

# THE WIRELESS INSTITUTE OF AUSTRALIA

## TASMANIAN DIVISION

BOX 851J, G.P.O., HOBART.

JUNE 1966

M O N T H L Y      B U L L E T I N

PRICE 5c.

PRESIDENT: Mr. T. Allen  
VK7AL

TREASURER: Mr. C. Connor  
VK7CT

SECRETARY: Mr. C. Russel-Green  
VK7CR

Registered at G.P.O., Hobart, for transmission by post as a periodical.

### EDITORIAL

This month if you chaps are lucky (?) I might tear myself away from baby-sitting and, more important, 80 metre "DX" (all the way to vk3!) and write something. I'll even give the Editors editor a rest and do the stencils myself, so the resultant pages, in all probability un-readable (I've never cut a stencil before) must be credited or dis-credited to me. Whew...

Casting aside levity; further on you'll find a summary of the Federal President report, and at our last southern general meeting portions of the Geneva Report were read. From these two reports the following fact becomes clear. The danger of losing our operating frequencies is a very real one. There are 129 governments which take part in the proceedings of frequency allocation conferences and each one has an equal vote. Currently, there are only 64 IARU societies which means that the IARU represents only one-half of the countries who cast a vote in the ITU. Encroachment by commercials into amateur bands is more than serious now. What will it be in a few years? Every one of us must play his part in keeping the bands filled. If nothing else give a test call. Only constant use of the amateur bands will preserve them in the all-too-near future.

73's.....Anne VK7LY.

ARE YOU

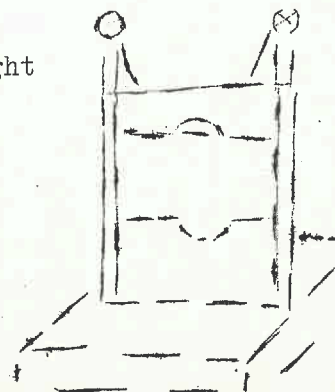
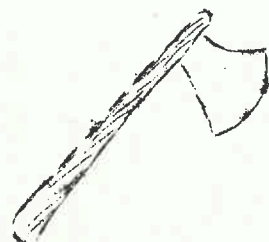
F I N A N C I A L ? ? ?

if not, this is your

F I N A L N O T I C E .

The next Council meeting will be the night the axe DROPS! If you are temporarily embarrassed please - don't hesitate to advise your Treasurer who will suspend the execution.

OTHERWISE.....!



MEETINGS FOR JUNE.

JUNE 1st Headquarters General Meeting. 147 Liverpool St., 2000 hrs.  
 7th North-West Zone Meeting. Lakins Hall, Ulverstone. 2000 hrs.  
 10th Northern Zone Meeting. Adult Education Rooms, 51 York St., Launceston.  
 15th V.H.F. Group Meeting. Club rooms Hobart 2000hrs.  
 20th Council Meeting.

Lectures.

Headquarters General Meeting. This lecture will be replaced by a discussion on the proposed Federal Constitution. Members are urged to attend this meeting in order to put forward their views at the discussion.

Other Meetings. As I have received no notification of any lectures for other meetings, I presume there will be none. (Editor.)

On behalf of the VK7 Division of the Wireless Institute, we extend every sympathy to the wife and family of Peter Cordell in their recent bereavement.

Lee Gunther wishes to advise that he can obtain some very good American publications at wholesale prices. Titles appear below, together with prices. If you wish to order any contact Lee at 76 VIEW ST., Sandy Bay.

|                                                                |         |
|----------------------------------------------------------------|---------|
| Radar - Principles and Practice.....                           | \$ 3.22 |
| Transistor Specifications and<br>Substitution Handbook .....   | \$ 1.27 |
| Receiver Tube Specification and<br>Substitution Handbook ..... | \$ 1.27 |
| Transistor Select-a-spec .....                                 | \$ 2.57 |
| Diode Select-a-spec .....                                      | \$ 1.92 |
| Semiconductor Circuits Handbook Vol I. ....                    | \$ 1.92 |
| " " " Vol 2 .....                                              | \$ 1.27 |
| Selected Semiconductor Circuits .....                          | \$ 0.82 |

SUBSCRIPTIONS.

