THE PROPAGATOR

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO SOCIETY
P.O BOX 1838 WOLLONGONG N.S.W. 2500

VOLUME 85, NUMBER 1 FEBRUARY 1985
REGISTERED BY AUSTRALIA POST PUBLICATION NO. NBH1491

LAST MONTH'S MEETING: Our average attendance was maintained for the last meeting of the year. Approximately fifty members and friends bade each other Christmas 73's with all but the most hardy soon to allow their shacks to be used as storerooms (which most were originally) for the ensuing six weeks.

Ray VK2XCC gave a verbal on our picnic held Dec. 9th. While no notes were taken by the writer, there would have been present at least fifty members, YL's, XYL's, YF's,OF's and DOG's. A great time was had by all at Cordeau which for the uninformed would be at the end of runway 09 at the proposed Wilton Airport. Thanks again Ray for a job well done . It is activities such as this that provide the opportunity for the long suffering families of members to share in a hobby which at times can be somewhat insulating. A professional example of cake decoration was again demonstrated by Angie, XYL of Graeme, 2CAG.

A special thanks went to Peter, VK2XAN, who manned an exhibition at the Warilla High School Fair on November 24th. Peter reported there were 70 to 80 enquiries during the afternoon which must have kept him quite busy. With the effect of Peter's booming voice, one might estimate the number of those newly introduced would at least double the reported number. A report from Warilla High received in the mail recently suggested that 7000 to 8000 people passed through the gates and that the show would be run again next year but with a multitude of smallchanges made in the light of this last experience. The Fair seems an ideal avenue for the recruitment of new members and quite in line with the Society's Management Plan prepared by Dennis 2DMR last year.

Dr Hugh Spencer gave a very interesting talk on Wollongong's new Community Broadcasting Station 2ICB FM which at the time was undergoing test transmission. Space does not permit too much of the detail but Hugh expects to be both licensed and on air by the end of '85. It would appear there are sufficient John Laws's (?) around but not so many of the backroom type. He is always looking for volunteers.

In the interests of balanced journalism the following is reported as a fact: The Society's Annual major raffle was won by the President, Dave VK2DFL. Weight was correct!! Dave took his Toshiba 30 cm colour TV home with the best wishes of all present... Second prize of 20 Instant Lottery tickets went to a YF of our VP Keith 20B (a little more subtle) and third prize of 10 Instant Lottery tickets went to Christine, daughter of Henry, VK2EMK.

FEBRUARY'S MEETING: With the successful conversion of the Mt Murray repeater to duplex operation the additional demand has necessitated the installation of solar panels to supplement the wind generator installed last year. To help pay for the exercise a quantity of computer terminals has materialised and will be auctioned accordingly. Graeme 2CAG will give us the details of his Repeater Committee's work over the Christmas period.

REPEATER REPORT

DURING THE HOLIDAY SEASON MOST CLUB ACTIVITIES HAVE BEEN IN RECESS BUT IT HAS BEEN THE BUSIEST PERIOD OF THE YEAR FOR THE REPEATER COMMITTEE. MOST OF THE ACTIVITY HAS CENTRED AROUND CHANNEL 6850 AT MT. MURRAY.

THE DUPLEXER FOR 6850 IS NOW COMPLETED AND INSTALLED ON SITE. THE CAVITIES FOR 7275 DUPLEXER ARE ALMOST FINISHED AND REQUIRE ONLY A FEW HOURS OF WORK BEFORE SUBLIME POINT 2 METRE REPEATER IS DUPLEXED ALSO.

6850 IS NOW A FULLY DUPLEXED REPEATER USING ONE SINGLE ANTENNA FOR BOTH TRANSMIT AND RECEIVE. THE ANTENNA IS AT PRESENT AN EXTENDED RINGO HAVING AN OMNI-DIRECTIONAL GAIN OF 4.5DBD. SOME FUTURE EXPER-IMENTATION WILL BE DONE WITH ANTENNA TYPES TO GAIN SOME IMPROVEMENT TO THE REPEATERS COVERAGE --- WHEN WILL IT ALL END ????

THIS IS WHAT YOUR REPEATER GROUP HAS ACHIEVED DURING THE HOLIDAY SEASON:-

DECEMBER 11 - 24 ... THE REMAINING PARTS NEEDED FOR THE DUPLEXERS WERE DONATED BY VARIOUS CLUB MEMBERS AND BUSINESS HOUSES.

DECEMBER 26 - 30 ... CAVITIES FOR 6850 ASSEMBLED AND ALIGNED, INTERCONNECTING CABLES MADE UP, MOUNTING CRADLE MADE AND COMPLETE DUPLEXER ASSEMBLED, ALIGNED AND TESTED.

DECEMBER 31 ... DUPLEXER INSTALLED ON SITE. THE DUPLEXER WORKED FINE WITH NO DETECTABLE DE-SENSING OR INTERACTION BETWEEN TX AND RX, HOWEVER LOUD CRACKLING NOISES WERE EVIDENT ON WEAK SIGNALS WHENEVER THE AERIAL MAST OR GUY WIRES WERE MOVED OR SHAKEN BY THE WIND. ANY LOOSE HARDWARE IN THE MAST OR GUY WIRE SYSTEM CANNOT BE TOLERATED WHEN THE SAME AERIAL IS USED FOR BOTH TRANSMITTING AND RECEIVING. RF INDUCED IN THE GUY WIRES FROM THE TRANSMITTER WILL GENERATE SMALL SPARKS ACROSS TOUCHING METAL PARTS SUCH AS TURNBUCKLES AND SHACKLES. THESE SPARKS GENERATE INTERFERENCE TO WEAK INCOMING SIGNALS.

