

THE PROPAGATOR

THE MONTHLY NEWSLETTER OF THE
ILLAWARRA AMATEUR RADIO SOCIETY
A MEMBER SOCIETY OF THE WIRELESS INSTITUTE OF AUSTRALIA

Published by the
Illawarra Radio Amateur Society
P.O. Box 110
DAPTO 2530

NO. 2/76

FEBRUARY 1976

NO. 2/76

PRESIDENT:

Keith Curle VK2ZYI
24 Beach Drive
Woonona 2517
Phone: 842469

SECRETARY:

Ian Bowmaker VK2ZJA
15 Akuna Street
Keiraville 2500
Phone: 292158

NOTICE OF ANNUAL GENERAL MEETING

Members are advised that the Annual General Meeting of the Illawarra Amateur Radio Society will be held at the Wollongong Town Hall Committee Rooms on Monday, 8th March 1976 at 7.30 p.m.

NOTICE OF GENERAL MEETING

Members are advised that the next General Meeting of the Illawarra Amateur Radio Society will be held at the Wollongong Town Committee Room on Monday, 9th February 1976.

AGENDA

- 1) Apologies and welcome to new members and visitors.
- 2) Minutes of previous meeting.
- 3) Correspondence.
- 4) Financial Report.
- 5) General Business.
- 6) Raffle.
- 7) Lecture.

Moonbounce Report-February 1976.

The December EME tests provided a first contact with W9GAB whose signals peaked at 6dB over noise. A further contact was made with K2UYH (to 11dB over). A few words were copied of his SSB under conditions of deep fading, using 2.1kHz bandwidth.

During the subsequent European test period approx. 8 hours later, contact was made with F9FT (to 6dB over) and PA/SSB was heard calling us but no contact was made. A final check of our echos revealed that the dish was pointing $2\frac{1}{2}$ degrees off the moon. Heavy cloud had prevented visual checks overnight and insufficient correction had been made at the start of the second test period for relative angular velocity between moon and the original sun reference hour angle, hence lower than normal signal from F9FT.

As verbal approval was received in December to allow EME transmissions between 432.000 and 432.050MHz on a strictly non interference basis, the Drake 2B I.F. channel receiver was modified to allow remote shifting of its calibration oscillator frequency. This provides measured offset from WWV at 15MHz, as a reference on its 100kHz xtal harmonic at 432MHz. for adjustment of xmit freq.

The January tests were another allnight effort but results more than compensated for lost sleep. First contacts were made with WISL (on our 10th attempt!!), K4TLM, W0YZS who called us in our 1hr. CQ period, and finally with JA1VDV (the 1st VK-JA UHF contact) on our first attempt!! This contact was on 432.045MHz and illustrates the need for xmit. frequency change capability as 432.000 is usually not available in Japan, being a national FM calling frequency.

The European test period some 5 hours later produced contacts with F9FT and I5MSH. ZE5JJ was heard again, but he had a receiver preamp. problem and could only give us a 'T' report. Heavy rain at both ends did not help in setting up for this one.

The proposed 70cm. Bandplan as related to EME activity.

Simultaneous activity on several frequency channels is now becoming not unusual during EME test periods. Doppler shift of $\pm 1\frac{1}{2}$ kHz. max. plus SSB bandwidth requirements are now clearly demonstrating the inadequacy of the proposed 10kHz. segment for exclusive EME operation.

The day is rapidly approaching when ham stations operating here in VK with 150watts input and beams with 15-18dB gain on 70cm. will be capable of causing QRM to stations in Europe and America working over the EME path on the same frequency. This is because the moon has to be near the horizon for long (earth) distance EME contacts and the sensitivity of EME receivers is such that very low level signals can be a problem as QRM. (The current receiving system at VK2AMW has a threshold sensitivity of -154dBm or 0.004 microvolts.) Antenna gain has, of course, nothing to do with the achievement of this sensitivity. The VK station causing the interference may not be able to hear any trace of the EME station being QRMd.

It is of interest to note that the only other mode of 70cm. operation which covers international contacts (satellite mode) has been provided with a 3MHz wide segment in the 30MHz wide (in VK) band.

