BI-CENTENNIAL.

THE PROPAGATOR

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ILLAWARRA AMATEUR RADIO SOC.INC.

MONTHLY NEWSLETTER OF THE ILLAWARRA AMATEUR RADIO. SOC. INC.
VOLUME - 88 , NUMBER : 4 MAY 1988.
REGISTERED BY AUSTRALIA POST PUBLICATION NUMBER : NBH - 1491.

MEETINGS ARE HELD ON THE SECOND TUESDAY OF EACH MONTH , (EXCEPT JANUARY) AT 7.30.PM. AT THE STATE EMERGENCY SERVICES , BUILDING , IN MONTAGUE STREET , NORTH WOLLONGONG . VISITORS ARE MOST WELCOME TO ATTEND THE MEETING'S .

SPECIAL CLUB VI8ONSW DAY

The Illawarra Amateur Radio Club Inc. will be participating in a SPECIAL DAY on 10th JUNE 1988.

The occassion is the use of the Bi-centenary call prefix VI88NSW. If you would like to be involved for this special day on air, the person to contact is Tony VK2ENX(AX2ENX) he would love to hear from lots of members.

Remember, this opportunity will only be available for this one day, if you leave it to late you will have to wait for the year 2188, and I suspect that most of our members at that time will be otherwise engaged (including myself).

KEITH TALKS ABOUT "LS"

Keith VK2OB, was a guest speaker at last months Illawarra Amateur Radio Club Meeting.

Keith gave a talk and demonstration on the two "L's" of resonant circuits.

The two "L's", lead and lag would be familiar to those amateurs who have ever been to TAFE classes.

The talk by Keith kept the 32 members who were present very interested, and a big thank you to Keith for filling in as a guest speaker whilst the committee are trying to organize? other guest speakers for our future monthly meetings.

The other item discussed at the meeting was the club T shirts. 20 orders have been placed so far, but at least 4 more orders are needed before the committee can go ahead and organize the manufacturer. The agreement is for a minimum of 24 T shirts to get the price down that was suitable for club members.

COME TO HANCOCKS RANCH

The quarterly meeting of the South Coast Amateur Radio Club will be held at Hancocks Ranch Milton on the 14th May 1988.

The club, which has a few Illawarra Amateur Radio Club members in its rank and file, usually have a really enjoyable meeting come social gathering.

The guest speaker for the occassion is Captain Barbara McLoud who will be giving a talk on a womans role in the Royal Australian Navy. Sounds very interesting.

GOT A VZ200

Want a 50% improvement to the graphics resolution of your VZ200 computer? heres how to do it.

Inside the VZ200 is Motorola's MC6847 video display generator (VDG) chip. This is an easily programmed yet highly versatile device offering several text, mixed text/graphic modes.

As standard, the VZ200 comes with a 128x64 dot 4 colour graphic mode. In this mode each display byte is split into 4 dots, each occupying 2 bits.

The 2 bits specify which of 4 colours the dot is in, one of two 4 colour sets, making 8 colours in all.

This requires all 5k of video RAM. By cutting the track linking pin 30 of U15 (the VDG) to ground and then connecting this pin to +5volts (pin 17), a new graphics mode is derived.

This mode offers 128x96 dot monochrome graphics where each bit specifies one dot and requires 1.5k of RAM. The advantage of this mode is that the dots are square which improves the appearance.

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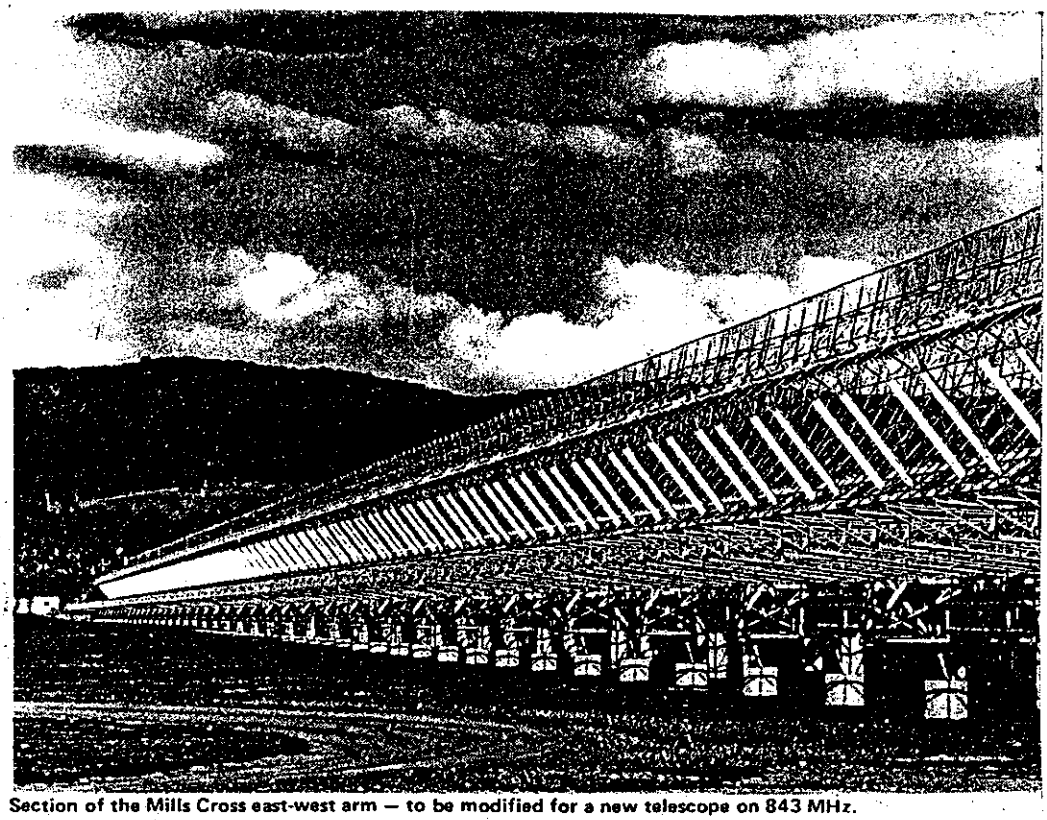
ON THE NET

