Newsletter September 2016 – 14th Edition

This month is a hotspot special.
The newsletter primarily concentrates on D-Star but due to the activity in Tauranga and Wellington with Yaesu System Fusion (YSF) we will from time to time feature YSF.
YSF and D-Star often share the same hardware devices such as MMDVM and DV4mini.

NW Digital UDRC on RPi2 / RPi3 and testing - by John ZL2TWS Part 3

Discussed in last month's newsletter the UDRC HAT is a new modem device used for home brew hotspots has a problem and I recommend no-one buy these until fully tested and proven to be suitable.

Brian ZL1HN has a UDRC and reports the audio I/O chip is almost "smoking hot"
ZL1HN has also been unable to get the UDRC to function.

Unfortunately two out of the three UDRC boards I imported are faulty.
They did initially work and then failed after plugging and playing with an FT-817 and IC-2820 used in FM-N mode.
The audio chip looks to be damaged for unknown reasons.
NW Digital Radio (NWDR) are at a loss as to why they failed other than "they are investigating"
The faulty UDRC boards have been returned to NWDR for evaluation.
NWDR fully support their product and already refunded me for one faulty board and will send me the MK2 model for me to evaluate. More about this in future newsletters.
I have total confidence that the issues will be resolved in time.

One UDRC I have running but suffers an annoying drop out problem with the RX audio being processed.
NWDR have witnessed the drop outs in real time with a live hook up and are investigating that problem also.
I have also sent NW my image I was using and setup for New Zealand host files with auto start DVRPTR and DVAP.
NWDR have not found anything wrong with my image and evaluated it on the network for 5 days.