Hence 50kHz from 432.000 to 432.050MHz is suggested for exclusive EME work.

There are a number of other very good reasons now becoming apparent as to the need for a much wider segment of the 70cm. band being allocated for exclusive EME operation, but the above may be of some interest to those hams who have not had UHF operating experience.

FOR SALE - - FOR SALE - - FOR SALE.

For Sale. Heathkit DX 60 B AM Transmitter.
Seperate VFO and seperate SWR meter.
Complete with Manuals.
S. BREMNER, 203 Princes Highway, KIAMA.

For Sale. Still available -- ex VK2AMW Repeater.
ATE PLESSEY unit. 19" PMG type rack mounted.
All valve transmitter and receiver.
Modified for old Channel 1 , 2 metre band.
less crystals, but complete with power supply
and control chassis and cavity filters.
No speaker or microphone.
\$ 20. O.N.O. for I.A.R.S. funds.
Contact Graeme VK2AGV or Ian VK2ZJA.

BILL-DIT RAFFLE.

The Bill-Dit Carphone Raffle was drawn at the December General Meeting. The lucky winner was Graeme East who held ticket number 017. Congratulations Graeme.

Our sincere thanks to Bill Calvert VK2DJ for his efforts in assembling the unit.

February General Meeting.

It is hoped that we will have a film available for the meeting - on the subject of research projects carried out during Space Missions - recommended as being well worth seeing.

An item for general discussion at the meeting is the possibility of relaying the W.I.A. N.S.W. Division Broadcasts through our Channel 6 Repeater.

The usual meeting night raffle will be held - the prize is a 4 function electronic calculator; another worthwhile item which can be put to good use in the Shack.

REPEATER -- REPEATER

The Committee has been most grateful for the receipt of several donations of cash towards the running costs of our repeater. The current running costs amount to about \$ 10 per month, in addition to a great deal of voluntary work and donations of parts and equipment.

We are pleased to hear the use that the repeater is being put to. Any further help by donation would be gratefully accepted.

ANNUAL GENERAL MEETING....ELECTION OF COMMITTEE

The AGM of the I.A.R.S. is to be held on 8th March 1976.

At this meeting the election of Committee for '76-'77 will be held.

The committee comprises 10 positions, as follows-

President, Vice President, Secretary, Treasurer,
Area Officer, Newsletter Editor, Publicity Officer,
and 3 committee men.

All of these positions will be declared vacant and nominations will be called for to elect the new committee.

We ask that each of you look at your talents -- in what capacity would you be able to contribute towards the running of your society? It is appropriate to quote the old question - " what can I do for the I.A.R.S. rather than what can the I.A.R.S. do for me ? "

The members of the present committee have each found their respective jobs of great interest and have been rewarded by the great increase in Society activity during the last year. We would like to see this increased activity continue to grow, but to do this we need some new faces and some new ideas .

We therefore ask that you give some thought during the next month towards taking a more active part in the running of your Society, so that when the call for nominations is made there will not be the usual silence.

Ian. VK2ZJA Secretary.

WHAT IS THE WIRELESS INSTITUTE OF AUSTRALIA

The Wireless Institute of Australia, to give it its full name, is really a combination of eight separate self-governing bodies which are registered companies under various State Corporate Affairs Acts.

Each of the eight bodies has its own Constitution and Rules. In practice many of them have Constitutions which are almost identical to one another having been devised nearly 30 years ago in the form of a Uniform Divisional Constitution.

In each State there is a Wireless Institute of Australia as well as one in the ACT. Each one is known as a Division and looks after amateur radio affairs within the State where it has its headquarters. All the headquarters are in the capital cities except Tasmania which has a special Constitution of its own and three branches within the State.

Every member of the WIA is a member of a Division — ordinarily the one of the State in which he lives. The Federal Wireless Institute of Australia has seven members — the Divisions — but is not itself a Division. The Federal WIA in its present form was set up by the Divisions and came into being early in 1971 to do those things which the Divisions, by agreement, authorised it to do — almost wholly those things which were Australia-wide or which were international and external to Australia.