3rd April 1988.
VK2MT-ROB, Co-ordinator, VK3CMH-MARTIN, VK2EBI-KEVIN, VK2EMV-MORRY, VK2PHD-RAY, VK2KGI-DAVE, VK2DUP-GRAHAM.

---------***----------

17th April 1988.
VK2KGI-DAVE, Co-ordinator VK2IU-RALPH, AX2DFL-DAVE & JENNY, VK2EMV-MORRY, VK2PHD-RAY.....



Section of the Mills Cross east-west arm — to be modified for a new telescope on 843 MHz.

New radio telescope to replace Mills Cross

Following a decade of intensive use, Sydney University's Mills Cross radio telescope at Molonglo (near Canberra) is being dismantled.

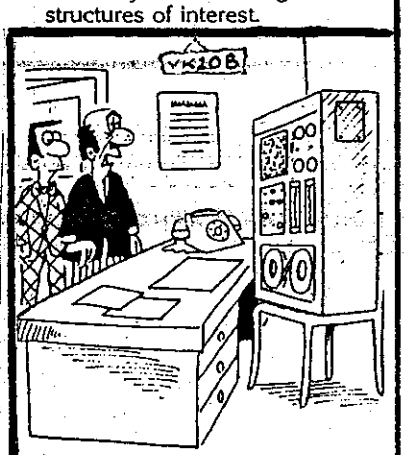
Constructed in 1962, the Mills Cross was built to explore the whole of the southern sky at several radio frequencies. The programmes originally planned for the Mills Cross have all been completed, along with many others, research efforts resulting in a number of significant achievements over the years.

The original Mills Cross was a 'transit' telescope — objects could only be observed for a very short time every 24 hours as they crossed the meridian. Results of previous observing programmes have all been stored on magnetic tape and will provide a source of scientific data for many years to come.

The new instrument being constructed will use the east-west arm of the old Mills Cross antenna. It will be altered to allow tracking of a fixed point in the sky for 12 hours at a time. The operating frequency is being raised to 843 MHz to provide higher angular resolution.

The effect of the changes will be to add together, over 12 hours, the signals received over a small area of sky producing a radio 'picture' of the area with a sensitivity 100 times better than obtained on a single quick observation with the original instrument.

The new radio telescope will be used particularly in extending knowledge of physical conditions in the Magellanic Clouds, a pair of southern galaxies which are ten times closer than any accessible to northern hemisphere astronomers but still far enough away to require the highest sensitivity for observing all the structures of interest.



"I knew it would happen one day— it's taken over my business!"

BROKE IN BOURKE?

NO SWEAT MATE

A young woman from Pine Bluff, Arkansas, USA, put her Visa card into an automatic teller in a Sydney shopping centre. Within eight seconds the computer at her bank in the US had debited her account and Mary Stone was collecting $20 from the Rediteller terminal. Miss Stone obtained her $20 in the first electronic funds transfer of its kind between the two countries.

She inserted her card into the automatic teller and typed in her Personal Identification Number (PIN), the same way locals make an after-hours bank transaction.

