

AMATEUR
RADIO
NEWS

JUNE 1982



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ad,

The first issue of the new look QRM produced by the Southern Branch in April was well received, judging by the resultant comments and letters.

Production was advanced to ensure that the magazine was available at TARC and it was distributed to members when they registered.

TARC, which was held at the Lea Scout Camp just south of Hobart, was very successful despite the rather damp and muddy conditions outside the hall. Various workshops were conducted over the weekend with the Annual General Meeting being held on Saturday afternoon. The Saturday evening meal consisted of a pig and lamb roast with a very comprehensive side salad provided by the Southern Branch and WAGS. Over 70 people were in the hall at one stage on Saturday evening. The TARC committee and WAGS are to be congratulated for their efforts in ensuring that TARC was a success.

The response to our request for articles was, far in excess of our expectations. Unfortunately some contributions have had to be edited in this issue due to space / cost factors. Please do not be discouraged if your article does not appear this time as many have been held over for use in further issues. A decision was made by the QRM committee NOT to print Branch minutes from meetings as it is old news to the interested members - they were at the meetings!

Keep the articles coming, as well as your compliments and criticisms, we welcome them all. Remember, the success of QRM depends on your input.

'QRM', P.O. BOX 123, SANDY BAY. 7005.

DIVISIONAL NEWS

The main topic for discussion at present is the situation which has developed as a result of applications to Local Councils for permission to erect antenna towers.

The general feeling of Council is one of deep concern that if Local Councils, or rather neighbouring residents through Appeals Boards, succeed in preventing the Amateur from erecting a suitable antenna support structure at his or her residence, then a severe if not crippling limitation will have been imposed on amateur activity.

In Hobart there are currently two cases being considered by Planning Appeals Boards, and while reports to date paint quite gloomy pictures of anticipated outcomes, recent developments in both cases have altered the situation to give quite strong hopes to both applicants.

Reliable reports indicate that other Municipal and Town Councils are waiting for the outcome of the Hobart cases before stating their own policies on this matter.

There have been cases in South Australia and New South Wales which have seen amateurs being forced to take their cases to the Supreme Court - a very costly exercise.

Policy formulated at the recent Federal Convention will see the Institute embark on an extensive promotional campaign Australia-wide designed to educate the public and perhaps avoid the need for costly legal battles in order that an amateur may erect a tower.

A Special General Meeting of the Division has been called to discuss this problem and formulate a course of action for this state.

Notice of Motion has been given by Council to make a call on all members to establish a Support Fund which will be used where necessary in this campaign, whether it be for promotion or as a last resort, court action.

L.J. Cherry.

Divisional President

NOTICE OF SPECIAL GENERAL MEETING

You are hereby advised that, on direction of the Council, a Special General Meeting of the Tasmanian Division of the Wireless Institute of Australia is to be held on Saturday, June 26th, 1982, at the Kings Meadows High School, Launceston, commencing at 1.00 P.M.

AGENDA

1. Open Meeting
2. Apologies
3. Report on developments interstate with regard to antenna tower installation by the Federal Councillor, Mr. P. Fudge.
4. Report on legal implications by the Divisional Legal Officer, Mr. P. Corby.

5. Notice of Motion.

Moved - Mr. P. Fudge, Seconded - Mr. K. Kirkman

"That under the terms of article 83 of the Articles of Association, a call of \$10.00 per member be made for the establishment of a Divisional Support Fund to be used if or when the need arises."

6. Close of Meeting

PROXY VOTES shall be delivered to the Registered Office of the Division - 22 Karoola Road, Lindisfarne, 7015 - no later than 1.00 P.M. on Friday, June 25th, 1982, and shall take the following form:-

I.....a member of the Institute hereby appoint Mr..... also a member of the Institute to act for me as my proxy and in my name to do all things which I Myself being present could do at the meeting of the Institute to be held at..... on the.....

Signature.....Witness.....

NOTICE OF SPECIAL GENERAL MEETING

IT IS WITH DEEP REGRET that we record the passing of two widely known fellow amateurs.

TERRY CONNOR VK7CT passed away on April 3rd. 1982

IAN NICHOLS VK7ZZ passed away on May 3rd. 1982

Both these men contributed a great deal to amateur radio in Tasmania, thus we feel it is appropriate to relate some of their activities and achievements.