The following subs. are acknowledged up to 18 - 5 - 66. These are in addition to the list published last month.

R. Mutton, J. Knott, T. Berwick, R.C. Milne, D. Berry, S.R. Cooper, E.D. Long, C. Frisby, A.I. Bedelph, G.R. Crompton, R. Wilson, I. Ellings, R.L. Davis, R. Jones, K.M. Kelly, R. Balfour, B.R. Waldron, J. Kerr, R.A. Geeves, T. Barnes, L. Pretty, D. McDonald, T. Connor, E. Bevis, G. Johnston, B. Muir, M. Jenner, Mrs. M. Jenner, W.L. Dowl, R. Harwood, S. Medford, R. Nichols, D. Whent, D. Johnston, D.H. Fisher, H. Hiscutt, H.A. Wright, D.H. Waldon, R.H. Waldon, A.R. Jackson, D.C. Brooks, H.J. Bracken, F. Richards, G. Groves, W. Emmett, J.H. Schuringa, P. Frith.

Heartiest congrats. to Audrey and Dave ( VK7ZAY ) on the arrival of their daughter. Another YL operator for the future Dave?

EXTRACTS FROM FEDERAL PRESIDENTS REPORT. APRIL 1965--MARCH 1966.

The following extracts are taken from the report presented at the 30th Federal Convention of the Wireless Institute of Australia, held in Brisbane over Easter.

".....One of the largest projects undertaken by the executive of the Federal Council of the W.I.A. in many years has been the almost complete re-write of the Handbook for Operators of Radio Stations in the Amateur Service. At the time of wite writing this report, there remains only the resolution of one or two problems, and I am confident that these will be resolved to our satisfaction in the near future. It is true to say that we have not acheived every advantage we would have liked in this re-write. There has been the necessity to give a little as well as take, but the net result will be a Handbook devoid of many of the ambiguities and unrealistic restrictions which have " bugged " the Amateur Service for years.

So far back as I can remember, there have been instances of direct action by Divisions and/or individuals to obtain approvals from the Department to engage in some activity which currently is not covered by the general regulations under which the Amateur service operates, or to bring about some change in existing conditions due to exigencies of one kind or another. Such direct action has generally resulted in refusal and by the time the matter has reached Executive level, a great deal of damage in relationships has resulted and your Executive has at times been placed in an embarassing position. I WOULD THEREFORE STRESS MOST STRONGLY, THAT THIS TYPE OF PROBLEM BE DIRECTED TO YOUR EXECUTIVE. This is one of the major reasons for its existence; to speak for the amateur at the proper level.

The Youth Radio Scheme is doing an immense amount of good with young people and many students have passed and received the various certificates throughout the year. I believe the YRS to be one of the most powerful influences in which the Institute should participate fully. Not only does it interest young people in a hobby, but it also serves a most useful purpose in a section of the normal educational system.

Operations in contests is a valuable training ground for amateurs who, at some time, may be called upon to serve in the communications branches of the Australian Defence Corps. As contest activity is on the downwards trend, it may be well to take a look at the situation to find out why. Are we tired of contests? Are there too many contests? Are our contest rules too complicated? Is our publicity not good enough? Or is it that we just can't be bothered? Whatever the reason, I believe corrective measures must be taken, for not only does it provide training measures, but it also provides band occupancy, a matter which vitally concerns all countries in which amateur radio flourishes because it assists materially in the preservation of our frequencies.

