NW Digital UDRC on RPi2 / RPi3 and testing - by John ZL2TWS Part 5

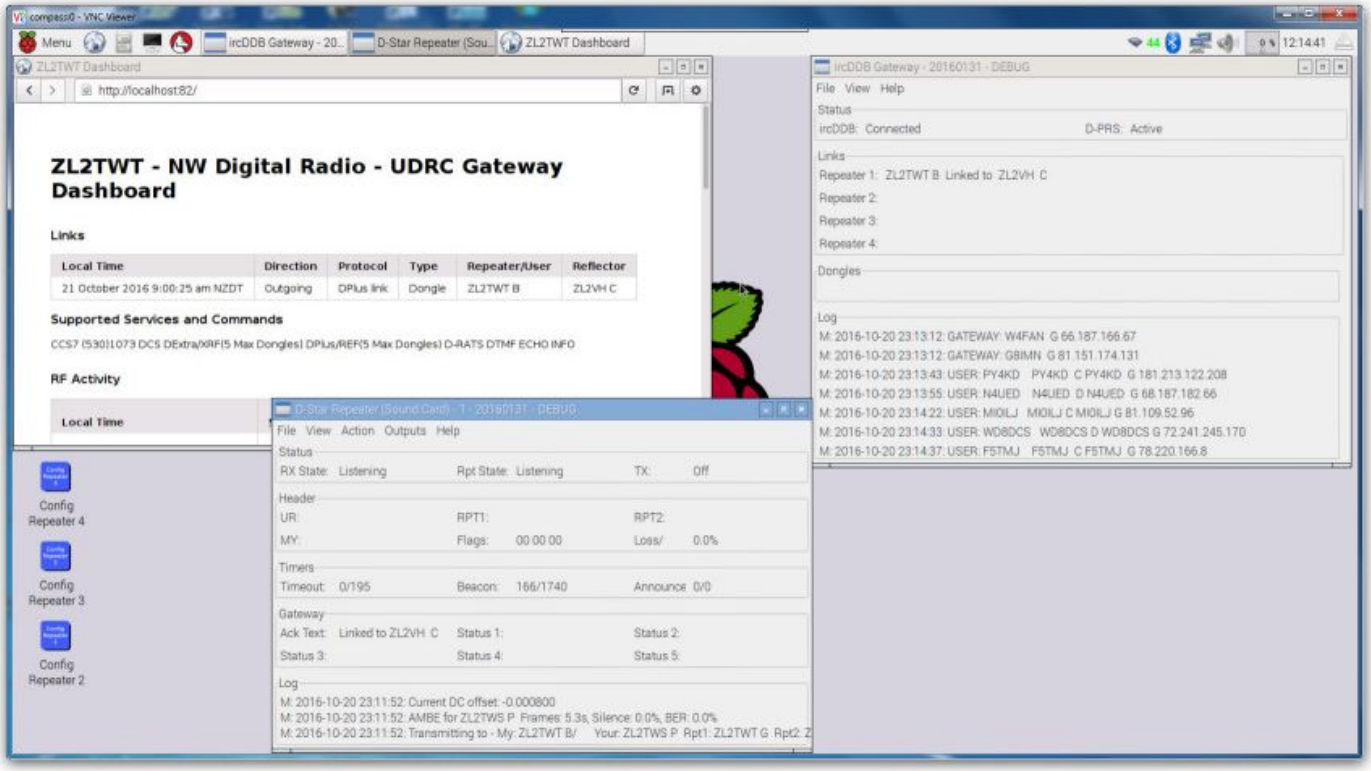
NW Digital Radio has sent me two new MKII models for evaluation.
http://nwdigitalradio.com/product/udrc/

The UDRC-II is now running from an external 12VDC via the DB-15 connector.
This also powers the Pi3 and can be battery backed from the same PSU as the RF radio.
This is an "all in one" hotspot solution.
No AC adaptor is necessary. (Note only a 5.1V 2.5A - AC PSU can be used with the Pi3)

Seen above is the DC powered UDRC-II.
Ethernet (Grey cable) PS2 audio 9600 bps (white cable) and the 12VDC DB-15 (Sliver metal backed) PSU cable.

The latest Pi2 / Pi3 Compass image available from Branch 63 has:
1) Auto Start 2016 DEBUG version of DStarRepeater and ircDDBGateway.
2) VNC remote access.
3) PA7LIM ircDDBGatewayRemote smart phone access.
4) Desktop log files access for easy editing.
5) Easy start and configuration desktop icons.
6) ircNodeDashboard easily viewable on a PC or smart phone.
7) DC powered integrated hotspot. No further need for an external modem.
8) WiFi connectivity if no Ethernet cable connection is available.

Below shows the Compass Pi3 Desktop showing Dashboard, Icons, DStarRepeater and ircDDBGateway.



YAESU System Fusion The radio

Yaesu System Fusion (YSF)
Nothing to report this month.

