

QRM

Amateur
Radio
News



MAY 1986

Issued by the Tasmanian Division of
the Wireless Institute of Australia
(INSERT TO "A.R.")

Radiotorial.

We have tried for two months now to distribute "QRM" via your copy of "A.R." but without success. Persistence, however, is the name of our game, so, like Robert the Bruce's spider, we try again with the May issue. Obviously you will know whether it was "third time lucky" by the way you received this. We are expecting some comment in "Letters to the Editor" - is it an improvement on the old system? - does the new cut-off time limit the usefulness of "QRM"? - what are the other pro's and con's? Your opinions will be much appreciated.

Broadcasts have been the subject of much deep debate and new effort lately. In last month's "QRM", you will have seen the whole page contributed by your new Divisional Co-ordinator, Arthur, VK7GH. Even before that issue was distributed, (in the south, anyway), so many phone calls were being received by your Editor, that Arthur (having them passed on to him) must have wondered what he'd done to deserve all this. That's a good sign, though. At least it means members are taking a renewed interest in sending news for the broadcast.. As we've said (frequently), "we have the technology" to produce a first-class broadcast every week. Now we must get the gear together and supply it with information. Arthur's job won't seem half so overpowering then.

The TARC at Launceston demonstrated once again just how much organisation and effort is put into this annual event. As

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visitors, we were quite unaware of any heart-stopping disasters there may have been behind the scenes, the whole system of accommodation, catering - and the exhibition itself - ran so well. The variety of techniques on display was most remarkable, even to experienced amateurs' eyes. The public would have been even more impressed, but here was the one disappointment - comparatively few members of the public turned up to see this wide-ranging show of amateur equipment. Why this was, perhaps only local people can tell, but what a fascinating occasion they missed!

The doyen of the south's Activity Centre, Rai, VK7VV, won the Homebrew Competition with his QRP 80m transceiver. The other un-named prize must go to all the Northern Branch amateurs who did put time, effort and expertise into TARC 1986.

John VK7JK.

Letters to the Editor.

The Editor "QRM" - re broadcasts.

As a sideline or a discussion point on the broadcast problem, the following stats. may be of interest:

Covering the period of 30th June 1985 to 23rd Feb. 1986, there were 34 broadcasts, 74 different callsigns were logged and the following filtered out:

Stations calling back	20 to 34 times:	3 (2 F 1 R)
"	10 to 19 times:	5 (5 F)
"	6 to 10 times:	9 (6 F 3 R)
"	2 to 5 times:	27 (18 F 9 R)
"	Once only	:30 (17 F 13 R)

The frequency was 3570kHz and where stations were inaudible at my station, the calls were logged via the relay station or the station handling the callback.

Considering the number of amateur members in the State and relatively few who deign to call back even once in eight months, one begins to ponder the requirement for a broadcast, whether a high quality microphone job or even poor quality tape.

As for the idea of starting the broadcast at 0900 EST, I cannot see any advantage - in fact the reverse, for those who are not awake at 0930 will certainly NOT be at 0900!!

I am sufficiently modest to admit that I am one of the two Full call members who have called back in the top bracket.

73 from Tom VK7AL.

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Letters to the Editor (continued)

(From previous page - Tom points out, in case you hadn't already worked it out for yourselves, that "F" means Full call and "R" means Restricted).

Dear Mr. Editor,

As a listener, I am able to hear all that is said, even the comments of the knocker, and the unpleasantness they create far and wide. I'm sure some don't listen to themselves. This led me to look up the TRUE meaning of the word "amateur".

The Webster Encyclopaedic Dictionary meaning is as follows: "Amateur: one who cultivates any art or pursuit for the enjoyment of it, instead of professionally or for gain, sometimes implying desultory action or crude results, a devotee. Of or being an amateur; lacking the talent or polish of a professional".

