FREQUENCIES VHF, UHF, SHF NEWSLETTER NZ

This newsletter is compiled by Kevin Murphy ZL1UJG to promote operational and construction activity on the VHF, UHF and SHF Amateur Radio allocations in New Zealand (and overseas).

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A big thanks to Simon ZL1SWW for producing the March/April 2007 VHF Scene column.

What happened to me the last few months
As a result of possibly having Diabeties Insipidus (Water Diabeties) Nephrogenic version, and peeing virtually continually (my record was about 6.5 litres in 24 hours) I was programmed to undergo hospital tests during early May.
I didnt feel too well and was peeing about every 20 minutes during the night. The next morning an urgent ultrasound was done and it was seen that my prostate was quite enlarged and my bladder was not too far from bursting I suspect.
Within a short time I had a catheter fitted, which I had for about 5 weeks, plus some infections which resulted in me not feeling very well. However my flow quantity returned to normal as stresses on the kidneys were also removed
About 2 months ago, almost to the day, I had my prostate resectioned (with a TURP procedure if you wish to research further). After a 2 week enforced break, I returned to work. My general health is virtually back to normal.

VHF Scene March/April **Simon Watt-Wyness ZL1SWW**

The VHF bands have been quite active over the immediate past and there is a lot going on at present with various current and upcoming activities. The National System Award was running over the March Period, celebrating 20 years of the National System. VHF convention is looming ahead as well, which promises to have some interesting topics covered.
The format may look a little different this month due to a change of editor, and I hope I can keep it up to the high standard that Kevin has maintained to date. This is a short term stand in and all should be back to normal soon!

Contests.
The results are out for the VHF DX weekend. Thanks to Doug ZL2TAR for his efforts in getting these together to meet the cut off date for the column.
First prize goes to ZL1AA followed by Steve ZM1TPH and Ian ZL1AOX respectively.

A more concise breakdown is as follows:-

ZL1AA RF73IR 9899	ZM1TPH RF73HM 8081	ZL1AOX RF72MV 5456
ZL2ALW RF72HB 752	ZL2BLI RF70SQ 556	ZL2WA RE78kt 354
ZL1MRF RF72OF 37	CHECK LOG ZL2TGQ	

More in depth per band results will appear soon on the NZART website.

Upcoming Contest Dates.
The next contest is the Low Band Contest, 50 MHz to 440 MHz, on Saturday the 14th and Sunday the 15th of April 2007. The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT. This is the weekend FOLLOWING VHF Convention, being held in Wellington at Easter.

The following contest is the Hibernation Contest, 50 MHz and up, on Saturday the 9th and Sunday the 10th of June 2007. This is the weekend FOLLOWING NZART Conference, being held in Palmerston North at Queen's Birthday weekend. The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT.

The rules are available at:
www.nzart.org.nz/nzart/update/contests/vhfcontestrules.html

Simon ZL1SWW reports on the activities from his site.
On Feb 3rd and 4th, the VHF DX weekend was on. I'd decided to put my local club call ZL1AA (Br02) on the air for a change.

Everybody usually turns to the yahoo group VHF contest reflector as a meeting place to discuss who is doing what and going where. All was a bit quiet on the reflector leading up to the contest date but soon a few people popped up, saying they will be active. Some contestants make a big effort and have a long 3-4 hour drive so commitment to being active helps in the decision process as to go the distance or not.

Typically this DX weekend has had fewer contestants than the ever popular Field day where many go "all out" for a good time. On arriving up the hill, it was pleasantly surprising the number of people who came up to give out points as well as the other contestants. It is really great to see more of the southern stations coming up and getting involved. I am sure everybody gets a kick out of long haul DX.

Highlights were getting into Wellington area to work the likes of ZL1TYF, ZL2DX & ZL2WA on 2m. Thanks to all the ZL2s coming up. Band conditions were up and down a bit and a bit hit and miss if you could work these stations, generally they were kind to us with at least one contact had by many teams.

Weather was kind to us as well with generally fine conditions felt throughout the north island apart from some rainy spells that stopped Dave ZL1AKW getting up to a high spot to test his new 10GHz gear. None the less, had some consistently good 1296 contacts over a 210km path.