The most vital matter in any club, society or institution is its membership. Although not spectacular, I am pleased to report that according to figures available there has been a modest increase in membership in all divisions except VK4 which showed a decrease of 34 members February '65 to '66. Of a total of 5082 licences now issued in the Commonwealth, it is interesting to record the comparison between full and limited licencees:-

( Continued next page.)

## EXTRACTS FROM FEDERAL PRESIDENT'S REPORT. cont.

| <u>DIVISION</u>   | <u>FULL</u> | <u>LIMITED</u> | <u>TOTAL</u> |
|-------------------|-------------|----------------|--------------|
| New South Wales   | 1331        | 348            | 1679         |
| Victoria          | 1106        | 429            | 1535         |
| Queensland        | 496         | 144            | 640          |
| South Australia   | 488         | 192            | 680          |
| Western Australia | 260         | 107            | 367          |
| Tasmania          | <u>127</u>  | <u>54</u>      | <u>181</u>   |
| Total             | <u>3808</u> | <u>1274</u>    | <u>5082</u>  |

From the above figures it will be noted that the limited licencees comprise nearly 25% of the total licences issued. If the decline of applicants taking the C.W. test proceeds at the present rate, I can only see grave danger ahead for the future retention of the bands 3.5mc/s to 30mc/s. I believe, therefore, that Divisional councils should vigorously campaign to encourage the holders of Z calls to take the morse code test.

The future of the Amateur Service all over the world is far from being as secure as individuals might think, and the Institute will require far greater funds in the future than it currently holds if it is to successfully represent the Amateur Service in the Australian section of Region III. For this reason I believe that the funds accrued by the Executive in its trading activities, should be used for major future projects such as Region III conference of I.A.R.U. Societies and other activities of this nature.

Activity by amateurs on all bands appears to have shown an upward trend other than in contest participation. This is probably due to gradual improvement in the sunspot cycle conditions which are reported to be climbing out of the "trough".

Two certificates for short wave listeners were completed this year; the SWL DXCC AWARD and the HEARD ALL VK CALL AREAS ( HAVKCA ) Award. After all the complaints aired by SWL's at the delay in producing these awards, it is rather disheartening to find that to date only two applications have been made for the DXCC award and none for the HAVKCA.

The Publications Committee continued its usual efficient team work in publishing Amateur Radio, and it is interesting to note that the magazine received credit in an R.S.G.B. publication.

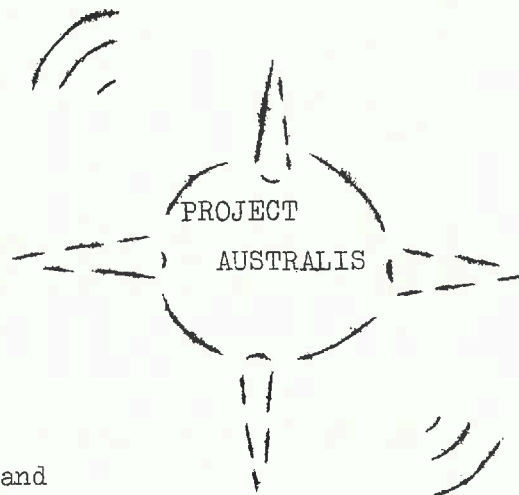
You will find in the near future that due to the high failure rate of applicants sitting for Departmental exams., these examinations (including Amateur certificates) will be held only twice yearly.

As Federal President of this Institute I am more than happy to know that the I.A.R.U. is rising in defence of the amateur service, and it behoves this Institute to back the I.A.R.U. effort with everything it has.

Thank you,

## TECHNICAL.

Towards the end of 1966, it is hoped that the first Australian-built satellite will be launched. This satellite is a joint venture of the Wireless Institute of Australia, the Melbourne University Astronomical Society, and the Melbourne University Radio Club ( MUAS and MURC ), and will be built by members of MUAS and MURC under the guidance of the W.I.A., which is providing finance for the project. Technical advice and testing facilities are being arranged with the Department of Supply, and companies in Australia will be asked to donate components. The launch is being arranged by Project Oscar Inc., California, U.S.A.