WE FITTED THICK STRIPS OF COPPER BRAID ACROSS ALL JOINS IN THE MAST AND GUY WIRE STRUCTURE. WE ALSO COMPLETELY DISMANTLED THE RINGO, CLEANED THE INDIVIDUAL PARTS AND RE-ASSEMBLED IT.

THE CO-AX WAS REPLACED WITH THE NEW LOW LOSS TEFLON FOAM TYPE. THE NOISE IS NOW COMPLETELY ELIMINATED.

THE CUBICLE WAS TREATED WITH INSECTICIDE POWDER WHICH WAS GIVEN TO US BY EX-REPEATER COMMITTEE MEMBER ERIC P29ZEF (EX-VK2YVF), WHO WAS IN THE AREA ON HOLIDAYS OVER CHRISTMAS.

THE OLD RECEIVING DIPOLE IS STILL IN POSITION BUT NOT CONNECTED. HOPEFULLY WE WILL NEVER HAVE TO USE IT AGAIN, BUT IT IS HANDY TO HAVE AS A STAND-BY AERIAL IF NEEDED.

JANUARY ... A WEEK OF OBSERVATION SHOWED AN OBVIOUS IMPROVEMENT IN OVERALL PERFORMANCE OF THE REPEATER. MANY STATIONS HAVE REPORTED THAT THEY HAVE NEVER BEEN ABLE TO ACCESS IT BEFORE, SO WE HAVE GAINED SOME EXTRA POTENTIAL USERS. COVERAGE IS BETTER IN ALL DIRECTIONS, THE BIGGEST IMPROVEMENT BEING IN THE REPEATER'S SENSITIVITY, DUE TO THE EXTRA ANTENNA HEIGHT AND GAIN AND LESS CO-AX LOSS.

THE INSERTION LOSS OF THE DUPLEXER PROVED TO BE NO MORE THAN THAT OF THE ORIGINAL CAVITY RESONATOR SET-UP, SO ALL IMPROVEMENTS TO THE AERIAL SYSTEM PUT US AHEAD IN TERMS OF BETTER SENSITIVITY AND OUTPUT.

WELL, THATS THE GOOD NEWS --- NOW FOR THE BAD NEWS ...

THE AMOUNT OF TRAFFIC THROUGH 6850 DURING THE HOLIDAY SEASON HAS BEEN WELL ABOVE AVERAGE FOR A NUMBER OF REASONS:-

(A) MORE PEOPLE CAN NOW WORK IT WITH ITS EXTENDED COVERAGE,
(B) HOLIDAY MAKERS ON THE SOUTH COAST ARE KEEPING REGULAR SKEDS WITH FRIENDS BACK IN SYDNEY AND,
(C) DX CONDITIONS HAVE BEEN GOOD WITH ZL STATIONS BEING WORKED THROUGH THE REPEATER DURING THE SECOND WEEK IN JANUARY.

ALL OF THESE FACTORS COUPLED WITH THE FACT THAT THERE HAS BEEN LITTLE WIND HAS CAUSED THE BATTERY VOLTAGE TO FALL TO THE POINT WHERE WE HAD NO CHOICE BUT TO PLACE SOME RESTRICTIONS ON THE USE OF THE REPEATER. WE DID THIS BY SETTING THE TIME-OUT PERIOD TO 20 SECONDS AND SWITCHING THE REPEATER OFF COMPLETELY EACH NIGHT BETWEEN 9 PM AND 8 AM. WE REGRET HAVING TO DO THIS, BUT THE ONLY ALTERNATIVE WAS TO LET THE BATTERY RUN RIGHT DOWN AND LEAVE US WITH NO REPEATER AT ALL.

JANUARY 21 ... STILL NO WIND, SO THE REPEATER COMMITTEE DECIDED THAT SOMETHING HAD TO BE DONE AND QUICKLY, TO AVOID RUINING THE GOOD REPUTATION THAT THIS REPEATER HAS GAINED OVER THE YEARS.

NOW FOR SOME GOOD NEWS -----

WE DECIDED TO PURCHASE A SINGLE 35 WATT SOLAR PANEL TO SUPPLEMENT THE WIND GENERATOR. ONE OF OUR MEMBERS WAS KIND ENOUGH TO PROVIDE US WITH A LOAN OF THE NECESSARY MONEY SO THAT WE COULD GET ON WITH THE JOB NOW INSTEAD OF WAITING FOR THE NEXT CLUB BUSINESS MEETING.

JANUARY 25 ... BRACKETS WERE MADE UP FOR MOUNTING THE PANEL ONTO THE MAST.

JANUARY 26 ... THE SOLAR PANEL WAS INSTALLED ON SITE AND THE BATTERY BANK WAS REPLACED WITH A SET OF FULLY CHARGED ONES. CHANGING THE BATTERIES INVOLVES A LOT OF HARD PHYSICAL WORK AND WE HAD PLENTY OF WILLING HELPERS WHICH WAS MUCH APPRECIATED. SOME VISITORS CAME ALONG TO INSPECT THE REPEATER AND GIVE A HAND WITH THE WORK. PRESENT WERE:- MYSELF, GRAEME VK2CAG, IAN VK2EXN, HARRY VK2JHW, CHARLIE VK2AHC AND FAMILY, STAN VK2BKS, ANDREW VK2XGC, DAVE VK2EZY, AND PETER, SHORTWAVE LISTENER, WHO CARRIED MOST OF THE BATTERIES.