As usual 10GHz performed well with 5.7GHz following close behind. Even though the band conditions were not stunning, we have found that 10GHz seems to still have the edge on 5.7 overall. Both Steve ZL1TPH and myself have found that over the usual 310+KM path that we often work on 10GHz seems to win under marginal conditions. All in all, a good time was had by all.

It is good to see the increasing interest in the microwave bands with Ross ZL3DC, for instance, getting some stuff together on 2.4 & 5.7GHz with the kind help from others. Slowly the number of DXR-700 units are increasingly been used on 5.7GHz, with a few mods, they become a very cost effective performer. Zl1TPH, ZL1BK, ZL2IP, ZL2TAL, ZL1SWW and others are using these with great success on SSB be it with crystal control or PLL driven by micro.
Anyone who is interested in seeing what these look like, have a look at the www.qsl.net/zl1sww website and look under constructional projects for info on transverter details.

<-------< ZL1SWW Contest Station >----
Ross Zl3DC reports on his perspective.
After getting home from Hamilton late Friday, I decided to not go to far away on Saturday, so packed up my antennas and radio's and set up on 12v at the back of the shed in the front paddock, I have to say thanks to all the stations I spoke to , I made some new contacts and required some old, ZL2DX whom I had heard off and a special thanks to ZL2BLI for having 1296, I was jumping all over the place when I finally got through to ZL1BQ , Great to hear you over a mostly land path, although you were always just appearing over the noise along with ZL1AA at times.
That's it from here, Ross ZL3DC

DX
Murray ZL3MH reports on his recent activities.

The fifth two meter opening to VK happened on 17/1/2007 at 11.00am NZDST to VK7AC . I heard VK7MO at 11.30 am NZDST. My Gear is 12 element Yagi feed with LDF 450 coax at 10 meters 100watt MRF245 HB amp, FTV250 with mod's, FT101zd MK3

We would be much like VK6 very isolated but we have 8000ft of Southern Alps in the way so Sporadic E is the only way. There have been 5 openings to VK this year so far. Their may be still time for one more. Remember all these contacts are over 2000 kms. Murray's recent contacts include:- VK2DVZ, VK2EI, VK2ZT, VK2KU, VK2FZ, VK2APG, VK2FAD VK1BG, VK2AMD, VK2TP, VK4WS, VK4JMC, VK7JMC and many others.

It's 20 yrs since VK4 has been worked in Christchurch. Last time it was 1986 to Rockhampton in North Queensland. This is a record year like 1995, 1986

Bob ZL3TY reports on goings on in his area.
Not a great lot to report this month. Had a 2m opening to VK, Sydney area, on 19/20 January but signals were weak.

During late January and early February I had daily meteor scatter skeds with Rex VK7MO. Apart from the FSK441 MS contacts, on several mornings we were able to get through using JT65. Also had FSK441 QSOs with VK1WJ and VK3VHF.

This summer season has been rather poor for tropo openings to VK from here.

We are still running 2m meteor scatter skeds on Saturday and Sunday mornings using FSK441from 8am to 9am on 144.23MHz. Regular participants are ZL1BT, ZL3CU, ZL3TY, ZL4LV. On Saturday mornings 7am - 8am we beam west and try with VK7MO on 144.33MHz. New stations are welcome to participate, activity is co-ordinated on the VK- ZL logger.

Microwave and Constructional Projects.
The "stand in scribe" had to go to Whakatane for some RF work there and decided to make the trip more pleasant and do some ham stops as well as a bit of geocaching. One stop was to Dave ZL1AKW, who has just recently completed a DB6NT 10GHz Transverter.