So, considering the true meaning, perhaps it's time the demand to equal the ABC with broadcasts - and our friend Murphy - were put to one side and replaced with the attitudes: "good effort", "keep trying" - after all, to try and fail, or to make a mistake is better than not to try.

A Listener (name & address supplied).

SO YOU WANT TO CONTACT THE EDITOR?

His name is John Rogers. His callsign is VK7JK. His telephone number is 002.293402. His address is:

1, Darville Court,
Blackman's Bay,
Hobart, 7152.

And when you lose your copy of "QRM", remember he's QTHR. When he is at home, the 2m rig is running and listening to Repeater 2.

WOULD ALL ASPIRING CONTRIBUTORS TO "QRM" PLEASE NOTE THAT THE EDITOR'S CLOSING DATE FOR THE JUNE EDITION WILL BE

15th. MAY.

INTRUDER WATCH REPORT, 1985-1986.

This is the Annual Report from Tasmanian Monitors, preceded by a comment from Bill Martin, VK2COP, Federal Intruder Watch Co-ordinator to the Federal Executive of the W.I.A.: "1985 has been a quiet year for the Intruder Watch. As the solar cycle bottoms and less DX is to be found on the bands, it follows that more amateurs would spend less time listening around. Consequently, fewer people submitted reports than in 1984. However, the quality of the reports holds steady and it is pleasing to see people still lending a helping hand, although there is always room for improvement".

During the year we heard 273 intruders in VK7. Monthly totals:

Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
18	27	6	25	14	32	28	35	45	5	21	17

The National Statistics are as follow:

Total number of Intrusions reported:	7466 (7468)
Broadcast Mode:	4289 (5157)
CW Mode:	1208 (964)
RTTY Mode:	1516 (1348)
Other Modes:	453 (---)
No. of Identifications heard:	843 (727)
No. of Contributing Observers:	51 (98)
No. of Log Sheets submitted:	543 (621)

Overall VK4 led the field with 330 logs, followed by VK2 with 98 logs. VK4 had 15 observers whilst VK2 had 12. Tasmania supplied 20 logs from 3 observers, which was more than VK6, VK8 and VK1 combined.

We have had some success in getting some Intruders to QSY permanently this year. For example, a French Polynesian PTP link down on 7003 kHz was shifted after complaints from IW throughout the Pacific. The "Voice of Greece" in Athens, which fired up on 7095kHz to Australia at 2000UTC, was shifted to another frequency after numerous complaints from amateurs and various administrations in Europe and other areas, after only a few weeks of scheduled broadcasting on that channel. The ABC and Telecom cleaned up harmonics from 5AN in Adelaide on 3564 after numerous complaints.

The IW was responsible for the American FCC opening a case against a Maritime Mobile Station passing commercial-type traffic on AMTOR on amateur frequencies and utilizing two American ham stations. The vessel was subsequently blown up

in Auckland Harbour by French secret service agents, in a completely unrelated activity.

The amount of Intruder activity has not diminished, despite the reduction in the number of logs. With the sunspot minima, many more intruders are encroaching into our exclusive allocations. We have to be vigilant and continue to log these stations. The recent appointment of Bill Martin, VK2COP, as IARU Region Three IW Co-ordinator with direct access to the International Frequency Registration Board (IFRB) in Geneva should assist and improve the effectiveness of the Intruder Watch in 1986.

I would like to thank Mr. Gerry Visser VK7DQ for his assistance and continuing co-operation throughout, 1985 and I sincerely hope that other VK7 stations will also contribute to the IW in 1986.

Robin L. Harwood, VK7RH.

TECHNICAL BULLETIN SUBJECT: 6146B

Finals: 6146B vs S2001 (or 8298A)

From time to time, uninformed comment suggests that there are marked differences between the Japanese S2001 tube and the more commonly known 6146B.