AFTER THE DUPLEXER WAS INSTALLED I DROVE TO LITHGOW AND FOUND THE REPEATER TO BE NOISE FREE FROM WOLLONGONG TO MT. VICTORIA, A BIT SCRATCHY FROM THERE TO HALF WAY DOWN VICTORIA PASS, AND USEABLE ON THE HIGH SPOTS TO LITHGOW. I MADE A CONTACT WHILE IN THE MAIN STREET OF LITHGOW, AND DID NOT LOSE THE REPEATER COMPLETELY UNTIL ABOUT 30 KM OUT OF LITHGOW ON THE MUDGEE ROAD.

I DO REGULAR TRIPS TO BUNDANOON, AND USUALLY CANNOT ACCESS THE REPEATER AT ALL FOR A SHORT STRETCH OF ROAD ABOUT 1 KM LONG BETWEEN MOSS VALE AND EXETER. SIGNALS THROUGH EXETER AND BUNDANOON WERE SCRATCHY BOTH WAYS. NOW I FIND THAT THE REPEATER IS USEABLE, ALTHOUGH SCRATCHY ON THAT BAD SECTION NEAR EXETER, AND MUCH IMPROVED IN THE AREAS WHERE IT WAS SCRATCHY BEFORE. SIGNALS ARE CONTINUOUS ALONG THE HUME HIGHWAY ALMOST TO MARULAN, AND USEABLE FROM MARULAN TO GOULBURN EXCEPT FOR IN THE DEEP VALLEYS AND CUTTINGS. THIS WILL PROVIDE A MUCH NEEDED SERVICE, AS IT WILL FILL IN THE GAP ALONG THE HUME HIGHWAY TO THE POINT WHERE THE PROPOSED GOULBURN REPEATER TAKES OVER. THIS MEANS THAT THERE WILL BE CONTINUOUS REPEATER COVERAGE FROM SYDNEY TO CANBERRA.

THESE RESULTS ARE VERY PLEASING, AND MAKE THE EFFORTS WORTH WHILE.

6850 REPEATER HAS NOT BEEN DAMAGED BY LIGHTNING SINCE IT WAS HOUSED IN THE UNDERGROUND STEEL CUBICLE IN AUGUST 1982. PRIOR TO THIS IT WAS PUT OFF THE AIR BY LIGHTNING ONCE OR TWICE A MONTH DURING THE SUMMER MONTHS.

A STORM BLEW UP WHILE WE WERE ON SITE ON DECEMBER 31. THE LIGHTNING FLASHES CAME AT THE SAME TIME AS THE CLAPS OF THUNDER. IAN, HARRY AND MYSELF RETREATED INTO THE SAFETY OF THE CUBICLE UNTIL THE STORM BLEW OVER.

THE CLOSEST WE CAN GET OUR VEHICLES TO THE REPEATER IS TO A FENCE SOME 50 METRES DOWN FROM THE TOP OF THE HILL WHERE THE REPEATER IS SITUATED. IT WOULD HAVE BEEN TOO DANGEROUS TO HAVE RETURNED TO THE VEHICLES WITH THE LIGHTNING SO CLOSE, AS WE WOULD HAVE BEEN THE HIGHEST POINTS AROUND FOR MILES EXCEPT FOR THE REPEATER MAST.

THUNDERSTORMS ARE QUITE FREQUENT AT MT. MURRAY, AND IT HAS TAKEN YEARS TO COME UP WITH A SOLUTION TO THE PROBLEM OF PROTECTING THE 30 CMOS CHIPS AND MOSFETS CONTAINED WITHIN THE REPEATER'S CIRCUITRY.

YOU MAY SOMETIMES HEAR A CONTINUOUS SQUEALING NOISE ACCOMPANIED BY HASH WHICH KEEPS THE REPEATER'S MUTE OPEN AND BLOTS OUT WEAK SIGNALS. THIS IS CAUSED BY A CORONA DISCHARGE FROM THE TOP OF THE REPEATER AERIAL TO THE PASSING STORM CLOUD. UNFORTUNATELY, THERE IS NO SIMPLE SOLUTION TH THIS, EXCEPT FOR REPEATER USERS TO RECOGNIZE THE SYMPTOM AND ITS CAUSE, AND REALIZE THAT IT WILL DISAPPEAR WHEN THE STORM PASSES OVER. THERE IS NO REASON WHY THE REPEATER CANNOT BE USED IN THESE CONDITIONS, PROVIDED THAT THE NOISE OF THE STATIC DISCHARGE NOISE CAN BE TOLERATED.

THIS CONCLUDES THE UP-GRADING PROGRAM FOR MT. MURRAY 6850 REPEATER. IT HAS TAKEN SOME 7 TO 8 YEARS TO ACCOMPLISH, PLODDING ALONG DOING ONE JOB AT A TIME.

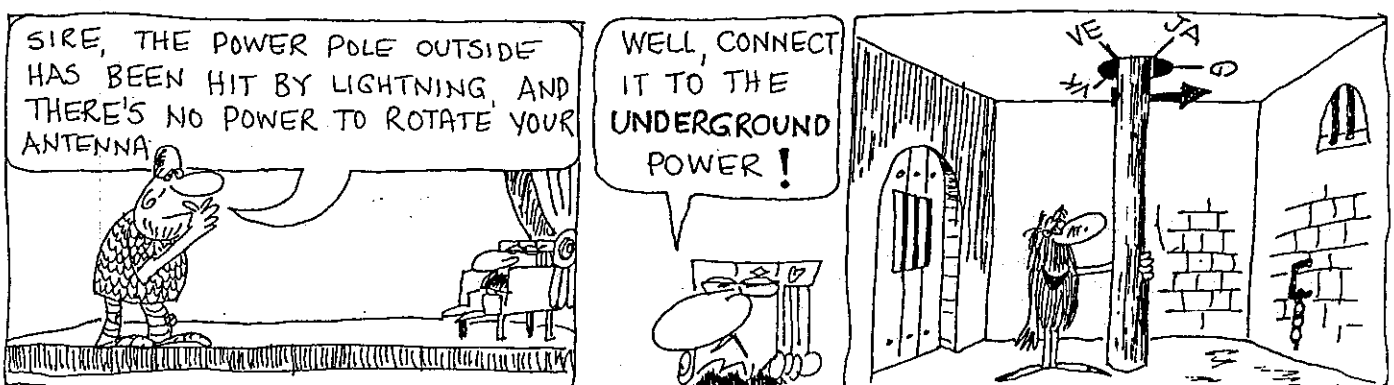
WE END UP WITH A REPEATER THAT MUST RATE AS ONE OF THE BEST IN TERMS OF RELIABILITY AND PERFORMANCE, WHICH WE CAN ALL BE PROUD OF.