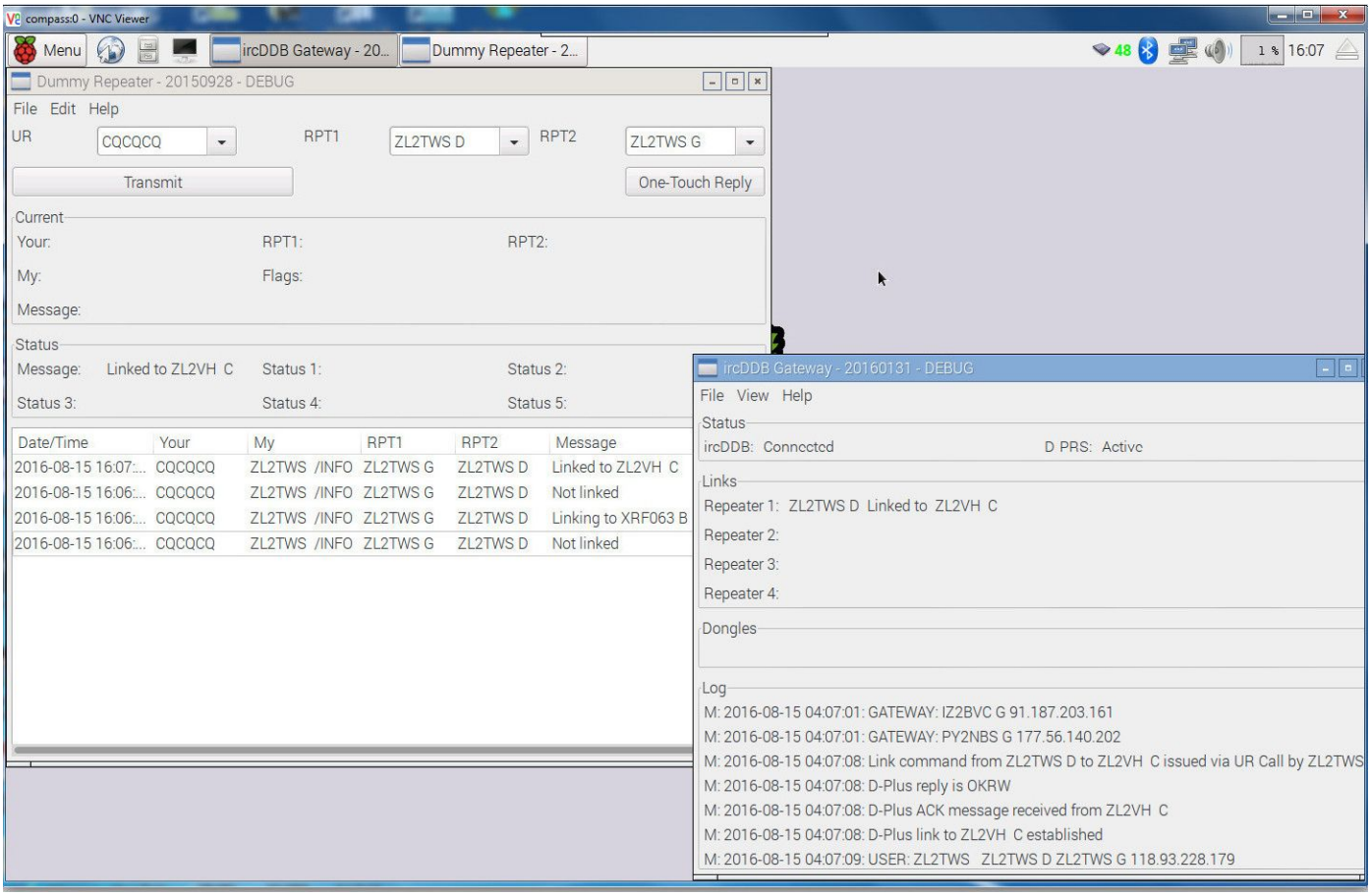
Yaesu System Fusion (YSF) – John ZL2TWS

Andrew ZL1TAP is a regular user on FCS001-55.
We make contact once a week for update reports on any Fusion progress in Tauranga or Wellington.
Both Andrew and I are running DV4mini RF dongles.
My DV4mini is now upgraded to firmware V1.73.

RPi3 Dummy Repeater – John ZL2TWS

What is Dummy Repeater?

It uses the entries in the UR, RPT1, and RPT2 control sections set to the same values as you would expect to program into an RF radio. See the picture below.



The values set in the UR, RPT1, and RPT2 controls are stored by the program and are restored when the program is started again. Incoming transmissions appear in the Current area, and also in the list at the bottom of the screen. If any text is received from the user then that will appear also. The Repeater section shows data sent out from the gateway to the repeater which would appear over the air under various circumstances. To transmit, set the call signs correctly, and press the Transmit button. This is a toggle button and so does not need to be pressed continuously whilst on air. It should be clicked again to go back to receive. When on transmit, a message saying “Transmit” appears with a red background on the GUI to remind you of your status, if hat message goes off while the transmit button has been pressed then that probably means that you have timed out (see later).

A log of actions and errors is to be found in the file DummyRepeater-YYYY-MM-DD.log where YYYY-MM-DD is the current date. This file is found in the users’ home directory, however it can be disabled by passing the –nolog command line option when the program is started. The program is configured by choosing the Preferences option under the Edit menu entry at the top of the screen. It is possible to control the transmit and receive functions of the Dummy Repeater from external interfaces, these are the same ones that are supported by the Analogue Repeater, albeit simplified. This is controlled by the Controller tab of the preferences detailed below.

Below is my Dummy Repeater running on the RPi3 using the NW Digital Radio NW3000U Dongle. After purchase of the DV3000 you have the choice of using a standalone Dummy Repeater or installing the WinDV v1.5.8-3 on a Windows laptop PC and using the dongle directly with that software.

Using the RPi3 Dummy Repeater GUI screens can be accessed with a local HDMi monitor and keyboard / mouse combination as shown in the picture below.
VNC Viewer can also be used to view the GUI if the RPi3 is connected to the same router the windows PC and VNC is using.

Below: Dummy Repeater using DV3000 and USB Logitech H390 headset microphone.

