

The West Australian VHF Group Bulletin

March 2004



Calendar

Mar	8	VHF Microwave Net
	15	Committee Meeting
	22	General Meeting
Apr	12	VHF Microwave Net
	18	Field Day
	19	Committee Meeting
	26	General Meeting
May	10	VHF Microwave Net
	17	Committee Meeting
	24	General Meeting
Jun	14	VHF Microwave Net
	21	Committee Meeting
	28	General Meeting
Jul	12	VHF Microwave Net
	19	Committee Meeting
	26	General Meeting
Aug	9	VHF Microwave Net
	16	Committee Meeting
	23	General Meeting

Committee

President	Alan	VK6ZWZ
Acting Sec.	Don	VK6HK
Vice President	Terry	VK6ZLT
Activities		
Materials		
Publicity		
Treasurer	Cec	VK6AO
Librarian	Al	VK6ZAY
Museum Rep	Tom	VK6ZAF
Bulletin Editor	Ben	VK6IC
Councillor	Luigi	VK6YEH
Councillor	Wally	VK6KZ
Councillor	Terry	VK6TRG

The official newsletter for the West Australian VHF Group (Inc), PO Box 189 Applecross. Email for the editor can be sent to vk6ic@amsat.org.

Editors Notes

Ben Rampling, VK6IC

Welcome to the March edition of the Bulletin. This issue brings news of new satellites, new beacons and new personal DX records for those lucky and up early enough. The ninth annual VHF Group Field Day is also coming up, so grab the rules and a boot full of batteries, and we'll hope to see you there.

For those awaiting (or dreading) the response from the ACA to the recent "Review of Amateur Service Regulation", the ACA has made public the submissions to the review and outlined a number of decisions already taken. The submissions and updates on the review are available from the ACA web site.

The last few months have seen plenty of talk of the AO-40 failure, the use of the Parkes Radio Telescope to listen for the AO-40 L1 receiver LO, and even mention of requesting spy satellite photography from the airforce to determine its fate. In the midst of this, AMSAT is preparing for the launch of OSCAR E (Echo). The OSCAR E satellite under construction by AMSAT-NA has been given an official launch date of 29 June, 2004. The satellite will include:

- Multiple channel analog operation using two transmitters.
- Digital operation including APRS and PSK31.
- High downlink power—12 Watts maximum, adjustable from 1 Watts to 12 Watts.
- Simultaneous use of voice and data channels.
- Multi-band receiver and multi-band receive antenna (100 KHz–1.3GHz).
- L Band receiver and S Band transmitter.
- An automatic and self-healing power management system.

More details are available from <http://www.amsat.org/> and the AMSAT Journal.

Bob Bruninga WB4APR has also announced the pending installation of PCSAT2, to be launched on the Space Shuttles first return to space in October 2004. It will fly with the ISS as an external payload, piggybacking on a US DOD solar panel experiment. It is to include a digipeater, PSK-31 transponder and an FM voice repeater. Detailed specifications and hardware details are available at <http://www.ew.usna.edu/~bruninga/pcsat2.html>.

South West Coast APRS Coverage

Chris Hill, VK6KCH

Hi All,

I took a drive from Perth to Augusta, via Mandurah, Bunbury and Busselton, then down Sue's Road (rather than the normal route through Margaret River, etc). VHF coverage was surprisingly good!

As expected, I was gated to the Internet all the way down to Mandurah (approximately 70 Km south of Perth), as my packets were being heard directly, and hence digipeated, by VK6ZTN-1, and hence gated to the Internet by VK6HGR-1.

I could still see (decode) my own packets on the D-700 as far south as Bunbury (approximately 160km south of Perth), being digipeated by VK6KSB-1 (which is above Pinjarra, approximately halfway between Perth and Bunbury). Unfortunately, it seems that VK6HGR-1 can't hear packets digipeated from either VK6KSB-1 or VK6RLK-1, so these position reports weren't gated to the Internet :-(

Further south, I could hear my own packets being digipeated by VK6KSB-1, but couldn't reliably decode them on the D-700. I specifically tested sending beacons from Gelorup, and in Capel. Pretty impressive. That's 110 Km into VK6KSB-1!

Further south yet again, nothing much was working, until we started driving south along Sue's Road, climbing the Wicher Range. Just before entering the tree line, I sent some position beacons—and amazingly, they were digipeated! I even decoded a few of the packets. That's 140km into VK6KSB-1, admittedly with height at both ends of the path, and with the path being over low coastal plains. Here's the southern-most packet as received at VK6ZTN-1:

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VK6KCH-9>SS47P4,VK6KSB-1,VK6RLK-1* [08/01/04 16:43:04]:<<UI>>:'+5Y"*'>/'5T}
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There's an old 2m packet digipeater in Busselton on 144.875MHz, which I believe is completely unused these days. It would be interesting to see if the owners (WARG?) are interested in moving it to 145.175MHz, as it would then link in very nicely with VK6KSB-1, and from there, to Perth.