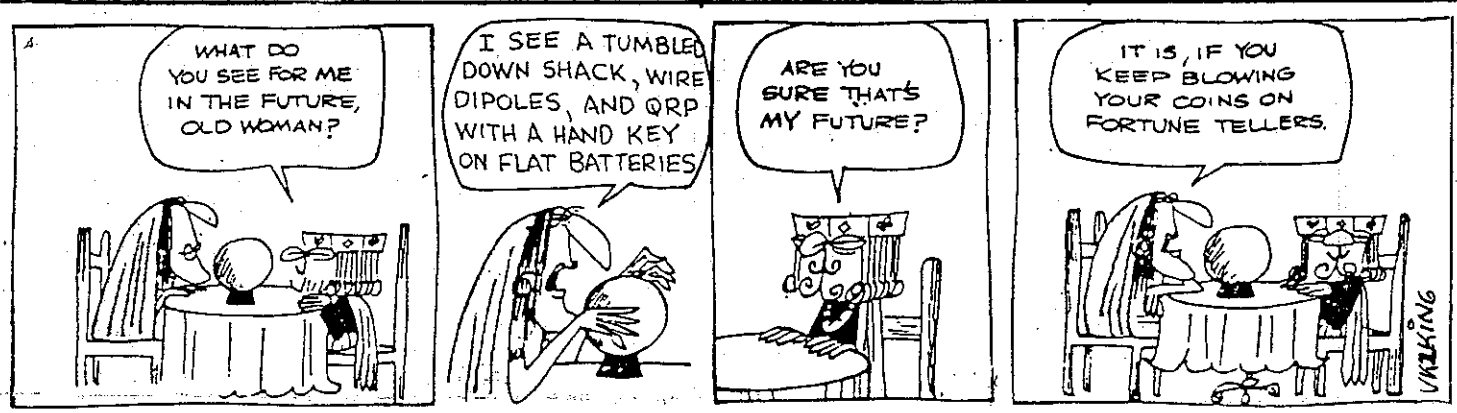
But in Miss Stone's case, her number was scrambled in an encrypter box and was transmitted from the terminal in Bondi Junction by Telecom landline to North Sydney and the offices of Austnet, the Australian company that provides the communications links for the financial institutions that use the electronic funds transfer system.

From there the signal went to Visa headquarters in central Sydney, then to the OTC at Martin Place, and then by satellite to the Visa centre in Singapore.

Miss Stone's message then travelled underwater by cable to California, by land line to West Virginia and then to Pine Bluff, about 25,000km from Sydney.

At the Simmons First National Bank in Pine Bluff, the computer unscrambled her code, checked to make sure it was correct, established that she had funds in her account to cover the transaction and then sent the go-ahead back through the same links to Bondi Junction where the money was released.

And all in eight seconds!



COMPUTERS

ONE TONGUE

Like the human race, computers and the people who program them are divided by the barrier of language. But the Department of Defence is trying to end the diversity - at least within its own ranks.

The use of FORTRAN, COBOL, SNOBOL, LISP, JOVIAL and a host of other languages in which the department's computers are programmed can be costly and time - consuming -even chaotic, when it comes to writing the many programs for the guiding of submarines, the aiming of weapons or the locating of enemy missiles.

To end the confusion, last December the Defence Department established the military's first standard computer language, called Ada, in honour of Lord Byron's daughter, who was the world's first computer programmer. DOD is now trying to convince every office under its authority to convert to Ada, although right now its use is completely voluntary.

Ada combines all the desirable features of other computers languages, and by careful orchestration it can handle them as well as, if not better than, the original languages can. One study estimates that with Ada in universal use, the Pentagon could save $24 billion by the year 2000 by converting into one language the languages of thousands of computers now helping to maintain the USA's national security.

Uniform adoption of Ada should give computers easy access to each other's programs and data. Although this is considered an important advantage, some branches of the military are reportedly reluctant to favour such access.

Another obstacle to standardization is that some computer users don't want to sacrifice the creativity they believe is possible only with a variety of languages, according to Paul Cohen, technical director of DOD's Ada program.

taken from T.S.N.

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SIMPLE HOUSE ALARM SYSTEM

This system is adequate for the average household or small business. If built and installed as described it will provide years of reliable operation.

Really determined and skilled burglars will find ways to break into almost anywhere - no matter how well it is protected. But experts like these will be far too occupied sizing up the local bank to bother about most houses or small businesses. Who your mainly up against are 15-25 year olds with generally limited intelligence.

A surprising 29.2% of illegal entries are made through unlocked doors or windows. Most other entries are made by forcing with a jemmy. Only rarely is entry made by breaking glass.

So your first step should be to "harden up" the house. Fit really strong concealed catches, especially to those windows which are not overlooked from the street or by neighbours houses. You'll have to search around for decent fittings - the sliding bolt catches sold by most hardware stores are jokes. One good kick will tear them in half - if the toy screws supplied dont pull out first.! So consider carefully how the various devices will withstand a jemmy used in earnest - and whether the woodwork to which they are attached will need strengthening.

The simplest adequate alarm system detects the opening of doors or windows and when an "opening" signal is received causes the alarm to sound continuously even after the door is subsequently closed.

The alarm should also sound and continue to sound if any associated wiring is detected and cut. The alarm should be battery operated so that it will continue to operate if mains power fails or is disconnected.

