



# QST63

WWW.ZL2VH.ORG.NZ

Branch 63 Clubrooms  
Park Street, Upper Hutt

190 Plateau Road  
TeMarua  
Upper Hutt 5018

Newsletter of The New Zealand Association of Radio Transmitters, Upper Hutt Branch 63, Inc.

## March 2013

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<b>President:</b>	Mark	ZL2UFI	Ph. (H) 526 8446 PH (W) 238 3401 (M) 021 100 3378	Email: <a href="mailto:mark@foxtrot.co.nz">mark@foxtrot.co.nz</a>
<b>Vice President:</b>	Mark	ZL2WOL		
<b>Secretary:</b>	Peter	ZL2HM		Email: <a href="mailto:pikam@xtra.co.nz">pikam@xtra.co.nz</a>
<b>Treasurer:</b>	Gavin	ZL2ACT		
<b>AREC:</b>	Gavin	ZL2ACT		Email: <a href="mailto:gavin.smith@paradise.net.nz">gavin.smith@paradise.net.nz</a>
<b>Editor:</b>	Mark	ZL2WOL		Email: <a href="mailto:zl2wol@linuxnet.co.nz">zl2wol@linuxnet.co.nz</a>
<b>Web Master:</b>	David	ZL2DBP		Email: <a href="mailto:zl2dbp@gmail.com">zl2dbp@gmail.com</a>

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### Presidents Report

Hi everyone... thanks for all the articles for last month's newsletter, a nice way to start the year with a bumper issue. As the weather is still proving to be better than last year I hope you are all making the most of it.

Jock White Field Day should have come and gone by the time you read this, and no doubt a report will be in the newsletter.

Thanks to those members who helped out on the recent AREC Event, involving the Wallaceville Hill Climb. I believe it was a good test of everyone's equipment, and operating procedures. Following on from a club debrief and comments from the event organisers we hope to be asked back in the future should the event go ahead next year. We were blessed with good weather, which made the event more enjoyable.

Some testing of the STSP Repeater needs completing to see if this would assist us. I hope to organise this in March/April some time so watch the emails for information.

Also we will soon be back at Mt Climie installing the refurbished 730 Dipole stack. I hope to have all the required hardware ready soon to commence this task. In order to make it easier we may do a two day install With day one reinstalling the two collars and the stand off main pole, the second day doing the antennas and phasing harness. This may be done over a good weekend or series of weekends depending on the weather and availability of club members.

The elections for NZART Council are now on, with our district not requiring any voting as the required number of councilors has been met. However, there is a vote for President of NZART. I suggest that all members exercise their right to vote, with voting closing on 20 March 2013. All information on voting, your papers and biographical information on the candidates is in the January/February issue of Break-In.

The clubs AGM is not far away, so its time to consider the various positions and jobs available. Please think about taking on a role as a club committee member as many hands make light work.

The AGM will be on Friday 26 April 2013 - commencing at 8.00 pm.

Well that's the news from me...

73's and good DX....

Mark ZL2UFI  
President

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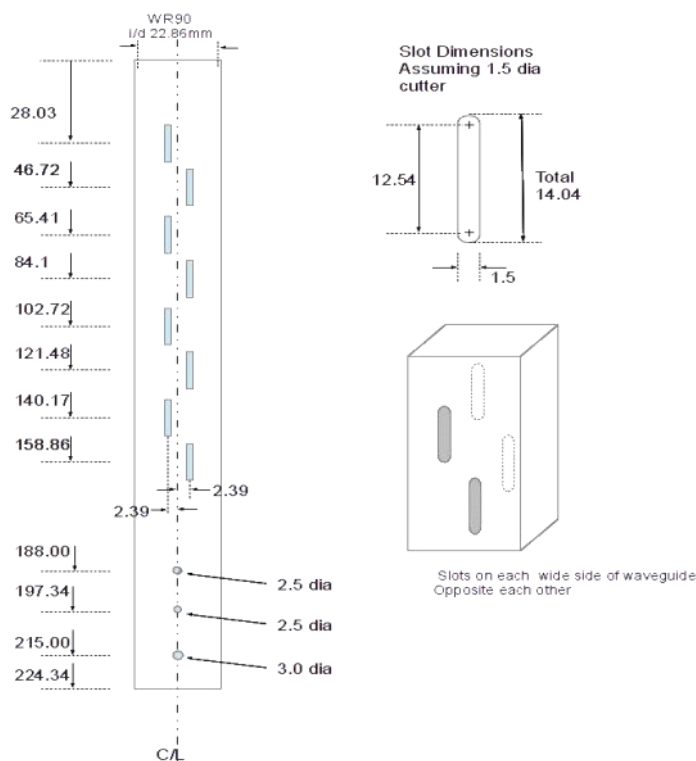
## Repeater Update