THE FACTS ARE THAT WE HAVE A REPEATER THAT HAS AN ENORMOUS COVERAGE AREA, RUNS FROM NATURAL ENERGY, IS TOTALLY FREE OF RUNNING COSTS, HAS REMOTE CONTROL AND SELF-DIAGNOSTIC FACILITIES, HAS AUTOMATIC WIA BROADCAST RELAY FACILITY, IS WELL PROTECTED AGAINST THE ENVIRONMENT SUCH AS LIGHTNING AND WIND, HAS GOOD SECURITY AND FROM NOW ON REQUIRES LITTLE MAINTENANCE.

WE HAVE WORKED HARD FOR THESE RESULTS, AND NOW WE, THE REPEATER COMMITTEE CAN LOOK FORWARD TO BEING ABLE TO SPEND SOME MORE TIME ON THE OTHER REPEATERS (AFTER A WELL EARNED BREAK).

I MUST THANK ALL THOSE WHO HAVE GIVEN THEIR TIME AND DONATED PARTS OR MATERIAL TO HELP IN BRINGING THIS PROJECT TO A SUCCESSFUL CONCLUSION.

GRAEME VK2CAG



AMATEUR RADIO IS THE WORLD

Moonbounce Report - February 1985.

The only EME tests programmed for January had to be cancelled because they coincided with the wedding of one of my daughters. Letters were sent to those concerned (K4QIF, WB5LUA and G3LTF) explaining the situation. No word has yet been received regarding tests in February.

It will shortly be possible for us to read transmitter frequency directly at 1296MHz by use of a counter prescaler kindly provided by VK2ZJ. Our thanks go to Eddie for this assistance, which should overcome a long standing problem, as it is important that the transmitter can be put quickly and accurately on the scheduled frequency at the start of each test.

The 240volt AC 5KVA regulator is still not working properly but a 500VA constant voltage transformer is to be tried in the supply to the dish HA readout computer in an attempt to overcome the 'glitches' caused by starting of the dish drive motors or by transmitter operation.

Club members may have read in the local press about the theft, early in January, of items from one of the other buildings in the vicinity of the dish. Our operating building was broken into and equipment was disturbed but fortunately nothing was damaged or taken.

Satellite Jottings.

Callsign prefixes heard on Oscar 10 Mode B in December included OE, DJ, OZ, F, G, ON, I, OH, SM, UA, ZS, 7P8, AP2, FR7, VS6, YB, J, ZL, P29, YJ8, KR7, KL7, VE and W and some interesting contacts were made. Less time was spent in satellite operation in January but some long contacts (up to an hour) were had with stations in VE and W. The usual Mode L stations in W, VE, JA, and VK were heard. The satellite orbit position is such at present that European stations cannot be heard in VK2 during the restricted Mode L operation periods.

It appears that the attitude of the satellite was modified a few weeks ago in order to obtain a better sun angle for the solar cells. Even so, continued heavy use of its Mode B communication transponder and more than normal periods spent in the earth's shadow in January has caused a temporary restriction to be placed on Mode B operating periods. However it is still available for use for many hours on most days. The change in attitude of the satellite has also caused an increase in spin modulation fading at this QTH when it is in the north to east quadrant of azimuth. Mode L signals are still steady and thus the Mode L beacon provides better RTTY copy than that from the Mode B beacon at present.

Lyle VK2ALU.