This all seems simple enough to do but there are a number of

CONTINUED NEXT PAGE

COAST-WIDE COMMUNICATIONS
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ALARM SYSTEM

CONTINUED

about 10uF, the other about 10nF. Figure 3 shows how - and why you need the two.

The best way to construct the control unit is to use the printed circuit board shown full size. Make sure that C1 is inserted the right way round and that all joints are very carefully soldered. Clean off any residual flux after soldering.

Resistor R1 controls the length of time between a switch being opened and the alarm being triggered. The value shown will trigger the circuit after approximately 3/4 sec. (It is impossible to open a door, pass through and close it again in less than one second).

Dont be tempted into replacing R1 by a potentiometer, it will rarely be moved once the alarm is installed, so that corrosion will eventually build up between the wiper and the track.

Keep the leads from the alarm unit to the battery as short as possible, 300mm at most. Preferably build the battery in with the unit, use a second battery to power the alarm bell or siren.

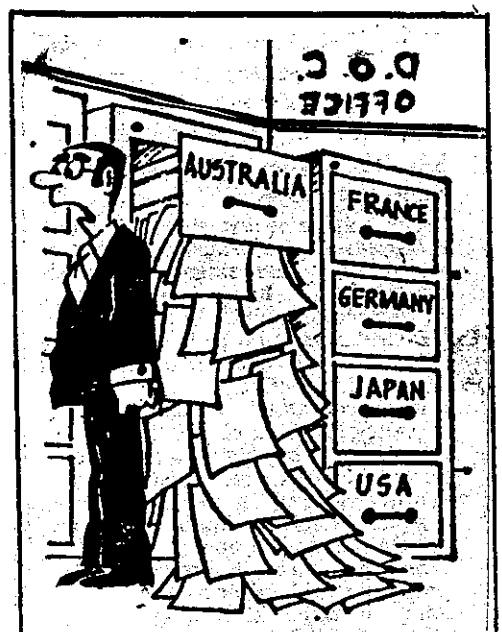
The alarm unit draws very little current so batteries will nomally last for 9-12 months. The best power sources for this application are 6 volt lantern batteries, using soldered terminal lugs on the ends of the battery leads.

Arrange for a key operated switch to short out the alarm switch on a chosen "silent entry door".

The main on/off switch on the unit itself should be a double pole single throw with the contacts wired in parallel.

The alarm bell/siren should be mounted high up and the leads totally concealed. Finally, dont be put off by stories about people ignoring alarm bells or sirens, as burglar's dont.

One final note: no matter how good the installation is, it's USELESS unless you switch it ON.



★ "OKAY, who's the joker?"

PARTS LIST

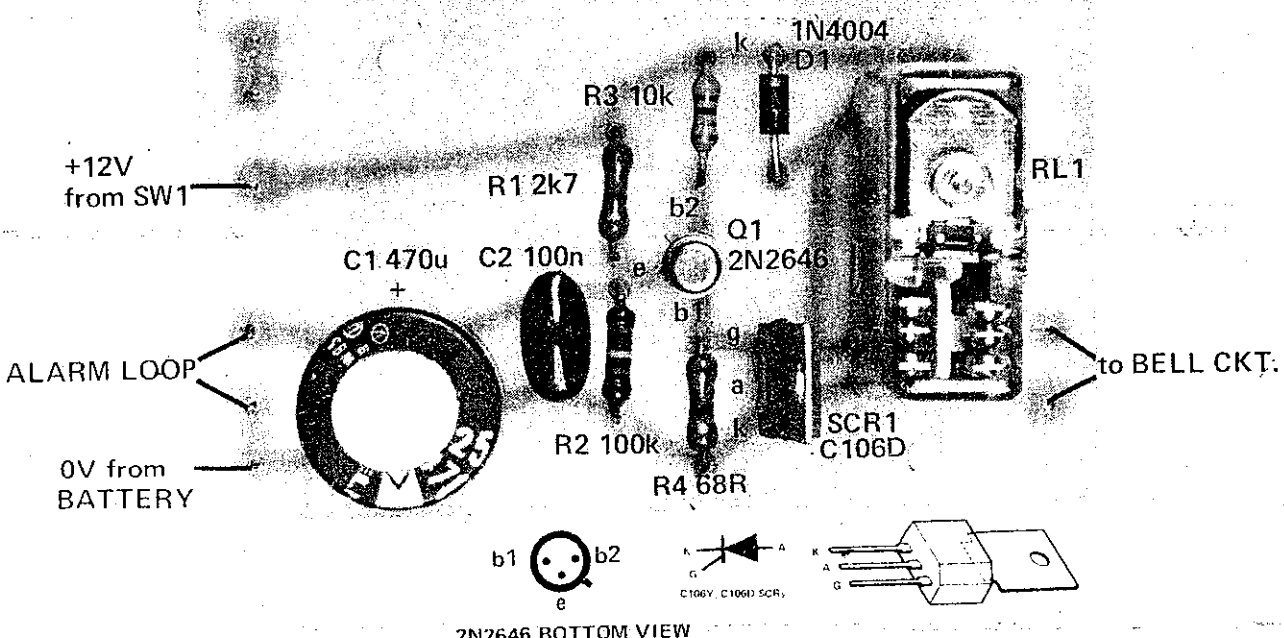
Resistors all ¼W, 5%
- R1 ..... 2k7
- R2 ..... 100k
- R3 ..... 10k
- R4 ..... 68F

