

NW Digital UDRC on RPi2 / RPi3 and testing - by John ZL2TWS Part 6

NW Digital Radio has sent me two new MKII models for evaluation.

<http://nwdigitalradio.com/product/udrc/>

Finally we found a temporary fix.

The UDRC is not at fault but cannot error correct bad GMSK modulation like other devices.

The fix is to enable RPT1 validation in the DStarRepeater software.

Now this is where the fun starts.

ICOM radios like the ID-51 used on a simplex hotspot do not allow RPT1 and RPT2 fields to be entered.

Why do you need them on simplex? ICOM made the radio do this so how to work around?

Enable the simplex channel as a DUPLEX with 0.000 MHz offset.

Both ZL2NSA and ZL2TWS did this and hallelujah the "lock-out" was eliminated.

Question: Why can you use simplex DV on a DV mega or DVRPTR-V1 without using RPTR1 enabled?

Answer: These devices already insert or process the incoming header to make the radio look as though it is passing as a gateway repeater.

Question: What is it about the UDRC that does not like a re-sync or error correction event to "blip" the DStarRepeater into a brief pause in data flow?

Answer: Unknown but heard on the D-Star modulation randomly on many transmissions. Investigations continue.

THE FACTS:-

- 1) Blips or momentary breaks are often heard on D-Star transmissions and written off as packet loss.
- 2) Using DVmega and DVRPTR-V1 blips and breaks can be heard but DStarRepeater continues on without needing RPT1 setting enabled in the software.
- 3) UDRC has a problem with the audio stream into the sound chip due to some D-Star GMSK modulation event.
- 4) Three separate UDRC installations and three different operators all have UDRC drop-outs.
- 5) Work around is to have RPT1 enabled on simplex and radio DUP+ (-) and offset enabled (0.000 MHz) to fool the radio into thinking it is on a repeater gateway.
- 6) RPT1 header field allows UDRC to take a hit and recover resulting in a 0.5 to 1 second outage of audio.
- 7) If Ack (BER or Status) is enabled and beeps enabled on the radio, the breaks will be heard and although annoying do indicate a packet or UDRC drop-out. Beeps and Ack turned off the transmission will have momentary breaks and can be written off as an internet packet loss and nothing to do with the UDRC.

UDRC Pi2 / Pi3 gets a new ircNodeDashboard

<https://github.com/johnhays/ircNodeDashboard>

Branch 63 newsletter Compass images now have the ircNodeDashboard included.

This is a simple dashboard with very quick refresh times.

This image also has the very latest version of G4KLX DStarRepeater and ircDDBGateway software known as the 20160131 DEBUG version for UDRC, DV3000, DVAP devices and DVRPTR-V1.

ZL2TWT - NW Digital Radio - UDRC Gateway Dashboard

Links

Local Time	Direction	Protocol	Type	Repeater/User	Reflector
11/24/2016, 8:54:27 PM	Outgoing	DPlus link	Dongle	ZL2TWT B	ZL2VH B

Supported Services and Commands

CCS7 (530)1073 DCS DExtra/XRF(5 Max Dongles) DPlus/REF(5 Max Dongles) DTMF ECHO INFO

RF Activity

Local Time	Source	From	To	Repeater 1	Repeater 2
------------	--------	------	----	------------	------------

Network Activity

Local Time	Source	From	To	Repeater 1	Repeater 2
------------	--------	------	----	------------	------------

Repeater Modules

Callsign	Module	Frequency	Offset	Range KM	Description
ZL2TWT	B	431.90000	0.0000	20.000	Lower Hutt Wellington, NZ
ZL2TWT		0.00000	0.0000	0.000	HotSpot CCS7 (530)1073
ZL2TWT		0.00000	0.0000	0.000	
ZL2TWT		0.00000	0.0000	0.000	

Reporting Servers

ircDDB Host	rr.openquad.net
ircDDB Host 2	
ircDDB Host 3	
ircDDB Host 4	
APRS Host	aprsnz.aprs2.net
CCS Host	CCS704



Yaesu System Fusion (YSF)

Nothing to report this month.