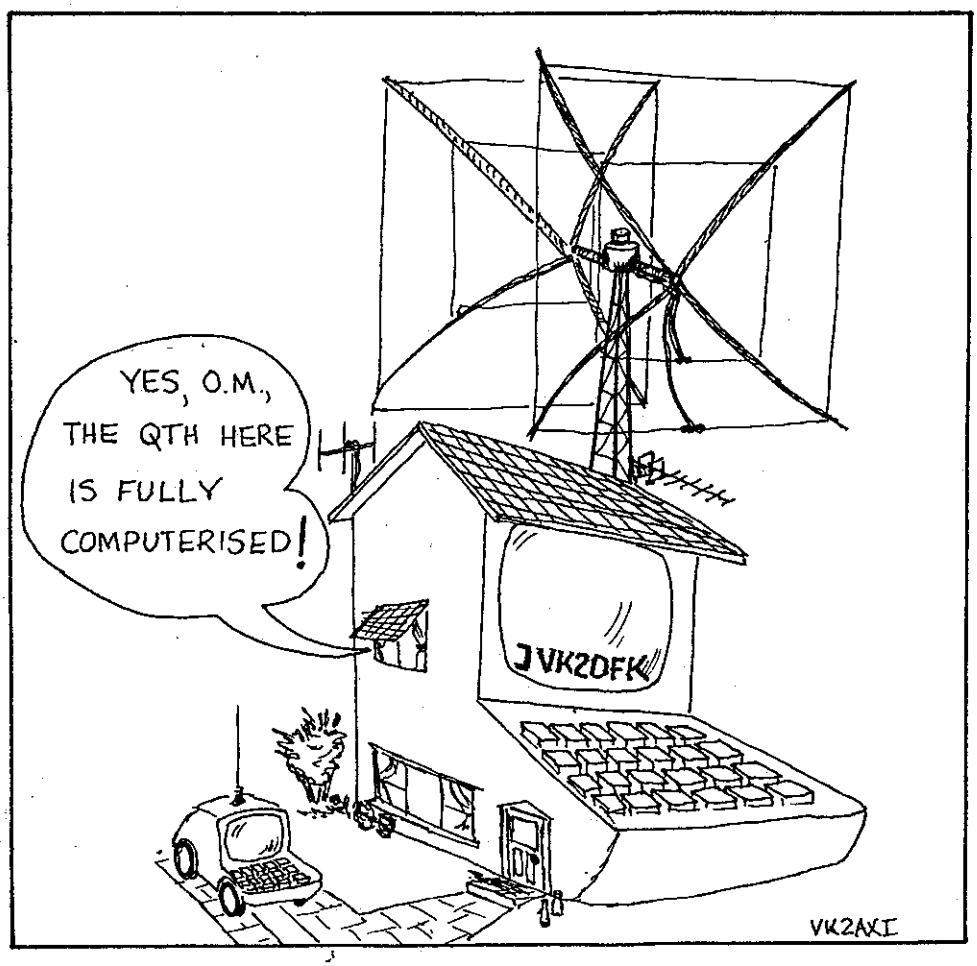
ANNUAL GENERAL ELECTION

The A.G.M. of the I.A.R.S. will be held at the MARCH MEETING. Nominations for the relevant committee possitions will be taken by the secretary, Murry VK2MY, either at the next meeting or by Post to P.O.Box 1838 Wollongong 2500.

A number of the present committee will not be available to stand this year due to other commitments. Also quite a few have served on the Managment of the Club for a number of years so it is about time that some new blood had a go.

Why don't yop think about nominating yourself or one of your mates that might like to be on the committee but is afraid to speak up for himself..It is not a hard job and is sometimes very interesting. It only needs two nights a month, one of which is a meeting night. So consider the matter and let's hear from you soon. After all "IT IS YOUR CLUB" is it not?.

Congratulations to Brian Wade and XYL Carol on the Birth of another Harmonic.. Yes ANOTHER GIRL.. That makes four now Brian!



He's Not Affected His Cartooning Skills Though.

Guess which committee member(President) finally put his VHF Rig in his TRUCK. Now he can't find anyone to talk to.

Jim Caraway W5SBL
11 Inwood Circle
Austin TX 78746

Reprinted From "73"
Feb. 1980

Hard Copy from your Xitex Terminal

—when a video display isn't quite enough

Many hams and computer enthusiasts are turning to video terminals to get rid of the noise machines. There are times, however, when hard copy is desirable, and the purpose of this article is to describe how to obtain parallel ASCII data output from a popular video terminal, the Xitex SCT-100 (see *73*, December, 1978).

The SCT-100 accepts either ASCII or Baudot serial data, current loop or RS-232, at two selectable baud rates. Obviously, two different printers would be required if both ASCII and Baudot modes are used and if the printers are interfaced with the signal sources. Fortunately, the SCT-100 converts all signal inputs, either ASCII or Baudot, to parallel ASCII; thus, a single printer will suffice for both modes.

The Xitex SCT-100 video terminal board utilizes a single-chip dedicated microcomputer, the Mostek MK3870/14001A/79056, which identifies an MK3870 chip pre-programmed for video terminal use with either ASCII or Baudot serial data. The MK3870 is a complete 8-bit microcomputer on a single MOS integrated circuit. It executes the F8 instruction set and includes 2K bytes of ROM, 64 bytes of scratchpad RAM, and four 8-bit I/O ports. It requires a single +5-V power supply. All I/O lines are TTL compatible, but each is limited to one TTL load unit.

A partial schematic of how the MK3870 is used in the Xitex SCT-100 is shown in Fig. 1. Port 4 (pins 8-15) is an 8-bit bidirectional data bus used to output parallel ASCII data to the video-screen-refresh RAM and to input parallel ASCII data from the keyboard. Only seven data bits are used for character/control function definition, the eighth data bit being programmed for keyboard strobe input.

Buffers U7 and U15 both enable and buffer keyboard data when U10 pin 31 (KSTB) is scanned by the internal MK3870 firmware.

U10 pin 7 (STRB) is a port 4 strobe, active low when port 4 is used for output. Unfortunately, STRB is also active during other system functions, such as screen clearing, which use printable characters. For use as a printer strobe, STRB must be further qualified to indicate when ASCII data output on the bus is valid for printer input.

U10 pin 32 (K1) is a firmware-generated strobe which, when combined with STRB, will produce the desired output strobe.

With reference to Fig. 1, one IC1 gate inverts STRB to active high, which is then combined with K1 in another IC1 NAND gate. The resulting output strobe (STROBE) is active low and only about 4 μs wide. My printer will accept a strobe this short, but if yours requires a longer strobe, the optional single-shot IC2 may be added. The other two gates of IC1 invert the respective strobe signals to produce active-high or active-low signals as required by your printer.

Remembering that the I/O lines are limited to one TTL load unit each, I buffered the data lines to my printer with IC3 and IC4. I used 74LS08 AND gates for active-high output and 74LS00 NAND gates for active-low output. One CMOS CD4049 or CD4050 and one unused gate from IC1 or U15 also can be used.