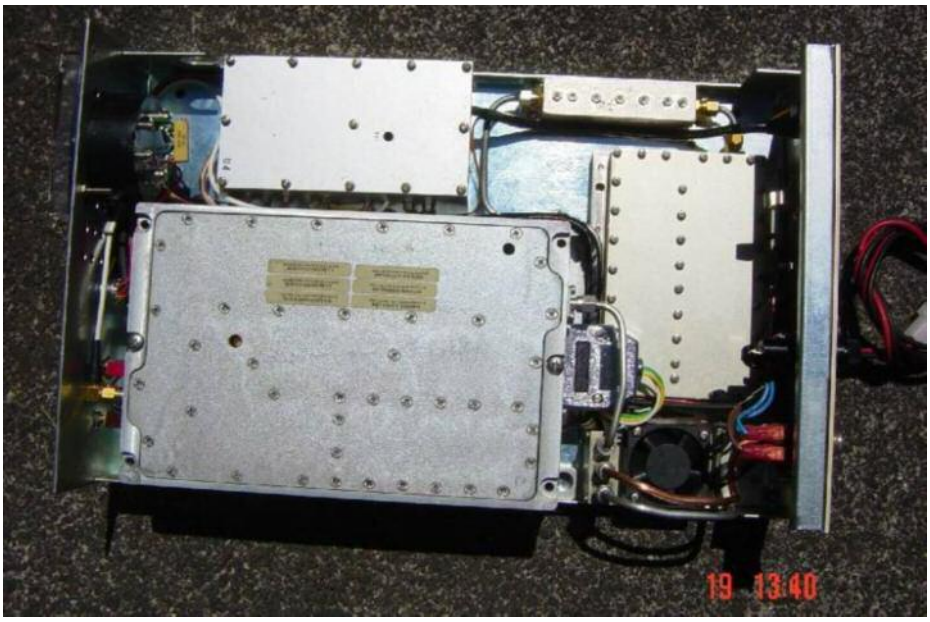
He has had it running for some time but previous attempts at a QSO over 210KM path to both Steve ZL1TPH and ZL1SWW were not successful due to several variables we have to contend with microwave contacts, namely "Are we on the same frequency?" and "Are we both pointing the right way?"

The first one to check is a nearby operational test for frequency. Seems we may have been 26- 30 KHz apart and we may just have missed each other when we tried previously over a 210km path.

Now we know where we are, we may have a chance at a good 10Gig QSO. We needed to do this test as no one else has 10Gigs in Dave's area so makes it hard for testing a new transverter. Many things were talked about and a fun time had by all. Good to see comparable RX sensitivity between two different units.

On the ZLVHF contest group website, Steve, ZL1TPH, sheds some of his vast experience on 24GHz, putting up very interesting details on various 24GHz PA units with their pros and cons and some of which are able to be used as RX preamps as well. He goes into the port isolation of the waveguide relays as well as the use of "lossy" 10Gig relays at the input of the transverters to get over the inherent high gains around the system. All this is to be seen on the yahoogroups ZLVHF contest members site. Lots of interesting V/U/SHF related activities are posted here.

Simon ZL1SWW, has been playing around with yet another incarnation of the DXR-700-768 converter units, using one MC68HC908-QY4, this is an adaptation from the recently built 10 Gig variant of the DXR700-710 where one micro was used to control two YIG PLL oscillators. Phase noise was good for the 10Gig unit and it was decided to try and use the same PCB and micro to drive the 5.7 GHz units as well. Thanks go also to Keith ZL1BQE, the "PLL Coding Gun!" for assistance in this project.
Some minor code changes and numbering was needed to drive the PLL on the 5.7GHz unit. The 5.7 GHz unit uses an LMX2326 PLL and the 10GHz uses an ADF4118, both of which share the same serially programmed word format.



A 2MHz offset is used for the PLL that is in standby mode so that there is no beating of the PLLs due to "Bleeding" of RF from the TX side to the RX side and vice versa.
Now we have one board that will control both units and allows for more simple construction, without having to drill holes in the chassis for LO links to both sides. These units are a really cost effective way to get on 5.7GHz and it just takes a little patience and knowing someone with a bit of test gear to help out.

----< ZL1BK's DXR-700 5.7GHz Transverter>------

VHF Activity from around Wellington.
The Wellington VHF Group held its annual fox hunt at the February meeting, with 5 2m foxes hidden around the Tawa area, near the meeting location.

The teams had a hard job due to the relatively high power foxes in the valley, but three were found. More practice required, but we are getting ready for the VHF Convention fox hunt. Thanks to Jim ZL1TYF for creating the fox controllers, and the foxes that sat around for the two hours!

The meeting continued at the local Denny's, where all matters VHF were discussed, including the repeaters licensing issue and the removal of the NZART ALO, which greatly concerned the Group members.

