



Bulletin issued by the Northern
Branches of the Wireless Institute
of Australia, Tasmanian Division

August 1977
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Tas. 7250

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MEETINGS

- Aug. 9th North West Branch, Lakins Hall, Ulverstone. 8 p.m.
Aug. 12th Northern Branch, 34 Burke St 8 p.m.

A.O.C.P. CLASSES

- Aug. 8th MODULATION SYSTEMS SSB Kings Meadows
Aug. 15th MODULATION SYSTEMS FM High School
Aug. 22nd INTERFERENCE Block B, room 35
Sept. 12th TEST EQUIPMENT AND MEASUREMENTS.

Y.R.C.S. CLASSES

YRCS classes are held every Tuesday (during school terms)
from 4 p.m. to 5.30 p.m. at
Kings Meadows High School, Block B, room 33.

CONTESTS

- Aug. 13/14 REMEMBRANCE DAY CONTEST
ATHOL JOHNSON MEMORIAL CONTEST
EUROPEAN CW CONTEST
Aug. 20/21 RAST SEANET WW DX PHONE CONTEST
SARTG RTTY CONTEST
Aug. 27/28 ALL ASIAN CW CONTEST
Aug. 19th Deadline for the September issue of Q R M

Q R M

NORTHERN BRANCH NOTES by MAC VK7CCC.

The monthly meeting of the Northern Branch was held at SES rooms on 8th July. 24 members and visitors were in attendance.

Treasurers monthly report was as follows;

Sales	\$ 212.00
Other Income	\$ 201.90
Expenses	\$ 117.00
Closing Balance	\$1056.50

Next month meeting will be at the NEW club rooms at 34 Burke Street, we look forward to a full meeting, a discussion by John VK7NJD will put you on the right road to buying a used car. John is an official vehicle test officer with the RACT.

Casey's Restaurant is the venue for the next Executive meeting on 5th August, a very good meal with very little talk, anyone else wishing to attend please contact me on 918288 ext.64 I'm sure members and XYLs will enjoy the night out.

Peter VK7PF advised that some test equipment will be available ex Hobart Airport, in view of an anticipated use of the club rooms at Burke St. a bid is being made for the gear for club use. He also advised that from 26th July Novices may use 28.2MHz to 28.6MHz. All Amateur activities will cease on the 27MHz band as from 26th July.

Congratulations to Tony VK7TP and Daniel VK7DA on achieving full call status, good luck with the DX.

Discussion took place regarding Mark Addison, Mark is paralysed and can only use a mouth stick. Tony VK7TP will be visiting Mark to ascertain if his interest in radio is towards Amateur or CB. A decision will then be made, depending on the outcome, as to what sort of equipment he will require.

Jamboree of the Air will be with us again shortly, Amateurs who have already agreed to take groups are VK7's, ZWW, HE, RH any others interested please contact Ed VK7HE.

Dates and times for the JayCees Careers night are as follows;

Preparation	25th August	9.30 a.m. - 5.00 p.m.
Pulic	26th "	7.00 p.m. - 9.30 p.m.
	27th "	11.30 a.m. - 9.30 p.m.
	28th "	1.00 a.m. - 5.00 p.m.

Thats all for now folks, 73 till next month

Mac VK7CCC

Q R M

NORTH WESTERN BRANCH NOTES by Wayne Gibson.

28 members attended the long July meeting at Lakins Hall, the meeting finished about 9.40, only a few items of importance were raised.

- 1) Insurance, it was decided to take out an insurance cover against loss or damage of the 2metre repeater and beacons located at Lonah.
- 2) The repeater is still being harrassed by JUMP IN QUICK JOHNIES and times itself out, so please ALL users would you slowly count to 5 before beginning your over. This will give the repeater a chance to sort itself out and any other user an opportunity to break in.
- 3) The Remembrance Day Contest and Athol Johnson Memorial contest are held concurrently on the second weekend in August. All members are urged to take part and submit logs. For details refer to the July A.R. issue and the Bulletin.
- 4) 1977 HAMFEST, the name is to be changed to TASMANIAN AMATEUR RADIO CONVENTION to further efforts to improve our public image. The actual date is still a little confused but make sure you have nothing on in mid to late November.

