

THE WIRELESS INSTITUTE OF AUSTRALIA

TASMANIAN DIVISION

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

November 1962

MONTHLY BULLETIN

Price 6d

PRESIDENT

Mr. T. Allen VK7AL

TREASURER

Mr. C. Harrison, VK7CH

SECRETARY

Mr. K. Millin VK7KA

GENERAL MEETING

The next monthly general meeting of the Division will be held in the Club Room, 147 Liverpool St., Hobart, on WEDNESDAY, 7th November, at 2000 hours, the lecturer for the evening being Mr. J. Brown VK7BJ and his subject "Crystal Filters".

H A M F E S T

SATURDAY and SUNDAY, 24th and 25th. November 1962

The organising committee report :

On the property of Mr. J. B. Muirhead, 6 miles from Campbell Town on the Cressy Road, right at the bridge over the Macquarie River. Proceeding from Campbell Town the gate is about ten feet from the bridge on the left hand side of the road.

Be in it, come along and meet the folks from the other Zones. Bring your XYL and the kids, and any visiting hams from other Divisions. Registration of those attending will begin at 1100 hours on Saturday 24th. November. Bring along your mobile gear, direction finding devices, whether on HF or VHF. Also bring along any gear you wish to sell or swap. It is hoped to have some disposals gear for sale also. There will be a prize for the mobile station making the greatest number of contacts while mobile to the Fest, and numerous other activities at the function.

Ample wood is available, plenty of water in the river, fishing for licensed anglers, plenty of trees for hanging antennas, ample space for erecting tents either for eating or for sleeping. If you prefer accommodation, you can make your own arrangements either with the hotel or motel in Campbell Town at less than £2 per head for the night. There will definitely be a barbecue on the Saturday night, make sure you have the right food and utensils to make this event a great success. If you cannot be present throughout the Hamfest, then come for some of the time, whether it be Saturday or Sunday. We hope to see you there.....VK7ZZ

This is the Division's first big effort of this type and we confidently look forward to having a good roll up of members from all over the State. The site was chosen as being one of the most central to enable all members to attend.

NORTHERN ZONE

The next meeting will be held on Friday, 9th November at 73 George Street, Launceston, at 2000 hours. There will be a lecture and demonstration on "TV Test Equipment" by Mr. Geoff Crompton.

NORTH WESTERN ZONE

The next meeting of this Zone will be on TUESDAY, 6th November at Larkins Hall, Ulverstone, at 2000 hours.

COUNCIL MEETING.

The date, MONDAY, 19th November. The place, at the residence of Mr. Alan Morrisby VK7MY at Sandford.

CLUB ROOM FUND

Social Evening. Congratulations to the Fund Raising Committee who have handed in £11- 8- 8d profit from the social evening held on September 29th. This is an excellent result as the attendance was very poor. As is usual with club functions of this nature the same few stalwarts were there - without their support the Club Room Fund would indeed look sick. Of a membership of around 90 within a few miles of Hobart, only 9 full licencees, 2 limited and 2 non members, with a lady guest each were all that bothered to come along. No associates were present, and only one representative of the younger members although it is these who will benefit most in the future from the club room. Surely there must be some activity in which they are willing to participate to help the Institute. Let the committee have your ideas or suggestions. We are working with a very worth while object in view and it is up to every member to do his bit.

VHF NOTES

The Jamboree of the Air went off very well as far as the two metre link was concerned. One very good lesson was learned, however, that our time and effort would have been better spent on a field day or a DX hunt. One of the number of alternative methods available of collecting the information from the H.F. stations will have to be used next year.

The forthcoming convention near Campbell Town will be a good opportunity for VHF exponents to get together to discuss techniques and some members are busy working on portable and mobile gear for the various activities which are being planned by Dave Berry and Ted Cruise. A really enjoyable weekend is assured.

Some new gear is in the process of being fixed up. Reg and Wilf will have a new 20 watt 2 metre mobile completed. Ian 7ZZ's 2 metre gear is nearing completion and Dave Berry 7ZAY is putting the finishing touches to a 6 metre converter and transmitter. Other gear is on the top secret list.