To put the matter to rest, we have consulted Japanese tube manuals and found that the characteristics of both tube types are discussed in the same breath. With the exception of filament current, (the S2001 draws 1 amp and the 6146B 1.125 amps) voltage ratings and power outputs are identical - repeat, identical. A photocopy of the Japanese tube manual is available for the unbelievers!

Compare the following CW ratings for the S2001 with the 6146B (per ARRL Handbook):

Ep(V)	Esg(V)	Ecg(V)	Ip(mA)	Isg(mA)	Rcg(mA)	Po(W)	Pcg(W)
750	200	-77	160	10	29K	85	0.3

Note: Rcg is grid leak resistor for Class C operation.

Information sent in by VK7AN Allen.

SJOERD GOES SOUTH (see last month's "QRM")

VK7ZSJ will be operating on Macquarie Island as VKØSJ on Mondays and Fridays at 09.30Z. Frequency: 7.085 MHz ±.

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A D V E R T I S E M E N T S.

BYRON, VK7BD is anxiously looking for a VK3 FM Carphone.
(He says it used to be called an IGL). Anyway it's
a 2m FM transceiver. Byron is QTHR.

KEVEN, VK7KV requires a TH3 antenna for his Possum Bay site.
If you have one to sell, Keven is also QTHR.

MIKE, VK7ZMH offers for sale one FNB4 Nicad pack to suit FT209
or FT209RH or FT709. Price on application. Tel: 722693
or 2/8 Chapel Street, Glenorchy.

FOR SALE: VK7RM has IRC's for sale at 50 cents each (minimum
of 10). Include SASE with order. QTHR or 002.232808.

"TAS DEVIL" 80m CW QRP Transceiver: PRINTED CIRCUIT BOARDS
for sale. V.F.O. Control! Variable break-in speed!
Side Tone! CW Filter! Rx mute! Net Switch! Electronic
Switching! Price: \$16.00. Also available - Component overlay,
circuit diagram, parts list. Proceeds to Southern Branch
Activity Centre. Contact Rai, VK7VV QTHR or 002.727743.

WANTED: Circuit diagram for PYE VICTOR VHF Transceiver,
type MVF 529. Tim Shaw, Tel. (work) 002.389235 or
(home) 002.439832.

To: Broadcast Co-ordinator VK7GH
34 Ashbolt Crescent, Lutana 7009

I wish to have the enclosed advertisement published on the Divisional
Broadcast on Sunday at 9 a.m.

I certify that the advertisement refers to a bona fide amateur
transaction, and is not concerned in any way with commercial business.

Signed Call Sign

VK7WI Sunday Broadcasts.

It has been agreed that the Sunday morning broadcasts will commence at 09.00 instead of 09.30 local time as from the first Sunday in May.

Italian Radio Amateur Club.

Gerry, VK7DQ gives us details of the Italian Radio Amateur Club which opened its doors to overseas amateurs recently. You would need to send 3 IRC's to:

Mario Ambrosi,
Via Stradella 13, 20129,
Milano, Italy.

For this you gain access to: QSL Manager Manual, 40 different computer programmes (Commodore 64), Italian stamps, DX infor net, DX Club Award.

Further details, addresses, etc., are available from Gary, VK7DQ, QTHR.

B R A N C H N O T I C E S .

NORTHERN BRANCH MEETS AT 8 P.M. ON THE SECOND FRIDAY of each month (except January) in Room G25, Swanson Building, Australian Maritime College, Newnham, Launceston. (Address: P.O.Box 275, Launceston, 7250).

NORTHWESTERN BRANCH MEETS AT 8 P.M. ON THE SECOND TUESDAY of each month at the Penguin High School. (Address: P.O.Box 194, Penguin, 7316).

SOUTHERN BRANCH MEETS AT 8.15 P.M. ON THE FIRST WEDNESDAY of the month, at the Elizabeth Matriculation College, corner of Warwick and Elizabeth Streets, Hobart, until further notice. (Address: P.O.Box 123, Sandy Bay, 7005).