When launched, Australis is expected to go into a circular, near-polar orbit 500 miles high. Provided the package is ready for shipment to USA in September a launch could be arranged before Christmas. The committee of Project Australia will appropriate funds to the engineers as well as making decisions concerning the project.

The command system comprises an H.F. and V.H.F. beacon. The command system for the former is classified information, as close control is desired over the high powered beacon, but the latter is commandable by any amateur station capable of radiating about 1 kw. e.r.p. This V.H.F. beacon will control some telemetry function to be decided later by the Australis Committee. There will also be a receiver in the two metre Amateur band.

The H.F. beacon will be commanded by three primary tracking stations around the world. With a power of 250mw in the 10 metre amateur band, it will send C.W. with the greeting of the V.H.F. beacon gated in every 10 secs.

The satellite will be capable of eight channel telemetry, sequentially sampled. Each channel will be 10 secs. of A.M. (square-wave) data, and channels will be :- temperature, pressure, voltage, horizon sensors and greeting. The greeting will be VK in morse. Output will be nominally 50mw. in the two metre band; the frequency of audio modulation is a measure of parameter.

An all aluminium construction 17" x 12" x 6" and weighing a maximum of 36 lbs. will hold this equipment. Four quarter-wave whips of spring steel will be folded into the package until it is released from the launching rocket into orbit. The satellite will be oriented by a magnetic stabilizing system; black and white strips will control the temperature to a nominal 20 degrees C. The battery will be 1.5kwh. capacity at 18v.; two to three months supply.

In conclusion. Remember - Australis is an amateur radio satellite. All VK amateurs are invited to participate when it is launched.

STOP PRESS.

The following progress report has been received from H. Hepburn, Federal Vice President.

(cont. next page)

## PROJECT AUSTRALIS (cont.)

After the Federal Convention, a meeting with the lads from MUAS was arranged and a time schedule worked out for the whole operation, based on the assumption that a launch would take place at the end of the year. When time was allowed for testing (in the USA by the Oscar people), transport to the States, testing at WRE and testing at the University, it was apparent that the "package" would have to be complete by mid-July. In April, a report on the progress of the unit showed that the 2 and 10 metre transmitters were already developed and prototyped, four of the eight telemetry channels had been prototyped, and the "VK" keyer and command receiver were still on the drawing-board. It was emphasised to the group that they were working to a tight schedule, and a formal fortnightly progress meeting was arranged.

A balloon flight had been arranged to test the four channel telemetry system, and on Sunday 1st May, this test flight took place. Ignoring as irrelevant some problems (the met. balloon valve did not function and the balloon burst at 100,000ft. instead of maintaining this height for a period as was intended) the test was reasonably successfully completed. After about one hour, the system locked onto one channel, and from data, this appears to have been due to battery failure. Those in authority are reasonably certain that this system is a "goer".

On Sunday 15th May, another balloon flight was scheduled to test the 10 metre transmitter, (no info. available. Ed.) and around the 25/26th May, Tonkin and Mace were to visit WRE, Salisbury, to obtain the latest information on methods of construction, preferred components and test facilities available.

THATS ALL. START AGAIN!

A FEW HINTS

(adapted from VK4 Bulletin.

by Syd Carter )

## Transistors.

If you have no duckbill pliers or flat longnose type, or the ones you possess are not suitable for use as a heat-sink when soldering transistors, try this.

Procure an alligator clip, utilux type Ma47 - this is a long nose type with an extended back lug to slip over test prod. Find a scrap of copper or brass about 14 gauge, and shape to fit on the end of the clip, each jaw. Finish about  $3/8$  and  $1/4$ " wide and hard solder to nose of clip. If you want handles get a piece of  $1/8$ " or  $3/16$ " brass welding rod and stick 'em on the back.