Capacitors
- C1 ..... 470u16 V electro
- C2 ..... 100n greencap

Semiconductors
- Q1 ..... 2N2646 UJT
- SCR1 ..... C106D SCR
- D1 ..... 1N4004 or similar

Miscellaneous

RL1 — cradle relay, 12 V coil with two change-over contacts (Pye, type 265/12/G2V); SW1 — DPST toggle switch; 12 V battery; pc board ETI-262; small box to suit; barrier strip terminals (six-way), plated type; suitable reed switches; magnets etc as per the article.



Is this the way you assess your staff?

JOB PERFORMANCE APPRAISAL SCALE

	A	B	C	D	E
Area of Performance	**Far Exeeds Job Requirements**	**Exceeds Job Requirements**	**Meets Job Requirements**	**Needs Improvement**	**Does Not Meet Minimal Requirements**
Quality of work	Leaps tall buildings with a single bound	Leaps tall buildings with a running start	Can leap short buildings if prodded	Bumps into buildings	Cannot recognise buildings
Promptness	Is faster than a speeding bullet	Is as fast as a speeding bullet	Would you believe a slow bullet?	Misfires frequently	Wounds self when handling guns
Initiative	Is stronger than a locomotive	Is a strong as a bull elephant	Almost as strong as a bull	Shoots the bull	Smells like a bull
Adaptability	Walks on water	Keeps head above water under stress	Washes with water	Drinks water	Passes water in emergencies
Communications	Talks with God	Talks with angels	Talks with himself	Argues with himself	Loses argument with self.

How Well Do You Know Australia?

Dates from Australia's past

State the year when:

1. Captain Cook discovered Australia's east coast.
2. The first Merino sheep were introduced.
3. George Bass and Matthew Flinders proved Tasmania to be an island.
4. Lieutenant John Murray discovered Port Phillip.
5. Gregory Blaxland, William Wentworth and William Lawson first crossed the Blue Mountains.
6. John Oxley established the settlement at what is now Brisbane.
7. Captain Charles Fremantle claimed possession of Western Australia for Britain.
8. The first voyage down the Murray River was completed.
9. Captain John Hindmarsh established the settlement at Adelaide.
10. Melbourne was named.
11. The first attempt was made to abolish transportation of convicts to New South Wales.
12. Edward Eyre completed the first overland journey from Adelaide to King George's Sound (W.A.).
13. Australian colonies were granted self-government.
14. Miners rebelled at the Eureka Stockade.
15. The first Melbourne Cup was run.
16. John McDouall Stuart completed his south-north crossing of Australia.
17. The last British convicts landed.
18. The overland telegraph from Port Augusta, S.A., to Darwin was completed.
19. Melbourne staged the first cricket Test.
20. The first Australian troops left to fight a war.
21. South Australia became the first state to grant women the vote.
22. The Commonwealth of Australia was proclaimed.
23. The Federal Arbitration Court adopted the basic-wage principle.
24. HMAS Sydney destroyed the German cruiser Emden at Cocos Islands.
25. The Transcontinental Railway (between Port Augusta and Kalgoorlie) was completed.

1 1770
2 1797
3 1798
4 1802
5 1813
6 1824
7 1829
8 1830
9 1836
10 1837
11 1840
12 1841
13 1850
14 1854
15 1861
16 1862
17 1868
18 1872
19 1877
20 1885
21 1894
22 1901
23 1907
24 1914
25 1917

Give the state or territory of the following:

1. Albany
2. Birdsville
3. Bourke
4. Burketown
5. Burnie
6. Burrawang
7. Cape Otway
8. Carnarvon
9. Charleville
10. Charters Towers
11. Cobar
12. Coober Pedy
13. Cooktown
14. Cooma
15. Daly Waters

1 W.A.
2 Qld.
3 N.S.W.
4 Qld.
5 Tas.
6 N.S.W.
7 Vic.
8 W.A.
9 Qld.
10 Qld.
11 N.S.W.
12 S.A.
13 Qld.
14 N.S.W.
15 N.T.

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TO ALL OUR CLUB
MEMBERS.

FOUR MEN of the cloth, taking a short breather from their heavy duties, were on a park seat, chatting and enjoying an early spring day.