MMDVM MULTIMODE DIGITAL VOICE MODEM

Ongoing development continues with recent P25 mode added and being tested.

The following message has been posted on the blog site:

Over the last couple of months we have been struggling to get the MMDVM Rev 1.2 into your hands.
We've hit a few roadblocks and that put us behind the original schedule.

The first batch of boards was ready about a month ago, but unfortunately we had to scrap them due to a manufacturing error. Thankfully, it was just a test run …

We are confident that we're on the right track this time and we think the first boards will hit the post office mid-November.

We're sorry about the delays but we don't want to compromise on the quality of the product. We've never failed you in the past and we're not about to start now.

If you no longer wish to wait for the MMDVM Rev 1.2, we understand and we'd like to ask you to contact Bruce to remove your name from the waiting list.

Thank you for your patience, The ZUM MMDVM Team

History about G4KLX D-Star software – Hans DL5DI

Hi all!

I have got several questions about the future of the ircDDBGateway and repeater installation packages.

Let me start with a review and come to the current situation, an outlook and some hints:

Jonathan started the ircDBBGateway and Repeater project in 2010.

At the beginning most of the gateways were build on Windows platforms, which was the easiest way at that time.

Sysops with Linux experience built it from source code.

Our first intention was to help sysops of Icom-based gateways to migrate to ircDDBGateway.

I developed the CentOS5 installation package.

CentOS5 was (and still is) the required base for the Icom gateway software.

The installation script of this package automatically reads all settings from the old Icom software and implements it to the config file of ircDDBGateway.

It also deactivates the old software, activates the new and offers the option to step back.

With this package migration became very easy and did not require any special Linux knowledge or the manual installation of any development tools.

Later people asked for a Debian based package and also the first upcoming ARM-based Linux-platforms.

This was not for the upgrade of existing gateways, but for new installations.

Another upcoming need was a non-root installation, because not everybody could get root permissions when running such a gateway on a server system.

root permission is always a risk for the a local network and abuse of the internet line/identity, not only for the PC itself.

It was a lot of work to achieve this, a big battle with security features to create such packages.

I released the Debian6 based packages for PC 32/64bit, armhf and armel.

Later these were also ported for the upcoming Raspberry PI running Raspbian.

Improved configuration tools and other add-ons helped to configure the software and the package installer.

Other tools were added to provide status web pages.

Many new repeater modules and possible combinations made it more and more harder to cover it with the bash-based installation script, which was at the beginning only designed to convert configs from Icom-systems to ircDDBGateway.

The idea to do it web-based was not very well accepted, security recommendations came up, some features could not be easily realized over the public internet.

The old bash-script was required parallel, so I stopped the time consuming development of the php setup tools.

After CentOS5 we have got CentOS6, but with a little additional step the CentOS5 packages could still be used.

At that days the installation packages were my main project.

I spent a lot of time in the integration of new features and improvements.

Jonathan released regular updates for ircDDBGateway and the repeater modules, so we had many package updates, sometimes nearly on daily base, or at least weekly.

Since a while we see some major changes:

- The interest on new installations of DSTAR gateways and repeaters decreased over the last years.

DSTAR coverage is good in many countries, new systems like DMR came up and get more and more popular, the low price for the equipment is for most people the main argument.

- The existing ircDDBGateway software offers "all" nice and feasible features that users asked for.

- "All" known bugs have been fixed and it runs stable and reliable since a very long time.

- As a result there are no more regular updates on the software with new features or bug fixes.

The last official release of ircDDBGateway is from November 2015.

With that there is no real need any more for automatic updates.

- Also over the time several comfortable alternative installation options from developers around the world became available, like the images for different platforms.

- The CentOS community announced that CentOS5 will no longer be supported by updates and fixes.

This means that older ircDDBGateways have to be upgraded to newer OS and the sysops of remaining Icom-systems also have to think about the future.

- With CentOS7 wxWidget, which is a basic tool kit that Jonathan uses to make the software Windows- and Linux-compatible, was upgraded to version 3, which is not compatible to the former version 2.

Version 3 is available since years, but version 2 was maintained parallel, so there was no real need to upgrade. This ends now.

- The old WxWidgets 2 cannot easily be installed on newer Linux distributions, it requires some libgnome libs which are no longer supported. So it is not possible to use the old packages on newer distributions.

- Creating new packages for current Linux distributions would require a lot of work!

- I have many other projects that I am working on and cannot spend much time in the development of new packages.

If somebody should plan to upgrade a package installation with source from git.hub, better do not try it for Debian/Raspbian based systems!

The source code has been patched to get the non-root installation capability.

Replacing it by the git-hub based code won't work.

Better remove the package, install the software new from git-hub like described and re-use your config file.

That file did not change.

CentOS based package installations may easily be upgraded with own compilations from git-hub.

Keep the need for WxWidgets3 in mind when you get many error messages and don't wonder about missing libgnomeprint2 if you try to compile with WxWidgets2 on newer distributions.

- One of our repository-servers is down and some people spread believe that we closed the complete system.