Another tip with transistors - leave lead as long as possible. When mounting do not bend sharply, just roll the leads round at an angle.

Another handy tool for removing hard-to-get-at components. Get an extra bit for your soldering iron - flatten the point, and gash the now flat end using a junior hacksaw blade, for about  $3/16$ " lengthwise. Spread slightly with a screwdriver, clean and tin in the usual fashion. You now have a handy tool to remove and lift up bent pigtails of components. Use the same as a soldering iron.

If you have any hints that you have found useful and/or think you can better the above - lets have them. we are always looking for a simpler way to do things. ED.

# THE MONTHLY BULLETIN OF THE WIRELESS INSTITUTE OF AUSTRALIA

JUNE 1966

TASMANIAN VHF SUPPLEMENT

by Anne 7LY

## MAY MEETING ( ANNUAL GENERAL MEETING )

The May meeting of the VHF group produced a very disappointing roll-up with only 10 members or so, and resulted in the election of the following officers.

|                            |                                        |
|----------------------------|----------------------------------------|
| President.....VK7LY        | News Officer.....VK7ZFL                |
| Vice-Presidents.....VK7ZAO | Research Officer.....VK7ZAS            |
|                            | VK7ZTM VHF Bulletin Officer.....VK7ZAV |
| Sec/ Treasurer.....VK7TX   | A.R. Correspondent.....VK7ZMD          |
| Broadcast Officers         | 6 metres VK7ZMD                        |
|                            | 2 metres VK7ZJG                        |
|                            | 6 & 2 metres VK7ZAV/ 7LY               |

## GENERAL NEWS.

Quite a lot of building activity and repair work going on down south at the moment. Tim, 7ZTM and Phillip, 7ZPT, have both been hard at work on their 6 metre rigs and at last appear to be winning. John, 7ZJG, I believe is building a CRC, while Dave, 7ZMD is in the throes of building a common mod./power supply eventually to supply his 6 and 2 metre and 432 meg. transmitters. He plans 30 watts on 6 & 2, and probably slightly less on 432. By the way, Dave's friend Barry, 7ZBJ, from over the fence is off air due to failure (?) in the final. Our VHF detectives are convinced it's sabotage!

Mike, 7ZMC is having modulation troubles (in more than one way) and in fact, appears to have lost his upper sideband - hope it's not too long before the damage is repaired Mike.

Sandy 7ZFL and Roger 7ZSD are at present touring VK2/3, having deserted the Apple Isle for warmer climes; while Winston, 7ZAP hopes to soon desert the Upper Spectrum for the DC bands along with quite a few others. Believe the CW progress has been pretty good so here's to the full call-signs-to-be.

Wilf 7ZAQ has apparently found a source of that necessary stuff, AC, (he needs his car for travelling) and hopes to be operational from Burnie soon. Len, 7BQ is hale and hearty, and active on 6 & 2 metres, and partly operational on 432 mags. Reg, 7RL is back at work after hols. and hopes to tour VK2/3/4 mobile on 6m. in August.

### 6 METRES

Bob, 7ZAA is reported to be building a mobile unit for 6 metres, while Bob, 7KZ also hopes to be mobile soon. Roger 7ZSD reports hearing Hobart stations after the Broadcast on Sunday May 8th, from Mt. Barrow. All stations heard were R5, S6-8; Hobart boys are asked to keep an ear on the band for any calls from the North.

### 2 METRES

George 7XL is now operational on this band while up to the time of writing, Kevin 7ZAH had been maintaining regular scheds. with VK3ZER at East Geelong. VK7ZAG was heard on 2 metres the other day after a long silence, so we hope Berridale will once again appear in our log-books along with the other suburbs. VK7KW is now active on 2, and 7ZAY is now heard regularly on the CW roundup. Winston, 7ZWN now has 2m. gear down here, but at the moment is trying to invent an antenna that will support itself in mid air with no feed line needed!

