

OFFICIAL NEWSLETTER FOR THE WEST AUSTRALIAN VHF GROUP(INC)
P.O. BOX 189, APPECROSS WA 6153.

MEETINGS ON THE FOURTH MONDAY OF EACH MONTH AT WIRELESS HILL
TELECOMMUNICATIONS MUSEUM, ALMONDBURY RD, ARDROSS

VK6WH

VK6WH

PATRON MR. F.W. DAWSON

PRESIDENT	BOB BLINCO	VK6KRC H277 7049	SECRETARY	BOB PINE	VK6ZFY	H 339 3273
VICE PRES	PETER TAIT	VK6ZPT	TREASURER	BERT MEUMSSEN	VK6ME	H 457 3892
COUNCILLOR	TERRY LEITCH	VK6ZLT H332 7008	BULLETIN ED.	JACK BORTHEN	VK6KDX	H 447 5933
COUNCILLOR	BRUCE DOUGLAS	VK6BMD	MUSEUM REP.	BOB PINE	VK6ZFY	
COUNCILLOR	COLIN MURRAY	VK6ZCR	MUSEUM REP.	TOM BERG	VK6ZAF	
ACTIVITIES	TERRY LEITCH	VK6ZLT	PUBLICITY	PHIL MALEY	VK6AD	
MATERIALS	COLIN MURRAY	VK6ZCR	LIBRARIAN	ILMAR BELTS	VK6AIB	

CALENDAR

MARCH	16 COMMITTEE MEETING	MAY	18 COMMITTEE MEETING
	21 FOX HUNT		23 FOXHUNT
	23 GENERAL MEETING		25 GENERAL MEETING
APRIL	20 COMMITTEE MEETING	JUNE	15 COMMITTEE MEETING
	25 FOX HUNT		20 FOXHUNT
	27 GENERAL MEETING		22 GENERAL MEETING

MARCH 92

March Meeting....Barry Grey VK6ZSB will talk
about his 10 Gigahertz project.

April1296 kit workshop. Bring along
your 1296 kit and check it on a
spectrum analyser etc

MayJunk Sale. Circulate that
treasure.

JuneAntennas

There are currently four low orbit bulletin board satellites that are very easy for anybody to access.

These are

UO-22 on 9600 baud, 435.120 MHz down and 145.975 up BPSK

AO-16 on 1200 baud, 437.025 MHz down and 145.960 up PSK

LO-19 on 1200 baud, 437.150 MHz down and 145.840 up PSK

FO-20 on 1200 baud, 435.910 MHz down and 145.870 up PSK

UO-14 is currently no longer available to amateurs. They overfly Perth six times per day at approximately the same time each day starting at about 9.30 am to 1.30 pm and the same time in the evenings.

There are about 180 or so users around the world and you can have direct contacts with anybody in Australia in normal two way packet type connects.

The passes vary in length from 5 minutes to 25 minutes and you can work the satellites from horizon to horizon without too much difficulty if you have pointing antennas. If you only have vertical antennas you can hear the satellites from horizon to horizon but they will only hear you using a 1/4 whip vertical and 25 watts when they are above 30 degrees. This reduces your ability to work them.

The material on the satellites consists mainly of technical messages passing between people designing programs, satellite accessories and various radio modifications. There is a lot of software that is used particularly for satellite work that is put up by the users. UO-22 has an on board camera which takes still pictures of the earth in beautiful detail and these pictures can be downloaded easily.

These pictures of the earth can be displayed on any IBM look-a-like using software written by Colin VK5HI who has produced software to drive most VGA cards. This format is evidently not standard on all IBM clones.

Many users upload pictures in the GIF format and these vary from home photos to detailed technical circuit diagrams. There is also a group uploading digitised voice information that runs on any IBM just coming out of the ordinary speaker on the computer. The sound quality is very good and you can easily hear accents and tones.

I intercepted a BASIC program sent from a Swedish amateur to a Spanish station and from his program I designed a minimum chip version of his satellite tracker system. By communicating on the satellites a Japanese group did the same as I did except they produced a much more sophisticated version using the language 'C' with a L.C.D. indicator and an EPROM and now they have available a commercial version of the Swedish satellite tracker system. This system will be distributed in the USA by TAPR, and in the UK by

AMSAT-UK.

For those of you who are really into high frequency receiving there are three amateur satellites being launched in 1994 heading for the moon. They will be carrying a colour camera with downlinks on 2.4 GHz and will be taking pictures of the moon. One of the satellites will then proceed to Mars. I think that the antennas may be rather a challenge and it would be interesting to see how well various combinations of loop yagis and dishes would work with the signal getting weaker every day. Trying to calculate the position of the satellite for antenna pointing would also be interesting.