The next VHF meeting will be held on Wednesday November 21st and the lecture will be on VHF Direction Finding Equipment by Barney Watson VK7ZAK.

CLUB ROOM FUND.

For Sale. In aid of Club Room Funds. Mr. R. Rogers VK7ZAN has very generously donated a Gorler coil turret type SR358 to be disposed of in aid of the fund. This turret, of German manufacture, is a beautiful piece of gear for anyone wanting to build a general coverage receiver. 5 bands : 500 to 1650 kcs, 1.62 to 5.25; 5.15 to 8.1; 7.9 to 12.25; 12 to 19 and 13.8 to 30 mc/s. IF frequency is 460 kc/s. Turret, variable condenser and dial drive, 3 I.F. transformers and 5 octal sockets mounted on chassis. Instruction book (in German!). If you are interested send an offer to the Secretary by Nov. 19th.

Donation. We acknowledge with thanks a donation from Mr. E. Nichols VK7RY
Transmitter Hunt. This exercise planned for Sunday 11th November has been cancelled following the announcement of the University examination time table. Examinations begin on the 12th November, and as a result, many prospective participants have indicated that they will not be taking part in the planned hunt.

R.S.G.B. AMATEUR RADIO HANDBOOK.

Provided sufficient orders can be obtained from members, we can obtain a substantial reduction in price by ordering in quantity. So if you want a copy send your name together with 35s/- to the Secretary by November 19th. The cost to you will depend on the number of copies ordered. If we can get 50, your 35/- will cover it, but in any case it should not exceed 40/-, which even then is a saving of about 15s/- on local price. Cash is necessary as we have to pay when ordering.

WILL THOSE WHO PUT THEIR NAMES DOWN AT A RECENT MEETING PLEASE LET US HAVE THEIR 35s/- OR THEY WILL MISS OUT.

It is unlikely that this offer can be repeated due to the difficulty in getting enough members again to qualify for the discount, SO BEST YOU GET ONE NOW.

This is an excellent publication, on the lines of other well known handbooks, but in my opinion is the best of them all. Stiff cover, 544 pages. For further dope see page 14 "Amateur Radio" for July last.

Order form on page 6.

TECHNICAL.

ETCHING QUARTZ CRYSTALS. Compiled from various sources by VK7CH

Etching, as applied to crystals, is a process whereby quartz is removed from the crystal by a chemical reaction between the quartz and a suitable fluoride etchant, and is normally accomplished by immersing the crystal in a solution of water and ammonium bifluoride for a controlled period of time. In the early stages of the oscillator unit fabrication etching is used to reveal the presence of twinning in slabs bars or rough-cut blanks. In the final stages of fabrication etching is employed to remove disoriented surface quartz and other debris, to stabilise the surfaces, to minimize ageing and to adjust the blank to the desired frequency.

By this method the frequency of most crystals can be increased quite easily and with far less work than by grinding them down, and it does not appear to affect the activity of the crystal. A convenient way to prepare the solution is to use a plastic cap found on many bottles etc. Mix two capsful of the ammonium bifluoride and five of water, but as the acid so formed is one of the strongest there is, and will even affect glass, it must be mixed in a container of plastic. This container may be cemented to a plastic saucer or similar to lessen the risk of knocking it over. Stir the mixture with a plastic rod until all the ammonium bifluoride crystals are dissolved. Clean the crystal with carbontetrachloride before commencing the etching. The method used by VK7KA is to make a little "bucket" from a plastic thimble with holes drilled in it and a handle made of the plastic covering from a length of hook up wire. The crystal is placed in this bucket which is then suspended in the solution. To remove for a frequency check it is a simple matter to lift the bucket out of the solution, take the crystal out with a pair of tweezers and dry with a tissue. Just dab it dry, do not rub it with the tissue as this will sometimes lower the crystal a few cycles, but it does not remain low.