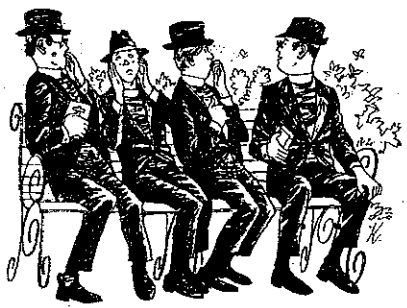
"You know, since all of us are such good friends," said one, "this might be an ideal time to discuss the problems that are disturbing us." They all nodded in agreement.

"Well, I would like to share with you the fact that I drink to excess," said one.

There was a gasp from the other three. Then another spoke up. "Since you were so honest, I'd like to say that my big problem is gambling. It's terrible, I know, but I can't stop. I've even been tempted to take money from the collection plate."

Another gasp was heard, and the third clergyman spoke. "I'm really troubled, brothers, because I'm growing fond of a woman in my church — a married woman."

More gasps. But the fourth man remained silent. After a few minutes the others coaxed him to open up. "The fact is," he said, "I just don't know how to tell you about my problem."



"It's all right, brother. Your secret is safe with us."

"Well, it's this way," he said. "I'm an incurable gossip."

LOW COST 2M PORTABLE ANTENNA

Here is an antenna with features which make it attractive for portable operation or installations where a ground plane is not available or not desirable.

Electrically, the antenna is an endfed halfwave dipole matched to 50ohm coaxial feedline by a network transformer instead of the more common parallel tuned circuit (like the popular Ringo). Figs 1a & 1b compare the two matching methods.

This article refers specifically to an antenna constructed from 1.6mm dia. wire (or rod) for the 2m band and although other dipole diameters and other bands are possible no such work has been undertaken by the writer at this time.

The author's version, is constructed as a unit from a single length of 1.6mm dia. tinned copper wire and after adjustment for the lowest VSWR, the antenna was housed in a fibreglass fishing rod blank. The wire could be enamelled and the housing could be PVC conduit.

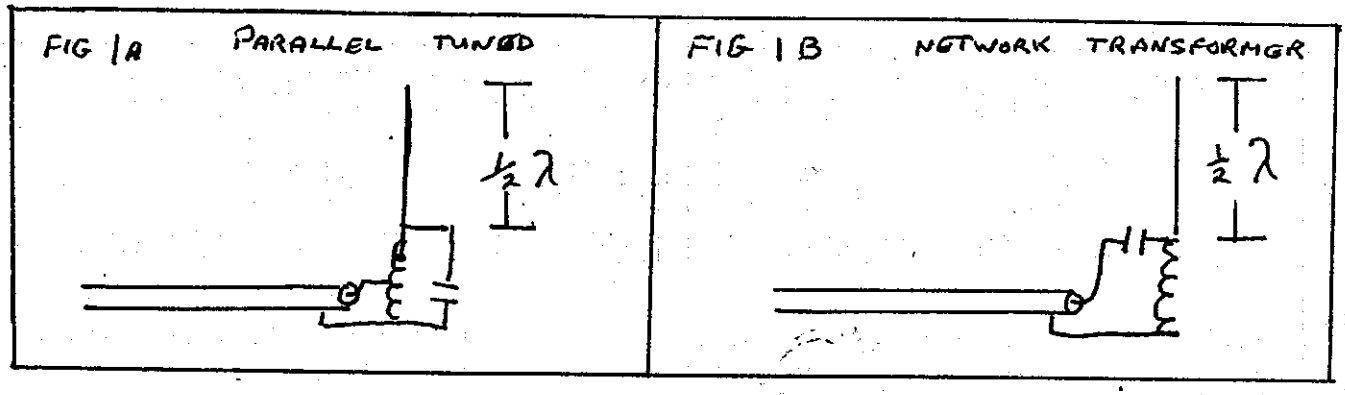
Providing the capacitor and coil are accurately constructed very little adjustment should be necessary to achieve a low (<1.5:1) VSWR, any adjustments being taken care of by squeezing up or stretching the turns of the coil. The imperial dimension given in Fig 3 occurred because of the twist drill used as the former on which the coil was wound.