The Australian coordinator for AMSAT is Graham VK5AGR who puts out a newsheet each month and who runs a net on 7.064 MHz on Sunday evenings at 6pm. Several WA stations regularly participate in the net.

73 Bruce VK6BMD

FOR SALE

RF Power Transistors Motorola MRF422
To suit "super rigs" 930S, 940S, 950S, 767 etc
\$55 each or \$110 for matched pair.

Graham VK6RO 451 3561

Dont forget the May Junk Sale.

You are most welcome to advertise in the bulletin.
Phone, mail, FAX or BBS the Bulletin Editor.

EDITORIAL SOAP BOX

Well here is my second bulletin and I would like to thank members for the positive support I have received. Mind you that does not mean I wont need any more articles.

As an avid reader of constructional articles I find that I am constantly disappointed by the lack of such articles in both local and overseas publications. I guess one must wonder what this really means. It is difficult to believe that it is caused by the lack of writing aids with the number of readily available WP and CAD packages available. Is it possible that nobody does build anything anymore? I dont believe this is the true so why dont more people publish their ideas and projects anymore?

I certainly believe that the future of amateur radio as we have known it depends on the continuance and development of skills which can only be obtained from building and experimentation. What skills does black box operation develop apart from conning the XYL about the cost. You dont even have to worry about antennas any more with auto tuning ATUs. Whilst I enjoy the rag chewing aspect of the hobby, lets face it, if you want to talk to someone it is far easier and cheaper to use the telephone.

So what are you going to do about it? Why dont you make an attempt to put your pet project on paper and submit it to this bulletin or better still to an Australian or International magazine.

**DONT FORGET BARRY'S TALK
 NEXT MEETING ABOUT HIS 10
 GIG PROJECT**

BARRY GREY.
 VK6ZSB.

TEN GIGS FM

Want to build a microwave transceiver ?

- * Too difficult
- * Too expensive
- * Too time consuming

For less than \$100, and with the aid of only simple test equipment you can build this wideband fm 10 ghz transceiver in about ten hours.

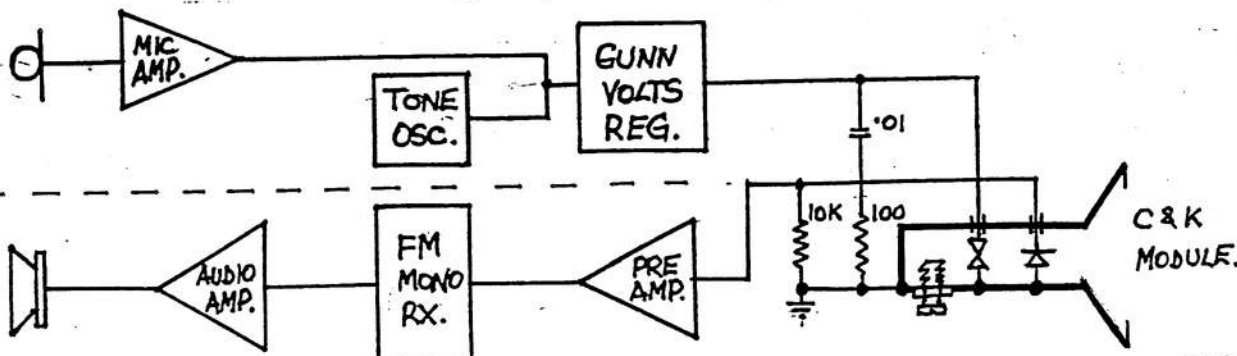
(that's \$10 per gigahertz or 1 gigahertz per hour)

The block diagram below shows the transmit and receive components centred around a C&K 'X' band alarm module. the unit uses a low power Gunn diode (approx 5 mw) with an in-line diode detector.

The centre frequency of the microwave rf energy is determined primarily by the cavity dimensions, with course frequency adjustment (about 200 mhz per turn) achieved with a small screw inserted into the cavity. Fine frequency adjustment (+/- 15 mhz) is the result of varying the dc volts applied to the Gunn, however, this also affects the rf output power and a suitable compromise is necessary.

The transmitter provides a regulated 6-8 v dc to the Gunn diode but this voltage is varied slightly (100mv) with an applied audio signal. the output from the C&K module becomes a wideband (200khz) frequency modulated rf source. The fm mono receiver will work between 1 and 110 mhz with its actual tuning range being set by a single local oscillator coil and the dc voltage applied to a varicap tuning diode. The receive signal is as a result of the diode detector being used as a single ended mixer to allow recovery of the difference between the incoming 10 ghz signal and that generated by the local gunn diode oscillator.