Terry obtained his licence in June 1936 whilst living in the village of Rokeby. Having no commercial power, his power supply was a 6v car battery charged by a car generator driven by an old Douglas motor bike engine with one cylinder removed. The antenna was a 'Hertz'. H.T. for the mopa transmitter came from a 'Carter' genemotor driven by a 6 v battery. Receiver was a two tube (O-V-I). Operation was mainly C.W. but some work was done on 'loop' modulation.

An auto-electrician, Terry joined the Signal Corps prior to the war and on the outbreak of hostilities joined the A.I.F., serving in the Middle East and later in New Guinea. He achieved the rank of Captain. After the war he returned to City Motors as manager of the auto-electrical department. Later he managed the Huonville Branch for 11 years. In 1960, Terry returned to Hobart where he joined the firm of H.M. Bamford & Sons. During this period he became a regular member of the 'Sewing Circle'.

After retiring, he and Adelene toured Europe, and England (of course), where he met many of his fellow amateurs and was honoured to be entertained by the R.S.G.B.

Terry served as Divisional president in 1968 & 69 and at other times as both Treasurer and Vice President. He was awarded Life Membership in 1966.

Apart from his involvement with the W.I.A., Terry will be fondly remembered by many for his tutoring of A.O.C.P. classes which he did for many years.

Ian Nichols was accidently blinded at the age of five but he made a remarkable adaption to cope with this disadvantage - his activities ranging from house painting to cricket.

continued.

Ian's memory was so remarkable and his perception so acute, that amongst other achievements he obtained two degrees; Batchelor of Arts and Batchelor of Law. The latter part of his working life was spent at the Zinc Works.

In 1958, Ian passed the full examination for the A.O.C.P. and after that the world became his oyster. He was active on all bands from 160 metres to 70 cm, and by 1979 he had worked 271 countries and had W.A.S. on 14, 21, and 28 Mhz. The number of his contacts was shown by the piles of QSL cards which were handled for him. The outwards cards, Ian typed himself. Although he used phone when appropriate, his true love was C.W. very often in the early hours of the morning. He was always willing to assist candidates studying to pass morse code.

Despite his 'on-air' activities, Ian was deeply engaged in Institute affairs. For many years he was a member of the executive council and its legal adviser. Amongst other offices, he was for some time the Federal Councillor and was Vice President for three terms. Finally he served two terms as President and was elected a Life Member in 1981.

Although it is hard to imagine how he found the time, Ian was also an active church member and a busy worker for the welfare of other blind people.

Still relatively young when he passed away (58 yrs), he had certainly lived a full life. Ian is survived by his wife and a family of five.

Terry and Ian will be missed both on and off the air, not only by the many amateurs who knew them, but by people in all walks of life.

Compiled by VK7NWR and VK7BJ respectively.

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TASMANIAN DIVISION W.I.A.

Statement of Income and Expenditure to 21/2/82.

INCOME

Subs from Federal Exec.	1667.18	
New member Subscriptions.	1007.20	
Donations from Life Members	69.50	
Sale of Regulation Handbooks	188.00	
Bank Interest	13.21	
Sth Branch contrib. to		
Deed of Indemnity	214.50	
Balance of CYRS account	40.56	
	<u>3200.15</u>	<u>3200.15</u>

EXPENDITURE

Refunds of Sub Excess	195.26	
New Subs to Fed. Executive	669.20	
Life Member Subs to Fed. Exec.	72.00	
Subs to branches		
Nth.	109.50	
Sth.	216.67	
N/W	161.00	
	<u>487.26</u>	
QRM costs paid to Fed. Exec.	225.70	
Fed. Subs Dues	257.10	
Devil Certificates/ mailing tubes	103.05	
Post Office Box	16.00	
VK7WI / Repeater Licences	60.00	
Stamp Duty re Fed. Councillors	15.00	
Call Book Supplements	7.60	
Repair A.J. Trophy	23.60	
Cat. B Registration	20.00	
AMP Insurance Policies	342.43	
Bank Charges/ stamp duty	12.50	
Divisional Travel Expenses	50.00	
Dick Smith Grant to Branches	<u>498.00</u>	
	<u>3054.70</u>	<u>3054.70</u>
		<u>145.45</u>

SURPLUS

ASSETS

Bank A/C	508.26
Cash on hand	5.75
Video Tape	<u>25.00</u>
	<u>539.01</u>

This statement was checked and found in order by the auditor on 8/3/82.

VHF NOTES

52 MHZ. 31.3.82 - Six metres was open to VK5 with with VK5 ZRY, ZLJ, MJ and RO being worked. The usual stations were heard on during the opening, those being VK7 JG, ZPK, KXA, ZOT. The band closed at approx. 10.00.