Mid-November update

After a few long months of designing, testing and fine tuning, we finally have some concrete things to share with you guys. It might not be exactly the kind of news you were expecting, but we're confident you won't be disappointed... Despite our best efforts, the MMDVM revision 1.2 is still far from completion. The design we originally envisioned for 1.2 incorporates a really good filter, but it is quite "aggressive" and requires more work, a lot more than we anticipated, both in software and hardware.

You probably noticed the messages some of our rev 1.2 testers exchanged on the Yahoo group over the last few months ... We tested and tweaked, and then tested some more but unfortunately it's just not ready.

A big "Thank you!" goes to all those who helped us design and test this board. We owe you a beer! (or five?!)

We'll continue to work on the MMDVM revision 1.2 boards, and we hope we'll find a solution

In the meantime, as a small and well deserved reward for your patience, we'd like to present you a new board: the Rev 1.0.1 board. We designed the new Rev 1.0.1 board with the following features:

- 12Mhz TCXO
- Multi-turn pots
- RSSI Inputs
- I2C output (to connect LCD)
- A serial output (to connect LCD)
- Additional radio sense and control lines to be used for DR1X conversation
- Protection diodes on all the radio signals
- Additional Status LEDS

The PCBs are ready and they're heading to the CM. However, it is mid-November and the timing is not really great. As the holiday season approaches fast, the deadlines become really fluid... We'd love to tell you that we'll ship them in 2-3 week but we simply don't know. Our best guess is "December"...

Once we get into production we will off course be releasing the schematics (PDF)

Posted by VE2GZI and Company.

"Homebrew" Hotspot and Gateway Repeater active watch - UPDATES:

ZL2UDG – Eastern Lower Hutt WD Jessie Hotspot NEW this month.

Malcolm ZL2UDF has his hotspot updated and dashboard live on <http://202.154.159.177:82>

Tait 25Watt VHF radio on 144.550 MHz is soak testing on a dummy load while Malcom gets the antenna and coax installation completed.

Kiwi D-Star Image Update

No further development work will be done on the DVRPTR-V1 version of this image due to DVRPTR-V1 being made obsolete.

We will continue to experiment with the new Compass Pi2 / Pi3 image to enable the DG9VH dashboard. Currently only ircNodeDashboard is functional with this image.

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. <https://zl1hk.dyndns.org> (Dplus)

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

Hamilton. <http://zl1cct.d-star.nz> (ircDDB) **CCS7 8530100**

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

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

Hawke's Bay Mt Threave. 434.000 MHz + DUP Local repeater and RF InterWeb access only.

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://z11akd.ddns.net:82>)

ZL2TFG (<http://z12tfg.ddns.net:82>)

ZL2NSA (<http://z12nsa.ddns.net:82>)

ZL2SFM (<http://z12sfm.ddns.net:82>)

ZL3TJH (<http://z13tjh.ddns.net:83>)

ZL2ROR (<http://z12ror.ddns.net:82>)

ZL1AMK (<http://z11amk.ddns.net:82>)

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

Other sites for reference information:

ZL2VH Web site. <http://z12vh.org.nz/d-star/>

<http://z12vh.org.nz/d-star/gateway/>

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://z12vh.org.nz/d-star/hotspot/>

Title is "ZL Gateways and Hotspot Host files"

Alternatively here. <http://z12vh.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://z12vh.org.nz/d-star/newsletter/>

or the KiwiD-Star Yahoo group.

[https://groups.yahoo.com/neo/groups/KiwiD-STAR/files/D-Star Newsletters/](https://groups.yahoo.com/neo/groups/KiwiD-STAR/files/D-Star%20Newsletters/) (No longer supported)

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.