73 Wayne

The Editor, QRM

Recently I called a mobile station via repeater 8, in his reply to my call he asked "where are you ?", as I was at home on my 2 metre base rig I replied "home base" as I have done many times in the past. To my amazement he said " cut it out, you're at your QTH".

I was so taken back that I made no comment but decided to do some revision on procedure so referred to the handbook for Amateur Operators. It was very enlightening. I admit that I was wrong as I should have said Fixed Station, but if our friend cares to look, nowhere in that book will he find any reference to QTH. Maybe it is desirable to smarten up our procedure as there is plenty of scope.

Who calls CQ correctly ? How many call CQ on 2 metres? Insofar as an Amateur station is concerned there are only three types, Fixed, Portable and Mobile. There is no such thing as fixed mobile and it can not be called portable.

Referring again to the handbook, our learned aforementioned friend should have included in his call "operating mobile from Launceston". If he had done a little revision before making another operator feel small, this letter would not have appeared.

Rather empirical what !

Max Ives VK7MX

HF and DX notes by Col VK7LZ.

Conditions, like the weather, during July could have been better, however this is to be expected this time of the year, African stations which were reported as numerous last month, started to drop in signal strength towards the end of June and after the first week in July were practically non-existent.

The Palmyra Island/Kingman Reef DXpedition is now ancient history however they left VK's 7HL, 7BC and 7LZ one country less to strive for, one of their operators stated that their expenses was well in excess of \$10,000 and that the Palmyra stint alone 5200 QSO's and contacts from Kingman Reef would be far in excess of that number.

This month a much more sociable DXpedition is under way, as these notes are being written ZM7AT and ZM7MM are operating from the Tokelaus Islands using all bands 3.5MHz to 28MHz SSB and CW. One or other of these stations will possibly still be active as you read these notes.

Wake Island was also activated by WA6KWG/KW6 on the 15th July but this was a 14MHz SSB only effort and was of short duration.

The VK7 QSL manager, Snowy Harrisson VK7CH, has asked me to remind all VK7's to keep their cards to within the $5\frac{1}{2}$ " x $3\frac{1}{2}$ " limits, as Snowy said only one oversize QSL ruins the whole system.

One of the most frustrating things to happen to a DX operator is to hear DX he/she cannot work and a tune around 3.5MHz produced good strength signals on SSB from KL7, W, VE, KX6, 5W1 and ZM7 in just over one hour, however only ZM7AT listened down in the VK band and to work him you had to be able to use split frequency for a QSO.

Whilst 14MHz was generally down in July, 7MHz did show some improvement however W stations using CW around the top end of the band make it extremely difficult to work DX on SSB.

3.5MHz SSBSTATIONS HEARD

1000 to 1200Z - JA's, KX6, KL7, VE6 & 7, W (most call areas) and ZM7.

7MHz CW

0600 - 0700Z - ZM7MM, ZP5AL, FO8EX, G, HB, F and OK.

7MHz SSB

0600 - 0700Z - CEØAE, CT1QN, 3D2RM and 5W1AU.

14MHz SSB

0300 - 0400Z - HR3JJR, VE3HYU/SU, 6Y5HJ.

0400 - 0500Z - HB9QK, KJ6BN, TI2FF, WA6KWQ/KW6, YN1HN, ZK1AN, and 4X4BL.

0500 - 0600Z - CT1FL, EL3A, IKØJX, KG4SC, KS6FL, K1DRN/6CA, TU2GA, TG9HZ, VE8AM, XE1UF, XF3B, ZE5JJ, ZE6JP, ZE7JR, ZM7MM, ZS1CZ, ZS1OU, ZS2OM, ZS5LB, ZS5NV, 5X4JE, 5W1AU, 6Y5ID, 9H1FF, 9H1FG, 9J2WR.