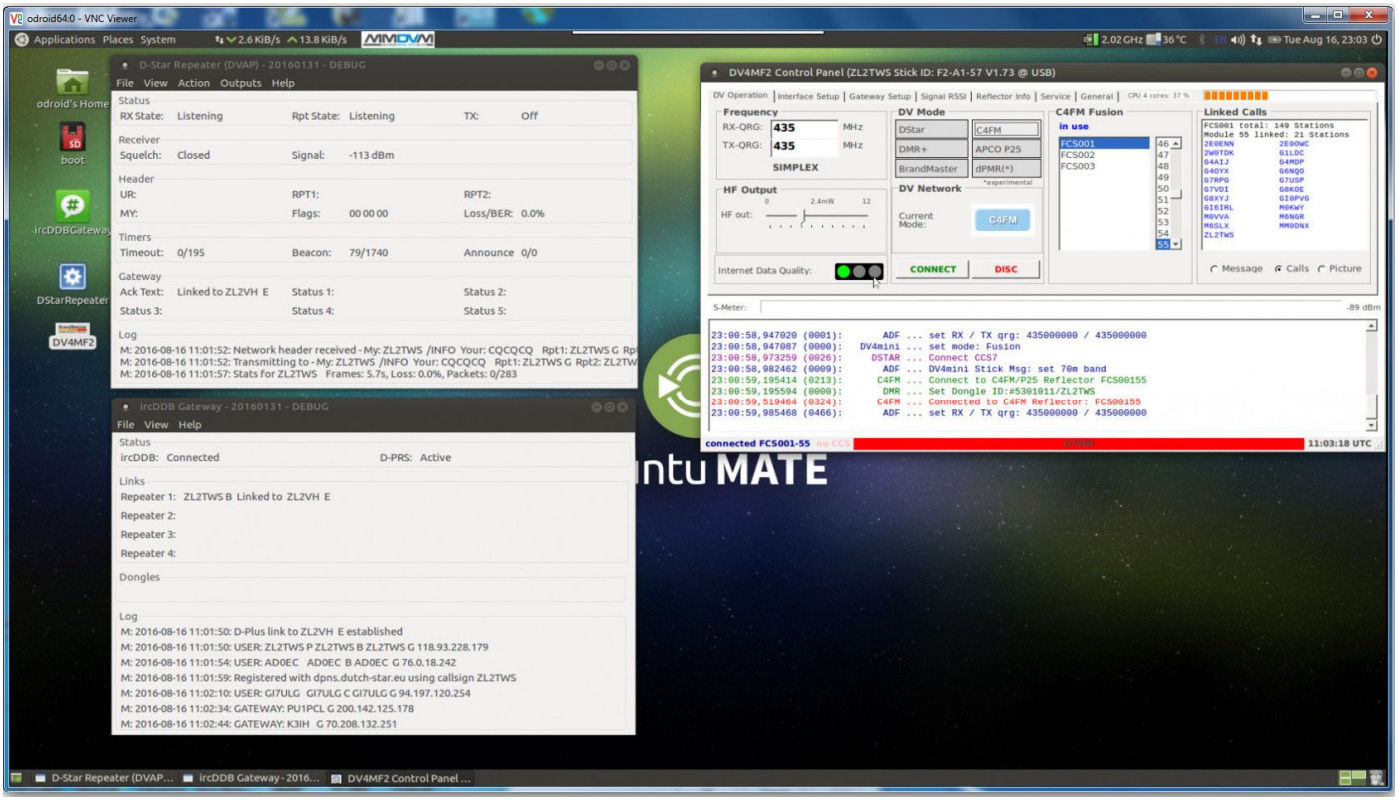
NW Digital Radio RPi 2 / RPi 3 – John ZL2TWS

This month the new Compass image was installed for use with the UDRC modem.
With two of my three UDRC boards faulty I turned the image around and have successfully installed the DG9VH Dashboard with Autostart of the ircDDBGateway and DStarRepeater.
PA7LIM Android / Apple smart phone remote control software setup and works well.
DG9VH remote control and Currently Transmitting is not working at the time of writing due to a missing web link but everything else is working as expected including PA7LIM ircDDBGateway remote control.
I need more time to crack this one.
More next month as time permits but for now the image can be used with DVRPTR and DVAP.