I solved the problem of getting at the required eleven connections (Gnd, +5 V, U10 pins 7, 32, and 8-14) through use of the 16-pin DIP socket, J3, which I do not use otherwise. I had to remove the serial output connection from J3 pin 8. The choice of specific pin connections on socket J3 was arbitary and has no special significance. Alternately, you can jumper to unused lines on the S-100 edge connector, J4.

I mounted IC1, IC2, IC3, and IC4 on a small PC board near the SCT-100 board. All power is taken from the SCT-100 board.

If you are real fussy about making modifica-

tions on your SCT-100 board, you can escape with having to add only two jumpers. Jumper U10 pin 7 to U15 pin 6, and U10 pin 32 to U15 pin 10. Then, mount U7 and U15 external with IC1-IC4 and connect back to the SCT-100 board with 16-pin DIP plugs in the U7 and U15 sockets.

If your ASCII printer requires serial input, then the addition of a standard UART circuit will turn the trick.

I used the particular chips shown because they were handy at my local Radio Shack. Do not tempt fate with your thirty-five dollar microprocessor by using anything heavier than low-power Schottky chip loads. Bypass the +5-V bus with 0.1-uF discs at each chip. And last, keep the distance from the SCT-100 board to your off-board ICs short: six inches or less if possible.

Incidentally, the MK3870 is virtually a single-chip ASCII/Baudot serial/parallel converter by itself. Costwise, it is competitive with the multi-chip versions. You might wish to consider this if your only printer is a Model 15 or 19 Baudot machine and you need a parallel ASCII/serial Baudot conversion. I have an article in the planning stages on just such applications. I would be interested in hearing about any reader experiences or ideas.

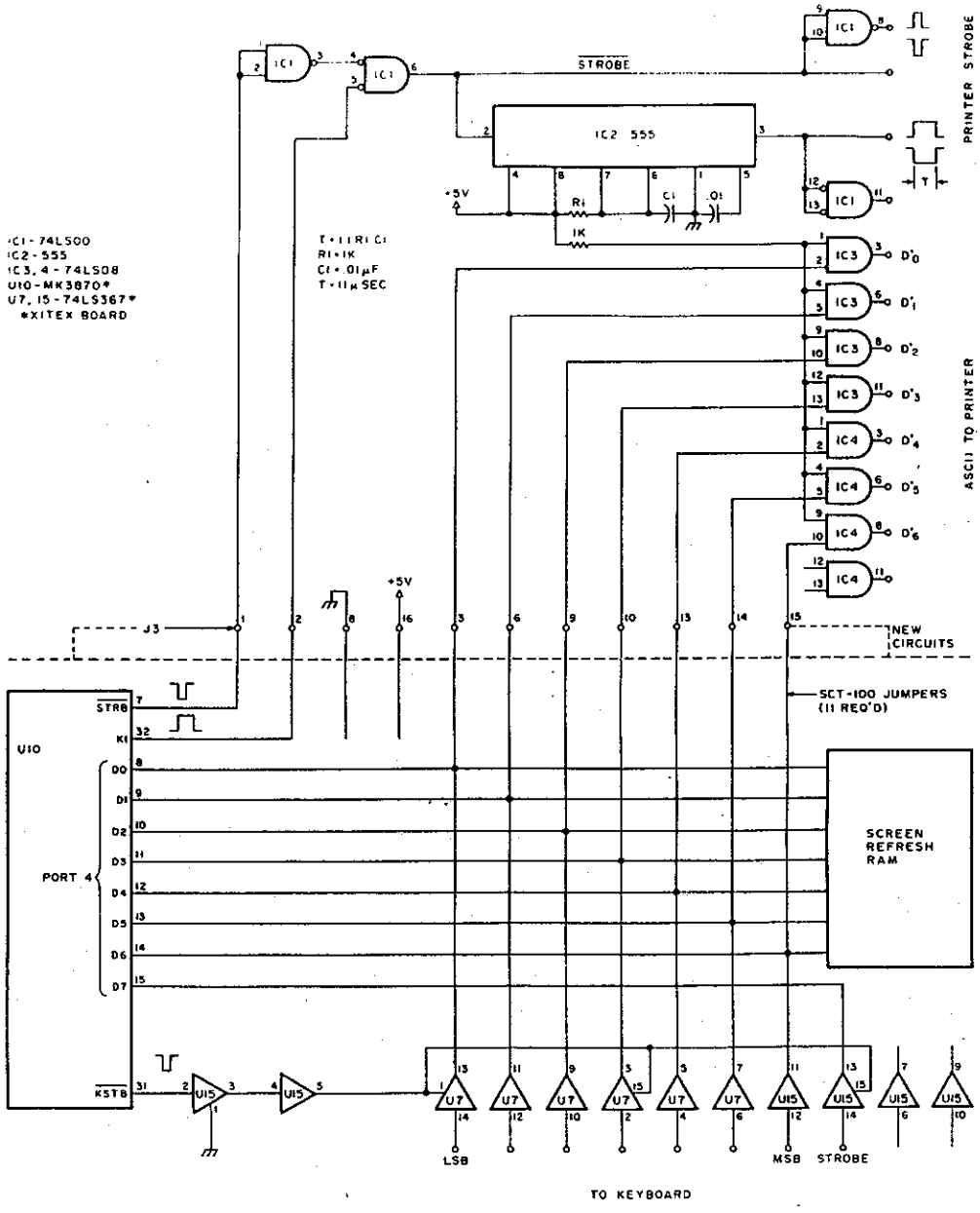


Fig. 1. Partial Xitex SCT-100 schematic showing additional circuits required to generate printer strobe and buffer printer data.