The rate of erosion varies with different crystals and will decrease as the surface becomes smoother, so it is a case of try each one and find out. The initial rate would probably not exceed 10 to 20 kc/s per hour. When a large increase in frequency is necessary it could be left to soak overnight. The crystal should be removed at intervals and the frequency checked in a suitable oscillator, but take particular care when nearing the desired frequency.

EXTREME CARE SHOULD BE TAKEN IN HANDLING THIS VERY DANGEROUS SOLUTION, AND UNDER NO CIRCUMSTANCES SHOULD IT BE ALLOWED TO COME IN CONTACT WITH THE SKIN. If it should wash it off immediately with plenty of water. The solution can be kept for future use, but rather than have it lying around the shack and a potential source of danger, discard it by pouring it down the drain, flushing with plenty of water. Wash out the container in running water, and mix a new batch next time you want to use it. If you must keep it, store carefully out of the way, preferably close to the floor so that if it should be spilled it won't spill over you.

Finally a hint to save you time when checking the frequency. Make a gadget just big enough to take a FT243 holder out of a fairly stiff piece of brass or aluminium (See Fig.) After reassembling the holder, instead of wasting time with the three small bolts that keep it together, just slip it into this gadget which will keep the whole lot in place. When nearing the desired frequency it would probably be wise to do the job properly and use the bolts.



Ammonium bifluoride does not appear to be readily available from retail sources here, but if enough members are interested we will obtain some for distribution. Let the Secretary know. It is quite cheap and enough to do a lot of crystals will only set you back a few shillings.

TRADING POST

FOR SALE.

AR7 Receiver with coil boxes covering 160 m - 30 mc/s. Needs a little lining up but in fairly good condition . . . £30 or nearest

50' crank up triangular steel tower in 10' sections and fitted for rotating mast at top. 1000 lbs breaking strain wibe rope. .£25 or near

Double stacked phased array with Channel 2 reflectors . . . £15

Contact Mr. D. Slowan VK7MS. Glenbrook, Spreyton.

WANTED

Wanted to buy or swap 1 pair of low impedance headphones with canvas headband. Mr. P. Corby VK7ZAX 44 Congress St., South Hobart

FOR SALE

12 tube ham band receiver. Eddystone dial B.F.O. Plug-in coils.

In good condition. Spares .. £25. H.F. tabletop transmitter in steel case G eloso 6 band VFO, 3 meters, 6L46 final, all new parts, less mod. tranny, mod. and final tubes and power supply ...£25. Brand new 6L46 valve .. £3. Set of tapered galvanized iron full sized 20 metre beam elements. May be inspected at VK7ZEE QTH at Otlands. Transport arranged....£10. Quantity of 3/16" dia. 72 ohm coax. cable 2s/- per yard. Set of 12v tubes for "Command" receiver...25s/-. Mr. N. Fisher. VK7ZEE, 2 Blackwood Ave., West Hobart. Phone 31037 or 20511 Ext.313.

ADVERTISEMENTS IN BULLETIN.

Members are reminded that there is a charge of 2s/- for each advertisement - for sale, wanted, etc. - inserted in the Bulletin. This charge goes to the Club Room Fund. If a sale results there is commission of 10% with a maximum of 10s/- on each item, but in this case we have to rely on the seller of the article to send along the commission.

DISPOSALS

All members are probably aware that no disposals gear has been available in Tasmania for some years as it is all sent to the Mainland for disposal. However we have now arranged with the Victorian Division Disposals Committee to share in future purchases they make. The first list of gear supplied by them is enclosed with this Bulletin, and it is hoped that more will be available periodically. However, and this is important, it depends entirely on you as to whether the scheme can continue. Unless the demand warrants it, we will have no option but to scrap the whole thing. The Victorian boys have been good enough to take over the extra work of sorting out the items we want and then pack and despatch it, and it also means extra work for the Disposals Committee members here.

Prices are as arranged with the Victorian Division, which in most cases are well below what you would have to pay elsewhere. We have to pay freight from Melbourne so occasionally we may have to increase prices a little on bulkier items.

We will have to ask country members to pay postage or freight or preferably arrange to have it picked up for you if you are not in Hobart yourself. Items ordered by country members from this month's list could be taken to Campbell Town on November 24th. if they so desire.