Broadcast Officers.

Divisional Co-ordinator: Arthur VK7GH, 34, Ashbolt Crescent,
Lutana, 7009,

Tel: (H) 002.284963 (B) 002.305600.

Northern Branch Officer: VK7AV Bill.

Northwest Branch Officer: VK7ZFH Frank.

Southern Branch Officer: VK7GH Arthur.

DOC news

A report commissioned earlier this year by the Department of Communications has **warned against selling off profitable aspects of the operations of Telecom and OTC.** It also says Australia should reject any proposals from private international satellite companies for direct access to Australian users.

Australia should also look at ways in which its Aussat satellite system could provide coverage to the South-west Pacific and South-east Asian regions, the report says.

These and other recommendations are contained in a report entitled *Transborder Data Flow and International Trade in Electronic Information Services: an Australian Perspective*, by Dr John Langdale, a senior lecturer in geography at Macquarie University.

Mr Michael Duffy has announced that the Government has taken the first step towards achieving the equalisation and aggregation of regional commercial television by agreeing in principle to the upgrading of facilities at many of the Commonwealth's multi-purpose transmitting stations in regional areas of Australia — an essential step if its broadcasting objectives were to be met.

The Illawarra television operator, WIN-4, has been informed that it would be required to move to the UHF band within three years.

The Minister says it forms part of the Government's plan to bring more commercial television services to regional Australia.

In the specific case of WIN-4, the move to UHF had to be made because the station, by its presence on VHF channel 4, was blocking further development of FM radio services in the region.

Two new proposed local commercial services will transmit on the VHF band along with SBS and part of the ABC service. The ABC will move totally to UHF, making Wollongong a UHF-only city.

A Department of Communications spokesman has appealed to **farmers across Australia to ensure all their two-way radio equipment is licensed** so that any threat of interference to other services is averted.

The spokesman warned that under the *Radiocommunications Act 1983* penalties for unlicensed use of radio equipment include confiscation of equipment and a fine of up to \$2000, or imprisonment for a maximum of twelve months.

A prominent National Party spokesman has described claims that a **coalition Government would sell Telecom** as "alarmist and untrue". Mr Bruce Lloyd, spoke of Telecom as "the key safeguard for country people".

This puts Mr Lloyd squarely at odds with Opposition Leader John Howard, and the Opposition spokesman on Treasury matters. Mr Jim Cariton.

DOC Minister Duffy reaffirmed the figure of \$490 million as the estimated value of the cross-subsidisation from profit making services to loss making services in Telecom in 1984-85, a matter vitally affecting country people.

Work on installing new earth stations in remote communities to tap into Aussat television transmissions is gathering momentum the DOC Minister has noted. Special decoders being used in the program are under manufacture in Toronto, Canada, and will be tested at the DOC's lab in Canberra before being despatched to the outback sites. In all, 61 new earth stations are to be installed.

The Government has decided to **waive sales tax on earth stations for domestic use** bought to receive satellite radio and television services from Aussat. The Minister has predicted the benefit to country people should be at least \$500.

The cost of each station, as already indicated by distributors, ranges from \$2250 (excluding sales tax) for a 1.5 metre diameter dish. Exact prices would be subject to usual market place negotiations between seller and buyer.

(Excerpt from ETI for March 1986 with acknowledgements and thanks).

THE Z22 JD TRI-BAND YAGI BEAM.

(From Noel, VK7EG ex Z21 AG) On the next two pages you will find details of a 3-element tri-band yagi for 10, 15 and 20 metres. Originally this project was presented to the Zimbabwe Amateur Radio Society by John Stooile, for the developer Ralph Ward Z22 JD. It appeared in their magazine QUA, but I have only the diagram. Several of the beams were made in Zimbabwe and proved very successful. Ralph Ward is described as the developer because the antenna bears a distinct resemblance to the Mosley TA33 Junior, but with some slight differences. It is also cheaper and has the satisfaction of "home-brew"!