The Federal WIA has its own Constitution and is registered in Victoria where it has its headquarters so long as the headquarters of the Radio Frequency Management Branch has its headquarters here. Its name is "The Wireless Institute of Australia" as distinct from those registered in the various States and ACT which are named "The Wireless Institute of Australia, Victorian Division", "The Wireless Institute of Australia, New South Wales Division", etc.

The affairs of the Federal WIA — let us call it the WIA to save words — are controlled by the Divisions acting together in

the Federal Council. This Federal Council is made up of a representative, called the Federal Councillor, from each Division. Normally the Federal Council meets once each year at the Federal Convention.

The day to day affairs of each Division are managed by a Divisional Council (commonly of 10 members) which is elected by the Divisional membership annually.

The day to day management of the WIA is done by the Executive assisted by a number of sub-committees. The members of the Executive — six altogether — live in Victoria but are not members of the Federal Council. The Chairman of the Executive is the Federal President and he is usually the Chairman at Federal Conventions. The members of the Executive are elected at the Federal Convention.

When the WIA was formed the Federal Council (i.e. each Division's Federal Councillor) decided that, as it had been agreed by all the Divisions that there was a great need for a central office function, Central Office must take over, on behalf of the Divisions, all the work involved in subscriptions and membership records. Thus it came about that the Executive office does this work (through EDP) as well as acting as a central point for the Federal Councillors and a host of co-ordinating and other work in the Federal sphere.

In broad terms the Executive carries out the policies laid down by the Federal Council and it is also responsible for the small Executive office in Toorak which is managed by the Secretary of the Company.

The Executive is also responsible for publishing the journal "Amateur Radio" which is wholly owned by the Federal Council. In practice, AR, as we call it, is managed by a Publications Committee under the control of the Editor. This Publications Committee also looks after the publication of the Call Book and the Mag-pubs operations.

Because all the executives of the Insti-

tute at Divisional and Federal levels are volunteers, it is only natural that the paid staff of the Executive office is called upon to perform a wide range of duties, including ghost writing, exchange of information at all levels, preparation of reports, briefs and so on, much of which would have been done by the various executives themselves if they had formed part of a commercial organisation. The Secretary arranges interviews with Government officers and other persons and normally is in attendance for the purposes of co-ordination. He also attends Federal Council, Executive and other WIA meetings, all of which ensures a continuous pool of knowledge, documentation and information to facilitate the operation of the WIA.

Channels of communication by individual members are direct to their Division unless some special subject requires otherwise — for example subscriptions to Executive office, comments direct to a Federal body, etc. If you write to the Executive office about Divisional matters (for example, membership grading) delays will occur because your letter will be sent to the appropriate Division to deal with.

The central WIA's Executive is assisted in its day to day work by a number of Federal sub-committees or persons expert in specialised fields. The Publications Committee is one, the Project Australis Group, VHF/UHF Advisory Committee and Federal Repeater Committee are others.

Other fields are covered either by "Co-ordinators" at a central level — Intruder Watch, YRCS, EMC — or "Managers" — Federal Contests, Federal Awards, Federal QSL, SWL Awards. Additionally, there is the Federal Historian and the IARU Liaison Officer. In theory all these sections correspond with their Divisional counterparts but there is considerable flexibility depending on the subject.

Next month we will examine various matters in greater detail.

The above article has been reproduced from

AMATEUR RADIO, January, 1976.

Although this Society is no longer a branch of the W.I.A., we are continuing a close association with the NSW Division of the W.I.A.. It is desirable for ALL amateurs and prospective amateurs to be members of the W.I.A. and we would like to see 100% W.I.A. membership in this Society.

Membership application forms are available from the Secretary.

Ian, *VK2ZJA.

VHF CONVERTERS and other kits from 6UP

28/52MHz

\$ 11 !
INC. P&P

A simple, versatile, high performance converter that is easy to construct and align and has a choice of IF frequencies. The converter exhibits high gain, low noise figure, low spurious responses and good cross-modulation characteristics. A bandwidth in excess of 3MHz is easily obtained. A very popular converter. Dual-gate MOSFETs are used in the RF and MIXER stages.

