THE WORLD BELOW **400 GHZ**

The Periodical Newsletter of the WAIKATO VHF GROUP Inc., ZL1IS, PO BOX 606, Waikato Mail Centre Hamilton 3240.



NZART **BRANCH 81**

President

WAIKATO VHF GROUP EXECUTIVE

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The next General Meeting of the Waikato VHF Group, will be held on Sunday, 15th October, at 1.30pm

October General Meeting 2006

at the Te Puke Amateur Radio Club rooms.

Alan Wallace will be talking on Fibre Optic Cable He will also be demonstrating methods of cable termination.

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KAIMAI SITE BUILDING

the 21st or 28th October. If you are able to attend, please advise Kevin Hampshire, ZL1KRH, at <zli>krh@nzart.org.nz>. Those attending to meet at the main road gate at 9.30am. Actual date decided upon will be announced on the preceding Sunday Night Net. If the working bee has to be canceled due to inclement weather, an announcement will be made at 7:30pm on 695, on the preceding Friday evening. We plan to renew the exterior walls and give them a coat of paint. The building is to be strengthened internally, so as the holding down stays don't pull the building apart. IRVING SPACKMAN - ZL1MO - SILENT KEY Irving passed away on Thursday, 7th September, 2006, after a short time in hospital. Irving became

This building is in need of some TLC. We therefore need your assistance at a working bee, to be held on either

years, up to about 2001 he also gave a weekly report on the Waikato and Auckland VHF Group nets. Besides being a founding member of the Auckland VHF Group, Irving was also a member of the Rodney Amateur Radio Club. We acknowledge his input, countless technical lectures at Conferences and club meetings and involvement in amateur radio over many years. Irving will be sadly missed. MEMBERSHIP The Branch has 46 financial members this year, so far. However, if you know of anybody who would like to join or can encourage others to join, it is not too late. Subs help maintain our equipment.

interested in amateur satellite operation from the time they started appearing on the scene. His interest in this aspect of amateur radio was such that he wrote a column in "Break-In" for more than 15 years. For many

USEFUL WEBSITES The scribes website www.qsl.net/zl1ujq Simon ZL1SWW website www.qsl.net/zl1sww

www.downeastmicrowave.com

www.minikits.com.au

www.db6nt.com

Society of Amateur radio Astronomers www.qsl.net/SARA/ UK Microwave group www.microwavers.org/

PCB's

Alan ZL1AMW website http://zl1amw.wallace.net.nz/index.html

The scribe has had another run of the filter PCB's produced, just as the other boards ran out. It was thought that this run of PCB's would be more expensive due to increasing costs, but the price is still NZ \$3.50 for 1, and \$10 for 3. These PCB's can be used for filters, multipliers from a few 100 MHz to 1700 MHz

Miscellaneous VHF/UHF kit manufacturers

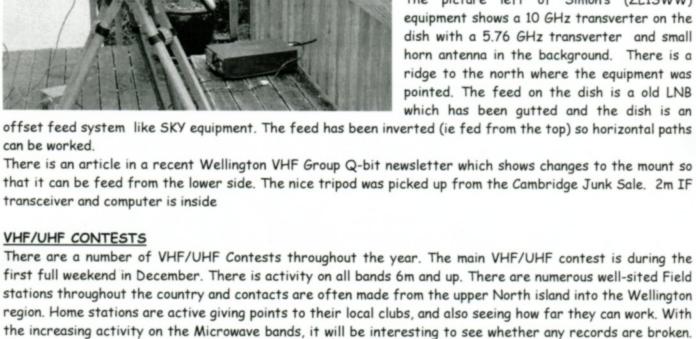
VHF / UHF DX This is the the time of year where the VHF/UHF DX starts coming in from VK. 2m and 70 cm always give a good number of contacts. The activity on 23cm's to VK is increasing as well This will be an interesting DX season as a large number of ZL stations have more microwave capability than before and it will be interesting

to see whether there are any DX contacts on some of the higher Microwave bands. Using Digital modes such as the WSJT FSK441 mode, specifically made for meteor scatter, this allows contacts to be made virtually anytime from the South Island to the Auckland Region. There is activity most Saturday and Sunday Mornings. A frequent user of this mode is Bob, ZL3TY for both NZ contacts and



contacts to VK. Moderate power (50 to 100 w) and modest antennas can be used.

