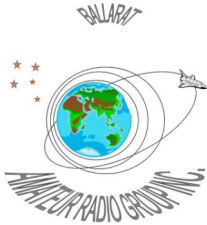


BARG News



Official Newsletter of the Ballarat Amateur Radio Group Inc. # 6953T

ABN 44 247 200 143

VOLUME 34 ISSUE 4 APRIL 2011



President: Craig Cook VK3CMC
Secretary: Doug Ellery VK3FDRE
Treasurer: Bill Wells VK3PAL

NEXT MEETING - FRIDAY April 25, 2011
At 7.30 pm

Contacting us

You can write to the club at the address below, or e-mail the secretary.

The Secretary : B.A.R.G. Inc.
 Box 1261
 Mail Centre
 Ballarat. Vic. 3354.



Or E-Mail: vk3bml@barg.org.au

BARG INC. LIFE MEMBERS

| | |
|-----------------|--------|
| Gordon Cornell | VK3FGC |
| Norm D'Angri | VK3LBA |
| Harry Hekkema | VK3KGL |
| Kevin Hughes | VK3WN |
| Ian McDonald | VK3AXH |
| Phil Seddon | |
| Charlie Stewart | VK3DCS |
| Bob Terrill | VK3BNC |

CLUB INFORMATION

REPEATERS and BEACON

| | | | |
|----------|---|-------------|---------------|
| VK3RWA* | (2 m Voice Repeater) (Uses CTCSS of 91.5 Hz to access) | 147.100 MHz | Mt Ben Nevis |
| VK3RPC | (2 m Packet Repeater) | 144.750 MHz | Mt Warrenheip |
| VK3RBU | (70 cm Voice Repeater) | 438.475 MHz | Mt Hollowback |
| VK3RMB | (70 cm Beacon) | 432.535 MHz | Mt Buninyong |
| VK3RBU-1 | (2 m APRS Repeater) | 145.175 MHz | Mt Hollowback |
| VK3RBT | (2 m Voice Repeater) (Uses CTCSS of 91.5 Hz to access) | 146.650 MHz | Green Hill |

* IRLP Node 6310 using VK3RWA

CLUB e-mail vk3bml@barg.org.au.

CLUB NET VK3BML 3.608+/- QRM Thursday Nights at 8 pm E.S.T (Summer & Winter)

WIA Broadcast Sunday 11.00 am via VK3RWA (IRLP Node 6310)

NEWS ITEMS Send to Harry VK3KGL

Or mail to Box 1261 Mail Centre BALLARAT 3354 or e-mail membermember member.vk3kgl@barg.org.au

Broadcast Times and Dates on VK3RWA Repeater

Every Sunday at 11.00 am, WIA National News.

Every Monday night at 9.30 pm, ARRL News

Every Tuesday night at 9.30 pm, WIA National News Repeat



QST Report with Craig, VK3CMC

Content review of current QST in
library



QST Review 2011 – 3 March

This is the Annual Antenna edition. What to find in this month edition.

- P4/5 Index this month
- P9 Editorial “BPL raises it’s head again”
- P30 Four Wire Steerable V Beam for 10 – 40 m. Interesting project.
- P34 Digital VOX Soundcard interface.
- P37 Limited Space Antenna.
- P40 160m Rotatable Roof mount receiving antenna.
- P43 Own mount on car for brackets.
- P46 Near End Fed antenna for 20m operations.
- P46 Use a Noise Bridge and Spectrum Analyzer for AT adjustment.
- P50 Choosing a HF antenna.
- P52 A 20m Flagpole.
- P53 Product review. ICOM IC – V80 Handheld.
- P55 Product review. ICOM IC – T70A Handheld dual bander.
- P57 Review. Array Solutions Vector Network Analyzer.
- P60 Tech Correspondence Watching Wire Gauge sizes & using right angled coax connectors.
- P 62 The Doctor. Use 75R coax, Baluns & T match for VHF, Auto tuner problems, Interference with Ethernet routers.
- P64 Short takes looks at the “Shakespeare PL-259 Coax connector” For non soldering connections.
www.shakespeare-marine.com
- P65 Getting on Air. Ready for Sunspot Cycle 24. Explain the effects on the D, E, F1 and F2 layers
And how to make good use of them.
- P67 Hands on Radio. Experiment 98 Linear supply Design.
- P69 Hints and Kinks. Fan speed controller for 50W amp, Home brewing Cabinets, Rotator break
Out boxes.
- P71 How to utilise amateur radio while Hang Gliding.
- P73 Art of Conversation. Worth reading for beginners to learn to listen and talk to other amateurs and
Conduct balanced conversations on air.
- P74 How to Program & store Local Repeater memories. Use simple steps.
- P76 Focused Frequencies. Looks at band sharing with different modes and need to have plans for all
Users to share.
- P81 Public Service Emergency Comms. An example of simple “Ready to Roll” Handheld TxRx Go-Kit.
Some good ideas from other set ups.
- P84 Op_Ed. Preserving what we have. Looks at Nets and our attachments to people via radio comms.
- P92 Hows DX? Most Wanted Entities.
- P94 World above 50 Mhz. How we should maintain the station during winter month. Band reports
Include ZL and VK.
- P101 Electric Technology. “Keeping Sounds on the Level”
- P102 Vintage Radio. “The very first amateur radio operator” claim by K2AE born in 1865. Always an
Interesting read about the old timers.
- P104 75, 50 and 15 years ago.
- P164 Has the index to advertisers and includes their web addresses.