Ian, VK7ZIF reports good openings on 6 over the past month with VK7KMA heard on the 17th. April, also having worked into most call areas of JA and the usual VK stations.

An aurora on Sunday, April 15th. gave rise to several VK3 stations being worked.

Allan, VK7ZAR has also been active on 6 from his island retreat on Bruny, having worked VK4, 3, and JA 7, 8, also some VK7 in Launceston.

Joe, VK7JG worked W5JJ after a call on 52.050; this may be a state distance record for Joe.

432 MHZ. There has been an increase in activity on 70 Cm. in Hobart with the purchase by several stations of transceivers. Some of the stations active on 435 FM are VK7 GD, TC, ZAR, RR, HK and on 432 SSB VK7 JG, ZOT, ZIF, ZTA.

Another note from Joe VK7JG is that the Northern 70cm. repeater is operational on a manned basis at Joe's place. They are still looking at possible sites for the device. It's input freq. is 433.625 and output freq. 438.625. The output power is 10 watts and it will be operating under the call of VK7RAB.

David Chadderton VK7ZOT



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"PAPERCHASING" by VK7NHA Les.

Paperchasing is more and more becoming a fun pastime on 80 metres and all other bands for that matter. For the not so serious award hunter, there are many awards available in Australia, the beauty of these being you don't need QSL cards and they are not costly, so they don't hit the old wallet where it hurts.

Each issue I will supply information on TWO awards.

W.I.A. VK1 AWARD:

Net freq. 3.570 Sunday's 10.30 Z (after evening broadcast)

Contacts: 20 required. Cost: \$2

Send log data: date, time, freq, callsign & RST to;

Awards Manager, W.I.A. (A.C.T. Div.), P.O. Box 46, Canberra, A.C.T. 2600.

Here is an award for the sometimes forgotten lady of the house.

DX WIDOWS AWARD:

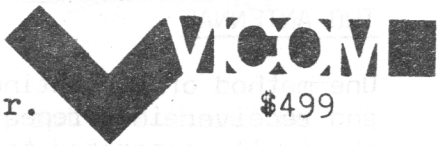
No contacts needed. Send first name of XYL and \$2 to Maurice Batt, R.S.D. Rokewood Junction, Vic. 3351.

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DIPLEXERS FOR TWO-METRE REPEATERS

1. REPEATERS

A repeater is a 'black-box', normally situated at an elevated site, which receives a signal and re-transmits the information contained in that signal on another frequency, 600 kHz higher. Operation of a repeater is 'full-duplex', i.e. the transmitter and receiver are in operation simultaneously. Compare this with an ordinary transceiver where either the transmitter or the receiver (never both) is in use at any time - the antenna is switched via a changeover relay (or electronic switch) to the unit in use. If you like, a repeater antenna system is 'frequency-division multiplexed' (FDM), and an ordinary transceiver is 'time-division multiplexed' (TDM).

In a transceiver, interaction between Tx and Rx does not occur because only one is on at a time; but in a repeater, extensive measures are necessary to prevent the transmitted signal, or any sidebands of the transmitted signal, from affecting the performance of the receiver - whether this be by overloading (blocking), on-frequency noise or the generation of inter-modulation products.

2. TWO ANTENNAE

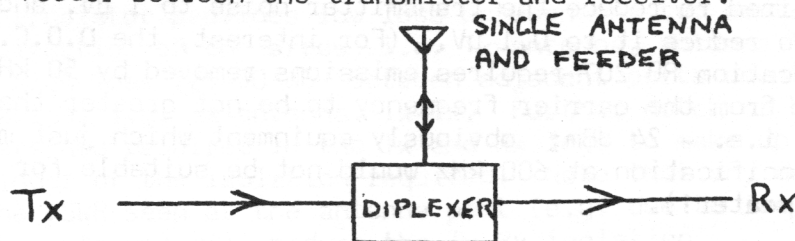
One method of preventing interaction between the transmitter and receiver in a repeater is to use two separate antennae, physically separated to provide a degree of electrical (RF) isolation. Vertical separation is more effective than horizontal separation, on a 'dB/metre' basis. In the case of the Mt. Wellington repeater, two antennae are currently in use, with a vertical separation of approximately 43 metres. Additional isolation is required, in the form of narrow band-pass filters (cavity resonators) in both transmitter and receiver feeders. One cavity in front of the receiver also incorporates a bandstop response (notch) on the transmitter frequency.

The two-antennae arrangement means that the radiation pattern available to the transmitter is different from that available to the receiver, resulting in some areas where the repeater can be 'heard but not worked', and vice versa.