The Convention planning is preceding full steam, so please make sure you make your bookings for Easter and come and join us. More information is available on the www.vhf.org.nz/convention along with updates on the www.nzart.org.nz/nzart site as well.

Belmont work is continuing, and the site is showing its age and taking more effort to look after.

The new National System node at Taupo is moving fast now, and the VHF Group has committed considerable funds to this site, and a local coverage repeater should be going by the time this is published, and the linking and controllers going in before winter. Thanks to the Taupo team for the support to make this happen.

ZL2WA was on air for the VHF DX weekend, from a site near the Belmont repeater, giving out a few points and showing the spirit of contesting. Nice to see a few more stations on SSB in the Wellington area, and proving Belmont is a good site.

Propagation
April/May Prediction by Bob ZL3NE/1

From mid March and April our temperatures drop as we say good bye to propagation and by the first week in May the end of all tropo which could be used on 2 meters. Weather wise we have come to the quiet calm period with little action from fronts and highs as they are too far south to provide weather which will produce any propagation.
On 6 meters, April can still offer the occasional openings from lightning storms mainly in fronts moving south, down the North Tasman. Tropo is very scarce as our temperatures are too cold. May is the start of the winter weather pattern and we can start looking for cold fronts again, particularly in the South West Tasman Sea, also watch for long warm fronts in the centre of the Tasman coming from the north. Six meter signals can get E's propagation across both of these forms of fronts. I will show all these modes of propagation daily as they appear in my prediction maps. Keep a copy of the above sector from each issue of "Break In", as they will give you details of every mode of propagation for each month of the year and where to find it!

Last summer we had several long fronts which fed warm moist air from as far a field as Malaysia, over central Northern Territories and down to the south east coast of Victoria and into a low to the East of Tasmania. These storms were laced with lightning from north of Alice Springs right down to the low in the Tasman Sea and they brought about the large number of E's openings on 2 meters, for northern VK4's to VK3 and VK5's and for our ZL3's and ZL4's to VK1, 2, 3 & 7s'. These openings were predicted on my daily prediction maps. The North Island missed out on these openings as cold fronts seldom come this far north in December or January. The missing propagation, including on 70 cm and 1296 MHz was due to the lack of highs of 1025+ mb over the Tasman Sea and the North Island. Only these modes, or possibly temperature inversion ducts can produce propagation at these frequencies. From Feb 2007 QST. "Bob Gyde, ZL3NE has revived and documented the theory, that propagation including E's is related to certain types of tropospheric weather patterns, and surprisingly, it is the only method which has been able to make reasonably accurate predictions". Besides being the only site doing it!
http://homepages.slingshot.co.nz/~split21204/ and select ZL3NE.

Bob also mentions:- Dick ZL2AQR passed away on Monday evening (26th February). He was a very long time 6 meter man and others and myself had a round table get together every Sunday night for the last 25 years and even before that, so he will be missed.

May/June VHF Scene

A big thanks to Simon ZL1SWW for producing the previous VHF Scene Column. As some readers already know, I have developed an unusual medical condition. This is still under investigation as I write the column. I was unable to make the 2007 VHF Convention (for medical reasons), but by all accounts it was excellent, and hope to see a report in Break In.

The image below shows a group from the convention, visiting the Belmont Repeater Site.

Contests reports

Low Band Contest

The top 5 stations were ZL1TPH, ZL2IP, ZL2MA, ZL2WA and ZL1SWW. 19 Stations took part. Best DX worked was the ZL1TYF/ZL1SWW contact mentioned above.

The full results can be viewed on the NZART web site at:

www.nzart.org.nz/nzart/update/contests/vhf_uhf_low_band_2007_results.pdf

The ZL2WA team operated from the Belmont repeater site for the VHF Low Band contest, on 2m and 70cm. Being right next to the tower was not as much as a problem as we thought, with very little problems noticed with the contest station or the repeater. The team did not (as threatened) power down the PA's at Belmont, or use the antennas, but did use the mains power to make hot drinks and run the lights and radios. In future we will make more use of the site, as the usual lower contest site near Belmont does not have the good aspect to the north and west that the repeater site does.

The team was Gavin ZL2TVM and John ZL2HD. A 24 GHz record attempt to ZL1TPH and ZL2IP on Egmont was tried but not successful.