TRANSMITTER.



RECEIVER.

ZSB.

SIX METER CAPERS by DIALOG.

Six Metre DX worked or heard in Perth since 26 Oct 1991

DATE	UTC	REMARKS	DATE	UTC	REMARKS
26-10	0317	JA contact			
	0615	European 48 & 49 MHz TV	1-1-92		HAPPY NEW YEAR !!!!
27-10	0318	JA6 beacon	1-1	0802	JA7ZMA beacon
	0611	49.750 Russian TV		1028	NZ TV 45 MHz
2-11	0425	JAs heard	3-1	0905	VK5RO worked
	0515	48 MHz Malaysian TV	9-1	1017	Norway TV heard 48 MHz
	0548	KG6UH/DU1 Phillipines QSO	12-1	0800	European TV 48 & 49 MHz
3-11	0450	JA contacts		0901	LA9ZV (new country) plus
6-11	1145	49.750 Russian TV	Sweden, Finland		
7-11	0754	JA Contact			England worked and Netherlands
11-11	0936	JAs heard and worked	heard.		
12-11	0930	JAs worked			BIG OPENING
17-11	0740	49.750 TV	13-1	0100	VK5 beacon
	0854	OH5NQ worked. FINLAND !		0849	Norway TV heard
			15-1	1054	VK6JQ (Broome) worked 579
22-11	1021	VK5s worked	16-1	0332	49.750 Russian TV
	1055	NZ TV and audio 51.750 MHz		0505	JA8RC worked plus other JAs
	1056	VK3 AND VK4 worked	17-1	1106	TV Malayasian 48.250
23-11	0120	VK6PA Karratha worked		1226	JA6 beacon
	0533	JAs worked		1251	VK6JQ Broome worked
24-11	0325	VK2RGB, VK2RSY, VK4RIK	18-1	0457	VK5VF beacon
beacons heard				0722	Norway TV 48 MHz
	0445	VK5ZRO/5 (mobile) worked	19-1	2330	Toowoomba 46.171 MHz
	0519	VK1 and VK2 worked	20-1	0146	VK5 beacon
4-12	0631	JAs worked		0606	49.750 TV
7-12	0445	JA7ZMA beacon heard		0642	JA7ZMA beacon
8-12	0150	VK6PA worked	22-1	0213	NZ TV audio heard on 51.750 at
13-12	1239	49.750 Russian TV heard	59		
18-12	0817	JA beacons heard		0850	49.750 Russian TV
20-12	0755	JA beacons heard			
21-12	0303	VK6RTT Wickham beacon heard (also at 0718)	23-1		Received VHF Group Bulletin
			asking for articles		so here it is. (Thank you. Editor)
22-12	0115	VK6RTT beacon			
	0411	49.750 Russian Tv			
	0415	JA6 beacon heard			
	0526	VK6YCF worked (Newman ?)			
25-12	0250	VK2RSY beacon			
	0834	VK2s worked			
	1146	VK1s worked			
26-12	1033	49.750 Russian TV			
27-12	0341	Toowoomba VK4 TV 46.171			
MHz					
	0613	VK6RTT			
	0751	49.750 Russian TV			
29-12	1003	European TV 49 MHz heard			
	1048	VK6RTT			
31-12	0943	VK8ZLX worked (Alice Springs)			

Notes :-

I read in a USA magazine recently that anybody that carries out weak signal VHF work is at the forefront of Amateur activities - Long live 6 metre DX - especially CW mode.

73
DIALOG

(I'll bet he doesn't like daylight saving either. Editor)

WA VHF GROUP
Materials Listing

Partnumber	Description	Qty	Price \$
1" VIDICON	VIDICON	1	1.00
1.8-22PF	TRIM CAP(SMALL GRN)	67	0.45
100N	DISC CERAMIC	216	0.10
100N	GREENCAP	70	0.03
10N	DISC CERAMIC 100V	393	0.15
10N	MIN. PLATE CERAMIC	805	0.10
1N5344	8V2 5W ZENER	17	0.20
1N5370	56V 5W ZENER	24	0.30
1N914	SWITCHING DIODE	40	0.03
1N917B	27V 0.4W ZENER	76	0.05
2N4091	NJD FET RF SWITCH	5	0.10
2N5770	NPN UHF SWITCH	236	0.15
BC548	NPN GENERAL PURP.	511	0.04
BFY90	NPN 1GHZ AMP	51	2.00
BK 5-65PF	TRIM CAP (LARGE YELL)	29	0.45
BNC	PLUG	35	3.00
F25	NEOSID SLUG	396	0.01
FT 2-10PF	TRIM CAP (SMALL YELL)	61	0.45
MFE131	NMD MOSFET VHF	16	2.20
MID 1.4-8.5PF	TRIMCAP (SMALL WHITE)	99	0.45
MRF901	NPN 1GHz 2.5db NOISE	22	3.00
MV2209	33PF VARICAP DIODE	30	0.45
PCB LAYOUT TAPE	VARIOUS SIZES all for	0	20.00
QQE03/20	UHF VALVE 20W	2	5.00

