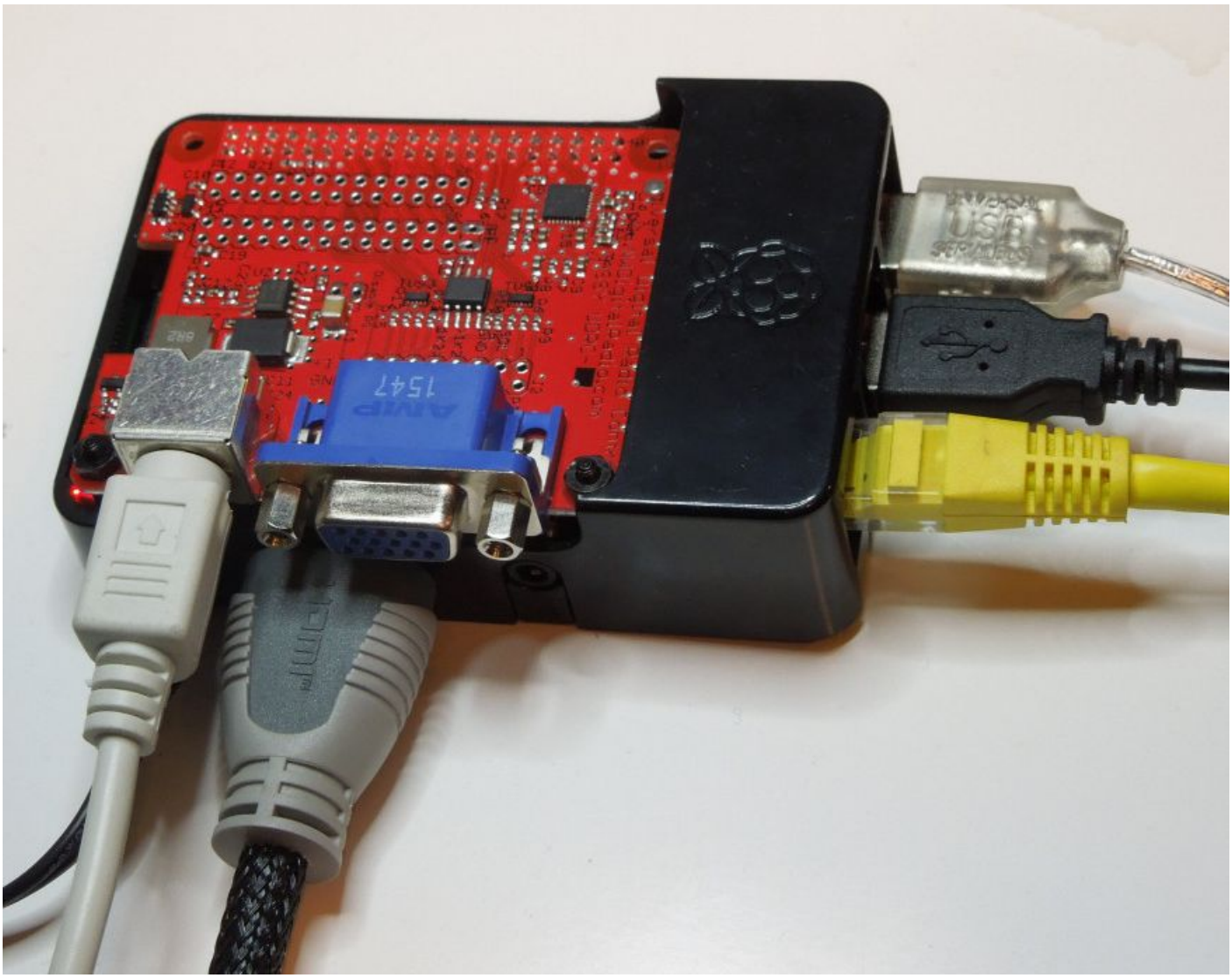
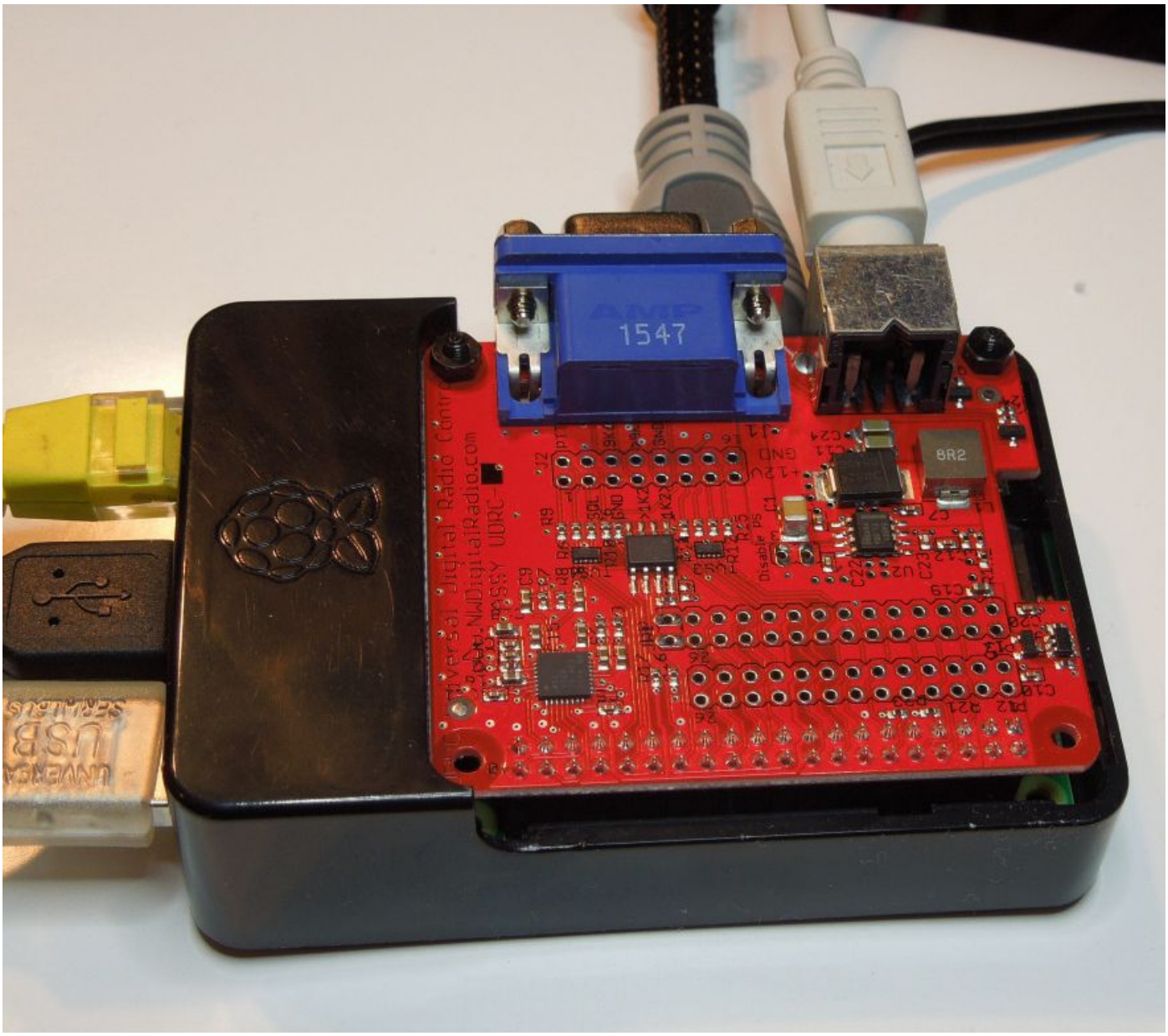
Newsletter July 2016 – 12th and Anniversary Edition