Jim ZL1TYF and Joanna ZL2TJB report that they operated their portable station in Titahi Bay in the Porirua area just north of Wellington, and during the contest were able to work Simon ZL1SWW, at his

home QTH in Auckland on 144.2 MHz SSB.(471 km path) The signals were weak and faded lower as they waited for other traffic to clear, but they were very pleased with the contact.
They were using a Kenwood TS-2000 running off a heavy-duty 4WD battery, and running 50W on 70cm, and 100W on 2m at peak, but down to 5w when possible to conserve the battery.
The 2m and 70cm contacts to Steve ZL1TPH and Ted ZL2IP, on Egmont (208 km) were relatively easy due to the high elevation at the northern end of the path. Signals were heard over the path on 70cm while using a rubber duckie type antenna, and replacement with a Yagi later gave a huge improvement
Seems we missed getting our log submitted in time, but our points of 170 on 2m and 126 on 70cm, for a total of 296 would have placed us 2nd overall. Oh well, too bad! (or words to that effect - scribe)

Contest Calendar
The next contest is the Hibernation Contest, on Saturday the 9th and Sunday the 10th of June 2007. This is the weekend FOLLOWING NZART Conference, being held in Palmerston North at Queen's Birthday weekend. The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT.

The following contest is the Brass Monkey Contest, on Saturday the 4th and Sunday the 5th of August 2007. The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT.
The contest after that is the Microwave Contest, all bands 614 MHz and up, on Saturday the 6th and Sunday the 7th of October 2007. The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT.
The rules are available at:
‹www.nzart.org.nz/nzart/update/contests/vhfcontestrules0606.html›
All contest logs should be sent, to arrive within two weeks, to
Contest Manager, Wellington VHF Group, P.O. Box 12-259, Thorndon, Wellington

National System Award 2007

Celebrating 20 years of the National System
This Award ran for the month of March on the National System, and certainly blew out a number of cobwebs from a few radios, and a sometimes quiet National System, prior to March.
I have received about 40 applications for the Award, and the points range for a few contacts over the required 50 points, up to a few in the range 130 to 145 points! These high-scores will be subjected to careful checking, but as it was not a contest, there is not a first place, or highest score as such.
Logs will be checked, and certificates printed and sent during May/June, subject to other time demands. Watch your mail box if you submitted your log.
A detailed breakdown of points, total branches, areas of coverage will be worked on, and may appear in the next Break-In if there is much of merit to say.
Thanks goes to all those who took part, including stations that were happy to hand out points to those seeking, even if they did not take part themselves. And of course the many Repeater Trustees over the 20 years that have made the National System possible.
Jim Towler ZL1TYF.

CTCSS input sought
The VHF Convention in Wellington brought up the issue of CTCSS tones on repeaters, both as access to, and from the repeater, to protect the receivers from noise in the mobile's front end.
The Wellington VHF Group offered to collect and colate ideas on this subject. If you have any comments or suggestions, please send them to ZL2WA@clear.net.nz, with CTCSS in the subject.
The ideas opened at the forum were :- have different tones for repeaters on the same frequencies, or to have a standard tone across ZL.
That input tones be the same as the output tones, or never to have input tones. Two level squelching with tones is also a possibility.
At this stage the Group is looking to produce a paper of options and issues with CTCSS on repeaters, to be circulated for comment.

Microwave
Grant ZL1WTT reports on the big project he is working on at the moment. This is a 2 M/bit data link on 10 GHz. The plan is to provide a Hi-speed data connection to the Klondyke site. At the VHF convention I picked up a box of WR-75 waveguide with circulators and 11 GHz filter bits. I am now in the process of making up WR-75 transitions to fit duplexer filters made out these bits of waveguide.
The next step is send back the 10 GHz converters to the Wellington VHF group, to be modified for a 70 MHz IF frequency range and also be set up with a 200 MHz RX / TX split.
The long-term plan is be able to run IP over Ham radio with a good workable data speed. To do that we first need a High speed backbone, this is where I am at now. The next step will be look at a 23 cm D-Star data repeater.
Simon ZL1SWW reports having some feedback from others about the controller for the DXR units. He has now added more images and schematics. The same controller PCB drives both 5 & 10 GHz units with 1 micro and does all sequencing and a PLL 2MHz offset to stop PLLs beating as it is a problem if they are allowed to run at the same frequency. One can just load different code in by ISP to control one or other unit. The VCO/ PLL has pretty good phase noise characteristics as well. Simons website is at www.qsl.net/zl1sww
Simon has helped Scott ZL1KB with 5.76 GHz transverter.
Simon is interested in getting on 3.399 GHz and is looking for any equipment, such as the DEMI PCB's that were around many years ago.
The scribe has acquired a 23cm 70 watt PA, from Alan Devlin VK3XPD. Alan has retuned these from ex-commercial frequencies.