An advantage of the two-antennae arrangement is that the receiver antenna can be fitted with a low-noise mast-head pre-amplifier, to overcome the cable loss (about 4 dB to the upper antenna). This can result in an improvement in the system sensitivity, in the absence of too much on-frequency RF noise.

3. DIPLEXER

A diplexer provides an alternative to having two separate antennae. It provides a method of sharing one antenna and one feeder between the transmitter and receiver.



There are several types of diplexer, but all share the following characteristics:

- (i) low loss between transmitter and antenna ports at the transmit frequency (<2 dB);
- (ii) low loss between antenna and receiver ports at the receive frequency (<1.5 dB);
- (iii) good isolation (high loss) between transmitter and receiver ports at both the transmit and receive frequencies (about 85 dB at each frequency).

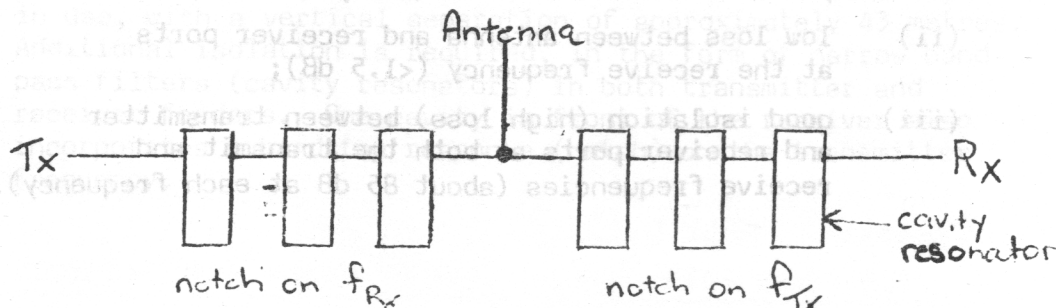
Characteristics (i) and (ii) are obviously necessary for operation. If we had a perfect transmitter, which did not produce any output except on its designated frequency, and a perfect receiver, which did not respond to any RF energy outside of its receive passband, then (i) and (ii) would be sufficient. Unfortunately, our equipment, although very good, is less than perfect: the transmitter does generate some noise on the receive frequency (perhaps as much as 110 dB below the carrier power), and the receiver can be overloaded by too great a signal on the transmit frequency (say anything greater than a power level of -15 dBm, or about 50 mV - possibly as high as ϕ dBm, 220 mV).

For a 50 W transmitter then, the isolation required must reduce 50 W (+47 dBm) to -15 dBm, i.e. 62 dB on the transmit frequency.

The transmitter noise level is 110 dB below 50 W, i.e. -63 dBm. Now a signal level of 1 μ V into 50 represents -107 dBm. Thus 44 dB of isolation on the receive frequency is required to reduce the transmitter noise to 1 μ V, and 64 dB to reduce it to 0.1 μ V. (For interest, the D.O.C. specification RB 207 requires emissions removed by 50 kHz or more from the carrier frequency to be not greater than 2.5 μ V, i.e. -24 dBm; obviously equipment which just met this specification at 600 kHz would not be suitable for use in a repeater!).

Consequently, characteristic (iii) of the diplexer is very important.

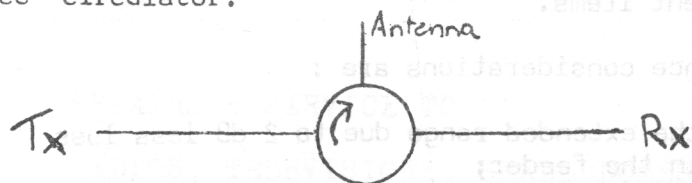
A prominent commercial diplexer uses cavity resonators, configured as band-stop filters, and is known as a Notch Diplexer.



For example, the AEA model 6D4-145 provides 85 dB of isolation in both transmit and receive legs (at f_{RX} and f_{TX} respectively), with a loss of 1.2 dB in both legs.

Note that the notch diplexer provides no bandpass filtering, and additional bandpass filters will be required at congested (RF-wise) sites.

Other elements used to make up diplexers include circulators, which may be either ferrite devices, or constructed from precisely cut coaxial cable - the hybrid ring, or so-called 'rat-race' circulator.