0600 - 0700Z - CT4KR, HI8CDS, HI8GDR, HI8JAF, PAØALO, SV1AE, TU2GA, VKØCC, YN1HN, ZS3B, 3D2AZ, 9M8HG.

Q R M

HF and DX notes cont.

Nothing of note was heard on 21 or 28MHz. As you will observe listening is restricted to only a small portion of the day so help from other DXers would be appreciated.

QSL INFORMATION

CT2BB via W1EP	TU2GA via K9KXA
VE3HYU/SU via VE1RU	ZM7AT via WB6DXL
ZM7MM via W6FWX	5W1AU via W6KNH
EL3A Box 148 Greenville, Liberia	
FK8CR Box 544 Noumea, New Caledonia	
KG4AN Box 73 New York City, N.Y. 09593 U.S.A.	
W3HNN Box 73 Edgemont, Pennsylvania 19028 U.S.A.	
YB1AQ Box 10 Iasik, Java, Indonesia.	
XF3B Box 207 Cancun Island, Mexico	

73 Col VK7LZ

VHF notes by Joe VK7JG.

The most important event this month will be the R.D. contest on August 13/14th, DONT forget the Athol Johnson Memorial contest run in conjunction with the R.D., rules for this appeared in last months QRM and the Bulletin insert in A.R. You can use a R.D scoring contact as a scoring contact in the A.J.C., so if your VHF equipment hasn't been used for a little while now is the time to get it out and operating.

Several contacts were recorded on 6m during the month. On Saturday 2nd July the band was open for several hours although there were not many operators active. Allan VK4ZRF was worked, I heard VK4ZBE but did not work him and Ross in Ayre was quite active for some time, he was very weak but was worked by Daniel VK7DA and myself. Again on Sunday 17th Daniel worked Ross VK4ZRQ. On Saturday 23rd the band opened for about 20 minutes and signals were very weak, Harry VK4ZHG was worked by Daniel VK7DA, John VK7JV and myself. It certainly pays to have that receiver running whenever you're in the shack.

Last Monday evening 18th we experienced a very good inversion. Kevin VK7ZAH was hearing the VK5VF beacon but no stations were heard. Kevin did work Steve VK3OT (ex VK3ZAZ) on 2m SSB in Hamilton. Kevin was also active working through the Mt. William Ch7 repeater, his best contact was with VK2ZI in Broken Hill. So as you can see the inversion covered a large area and could have provided a lot of activity had operators been active on the bottom end of 2m using SSB.

Thats all for this month, see you in the CONTEST.

73 Joe

FOR SALE

FOR SALE

FOR SALE

IC-202, 2 metre SSb transceiver, very good condition,
had very little use. \$170.00 contact Tony VK7TP

PROOFING TOWERS AND BEAM ANTENNAS AGAINST CORROSION

by Harold VK3CM. copied from the June issue of the Geelong Amateur Radio Club Newsletter.

Many a carefully designed and built beam antenna or tower has given trouble with corrosion after exposure to the weather, for no other reason than failure to proof the metal properly. Sealing and proofing are quite as important as sound mechanical construction if long service in corrosive atmospheres is expected of the array. These notes also apply to vertical and other types of antennas and not forgetting the rotator.

CORROSION;

The protection of metals used in the construction of antennas and tower is of great importance. In the majority of cases the matter of protection against weather and erosion effects is relegated to the levels just below consciousness, until such time as an element collapses, when the pieces are picked up to the accompaniment of much blasphemy.

Ask any TV serviceman about this and he will tell you in no mean words what we are talking about! We have seen the pitiful sight of TV antennas drooping or parts thereof broken.

Well what can we do to stop this corrosive business, which is very prevalent in sea-side locations and town and industrial areas due to fume laden atmospheres.