Propagation for June & July (Bob ZL3NE.)
In winter look on 6 meters for some DX, but where! Here we are looking for cold fronts in the South West corner of the Tasman Sea and I have always found that a prerequisite for propagation to take place is that the front is able to bring snow to low levels in the South Island. Look for the temperature inversion duct in the Northwest wind while it is over the Tasman Sea. ZL3/4's should beam to VK2/3 along the duct, while ZL1's beam across the front. It is very rare for highs to produce propagation in winter even with the air pressure at 1040mb it is still difficult but watch very strong highs.

Propagation Discussion
There are several types of fronts but not all produce propagation, here is a description of several which when joined together, produce the very long front from the tropics to the south of New Zealand.
The weakest sector is drawn as a thin black or broken line on weather maps, and these are located near the tropical areas. They have plenty of moisture but very little temperature change, so they seldom produce propagation. As the front drifts south it develops into what is known as a trough, these are drawn with a thick black line, and they can be as active as a cold front with heavy rain and thunderstorms. Typically you can find them from central Queensland down to Southern Victoria and out over the Tasman Sea. The next sector of the frontal action is the well known cold front! This is fed with warm moist air from the trough moving south, and very cold air from a depression moving North East. Where these two meet we have lightning and all the nasty weather we know of.
These fronts bring E's propagation and here are the clues to finding it!
In mid December to early January, listen to the weather on the TV etc for, "lightning activity over the Western Tasman Sea". In March, April and September listen for, "snow to 600 meters in Canterbury Otago and Southland". In May, June, July and August listen for, "snow to 300 meters or to very low levels in the same area". Once you hear these weather comments make use of the North West wind over the Tasman Sea and look for VK contacts. My paper on predicting F2 and TEP has been released and is available along with my daily predictions at http://homepages.slingshot.co.nz/~split21204/
Bob Gyde ZL3NE

VHF Forum Summary
Held at VHF Convention 2007 Hosted by the Wellington VHF Group Inc. on 8 April 2007 Forum Facilitator: Vaughan, ZL1TGC

Contest Rules and Dates- There are still some websites with the old rules on them, please check on the NZART website for the new rules, and see the dates and times there. The Wellington VHF Group site also has the correct rules.
Log Keeping Software- Contesters are interested to hear what other contesters are using, so it would great if anyone using good software could give a quick write up for Break-In
Contesting Locations- Since there are only a limited number of good contesting sites, we should form a list of them with accurate locations, so people can calculate the bearings and distances in advance for aligning dishes and calculating paths. Please send your favorite VHF sites to ZL2WA@clear.net.nz to be collated and put on the web site.
VHF Records- There was a discussion on what is a record, and the Wellington VHF Group will invite the VHF Records officer of NZART to come to a meeting and help us to understand this. It may be (like with the VHF Contests) that we need to ask for submissions to get all the issues on the table for discussion.
History and Milestones- There is a project to record the history of the Wellington VHF Group, but we need to collect a wider history of VHF activity. An entry on Wikipeadia seems to be the easiest way to grab info, so each Group or Branch could start and entry. An update on progress will be in the next Q-Bit.
CTCSS standards in ZL- The Wellington VHF Group is asking for submissions on the use of CTCSS on repeaters. Any ideas please send to ZL2WA@clear.net.nz, with CTCSS in the subject.
Repeaters will be the death of ham radio- Repeaters usage has changed over the last decade, and continue to change with IRLP and new extensions to the national system. Also the load on Branches and trustees can be a problem. It was suggested that repeater owning branches combine purchasing power and share skills. Wellington VHF Group to contact all trustees with an offer to help with bulk purchasing.
Packet Forwarding On the National System- The hours of forwarding have been reduced, now 2am-6am, and this is still a valuable service, although used only by a small number of users. Possibly we should look at getting more use from the system as it could be vital in a large scale disaster when the Internet or telephone systems are unavailable.
D-Star on the National System- A quick discussion on a digital national system was covered, and the fact that new end to end digital systems are available such as D-STAR. The meeting would be keen to hear of ideas on how to move this ahead. The general feeling was that as a new mode, we should support it locally and then look at joining up repeaters.
Next VHF Convention- The VHF Convention in 2009 is being held in the Waikato
(from John ZL2HD)