Specials:

PRICES FROM NOVEMBER 91 SPECIALS ARE
NOW THE STANDARD PRICE.

BNC PLUGS \$2.50 EA
100N DISC CERAMIC NOW HALF PRICE \$0.05EA
10N MIN PLATE CAP NOW \$0.05 EA
2N5770 TRANSISTOR \$0.10 EA
BFY90 \$1.50 EA

PRESS RELEASE

Intelsat, Washington USA.

The plans for redeployment of INTELSAT satellites within the coming months are as follows:

IS-VI (F-5) Already replaced IS-VI (F-2) at 335.5 E.
IS-VI (F-2) will replace IS-VA (F-15) at 80 deg. E on January 1982
IS-VA (F-15) will be relocated to 342 E, to replace IS-V (F-8) in March 82
IS-V (F-8) will be relocated to 325.5 E to replace IS-V (F-4) in March 82
IS-V (F-4) will be moved to 310 E before end 1982.
IS-VI (F-1) will replace IS-VI (F-4) at 332.5 E before end of February 82
IS-VI (F-4) will be relocated to 63 E by 01 March 1982 to replace (F-11)
IS-VA (F-11) will be placed at 177 deg. E in the POR to replace IS-V (F-3)
by mid-1982.

Source: Intelsat, Washington for Nordisk Satelliteinformation (sm8cjl)
For more details call : Nordisk Satellite Information 46 (0)500 15400 or
telefax 46 (0)500 81785 (24h)
73 de Jan SM8CJJ @ SM6JZZ

Subject : 2Line Orbital Elements 046 AMSAT
Path : VK6CWVW5ZKIVK5WV

HR AMSAT ORBITAL ELEMENTS FOR AMATEUR SATELLITES IN NASA FORMAT
FROM N3FKV HEWITT, TX February 15, 1982 BID:\$ORBS-046.N

DECODE 2-LINE ELSETS WITH THE FOLLOWING KEY:
1 AAAAAU 00 0 0 BBBBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 DDDZ
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.III JJ.JJJJJJJKKKKKZ
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

TO ALL RADIO AMATEURS BT

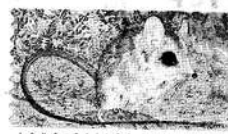
AO-10
1 14129U 83 58 B 92041.17489565 -.00000057 00000-0 89998-4 0 7988
2 14128 26.1239 89.6420 5853039 318.8621 8.1384 2.05884257 65123
UO-11
1 14781U 84 21 B 92044.58981845 .00003781 00000-0 68493-3 0 1737
2 14781 87.8684 85.3322 0012834 117.7723 242.4752 14.68155786424850
FS-10/11
1 18129U 87 54 A 92045.06545062 .00000175 00000-0 18085-3 0 484
2 18129 82.9225 240.0993 0010610 232.7477 127.2718 13.72256887232768
AO-13
1 19216U 88 51 B 92041.92868162 .00000008 00000-0 12477-2 0 3408
2 19216 56.8117 43.8336 7284831 277.8202 12.4454 2.08712240 28033
FO-20
1 20480U 90 13 C 92044.30353423 .00000028 00000-0 82214-4 0 2927
2 20480 89.0629 348.0749 0541114 115.4194 250.3916 12.83201584 94480
AO-21
1 21087U 91 6 A 92045.08483617 .00000205 00000-0 20381-3 0 2438
2 21087 82.9414 54.7631 0035537 307.7372 52.0564 13.74458170 52250
RS-12/13
1 21089U 91 7 A 92045.12765026 .00000218 00000-0 21817-3 0 1954
2 21089 82.9255 284.7479 0030001 328.5180 30.4238 13.73968159 51381
UO-14
1 20437U 90 5 B 92042.21550687 .00001417 00000-0 58998-3 0 5035
2 20437 88.5464 125.0860 0010561 184.8414 175.2670 14.29500582107138