See http://pulsar.princeton.edu/~joe/K1JT/index.htm for the software.



http://www.nzart.org.nz/nzart/Update/Contests/vhfcontestrules0606.html

stability of the equipment. The picture left of Simon's (ZL1SWW) equipment shows a 10 GHz transverter on the dish with a 5.76 GHz transverter and small horn antenna in the background. There is a ridge to the north where the equipment was pointed. The feed on the dish is a old LNB which has been gutted and the dish is an

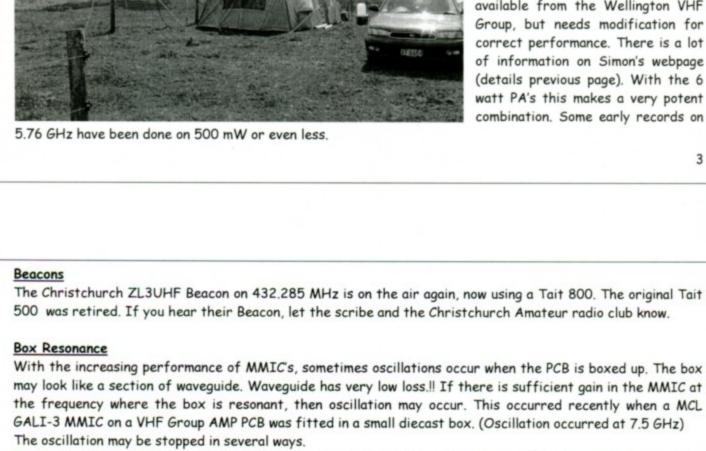
amateur bands. Simon ZL1SWW and Steve ZL1TPH have contacted each other over a 70km obstructed path using FSK441. It will be interesting to see whether the distances can be improved using Digital modes. At microwaves a major hurdle is the frequency

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There are a number of VHF/UHF Contests throughout the year. The main VHF/UHF contest is during the first full weekend in December. There is activity on all bands 6m and up. There are numerous well-sited Field stations throughout the country and contacts are often made from the upper North island into the Wellington

Look at the weblink for the revised rules as they may affect how you participate. There are some changes to the dates of the contests and also the scoring of them.

Teams like the Auckland VHF Group always put in a huge effort during VHF Field day covering most bands with multiple operators. The image left shows some of their setup. There will be also coverage on the higher microwave bands this year. There are many stations, around the country running the surplus DXR



enclosure. (Static foam is used in DB6NT equipment) Recommended

30x10x5.4mm. Check www.rfparts.com for further information.

correct performance. There is a lot of information on Simon's webpage (details previous page). With the 6 watt PA's this makes a very potent combination. Some early records on 3

transverters on 5.76 GHz so that band will be very active. The unit is available from the Wellington VHF Group, but needs modification for

not be physically possible). Put Radiation absorbing material (RAM) around the inside of the box. (This is quite expensive and not normally available in Amateur circles.) Try magnetic sheets sometimes available for printing for sticking on vehicles. Some rubber compounds used in tyres have some lossy properties associated with their performance. If the amplifier is still oscillating even with the cover off, check the vias, thru wires, grounding near the MMIC as the grounding should be very close to the device, and there should be multiple wires.

Over the last few years the Mitsubishi "M" series Bipolar RF modules have been replaced by Mosfet RF

modules such as the RAO8H1317M and RAO7M4O47M units capable of ~ 7 watts. The footprint is only

WA5VJB Antennas

modules The High power versions are usually what is in most transceivers. There are also a range of low power

antennas. www.wa5vjb.com/yaqi-pdf/cheapyaqi.pdf.

Kent has produced some information on very simple roll your own Yagi

and wideband log periodic antennas, from 400 MHz to 11 GHz.

He also produces a range of PCB antennas including Yagi's, Quad patches

Also leaving the Lid off. (interference may occur). If the lid is fitted put a metal strip down the middle (may

LOW POWER RF MODULES

A 2 to 6 GHz Log periodic antenna is shown left. The website has lots of great info

Try low resistance (LT 10k ohms) static foam, which is relatively cheap, around the sides and cover of the