General
The Auckland VHF Group Branch 66 has got new updated webpages at www.qsl.net/zl1bq
Simon ZL1SWW has been modifying an old Tait T200 66-88 MHz radio to 6m. It uses a dual modulus PLL and a single conversion RX. He has got -114dBm (0.45 uV) for 12 dB Sinad after much rework of the tuned circuits. On Tx he has achieved 8 watts out – not much but the SD1019 is a 28v device and gives 30W at 28v so bargaining on less than half at half supply.
Note that Downeast Microwave, (DEMI) in the USA are in the process of moving down to Florida. Further information will appear on their website www.downeastmicrowave.com
The UK Microwave Group has archived versions of their earlier Scatterpoint newsletters on their website at www.microwavers.org/
The Queensland VHFer is a great newsletter. Contact graham.selwood@deta.qld.gov.au
for a sample copy.
Kent WA5VJB has some useful PCB antennas on his website www.wa5vjb.com

July August VHF Scene

Activity Reports Meteor Scatter
Although these contacts are not on the VHF bands Brian ZL4AD and Steve ZL1TPH have been using WSJT FSK441. A report from Steve ZL1TPH.
Over June I have been doing tests with Brian ZL4AD in Waimate with Meteor Scatter on the 28.400 MHz USB using FSK441 with WSJT. So far were have one contact completed and the path distance is about

930km or so. Brian operates a 2 element beam at 40 feet and a 100 watts and at my station, only a dipole and 50 watts.
Within each half hour session so far, I see typically 5 to 10 burns from him and Brian recieves many from my self which is most interesting. So Brian has asked is there anyone else up in our area whom would like to join in this activity session?

First 6m EME contacts between ZL and 9H & SV

A report from Rod, ZL3NW. Over a period of time I have run many 6m EME skeds using JT65A with Philip 9H1PA and while I could often copy Philip he had little success with reception typically due to local noise. It was with great delight that on the 13th May while having a 6m EME contact with Matteo IW5DHN for the ARI contest that Philip advised he had copy from me. Just as soon as I completed the contact with Matteo I called Philip and completed with just 1° of moon elevation left at my QTH.
May was a great month as I also completed a 6m eme contact with Spiros SV8CS. Once again this was after having tried several times in the past. Other new 6m eme contacts include Ole OZ7OX, Leif OZ1LO.
It is interesting to note that all the above contacts apart from with Matteo were with single yagi antennas at both ends and needless to say this is where ground gain played an important part.
Rod also noted there has also been some short skip between Bob ZL3NE/1 Auckland and ZL3 Christchurch from time to time but to date winter E's have produced little across the Tasman with just the occasional opening between VK2 & 3 and ZL3. The VK2 TV is always a good early indicator. Video on 46.240 MHz and the corresponding sound on 51.240 MHz.