The circulator provides low loss between any two ports in the direction of the arrow, i.e. Tx-antenna, antenna to Rx, with high loss (25-30 dB) between adjacent ports counter-clockwise, i.e. Rx-antenna, Tx-Rx. Further notch or bandpass filters are required in the Tx and Rx legs to make up the remainder of the isolation required. Note that any deterioration in the VSWR seen at the antenna port (e.g. due to ice build-up on the antenna) will reduce the Tx-Rx isolation.

SYSTEM CONSIDERATIONS

Although it often 'goes against the grain' to consider introducing an extra 2 dB or so of loss into any system, consideration of a diplexer versus two antennae must take all factors into account. Cost factors to consider are :

- (i) the capital cost of a diplexer;
- (ii) the maintenance cost of an extra antenna and feeder in an exposed situation;
- (iii) the rental for an extra antenna (not charged at present, but a possibility in future).

A straightforward economic comparison has shown that, assuming a lifetime of 20 years for the diplexer (not unreasonable for a piece of static equipment), and assuming that each antenna and feeder may have to be replaced every 5 years (certainly not unreasonable for Mt. Wellington), the present value of the total costs are \$2161 if a diplexer is used, and \$2044 if two antennae are maintained. This accounts for material only - no account is taken of time and effort to install the replacement items.

Performance considerations are :

- (i) the extended range due to 2 dB less loss in the feeder;
- (ii) the uniform Tx and Rx coverage in the case of a single antenna;
- (iii) the greater reliability when only one antenna and feeder has to be maintained.

ANDREW BOON
VK7AN

Southern Branch : NOTICE OF MOTION

At the April meeting a motion was moved by Andrew, VK7AW and seconded by Harvey, VK7HK that :

"The Southern Branch commit \$1600 and freight to purchase a diplexer for repeater 2".

This motion will again be put to the Southern Branch meeting on 2 June 1982.



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FT-7	\$380	Used.
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POWER SUPPLIES:

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PS 30 20 amp	\$180	Used.
HK-4 2 amp	\$ 35	Used.

OTHER NEW EQUIPMENT:

AT 230 Coupler	\$195
LSG 16 Sig. Gen.	\$145
ICSM2 701 Mic.	\$ 45
MC10 Kenwood Mic	\$ 23
MC35S " "	\$ 31
YE7A Yaesu Mic	\$ 18
ICBP4 IC2A Pack	\$ 10
ICDC1 IC2A Pack	\$ 20
ICLC3 Case IC2A	\$ 8.80
PL 259 Acme	.50¢

2 METRE TRANSCEIVERS:

IC22A	\$170	Used.
IC21A	\$150	Used.
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ROTATORS:

CROWN CAR 24	\$ 99	New.
CDE Big Talk	\$ 99	New.
EMOTATOR 103 LBX	\$180	New.

ICMB6 22S Mount	\$ 29
ICMB5 701 Mount	\$ 26
ICFA2 2M Ducky (IC2A)	\$13
SS-2 2M S/steel 1/4 Wave	\$ 5
6JS6 Valve	\$ 11
6KD6 Valve	\$ 11
6146B Valve	\$ 14
12BY7A Valve	\$ 5
7360 Valve (Used?)	\$ 15
C32-25 Reducers	.20¢

YK 88 CN 270 Hz Filter TS 530S etc.	\$ 53
FRG-7 DIG. DISPLAY - 3 Segment	\$ 79
T 25 25 W Dummy 3-500 Mhz.	\$ 16
XTALS Ref. last QRM (GTX 3325)	\$ 3
TH3 JNR. BEAM 20-15-10 Metrs.	\$320

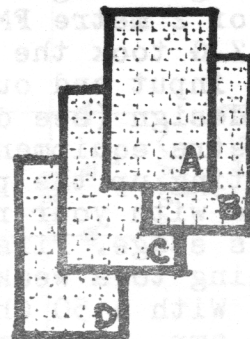
USED:

ROBOT SSTV Fast to Slow	\$600
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LOGIC PROBLEM

These playing cards are in a pile, one on top of another, face down. There is a 3, an 8, a 10 and a Jack and each one is of a different suit.

1. The bottom card is a club.
2. The next-to-the-bottom card is the highest value.
3. The club is not the lowest card in value.
4. The 8 is one of the red cards.
5. The card directly under the diamond is higher than a 9.
6. The spade sits directly on top of the heart.



SOLUTION TO LOGIC PROBLEM - (April Issue)

Tom is from Hobart (clue 2) Mike's not from Sydney (3), Canberra (5), or Perth (7) so he must be from Melbourne, and is running 400W (5).