Also, we need to establish a permanent IGATE which can reliably receive as many digipeaters as possible. Although my home station can reliably receive all digipeaters, my IGATE currently runs on a laptop, which was travelling with me at the time. :-(

In summary, we have some pretty impressive coverage down the west coast!

Ninth WA VHF/UHF/SHF Field Day

Sunday, 18 April, 2004

1. The contest is open to all individual licensed amateurs. All bands above 50 MHz, and all licensed modes including digital modes, may be used.

2. Points are scored for two way contacts between pairs of stations, at least one of which must be in the VK6 call area. (Contacts via electronic relays other than Amateur satellites do not count towards the score, but may be used for liaison purposes.) For the purposes of the contest, a portable station is one which is being operated away from the usual station address and which is not powered from the AC mains. Mobile stations (including permanently mobile) count as portable.

3. CONTEST TIME: 1030-1500 WST (0230Z-0700Z) on Sunday, 18 April 2004. The contest is divided into 2 intervals of 2 hours each, 1030-1230 WST and 1300-1500 WST. These are separated by a half hour (1230-1300 WST) for lunch. Two stations may work each other for a scoring contact once on each band in each 2 hour interval.

4. The contest exchange will consist of a signal report, 3 digit serial number starting from 001, and the station location.

5. Each scoring monoband contact is worth 1 point times the following multipliers:

DISTANCE MULTIPLIER:															
One point for each 25km or part thereof, up to a maximum of 15 points.															
Up to (km)	25	50	75	100	125	150	175	200	225	250	275	300	325	350	350+
Multiplier	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BAND MULTIPLIER:															
Nom. Freq. MHz	50	144	432	1296	2400	3400	5760	10368	24000	47000	and up				
Multiplier	3	2	3	5	8	8	8	8	12	16					
FIXED STATION TO FIXED STATION MULTIPLIER: 1															
PORTABLE TO METROPOLITAN FIXED STATION MULTIPLIER: 2															
PORTABLE TO COUNTRY FIXED STATION MULTIPLIER: 4															
PORTABLE TO PORTABLE MULTIPLIER: 4															
Contacts count double if one of the stations is portable, and quadruple if both stations are portable, or if one is portable and the other is a country fixed station. A country station is one which is at least 100km from GPO Perth.															
NOVICE STATION MULTIPLIER: 4															
Contacts in which one or both stations is a Novice (or Limited Novice) station count quadruple. The other multipliers still apply.															
SUMMARY:															
	25	50	75	100	125	150	175	200	225	250	275	300	325	350	350+
50/432	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
144	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
1296	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
2-10GHz	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
24GHz	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
47GHz & Higher	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240

6. SECTIONS: 1. Portable; 2. Fixed; 3. Novice Portable; 4. Novice Fixed.

7. GROUP OPERATION: There is no section for club stations, but contacts with club

stations count towards the scores of individual amateurs entering sections 1 to 4. Groups of up to 3 licensed amateurs may pool their equipment, and operate from a single portable site under their own individual call signs. (An exception is made for VK6WH, which is allowed multiple operators, and can enter the portable section even if operated from Wireless Hill.) The use of multiple call signs by a single individual is not allowed.

8. CROSSBAND CONTACTS are permitted, but only score in special circumstances. If two stations work crossband from band A to some other band (B, say), but do *not* have a two way contact on band A in the relevant 2 hour time period, then *once, and only once*, in that period, each may claim towards their score half the points that would have resulted from a band A contact. This means that if they do *not* have a two way contact on band B in the time period, they may also claim (once only) *half* the points that would have resulted from a band B contact.

9. SATELLITE CONTACTS. In addition to terrestrial contacts, each pair of stations is allowed one contact per satellite per 2 hour period, provided that both stations are in the VK6 call area, and that all uplink and downlink frequencies used are in the VHF/UHF/SHF Amateur bands. Scoring is based on the *terrestrial distance* between the stations, and the transmitting and receiving bands actually used by the station claiming the points. If these are bands A and B, then the station may claim *half* the points that would result from a band A contact, *plus half* the points that would result from a band B contact.

10. LOGS should be sent to:

CONTEST MANAGER, WEST AUSTRALIAN VHF GROUP (INC),
PO BOX 189 APPLECROSS, W.A. 6953

to arrive by Monday, 26 April, 2004 (April Meeting night).

The Contest Manager's decisions and interpretation of the rules are final.

REMEMBER: Contacts between a portable station, and a portable or country fixed station, count double. Contacts with Novice stations count quadruple.