### Beacons

### 3cm

### Antenna

A length of WR90 waveguide has been kindly donated by Simon Cooke-willis ZL2THU. Malcolm Wheeler ZL2UDF has kindly offered his assistance with the matching of the Antenna. The antenna design is based on the W1GHZ design with the 16 slot design ( 8 slots either side ) giving over 10db gain omni-directional horizontal radiation pattern.



16 Slot WR90 10368 Mhz Waveguide Antenna – SMA Feed  
All dimensions in mm.  
ZL2BRG

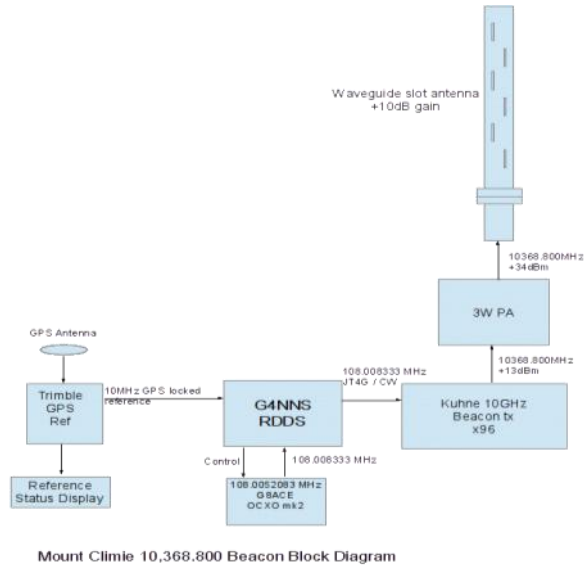
### Electronics

The Trimble 10Mhz GPS Locked Reference has been sourced along with the RDDS and G8ACE ocxo modules. The 10Mhz reference will be housed in a small 19inch rack along with an Arduino based status lcd display. Locating the reference in the repeater hut allows us to use the reference to gps lock future beacons and repeaters.

The Major components yet to be sourced are the beacon transmit module, PA, gps antenna and various Arduino components. So if you know of anything that might be usable please let me know.

### 10m

Nothing to report.



## Repeaters

### 1292 23cm

The repeater is back on Air.

On Tuesday 19th February John ZL2TWS and Gerry ZL2TDN installed a ZL2DX built antenna at Climie. For more details see Johns attached report.

### 860, 5425 Dstar

John ZL2TWS has sourced a 4 dipole stack that will replace the current Antenna.

### 730 2m FM

Work is ongoing refurbishing the Antenna Stack

### 6m FM

Nothing to report.

Simon ZL2BRG.  
Repeater Trustee.

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## AREC Report

### Coming Event

March 30<sup>th</sup> and 31<sup>st</sup>

Kapi Mana Motorcycle Club Track Day at Bulls Run Road

Four operators are required for each of these two days to act as flag marshals.  
Please let me know if you are available for this event