(The Editor's thanks to Noel and acknowledgments to QUA for this article).

CONSTRUCTION NOTES FOR Z22 JD TRI BAND YAGI BEAM

The diagram contains all the essential details for the construction of a good 3 element tri band beam for 10m, 15m, and 20m. It is fairly cheap to make and all materials should be easily available. Access to a lathe or a friendly lathe operator is a help.

Dimensions as given in the diagram have proved to work well and should be adhered to, at least until you think you know more than the developer! In particular the trap dimensions should be followed carefully.

These notes supplement the diagram and it is hoped will be of help. Have fun!!

ELEMENTS

Reflector and Driven elements consist of 25mm o/d tubing for the centre 3m or so, reducing down in stages to fit the trap tubes. The length of each different diameter is not important, but do allow a generous overlap at the end of the 25mm sections. This permits adjustment for tuning later if necessary.

Director starts with 22mm ali. tube and reduces in the same way.

If the tubes are a close sliding fit at each joint self tapping screws may be used, otherwise the outer tube will need to be slotted for 25mm or so and a hose clip used together with a screw.

Tubing is available from Comalco in Launceston who will supply a catalogue of their products, BUT before getting all excited at all the beautiful sizes listed, you should note they can only supply those sizes printed in heavy type.

TRAPS

The coil formers are made from almost any "RF proof" plastic. Test your plastic in a microwave oven by heating for 3min. If it does not heat up you are in business.

The formers are most easily made by screw cutting a 10 TPI thread on the 25mm diameter first, this is where the lathe comes in. End pieces are then cut to fit the inside diameter of the trap tube and glued on to the threaded section. The traps should "dip out" at the frequencies given in Fig 1 and this can be checked with a dip oscillator before the element sections are fitted to the traps. The traps should be completely assembled before checking, that is both coils should be in position in the trap.

Tuning should be done by altering the length between traps for 10m and for 20m the end sections can be adjusted. Note that 15m cannot be adjusted individually, you will have to arrive at a compromise between 10m and 15m.

Also distance between elements can be varied if you feel really brave!!!

Note; the March 1986 Amateur Radio contains an article on the TA33 beam. This is almost identical to our beam and the suggested gamma matches do allow you to adjust each band independently, however try the beam first in its original form. The comment on cleaning and greasing is well worth reading and following.

Remember, the breather holes in the trap tubes MUST face downwards for drainage.

COAX CONNECTION

Note that the diagram shows the coax connected directly to the driven elements and that Fig 4 states that a balun may be used. Those of you who are familiar with the Mosley TA33 Jnr beam will know that Mosley have the "earthy" element strapped directly to the boom. This can be tried if TVI is a problem, or a balun, or a 150mm, 10 turn coil of coax can be tried. This coil is said to reduce TVI while producing a more symmetrical lobe pattern than with one element earthed.

Once again have fun and enjoy being able to say on air, 'home brew yagi old man'.