Hello and Welcome to the Anniversary edition newsletter.
We promote DV Radio you can experiment with and offer much more than just using the PTT.
Lift your level of knowledge and learn at your own pace.

NW Digital UDRC on RPi3 and testing - John ZL2TWS

Introduced in last months newsletter the UDRC HAT sits on top of the RPi3.
A Mini DIN PS2 cable connects to the 9600 bps port on my FM radio as seen in these pictures.
The DB-15 outlet is provided to apply D-Star to a Yaesu Fusion repeater.
The UDRC can also be used for 9600 bps packet and APRS.
Read about this here: https://nw-digital-radio.groups.io/g/udrc/wiki/UDRC™-and-Direwolf-Packet-Modem





I have installed “ircDDBGateway – DEBUG – 20160131”, “DStarRepeater – 1 – DEBUG - 20160131” and “Remotecontrol” to the Compass Image downloaded from NW Digital’s link:
http://archive.compasslinux.org/images/

The image installs on the RPi2 or RPi3.
The UDRC is prepared for use as a D-Star hotspot following the instructions from this link:
https://nw-digital-radio.groups.io/g/udrc/wiki/UDRC™-For-Simplex-Hotspots-and-Converted-Analog-Repeaters

At the date of writing I have the Android Smart Phone App “ircDDBGateway remote control” by PA7LIM working perfectly. This is for linking or unlinking reflectors and gateways via my household WiFi.
Never use the radio to link and unlink again. Touch type on the smart phone instead.
The gateway is fully functional but the DStarRepeater - 1 still needs audio configuration.
NW digital have released a script tool to configure the audio inputs / outputs but so far I have not managed to get modulation from the FM radio used for the hotspot.
I ran out of time this month before publishing to finish experimentation so more next month.
NW digital are helping me through the process as it is not for beginners’.

My goal is to produce a “Kiwi D-Star” version image that will be pre-installed and easy to configure.

WinDV host file editing – John ZL2TWS

A question was asked last month about how to add or remove reflectors, gateways and hotspots from the WinDV programme.
Here is the answer.

Host text files list DPlus, DExtra, XLX and DCS Reflectors, Gateway repeaters or hotspots.
WinDV stores host file information at this location:
C:\Program Files (x86)\MicroWalt Corporation\WinDV
You need to close the program before editing and have administrator privileges before you can edit either of these files.
dcshosts.txt (for DCS reflectors)
dphosts.txt (for DPlus reflectors)
dxhosts.txt (for DExtra Reflectors, XLX Reflectors and hotspots)
RIGHT click the windows menu and select "All programs"
Find in "Accessories" the Note Pad program.
LEFT Click this and OPEN using "Run as administrator"
Go to FILE and OPEN to navigate to the directory listed above.
Add the missing host IP address following the format used.
Save and exit the file.
Restart WinDV to load the new host files.

Yaesu Fusion and D-Star ZL to ZL – John ZL2TWS

On Wednesday 22nd June the first known ZL to ZL Yaesu Fusion and combined D-Star contact was made.
Andrew ZL1TAP and John ZL2TWS worked via reflector FCS001-14.
Both stations were using the DV4mini RF DVAP.
D-Star was used for liaison via the DV3000 thumb drive also connected to the same PC at John's end while Andrew was using RF into the ZL1IBD C gateway repeater.
Yaesu Fusion can be used simultaneously with D-Star or the DV4mini can be switched between each DV mode. All you do is pickup the appropriate radio for the DV mode you are using.

I was very impressed with the clean steady audio from Fusion. No "burps", "chirps" and "squealing" noises experienced with DMR using the same device.
A "thumbs up" from me and I believe that Yaesu Fusion is very similar to the functionally of D-Star.
Like D-Star, Yaesu Fusion is another preferred DV mode for hams to be using.
Fusion is some years behind where D-Star is today but catching up fast with the release of the DV4mini, UDRC and MMDVM. NW Digital, Gus at DVmega, G4KLX, DG9VH and VK4TUX are working hard developing the software and functionally for all DV modes available to hams today.

I note from some conversations during June that many have settled on D-Star as their only DV mode to use. This is mainly due to the 5 year warrantee offered to us on ICOM equipment along with the diverse connectivity to the D-Star network. D-Star continues to have the greatest amount of regular users.

XRF063 connectivity

Last month I was asked how to get a connection to XRF063. There are two methods depending on the host list used and connection type. i.e. If Hotspot or WinDV software is used, both require host file editing.

1) If XRF063 162.248.141.148 is in the DExtra host list you will possibly require port forwarding enabled in the internet router. When using WinDV software you possibly have to tick the "Link as a gateway else a Dongle" save and restart. Wait at least 5 minutes for the dashboard to update.
2) If XRF063 162.248.141.148 is in the DPlus host list either Hotspot of Win DV will connect as a Dongle device. This seems to work anywhere and will be shown on the dashboard in the "Connected Clients" list. XRF reflectors always allow default DPlus connections. Wait at least 5 minutes for the dashboard to update after connecting.