Hamspeak is no longer printed at the rear of the magazine but all technical terms used in articles are now included within each article. Still worth the time to read them.

73, CRAIG, VK3CMC

VK3AXH - 1296 EME (Earth Moon Earth) Project

Having had some success using 2 metres for EME I thought my next challenge would be to have a go at 1296MHz EME. Given the layout of my backyard and to avoid the fairly heavily treed area's the most appropriate manageable sized dish selected was 3.7m (12ft) diameter.

A support pole was fabricated and installed on the back corner of my garage for the dish which would mean some remote operation would be required to control its movement and to avoid coax cable loss from my shack about 12 metres away. Initially the installation was designed to enable the dish to be wound up in height by another 3 metres. However I found there was little to be gained so it's operated in the down position.

Moving the dish in both azimuth and elevation was achieved using an aircraft prop pitch motor and satellite screw jack respectively. Position information was achieved using a kit from Germany that employed rotary encoders at the dish end and a digital display in the shack. The encoders were driven using a square toothed belt for Az and direct drive for El.



Prop Pitch Motor and Square Toothed Belt/Gear driving Azimuth Encoder



Screw Jack for driving Elevation

The dish feed uses a Septum (not shown) arrangement where there are separate antenna's for TX and RX. A G4DDK preamp (typically 0.35dB nF) was assembled and used to boost RX signals and transmit power uses a couple of 150 watt combined amps from Alan VK3XPD giving 250 watts at the feedpoint after cable losses. As the dish has approx 30dB of gain the radiated RF is quite dangerous so care has to be observed when transmitting as there is around 250kW of radiated power. This power is over a very narrow beamwidth of 3-4 degrees. On receive approx 10dB of sun noise is realised which indicates one measure of receive performance.

A control box was made to remotely turn on the preamp (at the dish feed) and linear amp (at the base of

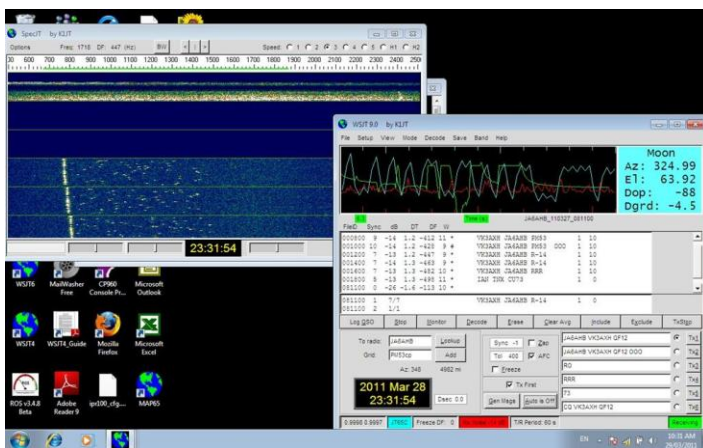
the dish) which is requiring some fine tuning and is still a work in progress. Remote RF power indication is also built into the control box to ensure the transmit side is working correctly.

Initially I received a couple of signals to make sure that part was working ok before taking the plunge to transmit. I've now had 2 EME qso's. One to HB9Q in Switzerland (15m dish unknown power but big) and secondly JA6AHB (5m dish 500watts) in Japan and hope to have many more using CW and SSB with some of the bigger stations.

Pictures of received signals from JA6AHB using WSJT digital software are shown below. His signals could clearly be heard in the speaker so CW was an option but not done at the time.

From the date of this picture you can see it's taken some time to get the system running. Thanks to Ian VK3IDL for his assistance to mount the dish on the support pole.

73, Ian - VK3AXH



Engineers: they always were a problem

A wife asks her husband, a software engineer; "Could you please go shopping for me and buy one carton of milk, and if they have eggs, get six!"

A short time later the husband comes back with six cartons of milk.

The wife asks him, "Why the hell did you buy six cartons of milk?"

He replied, "They had eggs."