I wish to thank Bob Ferrier with Xitex and Mike Miller with Mostek for their technical assistance with this project. ■

A FEW OF THESE TERMINALS ARE STARTING TO APPEAR ON THE SECOND HAND MARKET NOW "ED."

FEBRUARY MEETING:

THE CLUB HAS COME BY SOME OLD TYPE INDUSTRIAL COMPUTER TERMINALS. THEY ARE BIG & BULKY BUT GOOD FOR BITS, "VDU POWER SUPPLIES ETC". MOST ARE IN WORKING ORDER & CAN INTERFACE TO A PRINTER, MODEM ETC.

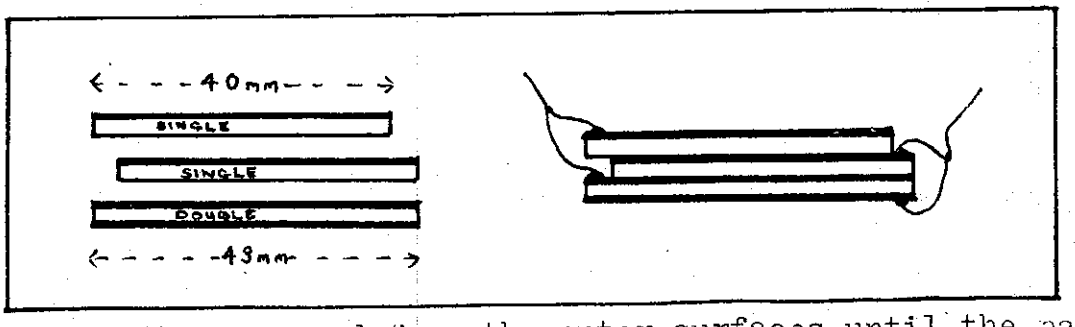
RTTY BUFFS. (HARD COPY TYPE, STEAM RTTY) QUITE A SUPPLY OF PRINTER PAPER IS NOW AVAILABLE FROM THE STORE. "GENUINE" TELEX TYPE. GET YOURS NOW. $2.00 PER ROLL.

CAPS FOR TRAPS.

In February last year, 'Amateur Radio' published an article by VK3CO describing the construction of a trap tuned dipole for 80m and 40m. A trap is a parallel resonant circuit consisting of an inductor and a capacitor inserted in each dipole arm, and appears as an open circuit at the resonant frequency. The position in the arm is chosen so that the length of the antenna up to the trap is resonant at the higher frequency, the additional length of antenna only coming into play at lower frequencies.

In the article, construction of the inductor - a coil of 14 gauge wire on a 25mm o.d. (1") piece of PVC conduit - is described and a ceramic capacitor of 5000 volt working ("the most expensive item") is used. I was unable to find a source of supply for suitable capacitors.

At about the same time this article appeared, Amateur Radio Action Volume 6, No. 10 carried an article by VK4SO describing construction of similar traps on somewhat larger diameter (32mm i.d.) plastic tubing. The article describes how suitable capacitors can be made from fibreglass copper-clad circuit board, two pieces being cemented together. Unfortunately I found that the capacitance available in this way was not sufficient for the smaller traps described in A.R., so I experimented with making a multiplate capacitor of this type, small enough to fit inside the 25mm PVC conduit. I found that two pieces of single-sided p.c. board, 40mm x 20mm, and one piece of double-sided p.c. board 43mm x 20mm, could be assembled and cemented together with Superglue, wires first having been soldered to the inside copper surfaces as shown, making a nice compact capacitor. It was then trimmed with a file to fit neatly inside the conduit. Measured capacitance was about 70pF.



Copper was then removed from the outer surfaces until the parallel coil/capacitor combination was resonant at the desired frequency as indicated on a G.D.O., or the transceiver can also be used as described in the A.R. article.

The fibreglass itself can withstand a voltage of many kV but arcing occurs across the ends through the air at a much lower voltage. I therefore covered these ends with Araldite before finally inserting the capacitors into the tubes, which raised the measured arc-over voltage to several kV. Selley's Roof and Gutter Sealant was then used to make the traps waterproof.

de Ken, VK2DOI

TID-BITS

Who was the local club member who stirred up the Northern W-VE Amateur Population a few weeks ago? He had a 40+9 Sig on 160 & had the 160Mtr. gang really stirred up for a couple of nights. Being the true "HAM" that he is, he confessed all, and let them know that he was really Portable W1, (just forgot to add the /W1) All was forgiven and he was made an Honorary Member of the 160 Club and has the Wallpaper to prove it as well as an award. Welcome back Denis.....