Gavin Smith ZL2ACT  
AREC Section Leader

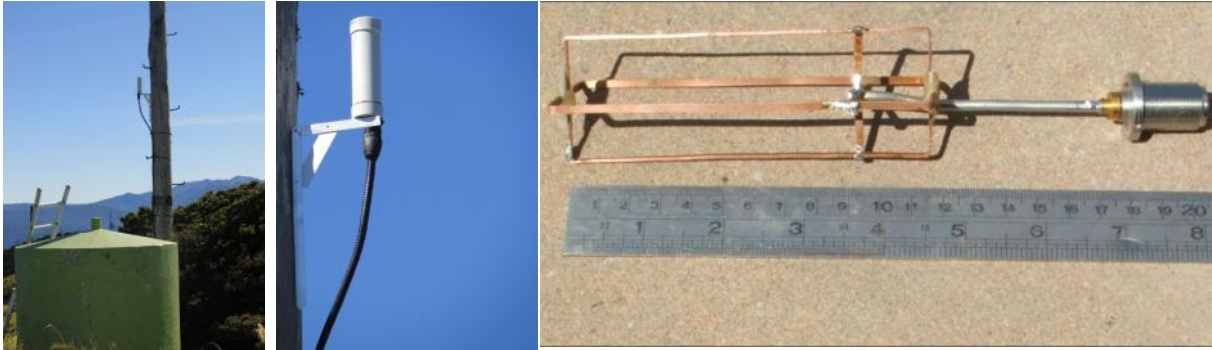
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## Update from John ZL2TWS on 1292

Hi All,

Tuesday 19 February Gerry ZL2TDN and John ZL2TWS installed a replacement 23cm band antenna on the 730 north hut wooden pole.



This antenna is a temporary fixture while the normal 1292 pole is in use on 5425 during the 730 antenna refurbishment.

The antenna is built by Chris ZL2DX and tuned by John ZL2TWS.

The design is called a "Hentenna" and a pair connected in parallel. The Hentenna is a loop antenna predominantly made for 6 metres and looks a bit like the driven element of a skeleton slot.

This has been scaled to 23cm.

It is very broadband and is ideal for 20 MHz repeater use.

The radiation pattern is expected to be a lower gain than the previous coaxial collinear and mostly horizontal polarization.

The Hentenna is encased in a PVC radome.

The antenna is experimental with the intention to build on the concept with higher gain versions when the 1292 pole is available to use again.

Some stations might find that they can now work 1292 with their horizontal high gain broad band beam antennas.

Note: 20 MHz band width antenna can only be used due to repeater off set.

Multi element 1296 MHz yagi antenna do not work as they are too narrow.

Pictures attached show the internal construction, mounted on the Climie pole. The antenna favours 1292 TX end of the band.

The 1292 tail has been extended to 3 seconds for test purposes.

Good DX,

73 John ZL2TWS.

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## Jock White Field Day - February 23/24 2013

Once again, members of the club took part in the annual Jock White Field Day. This year we again used the Kaitoke Waterworks as the venue for our operating site. The weather played its part and you'll see from the photos it was great weekend, with plenty of sunshine, little wind and good band conditions.



**JW Field Day site 2013**

We were on site a little after 12:00 pm, and were ready for the contest start at 3:00 pm. Seymour ZL2SY offered to do the overnighter, and provide security for our equipment. Thanks to all the operators from the Field Days – two days of great weather and operating....

I wish to thank the following operators... Seymour ZL2SY, Eric ZL2SET, Oliver ZL2OLY, Simon ZL2BRG, Jens ZL2TJT, Mark ZL2WOL, Malcolm ZL2UDF, Tom ZL2HGR, and (me) ZL2UFI, for all their assistance over the weekend.



**Oliver ZL2OLY and Eric ZL2SET during the second hour of operation on Saturday**

This year conditions seemed as good as previous years with some good contacts especially down towards the South Island. We operated from a position more towards the river, but from the same field as previous years.

On 80 metres we worked 195 stations, of which this included 33 branch stations. On 40 metres we worked 56 stations, of which this included 25 branch stations. All this was done on Phone (SSB). This made for a total of 251 contacts which I think wasn't a bad effort for those present, as we participate in the contest not to win but to test ourselves and our equipment so we are ready for when emergency calls.



**80M dipole and mast. Plus not a cloud in the sky! This is looking south east towards Upper Hutt and Mt Climie**



**Simon ZL2BRG getting those last 40M contacts on Sunday with moral support from Mark ZL2WOL**

See you there next year.

