

### ZL1AMK Hotspot

The original hotspot set-up used a DVAP and an Odroid C2. While this configuration worked well I felt the lack of transmit power (10mW) did not provide reliable coverage around Whangarei City.

With this transmit power limitation I started looking around at I could do to increase it.

The end result was hotspot running an Odroid XU4 with a DVMEga/Arduino and a Tait TM8105 radio on 144.550MHz.

The radio is currently using a dual band that is shared with a Tait T555 radio on UHF that covers the National System and local amateur UHF repeater.

When I purchased the XU4 I also purchased one of the “Cloud” cases from Hardkernel. This allowed me to mount the XU4 on 4 stand-offs inside the case and still have enough room to mount the DVMEga and Arduino at a later date. It also allows for better air circulation which will hopefully keep the XU4 a little cooler.

The only downside is that the case is plastic and offers no screening.

I had also hoped that I could keep the inter-connecting cables between the Arduino and the XU4 inside the case – but physical constraints inside the case may prevent me from doing that and I may end up running the cables round the outside.

My thanks to John ZL2TWS for setting up the XU4 image for me, Brian ZL1HN for the supply of the Tait Radio and Phil ZL2RO on how to setup the software for the DVMEga.

ZL1AMK Dashboard is running 24/7 at <http://zl1amk.ddns.net:82>



YSF reflector <http://ysf001.duckdns.org/> activity using MMDVM. Read below.



John ZL2TWS has the MMDVM running on Odroid C1, Odroid C2 and Odroid XU-4.  
Adrian VK4TUX did the configuration and setup. Thanks again Adrian for his help.  
Odroid's all have eMMC RAM and use Adrian's image and DG9VH MMDVM dashboard.  
The MMDVM board is a HAT on top of the Arduino DUE interface board.

The radio I am using for the high power hotspot is an ICOM IC-2820H.  
This could be any suitable 9k6 packet ready radio such as an FT-7800 or FT-7900.

There is an auto detect operation that waits to see if you want to use D-Star, DMR, YSF or P25.  
If you previously were using D-Star then wait 10 seconds and key up before using C4FM YSF.  
MMDVM system detects the mode you are wanting to use and switches to the reflector or network automatically.  
Very impressive operation and a big move ahead in DV repeater and hotspot use.

Check the amateur traffic on: <https://brandmeister.network/>

Check these dashboards:  
<https://brandmeister.network/?page=hotspots>

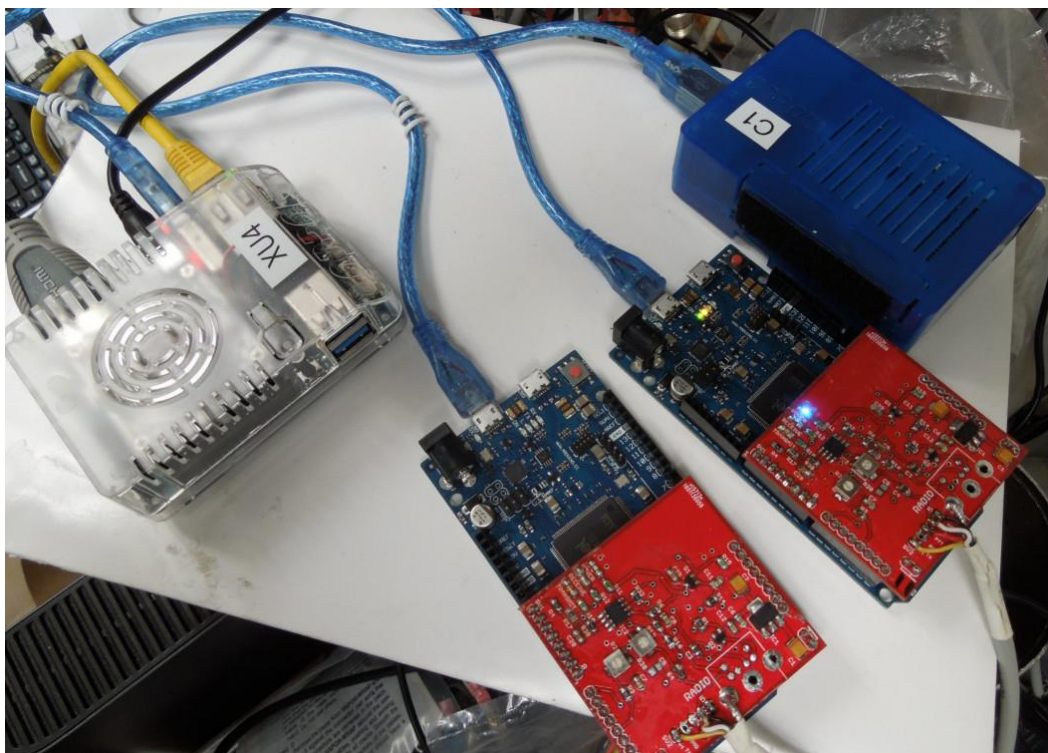
In the search box on the top right enter zl and you will see all the ZL stations using DMR via hotspots and MMDVM.

Look for ZL's on YSF001 using the MMDVM system.  
<http://ysf001.duckdns.org>

Hotspot dashboard (when online) reports all modes:  
<http://zl2twtdns.net:82>

Adrian VK4TUX builds these board to order.

Seen below 2 x MMDVM DUE modems running on an Odroid C1 and XU-4.



