

THE WIRELESS INSTITUTE OF AUSTRALIA

TASMANIAN DIVISION

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

DECEMBER 1963

MONTHLY BULLETIN

PRICE 6d

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VK7AL

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VK7CH

SECRETARY

Mr. K. Spiegel
VK7KS

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GENERAL MEETING.

The next monthly meeting of the Division will be held in the Club Room, 147 Liverpool Street, Hobart, on WEDNESDAY, 4th December 1963 at 2000 hours.

The lecturer for the evening will be Mr. Michael Coles and his subject "12 volt DC - 240 volt AC Transistor Converter"

NORTH WESTERN ZONE

The next meeting of this Zone will be held in Lakin's Hall, Ulverstone, on TUESDAY, 3rd December at 2000 hours.

NORTHERN ZONE.

The meeting this month will be held on FRIDAY, 6th December at 102 Charles Street, Launceston, at 2000 hours.

Please note that this is a week earlier than usual to enable arrangements to be made for a proposed Christmas so cial.

FEDERAL COUNCILLOR.

Congratulations to Ted Cruise VK7EJ on his re-election unopposed as Federal Councillor for the ensuing 12 months.

FEDERAL CONVENTION.

Now is the time to consider items for inclusion in the Agenda for the next Convention to be held this coming Easter. Send them along to the Federal Councillor without delay.

PRESIDENT'S REPORT ON HAMFEST. by VK7AL

Our second post-war Hamfest has passed and for those who were unable to attend for reasons best known to themselves I am very pleased to report that the function was again highly successful.

Attendance total was 47 members made up of South 31, North 11 and North West 5. Count of cars on the Sunday was 34.

The VHF Hunt and a "Name the Voices" contest was held together with an impromptu general meeting. The contests were both won by Geoff D'Emden VK7ZAS. A raffle was won by Mrs. Den Kelly and a VFO presented by Ian Nichols VK7ZZ was won by R. J. Geeves.

Prizes for the Contests were presented by Philips Electrical Industries Pty. Ltd., 73 Brisbane St., Hobart, and our thanks are hereby extended to that firm for the donation.

The "Name the Voices" was a tape made and arranged by Jack Batchler VK7JB.

My thanks go to those who made the week end a success by attending and also to those Council members and friends who toiled so hard to arrange the details for the Hamfest and make it a complete success. We now look forward to our 1964 Hamfest.

COUNCIL MEETING.

The next Council Meeting will be held at the residence of our President, on MONDAY, 16th December at 1930 hours.

I. T. U. FUND.

This month donations from VK7SK, VK7AI, VK7ZAL, VK7DC, VK7ZBR and VK7JD are acknowledged with thanks.

Amount received to 18/11/63 :

Northern Zone	£3
North Western Zone	4-10- :
Rest	35-14- 5d
Total	£43- 4- 5d

Our request last month for an indication of how much we may expect to receive at a later date has at least shown us that we cannot count on anything from voluntary donations, as not even one member bothered to reply. It appears that we now have no alternative but to make a levy next year on all members except, of course, those who have already contributed.

OUR INSTITUTE by VK7ZZ

Our Institute is what we make it, and there are those amongst us who do more than their share in making our Institute what it is, and our sincerest thanks go to them for their excellent work. Just to mention a few examples without wishing to hurt those omitted. The Secretary and the line of his predecessors, the Federal Councillor who gives up each Easter for our sakes, the Broadcast Officers, and Councillors spend many hours a year over and above attending meetings open to all in the pursuit of Institute business.

Might I suggest that each of us give our Institute even four hours a year - just one morning - then our Division would certainly progress much faster. Service can be in many forms. Not all of us are suited to construct gear for charitable bodies, not all of us can run a library, not all of us can organise a hamfest or similar function, not all of us like fox hunts or field days, but surely most of us could help to make a cup of tea and wash up the cups after a meeting and sweep the club room, as an example of service.

Think it over chaps and see in what way you can help our Institute.