If things get a bit quiet, some suggested frequencies to try are:

SSB: 50.175, 144.120, 432.120, 1296.120

FM: 52.525, 146.5, 439.0, 1296.3

Liaison: 144.175 (SSB), 432.175 (SSB), 145.375 (FM)

New Beacons Operational

Wally, VK6KZ

The WA VHF Group Inc commissioned a 200 mW beacon on 10,368.564 MHz at Mt Barker, on Sunday 5 October.

An exciter and keyer in the hut results in an FSK signal at about 518MHz being sent up the coax to a multiplier chain and PA mounted at the back of a 380mm dish. The dish has a bearing of 106 degrees (ie towards Melbourne - well we can dream, can't we?).

Mt Barker [OF85ti] is about 50km north of Albany. The beacon has been heard at Albany by VK6KZ/p and VK6WG. It has also been heard in the Stirling Range (north east of Mt Barker)

by VK6ZWZ.

Additionally a beacon on 432.564MHz was commissioned on the same site and this has close to 50 Watts split into two 10 element yagis—one towards Melbourne and the other towards Perth. It is being heard quite consistently in Perth under present conditions (about 340km).

A 144.564 MHz beacon was also installed Sunday 1st February, thanks to Brian and Wally Green (VK6YAU and VK6WG) both from Albany and Wally Howse VK6KZ from Perth. The beacon has replaced the Southern Electronics Group 2 metre beacon at Albany—now withdrawn from service.

The new 2 metre beacon uses FSK identification and 15 Watts into an omni-directional antenna built by Cec VK6AO. The transmitter conversion was completed by Don VK6HK on behalf of the VHF Group.

The 10368.560 MHz beacon in Busselton was also installed early March by Terry VK6ZLT and Luigi VK6YEH, with much of the work on the beacon carried out by Terry VK6TRG.

Also, don't forget to look for VHF Group beacons on 144, 432 and 1296 all nnn.562MHz at Augusta (Cape Leeuwin).

Activities for 2004

Terry Leitch, VK6ZLT

- **April**
Talk on “Weak Signal Digital Modes” by VK7MO.
- **May**
Annual Junk Sale.
- **June**
PLL's and local oscillators for μ Waves.
- **July**
 μ Wave Test gear.
- **August**
 μ Wave Transceivers show and tell and assist.
- **September**
AGM
- **October**
Beacons and identification modes.
- **November**
New equipment, materials, sources and planning for 2005.

Please note that any of these events may be changed around depending on circumstances. Any suggestions are most welcome. All contributions gratefully considered.

First VK6 for DXCC on 6m

Wally, VK6KZ

Bill Webber VK6JQ has qualified for W.I.A. Federal DXCC on 6m. from remote Broome, North Western Australia on the 25th February 2004.

He has achieved the Open Certificate No.301. Scoring 103/104 DXCC countries CW and SSB on 50 MHz. Our special congratulations from the W.I.A. and its members for a great achievement being our very first Western Australian to do so.

It has taken Bill just on 20 years sleepless nights and cyclones to procure his goal in life. With the current decline of the solar cycle and DX propagation from that part of the world it will be many years before anyone else has even a small chance of repeating this performance.