VHF activities in Brazil

Flávio Archangelo, PY2ZX sends in a report on VHF Activities from Brazil. This gives an interesting picture of what VHF Activities are like in the South American continent.
The Japy DX Group is one amateur radio association located in Jundiaí, State of São Paulo, Southeast Brazil. The aim of the group is expeditions and they made 3 of then in different states last months: Espírito Santo (call area 1), Minas Gerais (area 4) and Santa Catarina (area 5).
During the end of April and first days of May, 2007, the group traveled to the Caparaó National Park for climb the Pico da Bandeira, the 3rd highest peak of the country with 2891 m ASL (GG99cn). Equipments, antenna parts, mast and battery were carried on the backpacks of the mountaineers. 2 meters 10 watts SSB with 6 elements DK7ZB Yagi provide from the peak 31 QSOs with 740 km maximum distance by Tropo. The calls used PY2ENO, PY2MTM, PY2OC, PY2ZX, PU2WDV, all /PP1.
In June the group made two different expeditions valid for Brazilian 144 MHz Contest CB144: Morro da Igreja (PV5A, GG51hv, 1700 m ASL), located in the coldest area of Brazil (sometimes with snow, fortunately not happened during this operation, but the team faced winds of 100 km/h) and Pedra de São Domingos (ZW4A, GG77ah, 2050 m ASL), the national winner station of the event, with more than 230 QSOs and 40,599 km in the sum of distances. Now, as the winter in Southern Hemisphere is going, the attention toward to TEP future summer operations and related data update, type of propagation well explored by the group. For informations (in portuguese), images and videos about these expeditions, visit http://www.japydx.org. For Caparaó National Park check http://www.ibama.gov.br/parna_caparao/

Microwaves

Brian ZL1AVZ and ZL1TPH have been experimenting with 5.76 and 10.368 GHz SSB contacts over a Non LOS path between their respective home QTH's. During one occasion, rain provided additional scatter, making the signal more rougher in tone.

Contests

The Hibernation Contest during 8th and 9th June only had 8 stations active. Steve ZL1TPH won the 2m and 3cm sections of the contest, while ZL2WA won the 70cm section. (Full results on the NZART website)
The next contest is the Brass Monkey Contest, on Saturday the 4th and Sunday the 5th of August 2007.
The operating times are: Saturday 1700 to 2300 NZT and Sunday 0700 to 1300 NZT.
The rules are available at:
<www.nzart.org.nz/nzart/update/contests/vhfcontestrules0606.html>
All contest logs should be sent, to arrive within two weeks, to:

Contest Manager, Wellington VHF Group, P.O. Box 12-259, Thorndon, Wellington
During the colder months, activity from home stations and club stations (in their clubrooms) would increase contest participation. Also some club members may not have experienced VHF contesting (Kevin ZL1UJG)

Propagation

The end of August brings a change in propagation modes so it is time to add to what we are looking for. From the 20th of September we now bring in strong westerly winds. These can be under jet streams and mainly over the northern part of ZL. These are very humid with low cloud, and an old hand can tell by the smell of them that propagation is likely to take place. They have ducts bringing propagation on 2 meters and up to 1296 MHz but leave out 6 meters. Watch the weather on TV and look for the jet stream cloud going over Brisbane, and even out as far as Darwin and extending out to your location. It may be coming from over Alice Springs to Sydney then to ZL, if so listen for openings. Propagation will be along and under the cloud and can last up to three days. ZL3/4 continues looking for cold fronts, but with snow only to 700m.

Discussion.

In the June issue I mentioned how to predict openings from the TV Weather with information on cold fronts. Here is a typical example. On the 9th of June the weather office said that snow would be expected to 300 metres and below in Canterbury etc. Rod ZL3NW worked VK2 and 3, while from Auckland I had several VK3's, just as I described in the last issue of "Break In".

It is interesting to see the results of previous predictions. May 31st for North America I quoted a path from Northern W4 to the southern tip of central West Africa; result K4RX worked 5T5SN, a very rare contact. On June the 24th I advised both EU and NA contacts an opening from VE1 and northern W's to North West Europe. The areas named made contacts into G, PA, DL, and SP this was the only opening to that date for those areas and no other openings had been predicted. The next day the 25th of June saw JA's predicted to work over most of Europe, they were infact worked in many countries in Europe as far west as England. These openings lasted for four days, with an incredible number of contacts between North America and Europe, with many W's making over a 100 contacts into Europe. The accuracy of prediction is extremely high. See my daily maps at http://homepages.slingshot.co.nz/~split21204/ Enjoy, Bob.

Thanks for all the information and images contributed.Any information and images for the next VHF Scene please send to Kevin ZL1UJG at rfman@xtra.co.nz

The 2M EME/Terrestrial Array of Chris ZL2DX

A few weeks ago, one of New Zealand electronic pioneers, Sir Angus Tait, ZL3NL, passed away at 88. Tait Electronics products have been, and will continue to be, at the forefront of Radio Communications both in NZ and overseas.