The yagi is Peter's (1). The rhombic is 30W so it can't be Jim's who runs 150W (6) or Mike's who we know runs 400W. Nor is it Tom's from Hobart (2) so it must be Bill's and it is he who has a rhombic and 30W.

Peter is not from Canberra (1) so he must be from Sydney which leaves Canberra as Jim's home and 150W output. Peter from Sydney hasn't 80W (3) so he must have 200W which leaves Tom from Hobart with 80W.

Jim doesn't have a vertical (6) and nor does Mike (3) so that must be Tom's antenna. As Mike hasn't got the G5RV (7) he must have the quad and the G5RV must belong to Jim.

NAME	LOCATION	ANTENNA	OUTPUT
Bill	Perth	Rhombic	30W
Jim	Canberra	G5RV	150W
Tom	Hobart	Vertical	80W
Peter	Sydney	Yagi	200W
Mike	Melbourne	Quad	400W

VHF PRE-AMPS. VK7ZAR

J310 preamp was developed by VK7ZDF for radio telescope use and adopted for 2 metre use, firstly for the Hobart repeater. This preamp was a two stage device with 12 Volts A.C. fed up the cable to power the preamp.

A single stage design (see detail) is now in use in a lot of 2 metre FM equipment.

VK7ZJG took the design and by changing the LC ratios on the input and output coil produced an excellent 6 metre design (see detail) and a number are in service in 6 metre equipment.

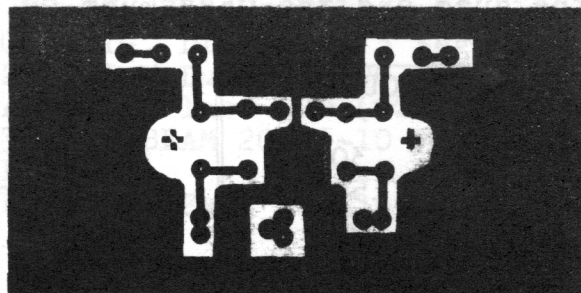
Setting up the preamp is simple - connect the amp in line with your receiver but do not power up the amp at this stage. Firstly tune the output coil while listening to a weak signal. The peak will be quite sharp. With a 50 Ohm termination connected to the input of the amp, again receiving a weak signal, tune the input coil for best signal. Power up the amp and re-peak the coil for best signal to noise ratio. The tuning will be quite broad. If no peak is found, adjust the coil by either stretching or cramping the winding.

The preamp has limited gain but excellent signal to noise ratio and will improve even the best of receivers. Older valve receivers will not benefit to the same extent but it certainly will improve them as well, although a two stage design would provide more gain.

The circuit has also been adopted for commercial use on 4 metres with great success.

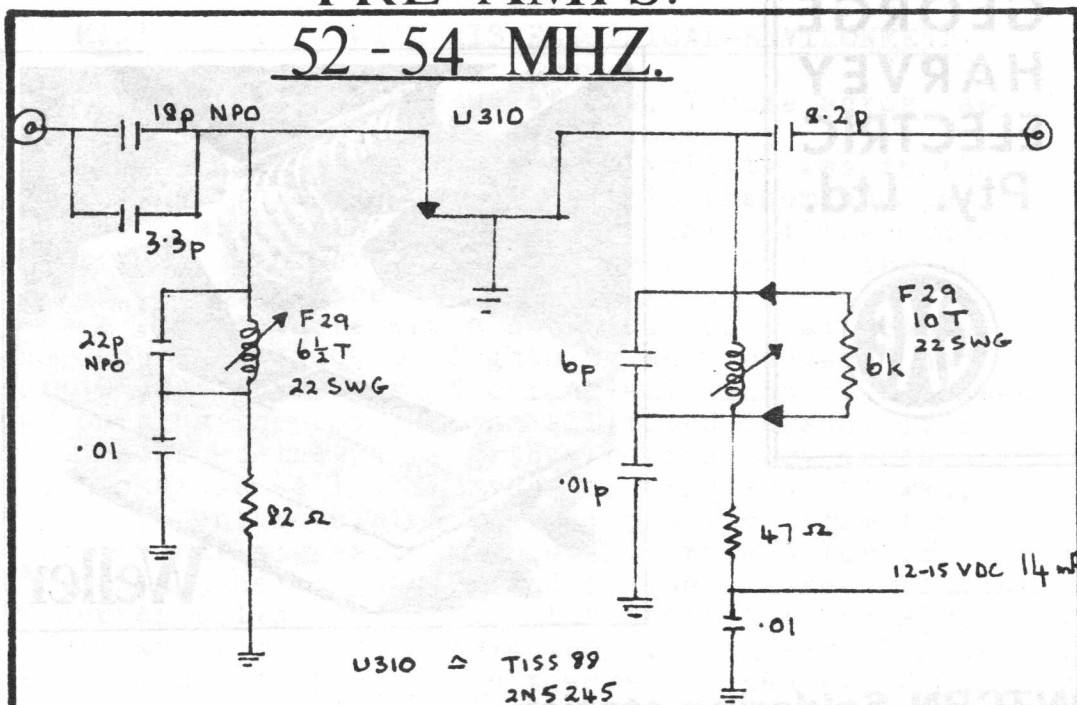
While a board is not necessary, the layout shown will give excellent results.