DESIGN:

Firstly, the choice of adequate material thickness, a very important item these days of high cost of metals, do not scimp in this direction or you will regret doing so, if you expect long life from the antenna system with little maintenance. this goes for the supporting tower as well.

Secondly the design of the system itself. Many antennas are built in such a way that liquid e.g. rain or salt spray, can collect in them and be retained at the point where the element is attached to the support. This is the point of highest stress and unless measures are taken to counteract it, corrosion soon weakens the joint with eventual falling apart of the element. Where it is difficult to design in such a way as to avoid these "cups", jointing compound should be forced into the space between element and support and formed up into a shape which will not retain liquid.

PRE-TREATMENT:

After the antenna or tower material has been cut to length it should be thoroughly degreased. Immediately after degreasing and before the surface can be spoilt by handling, a primer coat of zinc cromate paint should be applied. This paint bites into the surface and ensures excellent adhesion. It has been found that the zinc cromate is extremely water-resistant and does not curl or lift with the application of the finishing paint. It can be applied to aluminium, steel, galvanised iron, copper and brass as well as cadmium plating. This is important because it is not always possible to use aluminium or its alloys for every part of an antenna system.

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It is recommended that all metallic components be treated in the individual state before assembly. The film formed on each of the dissimilar metals, being a non-conductor will effectively prevent electrolytic action and cosequent weakening of the material, do not forget to clean the paint off where electrical conducting joints are required.

FINISHING PAINTS:

The film produced by the primer, whilst weather resistant, is only very thin and must itself be protected with a suitable finishing paint. Ordinary aluminium paint is a satisfactory finisher, but any good paint or enamel can be used.

STEEL TOWERS:

Ah yes, that steel tower, that rusty hulk standing or leaning in the back yard, what can we do about that? It should be periodically inspected for signs of rust as very soon the metal will be eaten completely away and you will have one tower on the ground.

Remove any rust by wire brushing or use a rust removing compound then apply a coat of zinc cromate immediately as rust will start to form again. Apply one or two coats of finishing paint and your tower should be proofed against the elements for several years. Dont forget to inspect all bolts and replace any that are faulty with galvanised or cadmium plated bolts. There is another compound "Instant Cold Galvanise" which comes in a spray can. This material forms a zinc coating on the metal and is very resistant to corrosion. No special metal preparation is required as it can be applied over rusted or pitted areas provided loose scales are removed. As before, apply a finishing coat of paint after spraying with this material.

MATERIALS:

Jointing compound - Henleys Green Plastic compoud, obtainable at electrical supplies, or ordinary caulking compound.

Zinc cromate - Obtainable at most paint stores.

YOUR BEAM, WILL IT STAY UP ?

by Harold VK3CM. from the July issue of the Geelong Amateur Radio Club Newsletter.

Quite often we hear of a beam antenna that withstands several severe storms and then tumbles down in a comparatively light breeze. This generally baffles the builder, but a close examination will disclose that some of the fundamental rules in the use of metals had been violated. Nearly everyone is familiar with the fact that iron and steel will rust readily on exposure to the weather, so proper steps are usually taken to prevent corrosion, either by painting or applying a protective coating of some metal, few, however realize that under certain conditions other metals, for instance aluminium may become badly corroded.

In the case of our broken down beam, we find that the tubular aluminium elements have been bolted together with steel

Q R M

or brass screws and nuts, brass being used to prevent the formation of rust. Amateurs are not alone in this, commercial TV antennas including rotators fall into the same error and may be expected to give trouble. At each of these joints the aluminium has been badly corroded and finally weakened to such an extent that the light breeze caused failure.

Why is this condition bad and what can be done to overcome it? Lets go back to our school chemistry or maybe the days when we used wet batteries to operate a doorbell or buzzer. Those wet batteries used two dissimilar metals, usually zinc and copper immersed in a conducting solution or electrolyte, such as one containing copper sulphate. The zinc was the negative terminal and the copper the positive.