3 ELEMENT TRI BAND YAGI FOR 10m, 15m, 20m.
DEVELOPED BY RALPH WARD Z22JD

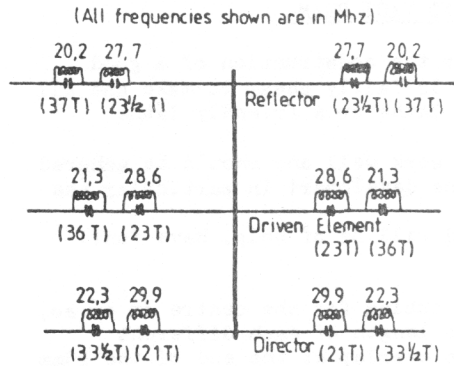


Fig.1 SCHEMATIC PRESENTATION

not to scale

INNERSECTIONS OF ELEMENTS START AT 25mm ϕ
TUBE TAPERED CONVENIENTLY DOWN TO 13mm ϕ
AT TRAPS

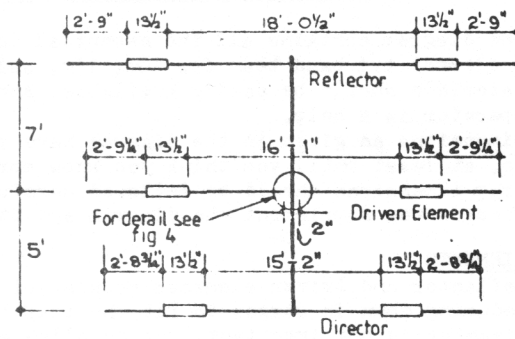


Fig2 PHYSICAL DIMENSIONS

Note: Dimensions are for CW. Add 10.5" to centre section for phone. not to scale

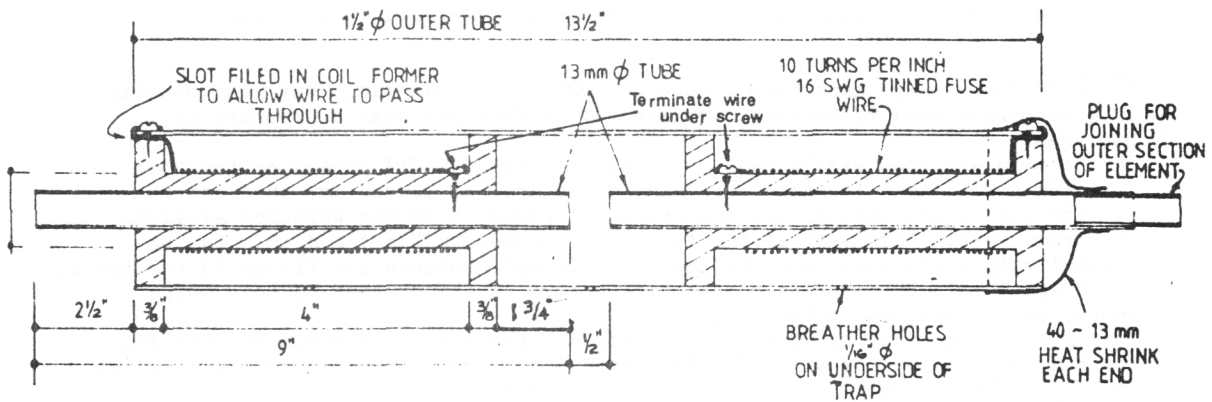
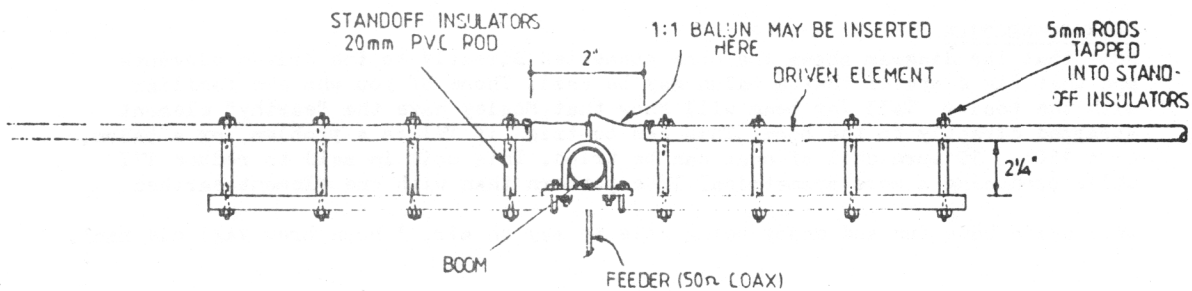


Fig.3 DETAIL OF TRAP

not to scale



ALL HARDWARE IS CADMIUM PLATED

Fig 4 DETAIL AT DRIVEN ELEMENT

not to scale