So now you have the story and remember unless you support us we'll be back where we were - with nothing. IT'S UP TO YOU NOW.

JAMBOREE OF THE AIR.

We wish to thank the following stations for their help in the Scout Jamboree of the Air held on 20th and 21st October 1962, namely from the North Western Zone: VK7AI, VK7SF, VK7RN, VK7KH, VK7MX. From the Northern Zone: VK7DK and VK7JF. From the South: VK7CT, VK7FJ, VK7GV, VK7JB, VK7EJ, VK7EB, VK7AL, VK7RX, VK7KS, VK7JO, VK7ZZ, VK7ZAO, VK7ZAQ, VK7ZAY, VK7ZEE, VK7ZAI, VK7ZIL. It is quite possible that some other stations may have participated, and if they did, then our thanks are extended to them too. Special thanks are due to David VK7ZAY for having so devotedly assisted at VK7WI following upon the issue of a special provisional licence to operate on the high frequency bands. Special thanks are also directed to Nev VK7ZEE for having controlled the 2 metre link in the South. Your efforts will be used, Neville, and quickly. If any Jamboree station has not yet furnished a log of its activities, whether by way of the link network, or by way of the Post Office, would you PLEASE forward your log now. The Scout Headquarters would like all logs by the first Monday in November. Please make our returns complete.

.....VK7ZZ.

DISPOSALS.

CRYSTALS.

The following additional frequencies are now available to financial members on the understanding that they are for their own use and not for resale. Orders on the attached form, together with remittance, to the Disposals Committee by November 19th.

<u>Item No.</u>	<u>Description</u>								<u>Price</u>
A1	Crystals in FT243 holders Each								6s/-
	3990	4095	4165	4175	4215	4280	4330	4340	
	4445	4635	4680	4815	4930	5090	5135	5180	
	5385	5397.5	5437.5	5587.5	5635	5645	5660	5687.5	
	5700	5730	5740	5815	5920	5955	6142.5	6235	
	6315								

Frequencies underlined are in short supply, in some cases only one is available, so better give second preference. Plenty of the others.

- A2 Crystals in FT243 holders for making lattice filters etc. Ten on any one of the following frequencies 10 for £2-10/-
- | | | | | | | | |
|--------|------|------|------|--------|------|------|------|
| 3885 | 3990 | 4165 | 4215 | 4175 | 4330 | 4340 | 4445 |
| 4930 | 5135 | 5180 | 5385 | 5397.5 | 5635 | 5645 | 5660 |
| 5687.5 | | | | | | | |

- A3 5 mc/s crystals in FT243 holders suitable for 3 x 3 circuit for 52-54 Mc band. These have been checked for activity on third overtone. Each 10s/-
- 5852.5(1) 5907.5(3) 5920(6) 5950(3) 5955(7)

Number available in brackets. Give second and third preference.

- A4 Four different frequencies in FT243 holders. Our choice 4 for £1

14000
8350
5.650
565 mcf
4475
8350
6

5920

12

DISPOSALS (Continued)

- B13 Pye co-ax.connector and Pye right angle co-ax connector 2s/6d
- B14 "Mixed Bag" contains 3 new wafer switches (3 pole 3 way 2 bank;
1 pole 2 way 2 bank; 4 bank miscellaneous including one ceramic,
long shaft); RF Choke and the following metal rectifiers :
Two ZAA599 half wave meter 10 ma, one ZAA598 full wave meter
5 ma (bridge), ZAA0618 half wave 50 ma 4 v, and one which looks
like 16 v. 50 ma. half wave. The lot 15s/-

There are a few odd items, not enough to advertise in Bulletin which
we will auction at the Hamfest.

The Secretary,
Wireless Institute of Australia,
Box 851J G.P.O.
HOBART

R.S.G.B. HANDBOOK

Please reserve me a copy of the R.S.G.B. Amateur Radio Handbook.
Cheque/Cash/M.O./P.N. for £1-15s/- is enclosed.

Address Name
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