IF.....by choice
GAIN.....better than 20dB
BANDWIDTH.....better than 3MHz
 at -6dB points,,
 less than 2db
 ripple.
NOISE FIGURE.....2db approx.
SPURIOUS RESPONSES.....better than -50dB
SENSITIVITY.....0.25uV for 10dB S+N/N
 or better

144MHz

\$ 14 !
INC. P&P

Another simple, high performance converter. Low noise figure, good cross-modulation and overload characteristics together with low spurious responses, high gain and a choice of IF frequencies make this an ideal converter for two metres, no matter which end of the band you use. A bandwidth of 1MHz, or 350kHz peaked, is easily obtained without instability. Alignment is simple and no neutralization is necessary. Dual-gate MOSFETs are used in the RF and MIXER stages.

IF.....by choice
GAIN.....better than 20dB
BANDWIDTH.....at -6dB points,
 350kHz peak aligned
 1MHz broad banded.
NOISE FIGURE.....2.5dB typical
SPURIOUS RESPONSES.....better than -60dB
SENSITIVITY.....0.25uV for 10dB S+N/N
 or better

432/576MHz

\$14
INC. P&P

Australia's only surviving 432MHz converter kit. Originally designed in 1969 by VK5QZ, with recent modifications by VK6SS and 6UP, this converter is simplicity itself. Construction and alignment are simple, requiring no special tools or instruments. The converter has good band width, low noise figure and a choice of IF frequencies. The well-known TIS88 is used in the RF and MIXER stages.

IF.....28MHz or 52MHz
NOISE FIGURE.....4dB typical
BANDWIDTH.....4MHz typical at
 -6dB points
SENSITIVITY.....1mV for 10dB S+N/N
 or better

marker generator

\$7 INC. P&P.

A versatile, high performance marker that accepts crystals in the range 50kHz to 3MHz and produces strong harmonics through 1296MHz from a 1MHz crystal or through 432MHz with a 100kHz crystal. Stability determined by the crystal.

6UP SHOP

**P.O. BOX 283
RYDE 2112 NSW**

All printed circuit boards are fibreglass. All kits are designed to run off a 12.V. supply nominally and will work at voltages + or - 3.V. from this (with modified performance). Data given is performance of prototype and can be regarded as typical. Kits are supplied complete with all minor components. Coax sockets, crystals, crystal sockets etc. not supplied.

COMPONENTS FOR SALE

GREENCAP CONDENSERS 100V

.0047, .01, .022

8c each

.047, .1

12c each

METERS

1. S Meter 400 uA movement, calibrated in S units
1 to 9 and 10 to 40 over S9. Cutout size $1\frac{5}{8}$ " x $5\frac{5}{8}$ " \$2.50
2. Level Meter This is a dual movement meter indicating
L and R level. Each side from -20 to +3. Each movement
is 200 uA F.S.D. The dual scale is translucent, for
illumination from the back. Very pretty. Cutout size
 $1\frac{7}{8}$ " x $1\frac{1}{2}$ ". Probably the same as the meter used in an
Electronics Australia mixer/preamplifier project a few
months ago. Only two left. \$3.00
3. 0 - 1mA Meter A standard 2" square meter. \$4.00
4. 0 - 1mA Meter A standard 3" x 2" meter. \$5.00
5. 0 - 10A Meter A standard 3" x 2" meter. \$5.00

RESISTORS

Bags of 130 $\frac{1}{2}$ W resistors plus 4 Greencaps.

10 each of 13 values : 22, 47, 82, 100, 470 ohm

1K, 2.2K, 10K, 22K, 47K, 100K.

\$3.00 per bag

Greencaps 2 - .1, 2 - .0047, .01 or .022 to bring
cost of resistors down to 2c each and still make a
round \$3.

NEOSID CANS

Single cans.

9c



PO BOX 110
DAPTO 2530

MR. L. PATISON VKZALU
98 HEASLIP STREET
MOLLONGONG
2500
96



CHECK IF INVOICE
ADVISE WRITER