## **“Homebrew” Hotspot and Gateway Repeater active watch - UPDATES:**

- 1) ZL2AMK upgrade to Odroid XU4 and Kiwi D-Star image on DV Mega GMSK modem.
- 2) ZL2TWT upgrade to MMDVM running D-Star, DMR and YSF
- 3) ZL1HND Selectable G2/G3 gateway on air. <http://zl1hnd.d-star.nz>

### **Multipurpose gateways**

You can put the IP address or DNS address into your browser for viewing the XLX dashboard you choose or enter into the DExtra\_Host.txt or DCS\_Host.txt file for direct connection.

See this URL for the most up to date list: <http://xrefl.net>

To register your new number with John, K6KD, <http://xrefl.boards.net>

<http://www.dstar101.com/XLXreflectors.htm>

A lot of the XRF reflectors are linked to XLX so it is possible to simply choose an XRF reflector to connect to a multi-purpose XLX reflector.

A current list of XLX reflectors is updated at ZL2VH here: <http://zl2vh.org.nz/assets/d-star-hosts/xlx-reflectors.txt>

**DCS005 has moved to XLX. Look here:** <http://www.ircddb.org.uk/xlx/index.php>

### **CCS7 (Call Connection System 7)**

The following list of stations that are working at the time of publication.

Please try them. You can check each hotspot dashboard to verify your connection.

ZL2ARN (530)1082

ZL1SB (530)1091

ZL2JML (530)2009

ZL2SFM (530)1072

ZL2RO (530)1109

ZL2ROR (530)1125

ZL2NSA (530)2018

ZL1HN (530)1074

ZL2TWS (530)1011

ZL2TWT (530)1073

**NOTE:** If your call sign is missing from this list and you want to be included please let us know.

**Hint:** Each month useful links will be placed on the last two pages of the newsletter so you always know where to go quickly to find them.

**facebook page called ZL DSTAR** <https://www.facebook.com/groups/184445028555391/>

### **Repeater Gateways with Dashboards:**

**Auckland Klondyke ZL1VLD.** <https://zl1vhd.dstar.org.nz/> (Dplus)

**Auckland ZL1ZLD.** <http://www.dstarusers.org/viewrepeater.php?system=ZL1ZLD> (Dplus)

**Auckland Henderson ZL2AKD.** <http://zl1akd.ddns.net:82> (ircDDB)

**Hamilton.** <http://zl1cct.d-star.nz> (ircDDB) **CCS7 8530100** or <http://zl1hnd.d-star.nz> (G2/G3/ircddb)

**Tauranga ZL1TPD.** <http://222.154.227.90:81> (ircDDB) **CCS7 8530001**

**Te Puke.** <https://zl1ibd.dstar.org.nz/> (Dplus) **Temporarily QRT**

**Hawke's Bay Mt Threave. 434.000 MHz + DUP.** <http://zl2hbd.ddns.net:82>

**Kapiti ZL2KB Mt. Field. 145.350 -600 kHz.** [http://zl2kb.org.nz/?page\\_id=731](http://zl2kb.org.nz/?page_id=731)

**Wellington ZL2VH.** <http://123.255.47.67> (dual dashboard with Dplus below the ircDDB) CCS7 8530304

**Wellington ZL2VH.** <https://123.255.47.67> (Dplus only dashboard)

**New Zealand Reflector XRF063.** <http://162.248.141.148>

**Examples of these hotspots with dashboards that you can view and connect to this month:**

ZL1AKD (<http://zl1akd.ddns.net:82>)

ZL2TFG (<http://zl2tfg.ddns.net:82>)

ZL2NSA (<http://zl2nsa.ddns.net:82>)

ZL2SFM (<http://zl2sfm.ddns.net:82>)

ZL3TJH (<http://zl3tjh.ddns.net:83>)

ZL2ROR (<http://zl2ror.ddns.net:82>)

ZL1AMK (<http://zl1amk.ddns.net:82>)

ZL2UDG (<http://202.154.159.177:82>)

**Other sites for reference information:**

**ZL2VH Web site.** <http://zl2vh.org.nz/d-star/>

<http://zl2vh.org.nz/d-star/gateway/>

**Previous D-Star newsletters FREE to download:**

<http://zl2vh.org.nz/d-star/newsletter/2015/>

<http://zl2vh.org.nz/d-star/newsletter/2016/>

**KiwiD-Star group.** <https://groups.yahoo.com/neo/groups/KiwiD-STAR/info> (No longer supported)

**ZL Host lists**

ZL gateways and hotspots.

On the Branch 63 site you can retrieve the host files at any time. They are small text files.

<http://zl2vh.org.nz/assets/d-star-hosts/>

**ircDDB Visibility**

For those who want to be visible on the ircDDB “live” list.

<http://www.ircddb.net/live.htm>

Do the following from this URL:

<http://ircddb.net/live-vis.html>

UR:VIS ON and then transmit once.

Then revert the UR:CQCQCQ

Once you transmit via an ircDDB enabled gateway using RF your call sign will be seen to be live on the dashboard and also listed on the ircDDB “last heard” list on the local dashboard.

Previous issues of this newsletter are available from <http://zl2vh.org.nz/d-star/newsletter/>

**D-Star Net to join**

<http://www.dstarinfo.com/nets.aspx>

Friday afternoon at 16:00 XRF002A **PAPA D-Star round table net** is a technical net and well worth joining.

**Note:** This time depends on Daylight saving in either country.

Dashboard and DExtra\_Host.txt files entry is here: XRF002 xrf002.dstar.club

The net runs for 3 hours or more and has a “shout box” type web forum you can also contribute to here:

<http://d-star-roundtable.boards.net/>

73 and good DV. John ZL2TWS. Branch 63 NZART.