Boxing Day 2003 Duct

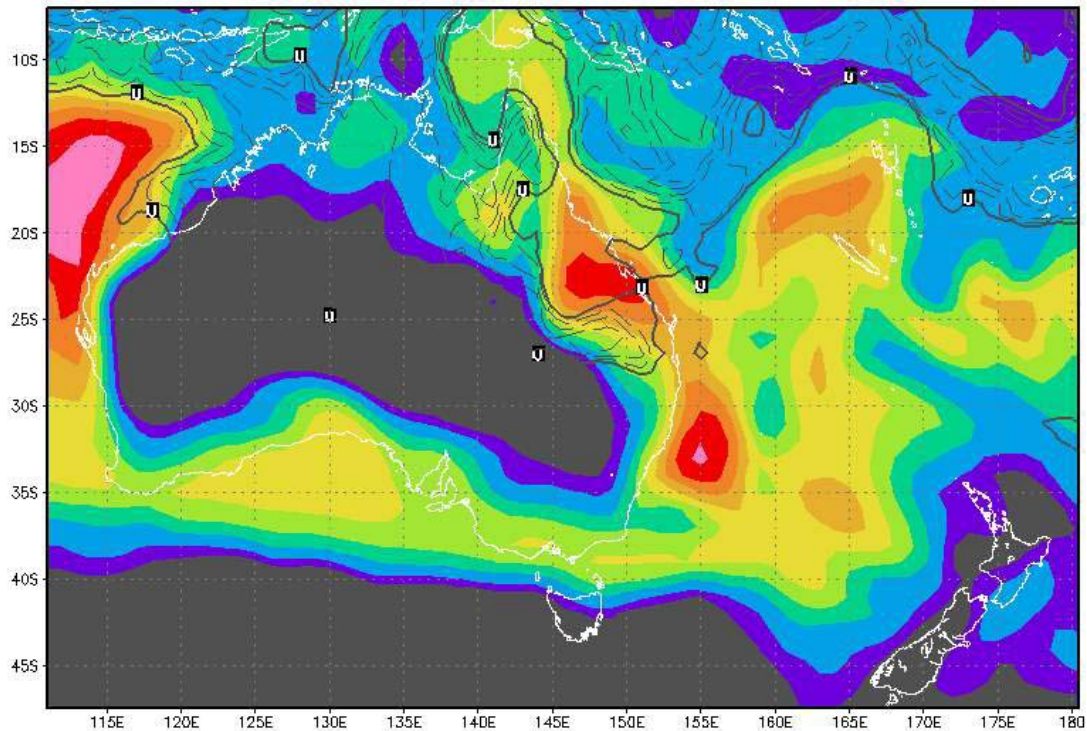
Leigh Rainbird, VK2KRR

On Boxing Day 26 December 2003, two lucky stations found they had been looked upon favorably by Mother Nature and were given one of the ultimate VHF radio paths into VK6.

The stations involved were Brian VK5UBC (ex-VK5ZMB) at Gawler—40 Km north of Adelaide—and myself, Leigh VK2KRR, western side of The Rock Hill—30 Km south-west of Wagga.

We had an idea that conditions could be OK today, but we did not ever really think that we would get as far as we did. As a guide in relation to conditions for Boxing Day we were able to see a prediction of possible duct conditions from the following Hepburn Duct Forecast Chart.

Hepburn Tropo Index Valid 1800Z Thu Dec 25 Australia-NZ



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The contact was from both VK5UBC and VK2KRR into the Boddington Mt Saddleback repeater on 147.250 MHz. This repeater is the highest in VK6 at 590 MASL, and has 20 watts ERP with an Omni-directional vertical antenna. For the VK6RMS site visit <http://members.iinet.au/~vk6wia/vk6rms.html>.

The distance to the repeater for Brian VK5UBC at Gawler is 2062 Km. The distance to the repeater for Leigh VK2KRR at The Rock Hill is 2817 Km.

What an amazing path this was! I first noticed the path at about 2030 UTC (7.30am my time) as a weak signal noted behind the Mt Macedon repeater VK3RMM. It took about 27 minutes for me to make the identification of VK6RMS as the repeater that I was hearing. You can imagine the excitement when I confirmed I was able to access a repeater 2817 Km to my west.

The path was suddenly very good at Port Lincoln, enough to support 70cm at quite a strong level. This could perhaps be an indicator to look for in future duct events, as Port Lincoln is just north of the straight line path to Perth. Conditions to Perth will obviously depend on weather conditions out further west.

The first station I was able to confirm on the Boddington repeater was Frank, VK6ZGU located at Wagin, which is 90 Km to the south-east of the repeater. Frank was calling me while the conditions were still quite weak. I recall that Frank had my callsign but I could just not copy all of his. I could hear VK6???, then after the next few tries I eventually got VK6?-Golf-Uniform, very close. As the repeater signal strength increased I finally got the missing letter VK6-Zulu-Golf-Uniform, VK6ZGU. I was wrapped! and very excited.

I can't recall if it was before or after I confirmed Frank on the repeater, that I luckily found VK5UBC Brian, on the Murray Bridge repeater. I remember Brian mentioning to me he had just worked the Canberra 2m repeater and I just said "That's good! I am COPYING PERTH

HERE!!!". Then the mayhem began, and I let Brian know it was on 147.250 and we both went to see what we could do.

To my amazement, and probably Brian's, he eventually could also get to the VK6RMS repeater. It was great, we were the only two stations in eastern Australia getting through on a path quite close to Perth.

The next station that got on air at the Perth end was Glen, VK6IQ, located at a place called Wandina—45km NE of Perth—putting Glen approximately 200 km from the repeater. Glen did well and went to raise some other operators in VK6 but only came across one, which was Doug, VK6TDC in the Perth area.

The duct to the Boddington repeater, for me, lasted until approximately 10.40am local time (2340 UTC). I believe it dropped out for Brian about 40 minutes before this.

What a brilliant morning for radio—Boxing Day 2003 will be remembered for a while to come.

Leigh VK2KRR also has a web site at <http://www.users.bigpond.com/vk2krr/> with station details and photos, and weather charts, ducting graphs and analysis of openings, as well as news on significant DX contacts.