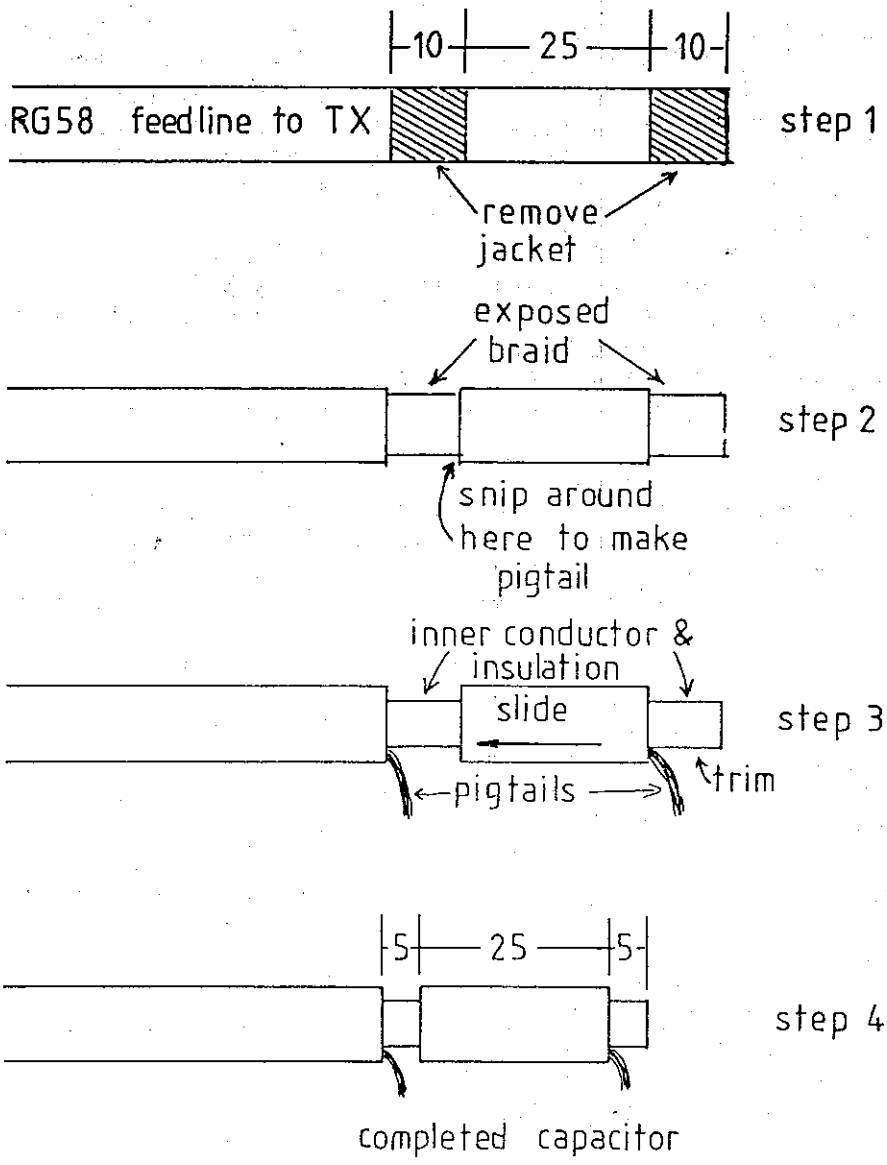
Wind 9 close wound turns of 1.6mm dia. wire on a 5/16" dia. former, bend up the ends and then stretch the coil to achieve the dimension shown in Fig 3. Capacitor details are shown in Fig 2.

Although the feedline as shown is RG58 and it is mounted up inside the coil (Fig 4) there is no reason why RG213 (or RG8) cannot be used with the "capacitor" parallel with the coil on the outside. It is important however to note that the length of the capacitor only holds true for solid polythene coax. Foam coax has lower capacitance per foot than solid polythene and a new capacitor dimension will have to be found if foam coax is used.

This antenna was the culmination of a search for a lightweight, slim ground independent antenna for WICEN and it has been used on two exercises so far to my complete satisfaction.

de Ray VK2TV
Taken from Smoke Signals.





dimensions in m.m.

Fig. 2

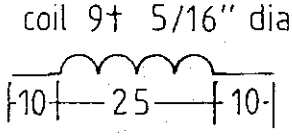


Fig 3

*see text

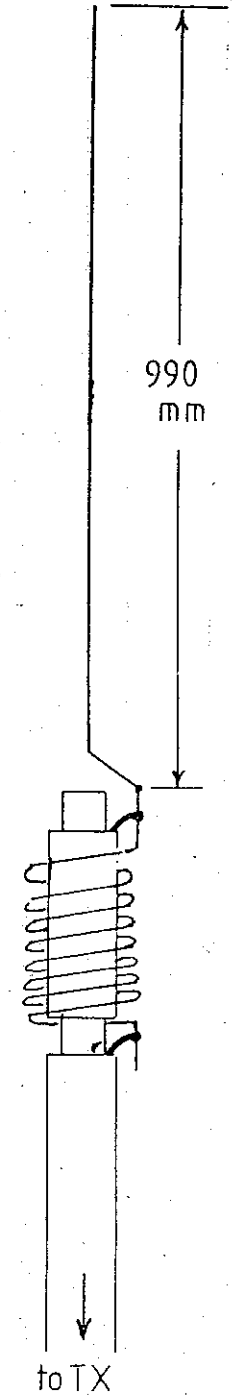


Fig 4

NOTE. Some dimensions exaggerated for clarity.

THE ILLAWARRA AMATEUR RADIO SOCIETY. INC.

P.O.BOX.1838.WOLLONGONG.2500.N.S.W.

MEETINGS: Are held every 2nd Tuesday of the Month except January,at 7.30.pm. in the S.E.S. Headquarters, Montague street, North Wollongong.