Mark ZL2UFI

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## Interesting Home Setup

Well, our illustrious editor, Mark, said that he was short of something to fill the holes in this month's issue. I made the mistake of letting on that I have a new antenna so he suggested that this would be a good subject, and others have shown an interest, so here goes.

I had a silly thought that we could all take turns in describing our shacks and working conditions. Why not? Think about it seriously, we all tell folks on the air, but not our fellow members.

So, up until recently I have been using a random length of wire, end fed, for HF. It is about 50m long, time it leaves the shack, goes up to the tree to about 6m height in front of the house, across to a dis-used TV mounting pole on the rear apex, finally descending to one corner of the garden where it is 'lashed' to a wooden fence. To be honest, it works pretty well on 80m and 40m, but not so good on the higher bands – even with a manual ATU. Better system required!

When my dear XYL was on the planet, I was allowed to have a hobby - as long as it didn't cost time or money. Naturally I would much prefer to have her still around, but since her passing I have updated my radio gear with an FT-450D, ID-880H and, more recently, an ID-51A. The following photo shows my minimalistic operating bench, but I could probably run a junk sale with all the other test and radio equipment kicking around. (Hands off Arnold !!!).



Anyway, I decided to acquire a decent antenna and settled on a Diamond CP-6A six band vertical. (80, 40, 20, 15, 10 and 6m). It has its own rigid radial system that can be tuned for each band, hence no digging the garden and burying old bedsteads for a ground plane. The antenna itself is 3.9m in height, so I decided to mount it on a pole with the radial system above the roof. After a bit of pricing research, I ordered it from the U.S.A. and it was delivered to my door, shipping and import duty paid, for exactly half the cost (!!!) quoted to me by a N.Z. supplier who shall remain nameless. (How to get ripped off in one easy lesson).

On removing it from its box, it appeared as follows:



I assembled it according to the instructions, which made sense once all the fiddly parts were identified, without too much trouble. Having purchased a 40mm OD aluminium pole 5m in length I erected the mast on a hinge – just in case the assembly needed to be dropped later on. The radials and fixings were attached to the top of the mast, followed by the vertical element (with capacity hats) which slotted over the rest of the hardware and secured. No guys are needed up to a wind speed of 144 km/h – or so the spec tells me.

The feeder (RG58 for now) was tidied up and run to the shack, and the base of the mast was connected to my earth spike using heavy duty braid. All the details can be seen in the following photos. I waterproofed (I hope!) the earth connection using self-amalgamating rubberised tape and a covering of insulation tape. The antenna is connected to the mast (and hence to ground) at the top end. Hopefully I won't have any lightning issues, trusting that the neighbour's tall metal chimney will get clobbered first. If I am wrong, it could be expensive, both in equipment and a fried house!

Here are a couple of photos of the finished article:



As you can see, it's not too obtrusive from the front of the house. I have had no comments, but the neighbour at the bottom of the garden was looking at me peculiarly as I was on the roof putting it up. So, what about performance? The antenna tuned up nicely on every band, giving me a very low VSWR *except for 6m* !!! On receive, even Climie 395 was hardly detectable. It was like this with my wire antenna as well, and I can see the repeater from my QTH !!! (Hence the 2m/70cm antenna just propped up on the operating bench). Well, it took me a while to figure out what I had done wrong, but it eventually dawned on me what the problem was. I have been using a 30MHz low pass filter between transceiver and ATU (a standard practice in the U.K. for TVI purposes). Out it came and all's well on every band, even without an ATU (although the FT-450D has one internally). At the time of writing, I have worked several Europeans on 100W, and even Moldova ER4 (a bit of rare DX – for me anyway), receiving good reports (5.7 or so). However, the 20m band has been open on long path just recently, so I will have to see how it performs under flat conditions. The only issue I have found is that it wouldn't tune to the low end of 80m when I tried to give ZL2VH a point or two during Field Day. The radial just needs lengthening a little and we'll be fine. So far, I am happy with my set-up. Next job is to get my CW speed back up. Well, that's my station for the foreseeable future.

Who's next to reveal all? – Over to you.

73.

Eric ZL2SET

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