New RPi3 Hotspot on test as ZL2SFM

Steve ZL2YD is hosting the "Motuhara" high power hotspot at Plimmerton north of Wellington.
The RPi3 Hotspot uses a DVRPTR-V1 and a Yaesu FT-857.
This is the very latest WD image customised for New Zealand conditions. "Kiwi D-Star" Hybrid.
Take a look at the latest improved Dashboard by Kim DG9VH.
ZL2SFM (http://zl2sfm.ddns.net:82)
Note: The Dashboard now displays Bit Error Rate % loss for RF users and Signal loss % for internet connected transmissions.
The hotspot supports DVAP, DVRPTR, Dummy Repeater, DV4mini - DMR+, P25, Yaesu Fusion C4FM and DV4mini - DV4MF2 Brandmeister.

New RPi2 Hotspot on test as ZL2NSA

Mike ZL2NSA in Upper Hutt is hosting this high power hotspot.
This RPi2 Hotspot is operating a DVRPTR-V1 and a Yaesu FT-8800.
This is the very latest WD image customized for New Zealand conditions as with the ZL2SFM hotspot but a RamDisk version and using the improved Dashboard by Kim DG9VH.
ZL2NSA (http://zl2nsa.ddns.net:82)

Note: Both Hotspots are on trial to fully evaluate reliability before being distributed.

Christchurch ZL3CHD Milestone – Congratulations at being the longest running RPi hotspot

85 days and still going strong. ZL3CHD is an RPiB operating from Cashmere Hills via a DVRPTR-V1 and a Tait TM-8110 VHF radio on 144.550 MHz.
The RPiB have proved to be most reliable followed closely by the Odroid C1.
This could be because the RPiB uses a full sized SD card and the Odroid uses eMMC RAM.

Some Odroid C1 hotspots have been prematurely restarted as the trustees could not identify the reason why ircDDBGateway had stopped.
From my investigations it appears that most hotspots fail due to bad internet data and often as a result of being connected to the old REF001C server.
I understand that this reflector has now been moved to a new cloud server and since then the hotspots are stable.
Interruptions to the router will also cause hotspot corruption.
Some routers are now being supplied power from a UPS to avoid this problem.
If your hotspot stops responding it is possible all that needs to be done is to shut down and restart the ircDDBGateway from the hotspot desktop.
If log files are being used these could be examined to determine when the last known station or connection was in use.

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
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.

How to contribute to this newsletter

The newsletter is published in the first week of each month.
Send any articles and pictures sized no larger than 200kbs to one of the contacts listed below.
The close off date is the **last day** of each month.

Auckland and Hamilton is Brian ZL1HN (zl1hn@xtra.co.nz)
Tauranga is Kevin ZL1KRH (zl1krh@ihug.co.nz)
Hawke's Bay region is Jan ZL2CZE (jan.s@eastek.co.nz)
Wellington region is John ZL2TWS (zl2tws@clear.net.nz)
Christchurch is Mike Barnes ZL3TMB (mike@barnes.net.nz)
Invercargill and ZL4 is Daniel ZL4DE (zl4de@icloud.com)

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. https://zl1vhd.dstar.org.nz/ (Dplus)

Auckland. https://zl1hk.dyndns.org (Dplus)

Auckland. http://zl1akd.ddns.net:82 (ircDDB)

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

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

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

Hawke's Bay. http://zl2hbd.ddns.net:82 (ircDDB) **CCS7 8530002**

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

Wellington. 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)
ZL2JML (http://zl2jml.ddns.net:82)
ZL2NSA (http://zl2nsa.ddns.net:82)
ZL2SFM (http://zl2sfm.ddns.net:82)
ZL3CHD (http://zl3chd.ddns.net:83)

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

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/links/
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/

D-Star Net to join
http://www.dstarinfo.com/nets.aspx
Friday afternoon at 15:00 XRF002A **PAPA D-Star round table net** is a technical net and well worth joining.
The net runs for 3 hours or more and has a "shout box" type web forum you can also contribute to. http://d-star-roundtable.boards.net/

Editor Note:
Always have a D-Star newsletter available for lookup of gateways and hotspots.
Really helps when you can't remember where to go or haven't programmed in the destination call yet.

73 and good DV.

John ZL2TWS.