Don't worry, that is not true.

When you read the messages in the Yahoo Group or use the nice search engine, you might find the reason for this problem.

One server at a university is no longer available since last year, they closed the ports for security reasons.

yum and apt-get do not switch automatically to one of the other servers, we still have 2 or 3 more in the source lists.

To fix this issue you may either download the source list new like it is described in the package documentation as one of the first steps.

Just execute the curl or wget command from the manual on your system and try to update again.

This lists have been updated and do not use that missing server any more.

Alternatively you may also edit the source list file and set the first server 141.x.x.x in comment or simply remove the line to use the next entry.

I will keep the repositories alive as long as this package installations are out and I will support the existing packages with any possible bug fixes, but I do not plan to create new packages for new Linux distributions and their upgrades.

Have fun with DSTAR!

I still believe that it is the better and much more comfortable DV mode when you are often travelling like I am.
I hope not too many repeaters will switch to other modes.

Vy 73

Hans DL5DI

History about G4KLX D-Star software reply from – John K7VE

There have been enhancements and bug fixes since November 2015 for both Windows and Linux, including the ability to use more than one ircDDB service (e.g. ircDDB.net and OpenQuad) and new hardware like the UDRC (which is being added to Yaesu DR-1X repeaters to add D-STAR capability).

Some people have wanted new CentOS builds to support some of these features. Also the old CentOS 5.x systems will be deprecated at the end of March 2017, which will lead to more systems moving from G2 to ircDDBGateway (security issues on non-maintained OS releases by hosting agencies).

The rise of the Raspberry Pi has moved much of the prior Windows, as well as 'big server' Linux installs to the Raspberry Pi.

Compass Linux distribution for updated packages for Raspbian (Raspberry PI 2 and 3), Debian Jessie (AMD64), and Ubuntu (AMD64).

Raspberry Pi installs can use https://nw-digital-radio.groups.io/g/udrc/wiki (with or without the UDRC)

AMD64 installs on Debian/Ubuntu/... family, can use

cd /etc/apt/sources.list.d
sudo mv opendv.list opendv.old
edit (vi or nano) **compass.list,** insert this line and save
deb [arch=armhf,amd64] http://archive.compasslinux.org/ alder main
Then execute
curl http://archive.compasslinux.org/compass.gpg.key | sudo apt-key add -
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install ircddbgateway ircddbgatewayd dstarrepeater dstarrepeaterd

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

ZL2ROR – Hastings Kiwi D-Star Version. Hotspot update

Phil has an Odroid XU4 hotspot running a DVmega GMSK board.
http://zl2ror.ddns.net:82

Kiwi D-Star Image Update

Simon ZL2BRG has found what the issue is with the DVRPTR start-up and now looking at the coding changes required to ensure the DVRPTR starts when the hotspot is booted for the first time.
DVRPTR reports that it has crashed during start-up and the reason why multiple re-starts are usually required in order to establish communication on the ACM0 com port.
Simon noted that the Pi3 sometimes did not crash at start-up and is currently using a Pi3 to do the testing.

Hotspot slow down and eventual lack of response problem has been identified

Many users of Pi and Odroid hotspots have identified that after as little as 4 days of use the CPU usage and temperature increase and eventually the hotspot appears to stall.

Phil ZL2RO brought this up as a topic for discussion on a Friday night PAPA net.
Surprise, surprise others have the same problem and the reason was reported by an expert as running threads not being shut down in a timely manor or not being able to shut down.
This was investigated and proven to be 100% correct.
The G4KLX software with some OS used on hotspots has an issue with the RAM cache getting full to capacity.

In a terminal window type the following followed by enter key:
free –m
This will list the amount of free RAM and the number of cached memory in use.
To clean the cache login as **su** and type the following:
sync; echo 3 > /proc/sys/vm/drop_caches
Type again **free –m** to see the changes.
Password for Kiwi D-Star images is: **odroid**

A scheduled auto clean every 24 hours is being investigated.

How much internet data does a Hotspot or Gateway use?

This month a question was asked on the PAPA Net about the amount of data used for a Hotspot or Gateway permanently connected to a busy reflector.
The answer given was up to but not exceeding 1Gbyte for a month of continuous traffic.
Some New Zealand hotspots that have been casually connected to REF001C recorded 300Mbytes for a month. PAPA Net reports from two users was 500 to 800 Mb with busy reflectors.

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
ZL3CHD (530)3049
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 Treave.** http://zl2hbd.ddns.net:82 (ircDDB) **CCS7 8530002** **(not currently working)**~~

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://zl1akm.ddns.net:82)

Other sites for reference information:

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

http://zl2vh.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://zl2vh.org.nz/d-star/hotspot/
Title is "ZL Gateways and Hotspot Host files"
Alternatively here. 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/
or the KiwiD-Star Yahoo group.
https://groups.yahoo.com/neo/groups/KiwiD-STAR/files/D-Star Newsletters/ (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.