COUNCIL NOTES by VK7EB

Your Council met at the Club Room on 18th November, all members being present. Business of general interest was as follows : Membership. Reported by our Legal Officer that the legal limit of membership in the Division has been raised to 300. New Members. Two applications for membership were passed for submitting to General Meeting, one of which was from Mr. L. Gunther, exW6. Welcome to "Down Under" Lee and we sincerely hope you take out a Licence whilst in Australia. 144 mc/s Allocation. It has been decided on an International basis to allocate 144 - 146 mc/s for world wide amateur use, whilst in Region 3 144 to 148 mc/s. Publicity. The VK4 Division is negotiating with the appropriate authorities in U.S.A. with a view to displaying the Oscar satellite in the Capital Cities of Australia. One does not have to have much imagination to foresee the publicity potential possible. Advice to Associates. That piece of surplus or home built gear in your shack- TRANSMITTING EQUIPMENT I mean - I know it looks nice, probably works FB too, but it isn't worth being confiscated plus a heavy fine. DON'T BE TEMPTED - GET YOUR LICENCE BEFORE YOU USE IT. My suggestion is make the transmitter section inoperative, then you won't be foolish.

CLUB ROOM FUND.

Our thanks to Ian Nichols VK7ZZ for his donation of a VFO unit which was raffled at the Hamfest. By some stroke of good fortune it was won by Ian himself, immediately donated back to the Institute and was then raffled again. As a result of this the funds benefited by £5- 9s/-. Balance of this fund is now £26-14- 1d.

BULLETIN

Any material for inclusion in next month's Bulletin must be in to VK7CH no later than December 9th. Owing to the holidays it will be necessary to get it out earlier than usual.

The President and Council extend to all members and their families best wishes for the Christmas Season and for the coming year.

TECHNICAL.

30 WATT "DO IT YOURSELF" DC/DC CONVERTER by T. Allen VK7AL

Following details of a possible plentiful supply of Ferrite cores from defunct EHT TV transformers and the sale of some 2N301 transistors by the Disposals Committee (all sold - CH) it was decided that something should be done regarding putting both of these together to provide a cheap, efficient power supply for portable/mobile use. Transistorised supplies are not new, but to be able to "do it yourself" gives a great deal of satisfaction - if you are that way inclined of course !

The story is as follows : Carefully strip down the transformer so as not to finish with too many pieces of ferrite - it is a very brittle substance and needs a little care in handling. One or two heavy thumps generally results in more pieces than you can reasonably use.

Cut two 2" end cheeks in thin bakelite and cement firmly to former kindly provided by the transformer maker. This gives you maximum winding space as you can work right over to the cheeks and not have your winding slip off the edge. The primary winding is not bifilar wound and in order to make it a little easier it was decided to use 2 strands of 20 B & S side by side for each half of the winding, instead of trying to bifilar wind two strands of about 14 B & S. Result is a few more ends but a lot less effort. The feedback winding is just an ordinary single layer centre tapped. The secondary winding will consist of a number of layers each paper insulated and depending on what voltage you want to obtain these layers will be a lot or a few. Rectifier system can be half wave, full wave, bridge, voltage doubler or what have you.

A few resistors and condensers are added for despiiking, bias and to allow for characteristics spread in the transistors.

Now to business : Take about 30 feet 20 B & S and fold in half. Leave about 6" protruding from one end cheek and holding both wires flat wind on 30 turns, cut wires and feed through hole in other cheek. Now we have two starts and two finishes to half the primary labelled S1, F1, S2, F2. Next repeat above with remaining wire giving two more starts and finishes labelled S3, F3, S4, F4. This is important as we must connect the S and F correctly to get our winding correctly phased (See diagram) The remaining windings are quite straight forward. For the feedback winding take 30 feet 25 B & S and wind on 15 turns, make centre tap and wind on further 15 turns. Secondary : 29 to 34 B & S ratio approximately $2\frac{1}{4}$ turns per volt. 400 turns gives about 180 volts RMS.

The circuit shown works well and if you don't hear 1500 cycles when you apply 12 volts reverse either the secondary ends or the feedback ends (NOT BOTH) It should then sing along gaily.

Results from the first "mock up" were :

Secondary : 378 turns 31 B & S (all I had!!) 420 is suggested.

Voltage : Output 275 @ 80 ma. 305 @ 20 ms.

Input 12 volts @ 2.4 Amps (Max)

Efficiency: 76%

Tests: 6 volt input 135 volt 35 ma. 8 volt input 135 volt 50 ma
10 " " 230 " 65 " 12 " " 275 " 80 "

You will note the same transformer and circuit will operate through a large variation of input voltage. For rectifier I used a voltage doubler circuit.

Remember : (i) Insulate transistor from heat sink with thin mica sheet.
(ii) It is not recommended that the unit be operated on "no load" for too long.