AO-18
1 20439U 90 5 D 92045.10707344 .00001133 00000-0 45831-3 0 4041
2 20439 88.6553 128.4687 0010049 178.5482 183.5773 14.29577124107651
DO-17
1 20440U 90 5 E 92045.21051722 .00001234 00000-0 49844-3 0 4034
2 20440 88.6543 128.6579 0010743 175.3082 184.8194 14.29692817107579
WO-18
1 20441U 90 5 F 92044.19837086 .00001304 00000-0 52383-3 0 4012
2 20441 98.8503 127.8958 0012239 178.1134 184.0145 14.29698431107435
LO-19
1 20442U 90 5 G 92044.71736173 .00001124 00000-0 45332-3 0 4027
2 20442 98.8552 128.3135 0011002 179.5455 180.5741 14.29778773107517
UO-22
1 21575U 81 50 B 92044.72092081 .00001563 00000-0 54887-3 0 1117
2 21575 98.5279 121.4528 0007698 320.4153 39.8468 14.36488366 30382
NOAA-9
1 15427U 84123 A 92045.28293210 .00000369 00000-0 21741-3 0 8945
2 15427 99.1552 69.5058 0016899 88.5485 87.1938 0012218 307.8838 52.1156 14.
.24524895280872
MET-2/17
1 18820U 88 5 A 92044.98251253 .00000187 00000-2588307 .00000056 00000-0
12825-3 0 8855
2 19338 82.5407 208.1332 0016400 240.3812 119.5883 13.16941947170815
NOAA-11
1 19531U 88 88 A 92045.27857853 .00000891 00000-0 50241-3 0 7504
2 19531 99.0652 7.3112 0012224 18.0289 341.1278 14.12548540174684
MET-2/18
1 19851U 89 18 A 92045.18372921 .00000437 00000-0 38156-3 0 6002
2 19851 82.5210 104.7559 0015086 89.8988 280.3889 13.84252623149535
MET-3/3
1 20305U 89 88 A 92044.34585038 .00000043 00000-0 89999-4 0 5064
2 20305 82.5814 150.4581 0014801 254.4735 105.4753 13.15884102110670
MET-2/19
1 20670U 90 57 A 92044.80320273 .00000363 00000-0 31719-3 0 3518
2 20670 82.5438 167.0469 0016818 27.1458 333.0604 13.84080487 82423
FY-1/2
1 20788U 90 81 A 92045.29374579 .00000605 00000-0 42457-3 0 3168
2 20788 98.9177 78.4806 0013876 226.1110 133.8899 14.01242714 74119
MET-2/20
1 20828U 90 88 A 92042.18242048 .00000401 00000-0 35512-3 0 3498
2 20828 82.5251 107.8065 0013175 295.8565 64.1284 13.83460041 89254
MET-3/4
1 21232U 91 30 A 92045.03002129 .00000043 00000-0 89999-4 0 1471
2 21232 82.5484 53.8437 0017633 188.8085 191.3431 13.16769220 38948
NOAA-12
1 21263U 91 32 A 92045.25432072 .00001183 00000-0 55383-3 0 1848
2 21263 98.7108 78.8044 0013308 184.8488 175.2577 14.21870293 38152
MET-3/5
1 21655U 91 56 A 92044.27385915 .00000440 00000-0 11293-2 0 1951
2 21655 82.5582 0.4851 0013416 169.4173 190.7189 13.18799318 23947
MIR
1 18609U 86 17 A 92044.86189018 .00054259 00000-0 80609-3 0 688
2 18609 51.5998 153.1737 0014068 143.2013 216.8957 15.62102611342846
HUBBLE
1 20580U 90 37 B 92045.12445U 91 27 B 92045.41362493 .00035624 00000-0 5837
4-3 0 4448
2 21225 28.4823 204.1074 0007226 226.6113 133.3345 15.51024403 48701
SARA
1 21578U 91 50 E 92042.70549818 .00006648 00000-0 22504-2 0 1917
2 21578 98.5250 119.4680 0003907 318.4864 41.6077 14.37073458 30093
UARS
1 21701U 91 63 B 92045.24332893 .00005987 00000-0 54074-3 0 858
2 21701 56.9870 340.9070 0004772 102.0601 258.0958 14.96564319 23102
--- End of message #4385 from VK5AGR @ VK5WV.#SA.AUS.OC ---

How to submit your bulletin contributions.
Phone 447 5933
FAX 325 1585
BBS VK6KDX via VK6KS

THE WEST AUSTRALIAN V.H.F. GROUP BULLETIN

MARCH 1992



LONG-TAILED QUOKKA

The West Australian V.H.F. Group (INC)
P.O. BOX 189 APPLECROSS W.A. 6163