT. THEN THIS WILL ALLOW YOU TO THEN WORK OUT THE AMOUNT OF TURNS OF NEW WIRE WHICH WILL BE REQUIRED TO PUT BACK ON THE TRANSFORMER FOR YOUR DIFFERENT VOLTAGE LEVELS EG:- 30V CT, 90V, 8V AND IF YOU HAVE A CRO YOU WANT TO RUN IN THE TU THEN ADD 350-400 VOLTS CT AND 6.3V. MAKE UP A POWER SUPPLY ON SOME PERF BOARD, MAKING SURE YOU NOTE THAT THE PIN-OUTS FOR THE NEGATIVE REGULATORS ARE DIFFERENT TO THE POSITIVE 3 PIN REGULATOR CHIPS. YOU WILL SEE THE FIRST GROUP OF VOLTAGES WILL MAKE +/-12 VOLTS, 120 VOLTS FOR THE LOOP AND 5 VOLTS. THE OTHER VOLTAGES ARE FOR THE TUBE AND THE HEATERS.

THE ABOVE VOLTAGES WILL PRODUCE +/- 12 VOLTS FOR THE TU, 120-130 VOLTS FOR THE LOOP AND 5 VOLTS FOR UART AND OTHER 5 VOLT CIRCUITS. THE OTHER VOLTAGES WILL POWER A CRO TUBE 400 VOLTS FOR THE SCREEN AND 6.3 VOLTS FOR THE HEATERS. WHILE ON THIS PART IT DOES NOT HURT TO PLACE A 1 OHM RESISTOR IN THE HEATER CIRCUIT TO PROLONG THE HEATERS LIFE (EG THE TURN-ON CURRENT).

FOR SALE

TH3JR HI-GAIN H.F.YAGI 3Element Beam 20-15-10 metres.

Good Condition with Balun \$100

Barry Hartley VK2FE PH.Home 842439 Work 291455

Gio VK7GO (VK2VPD) has moved from the Maritime college in Tassy to Armidale.His new address is

MR.G.DONK VK7GO

148 O'Dell St.

ARMIDALE 2350

Meetings: Second monday of every month except January at 7.30 P.M. in the Congregational Church Hall, Coombe Street, Wollongong. Committee meet 3rd tuesday of each month S.E.S. building Auburn Street, Wollongong at 7.30 P.M.

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

VK2RUW - 8225 UHF Hill 60 Port Kembla. VK2RIN - 8725 UHF Sublime Point.

Broadcasts: Club news - RTTY on 6850 VHF repeater at 7.00 P.M.; Voice on 6850 VHF, 8225 UHF and by relay on 3562 Khz and 28460 Khz at 7.15 P.M. on sunday night prior to Club meeting. Call backs after the W.I.A. relay at 7.30 P.M.

W.I.A. relays - on 6850 VHF at 11.00 A.M. and 7.30 P.M. weekly on sunday.

Club Nets: 3562 Khz SSB on sundays at 8.00 P.M. and slow morse net on 3562 Khz on tuesdays 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 97 51. 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 VK2VXS, QTHR ; Outwards: Ian Callcott VK2EXN QTHR.

Awards: The award of the I.A.R.S. is "The Lawrence Hargrave" award. Vh 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. Send details - time, day, date, frequency, station worked + \$ 2.00 or 4 I.R.C.'s to Awards Manager, I.A.R.S., P. O. Box 1838, Wollongong 2500. No QSL cards required.

Store: The Club store operates at each Club meeting. Storeman Paul Ferguson VK2DZJ QTHR.

Committee: President - Keith Curle, 24 Beach Drive, Woonona 2517 VK2OB.

Vice President - Denis McKay, 17 Doncaster St., Corrimal 2518 VK2DMR.

Secretary - Dave Myers, P. O. Box 1838, Wollongong 2500 VK2PBP.

Treasurer - Geoff Cuthbert, 2 Nioka Avenue, Keiraville 2500 VK2ZHU.

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Life Member: Graeme Dowse VK2CAG elected 1982.