David, VK7ZOT reports success on 6 Metres using TISS 88 Fet and others could be used with some variations in performance.

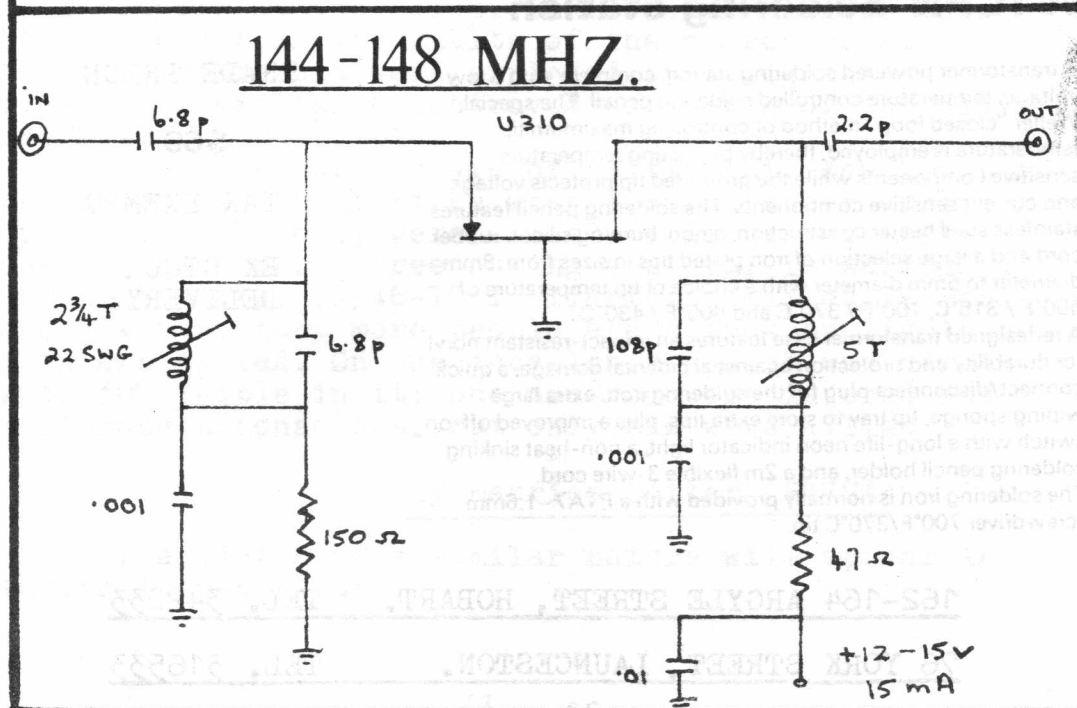


by A. Ruthven.

PRE-AMPS. 52-54 MHZ.



144-148 MHZ.



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MAN'S CONTACT WITH HIS ELECTRICAL ENVIRONMENT

While reading a 1956 issue of A.R. I came across an interesting item which is as follows;

Man's first contact with electricity was in the form of lightning, and fear of this phenomenon is still widespread in modern times. Some of the oldest records of this were found in the ruined cities of Tigris and Euphrates dating back to 3000 B.C.

In France there was a superstition that people who had been struck by lightning and recovered had for 40 days the power of curing all kinds of diseases by touching the body of the afflicted person. It is also recorded that during this period they touched his pocket as well. In Europe and England it was, for many centuries, the general practice from the time of Charlemagne to supplement prayers for protection against lightning and by the vigorous ringing of church bells to ward off the demons of the air.

It was reported in 1874 that in 33 years lightning had struck 386 church towers and had killed 103 bell ringers at the ropes. In 1769 one hundred tons of gun powder in the vaults of the church of St. Nazaire in Brescia were exploded by a lightning flash. The explosion destroyed one sixth of the city and killed 3000 people.