The same thing happens in the dry cells in this case the carbon rod is unaffected. In like manner, any two dissimilar metals in contact with each other in the presence of an electrolyte will form a small galvanic cell and the more negative metal will be attacked or corroded. All metals can be arranged in a series according to the individual potential attributed to each. The EMF developed by any particular couple or combination is the sum of the potentials of the two metals. The greater this EMF the greater the tendency towards corrosion. The table shows the electrochemical series for the more common metals and the potential of each. In outdoor exposure, the required electrolyte is supplied by atmospheric humidity or rain. Industrial and urban atmosphere contain small amounts of sulphur dioxide from fuel combustion which will slightly acidify the moisture. Marine atmosphere contains salts which will provide the necessary conducting electrolyte.

Reference to the table shows that aluminium and copper (brass is an alloy of copper) are far apart and considerable galvanic corrosion can take place in moist atmospheres when these metals are in contact with one another. The combination will show that aluminium is the most negative of the combination and will be attacked with resulting loss of strength. The table will suggest other poor combinations but aluminium and copper is one of the worst offenders. What can be done to guard against this condition? If you live near the coast all possible protective measures should be used. For a dry inland climate the danger is not as great and less stringent measures will be satisfactory.

The screws, bolts and nuts can be made of steel with a more protective coating such as zinc plate, galvanized, cadmium or nickel plate can also be used as can stainless steel hardware. All of these are much better than brass but still not entirely preventative.

As a final precaution the joint should be painted to keep out moisture and the electrolyte required for corrosion. Here again the degree of protection required dictates the materials used. For highest protection, a first coat of zinc chromate primer should be used followed by one or more coats of good outside paint. The zinc chromate besides serving as a prime coat also provides a "passivating" action to aid further in corrosion protection.

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For less severe climates the outside paint alone may be used. Another fact not generally known is that stainless steel is not corrosion resistant unless it has a good polished surface. If dirt or scale is present electrolytes can go to work and readily start destructive corrosion.

It is hoped that these few simple rules of the materials may help to keep more antennas in the air and more Amateurs on the ground.

MAGNESIUM	1.55 VOLTS	TIN	0.14 VOLTS
ALUMINIUM	1.33 "	LEAD	0.12 "
ZINC	0.76 "	COPPER	0.34 "
CHROMIUM	0.53 "	SILVER	0.80 "
IRON	0.44 "	PLATINUM	0.86 "
CADMIUM	0.40 "	GOLD	1.36 "
NICKEL	0.23 "		

from VK7LZ

SUN SPOTS AND THE AMATEUR

In an informative article in the May 1977 issue of QST, possibly Americas foremost authority on VHF and the Sun Ed Tilton W1HDQ, reports that in retrospect mid-year 1976 saw the end of Sun-spot cycle 20.

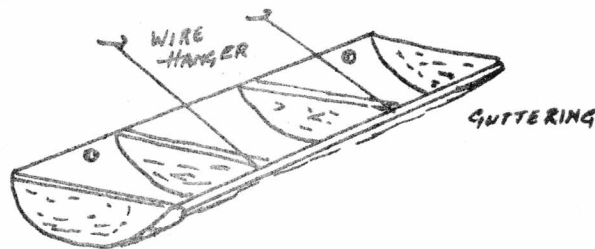
Late in June last year a cycle 21 group of Sun-spots lasted an entire orbit of the solar disc, the first new cycle activity that has been seen to do this and as Ed goes on to say, and I quote "If you sort out the sources of what little July activity there was and draw curves of both cycles, the old cycle curve drops to almost zero while cycle 21 curve crosses it on the way up. Though activity has been mostly low the rise since has been all new cycle oriented".