FOR SALE

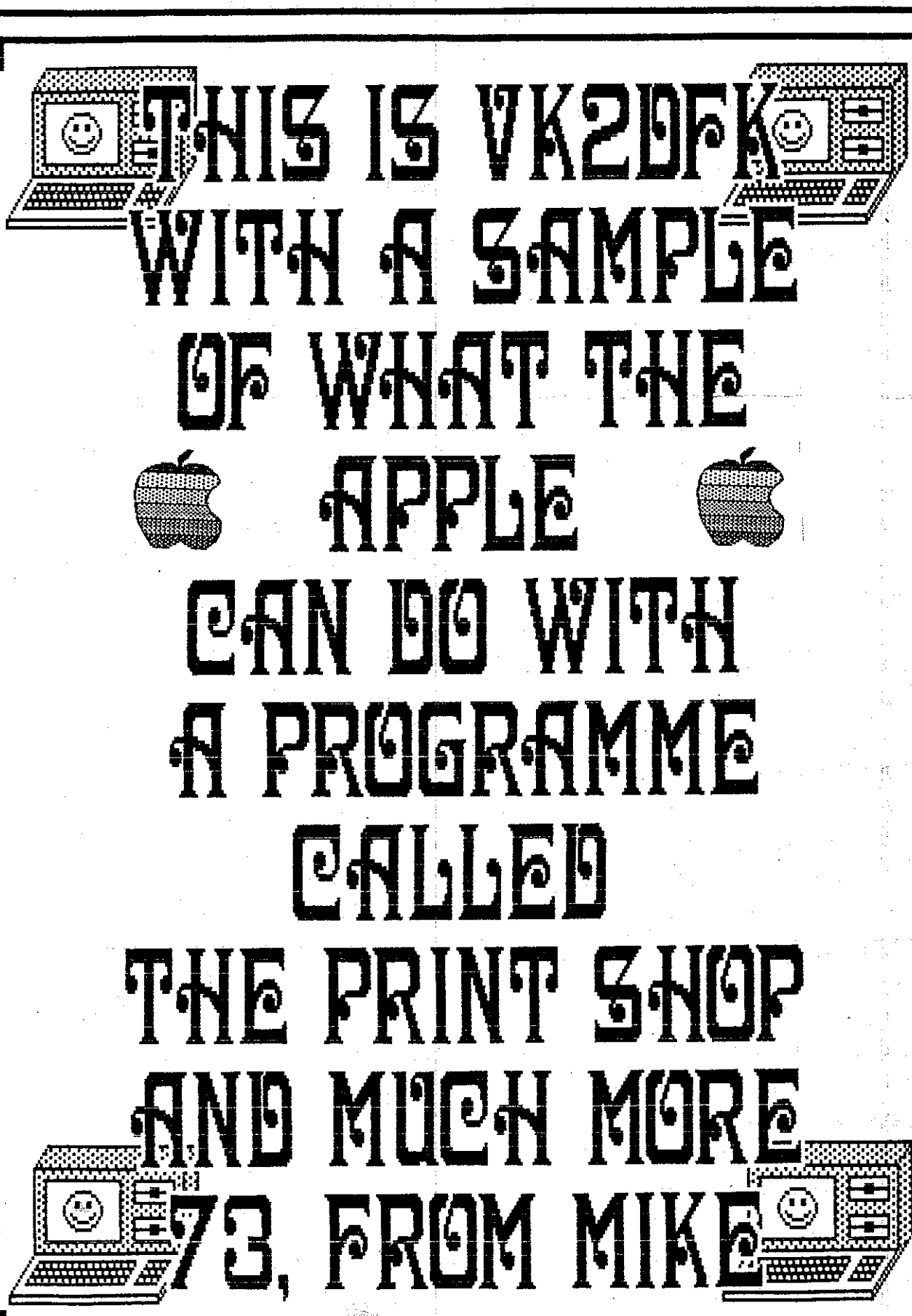
1) ROTATOR: CDE TTX Tailtwister heavy duty rotator with controller, power supply and cable. Will handle a six element beam (28ft.)

2) HYBRID QUAD: model HQ-1, 2 element for 6, 10, 15 and 20 metre beam. Elements 3.35m, boom length 1.35m..

Price $350 ONO the lot or will separate.
Both units can be inspected at East's Beach Caravan Park.
Contact Jim VK2EBY on PO Box 52, KIAMA 2533 or (042)-32-1002 and leave message.

WANTED TO PURCHASE

KENWOOD T.V.502 TRANSVERTER TO SUIT T.S.520S TRANSCIEVER
CONTACT BAS, VK2KTA. QTHR OR PHONE (042)-294816.....


THIS IS VK2DFK
WITH A SAMPLE
OF WHAT THE
APPLE
CAN DO WITH
A PROGRAMME
CALLED
THE PRINT SHOP
AND MUCH MORE
73, FROM MIKE

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

Meetings: Second Tuesday of every month except January at 7.30 p.m. in the S.E.S. Headquarters, Montague Street, North Wollongong. Committee Meeting - 3rd Tuesday 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 and 7275 VHF Repeaters; 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 MHZ 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, Dave Myers VK2DFL at 30 Highlands Pde. Bulli 2516. Telephone 84.9404. Copy deadline 3rd Tuesday each month.

Membership: The Secretary, I.A.R.S. P.O. Box 1838, Wollongong 2500. Full membership is $10.00 per annum; students and pensioner concessional members $5.00 per annum.

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, 30 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.
- Andrew McEwan VK2XGC, 7 Nioka Avenue, Keiraville.

General Committee: Mike Keech VK2DFK, Ian Callcott VK2EXN, Ray Ball VK2XCC, Morry Van De Vorstenbosch VK2EMV, Jim Mead VK2EJM, Gerhard Mueller VK2XGA, Jim Hayes VK2KJJ.

Repeater Chairman: Graeme Dowse VK2CAG.

Repeater Committee: Mike Keech VK2DFK, Morry Van De Vorstenbosch VK2EMV, Ian Callcott VK2EXN, Dave Colless VK2EZY, Fred Zickar VK2YSB.

EME Co-ordinator: Lyle Patison VK2ALU.

Broadcast Officer: Mike Keech VK2DFK

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

Propagator Editor & Staff: Dave Myers, Editor VK2DFL, Ken Frost VK2DOI, Cartoonist Brian Wade VK2AXI. Printer Mike VK2DFK. Colater Murry VK2MY.

Store: Ray Ball VK2PHD/XCC

Publicity Officer: Nora Fisher, 17 Elizabeth Street, Mangerton. 2500.

Awards Manager: Jim Hayes VK2KJJ.

LifeMembers: Graeme Dowse VK2CAG, Keith Curle VK2OB