REPEATERS:

VK2RAW - 146.850. - (VOICE)	VHF	Mt Murray.
VK2RAW - 147.575. - (PACKET)	VHF	Mt Murray.
VK2RIL - 147.275. - (VOICE & R.T.T.Y)	VHF	Sublime Point.
VK2RUW - 438.225. - (VOICE)	UHF	Hill 60 Port Kembla.
VK2RIL - 438.725. - (VOICE & R.T.T.Y)	UHF	Sublime Point.

BROADCAST: On Sunday evening prior to the club meeting, at 7.00.pm. R.T.T.Y. Mode Transmitted on 147.275.VHF, and relay on 3.562.Mhz. +/- QRM. Callbacks taken immeddiately afterwards. The voice broadcast will be held straight after the WIA Broadcast on 146.850.Mhz (VK2RAW) and 3.562.Mhz +/- QRM.

W.I.A. RELAY: On 146.850. at 10.45.am. and at 7.15.pm. each Sunday.

CLUB - NETS: On 3.562.Mhz. SSB +/- QRM on Sunday at 8.30.pm.

NEWSLETTER: "THE PROPAGATOR",published Monthly to reach FINANCIAL-MEMBERS in the week preceeding the club meeting. All articles, adds etc , to the editor must be in, or try , by the 3rd Tuesday each month.

MEMBERSHIP: The Secretary,I.A.R.S.Inc, P.O.Box.1838. Wollongong. 2500. Full membership is $10 per annum; students & pensioners concessional members $5 per annum.

AWARDS: The Award of the Illawarra Amateur Radio Society.Inc. 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. A contact with VK2AMW is sufficient for the award.Band-details, date, frequency, station worked and $2 or 4 I.R.C.'s ,to THE AWARD-MANAGER, I.A.R.S.Inc,P.O.Box. 1838. WOLLONGONG.2500. No QSL-CARD is required.

STORE: The club store operates at each club meeting. by COMMITEE-MEMBERS.

COMMITTEE:

PRESIDENT:	VK2DYU- BILL CHADBURN. 45 Beltana Ave, Dapto.
VICE-PRESIDENT:	VK2OB - KEITH CURLE. 24. Beach Drv, Woonona.
SECRETARY:	VK2JTB- TOM BROWN. 10. O'Keefe Cr. ALBION - PARK.
TREASURER:	VK2VAV-YK0-DAVE HENDERSON.8.Gladstone st.Bellambi.

GENERAL-COMMITTEE: VK2MT - ROB McKNIGHT, VK2BIT - Peter Woods, VK2XCC/PHD - RAY BALL.

REPEATER - CHAIRMAN: VK2XGJ - JOHN SIMON.

REPEATER -COMMITTEE: VK2CAG - GRAEME DOWSE , VK2EXN - IAN CALLCOTT, VK2EMV - MORRY .v .d. VORSTENBOSCH. VK2DFK-MIKE KEECH, VK2MT-ROB McKNIGHT, VK2BIT-PETER WOODS, VK2TPH-PHIL HOWCHIN, VK2XGJ-JOHN SIMON, VK2FCP-FRED BROWN.

QSL-CARD'S OUT	:	VK2EXN - IAN CALLCOTT.
QSL-CARD'S IN	:	VK2BIT - PETER WOODS.
PUBLICITY - OFFICER:		VK2VAV/YK0 - DAVE HENDERSON
BROADCAST - OFFICER:		VK2ENX - TONY MOWBRAY. VK2ALU LYLE PATISON.
CARTOONIST	:	VK2AXI - BRIAN WADE.
PROPAGATOR-EDITORS	:	VK2JT - JOCK TAYLOR, VK2EMV - MORRY.v.d.VORSTENBOSCH, VK2KGI - DAVE CAPON.
PRINTERS	:	VK2DFK - MIKE KEECH. AND POSTED BY VK2BIT - PETER WOODS.
SOCIAL-DIRECTOR	:	VK2XCC/PHD - RAY BALL. D.O.C.LIASION VK2OB - KEITH CURLE.
CANTEEN-MANAGER	:	VK2DYU - BILL CHADBURN.
LIFE - MEMBERS	:	VK2CAG-GRAEME DOWSE. VK2OB-KEITH CURLE.VK2ALU-LYLE PATISON

SUNDAY - EVENING - CLUB-NET - ROSTER: STARTING AT 8.30.pm.

8.30.pm.

FIRST SUNDAY OF THE MONTH	:	VK2MT - ROB McKNIGHT.
2 nd SUNDAY OF THE MONTH	:	VK2ENX - TONY MOWBRAY.
3 rd SUNDAY OF THE MONTH	:	VK2KGI - DAVE CAPON.
4 th SUNDAY OF THE MONTH	:	VK2PHD - RAY BALL.
5 th SUNDAY OF THE MONTH	:	VK2EBI - KEVIN MURPHY.
And on stand-by	:	VK2DUP - GRAEME PARSONS.