As a song writer wrote a few years ago- anyway it went something like this;

Happy days are here again
 Ole Sol now has some flares again
 Happy days are here again
 So now ther'll be trouble and strife
 As some cranks get over rife
 But never fear, lets have a beer
 Happy days are here again

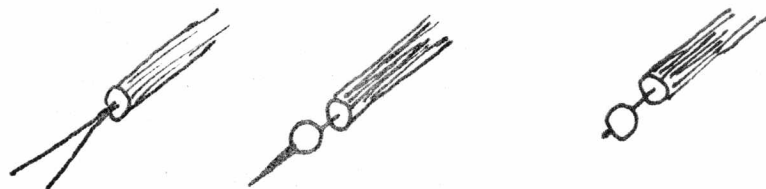
HINTS AND KINKS

Here is a small parts tray that is excellent for holding tiny screws, brads, washers etc. The rounded bottom of a piece of gutter from which it is improvised makes it easy to remove items that are difficult to pick up with the fingers. Thin wooden partitions divide the tray into separate bins which can be labeled. Attach the tray to a wall with pieces of wire and screw hooks or nail it to the bench.

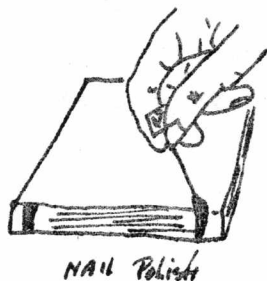


A novel and practical way to store twist drills to promote the best of care, in addition to protecting their cutting edges from wear and rust. Select a shallow can to suit the longest drill, fill the can with cup grease and stick the drills in the lubrication. It prelubricates them for drilling metal. Before using a drill wipe off the excess grease to prevent splattering.

Loop ends in wires are made by stripping the insulation off the ends for a short distance and separating the wires into two strands. Then form a loop and twist the free ends together. Cut off the excess wire and solder the loop to prevent unraveling.



Nail polish applied across loose ends of sketch pad pages prevents them from being disturbed by wind when using outdoors. This will still permit removal of pages.



NAIL Polish

Revised 1977 A.O.C.P. Class Time Table.

Week	Subject	Date
17	modulation systems A.M.	1st Aug.
18	" " S.S.B.	8th Aug.
19	" " F.M.	15th Aug.
20	interference	22nd Aug.
21	test equipment and measurements	12th Sept.
22	" " " "	19th Sept.
23	wave propagation	26th Sept.
24	transmission lines	3rd Oct.
25	" "	10th Oct.
26	antennas HF	17th Oct.
27	antennas VHF	24th Oct.
28	basic digital	31st Oct.
29	specialized communication systems	7th Nov.
revision, 14th November - 19th December.		

The Editor QRM

Dear John and all, thanks for QRM I do enjoy reading it, I received the latest issue yesterday and it prompted me again to write, keep up with the news from the Northern Branches. It sounds like a great deal has happened in the last 4 years.

Amateur Radio wise things are going slow, the last entry in the A2CDW log was way back in February in some W contest. Work is the biggest stopper, it takes up all of my time between 0530 and 1400 GMT virtually daily and other hours as well. I have worked VK's 2, 3, and 4 at moderate strength their end, not bad for a G5RV and FL50B. I have been working on a tower and mast with a 3 element 3 band quad for close on a year now. We had a hoisting party about 2 months ago, if it had gone up ok all that was left was a little bit of tuning BUT, DISASTER the mast dropped 3 feet when an eye in the steel rope pulled through the ferule and that bent the boom, secondly when the mast pulled up it doubled up and bent in the middle, most disheartening.

I hope to be on the air with the quad by the JOTA this year. I am also experimenting with a 20m DDDR loop on the roof of the house, just for fun. HF bands are as follows, 20m gets congested, 15m is good in spurts and I have even worked Italy on 10m with the FL50. 40m is virtually hopeless being a tropical B.C. band as well, congestion is an understatement although in early afternoon is not too bad. I note a lot of new names and call signs, good thing keep growing. My regards to everyone and I hope to talk to some of you on air one day.

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