During the early stage of settlement, New South Wales met with misfortune when several sheep arriving by the first fleet, were killed by lightning while sheltering under a tree during a storm. In Australia, during 5 years, (1946-1951) lightning killed 19 men and 2 women. Many more people are struck by lightning than are killed. On one occasion a church was struck with 300 people in it; one hundred were injured and most made unconscious, but only six were killed.

by Maurice Potter VK7SA

Further articles of a similar nature will appear in future issues of QRM.

FOR SALE

KENWOOD TS-820:

TS 820: Good condition. D.C. Converter, C.W. Filter, Noise cancelling mike. \$750 VK7NWR 444089.

KENWOOD TS-520S:

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Transmitter/ receiver; Receiver covers 160-2Met. with full 10 Metre coverage, the new 10 Mhz. band and an FM demodulator.

Transmitter covers 80-10 Metres and is currently modified to novice power but can be converted to full power if required. Price \$400 ono. Contact VK7NOX (002)439948 or VK7MM (004)254526.

YAESU FT 620B:

6 Metre transceiver 50-54 Mhz. USB, LSB, AM, CW. V.F.O.: 240 V AC or 12 V DC operation. 20 W PEP output with U310 Rx pre-amp, xtal calibrator and two fixed channels installed. Mic. and handbook. Good condition. \$320.

MR 15A - A.W.A. 52.525 Mhz. Carphone - valve. Handbook included. \$25.

H.B. 6 & 2 Metre Linear Amplifiers combined in one unit, separate 6/40 valves for each band. Drive required 2-3 watts. Carrier operated relay or manual control. 750 V power supply for above in separate box and several spare 6/40 valves - condition unknown. \$180 ono. the lot.

John VK7ZJG (002) 438114.

KENWOOD TS 820S:

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SOLUTION TO LOGIC PROBLEM (This Issue)

- Card A - Three of Spades.
- Card B - Eight of Hearts.
- Card C - Jack of Diamonds.
- Card D - Ten of Clubs.

NOTES FROM OUR NORTHERN SCRIBE - Robin Harwood VK7RH.

Our meeting in June will be on the 11th. of the month, and our Annual Auction will be held. It is at the Kings Meadows High School upstairs at the end of the corridor in the Sewing Room at 7.45p.m. In July we are planning a tour of the local TNT9 studio complex.

On the weekend of June 12th. to 14th., there will be a major WICEN exercise to help provide communications for the Police and SES, as well as other groups allied with Search & Rescue. Field Headquarters will be at Storeys Creek. The club call, VK7NB will be used. Communications will be primarily on 2 metres on 146.5 simplex and on the proposed Snow Hill Repeater on Channel 6900. I also believe that there will be a portable repeater also on standby. There is also the provision of a link back to Police Headquarters via VK7ZGA who will relay Repeater 6 onto a 52Mhz. frequency, and also for the station at Police Headquarters to communicate directly with the field via this 6 metre link to Repeater 6. This exercise will be continuous for 60 hours and will be monitoring all the channels in operation, so there will be a need to keep accurate loggings.

We were very saddened to hear of the deaths of Terry Connor VK7CT and Ian Nichols VK7ZZ. The sympathy of the Northern Branch is extended to their families at this time. They will certainly be missed on the air.

Until next time, 73. VK7RH.

When purchasing items from our advertisers please remember to mention that you saw their ad. in QRM as it is their advertising which keeps your magazine going.

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QSL BUREAU NOTES

Points to remember when preparing QSL cards;

- When logging in UTC (GMT) remember that the date does not alter until 10.00a.m. local time (11a.m. Daylight Saving Time).
- To be accepted for awards a QSL card must indicate that a QSO has actually taken place. Many VK7 cards do not meet this requirement, so it is suggested that when having new ones printed, they show the words 'confirming two way QSO ' or similar.
- Please sort your cards alphabetically, by prefixes, before handing them in to the QSL Bureau. Those for U.S.A. and Australia into call areas and all the U.S.A. prefixes sorted together under 'W'.

When having cards printed, do not choose a heavyweight type of card and make sure they are no larger than 140 x 86mm - the size of the box drawn around this item. Outward cards larger than this will not be accepted. They weigh more, do not fit in a standard size envelope and will not pack easily in bulk with others, resulting in damage to your card.

The charge for outward cards is 2c each (non-members 6c). Sheets of 100 stickers are available from branches, QSL officers and the Bureau for \$2 and one of these stickers must be affixed to each outward card, except those from members for other VK stations as these are handled free of charge.