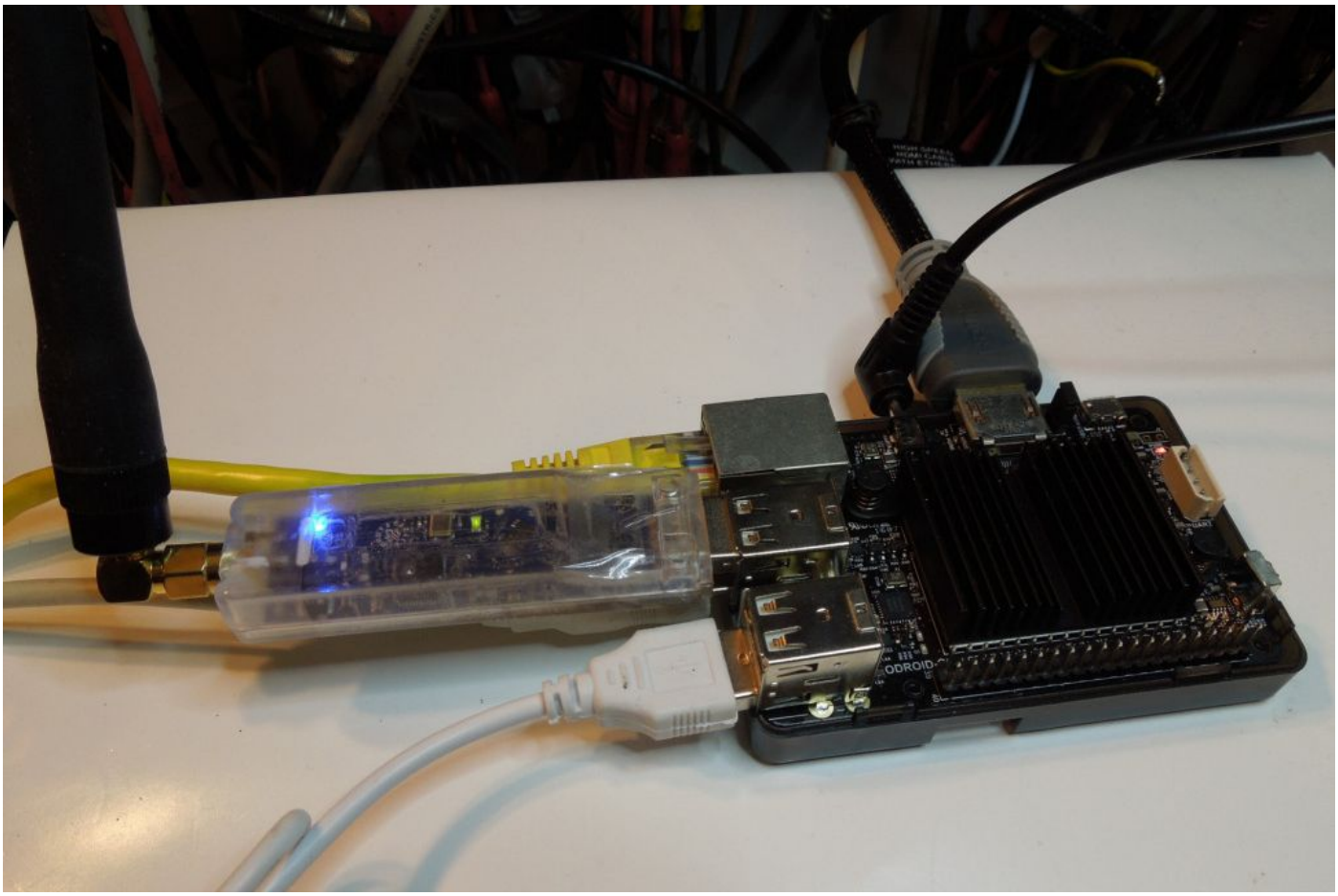
Odroid C2 64 bit 2 GHz Hotspot for DV4mini and D-Star DVAP– John ZL2TWS

The MMDVM VK4TUX image was evaluated running the Ubuntu MATE 16.04 LTS OS.
I have installed my own KiwiD-Star version of the C2 and found the same results as the TUX image.
DVRPTR does not work as the /tty/ACM0 serial port drivers do not setup and stay locked in this image.
After many hours of work I gave up and decided that purchasing a MMDVM was probably the current course of action but for now anyone wanting to use an Odroid C2 for DV4mini or D-Star DVAP this image works well. DG9VH Dashboard is included but simpler than previous version used for D-Star only Hotspots. I heard a request from VK4TUX that the simple and closer to the old DL5DI dashboard was preferred by users.

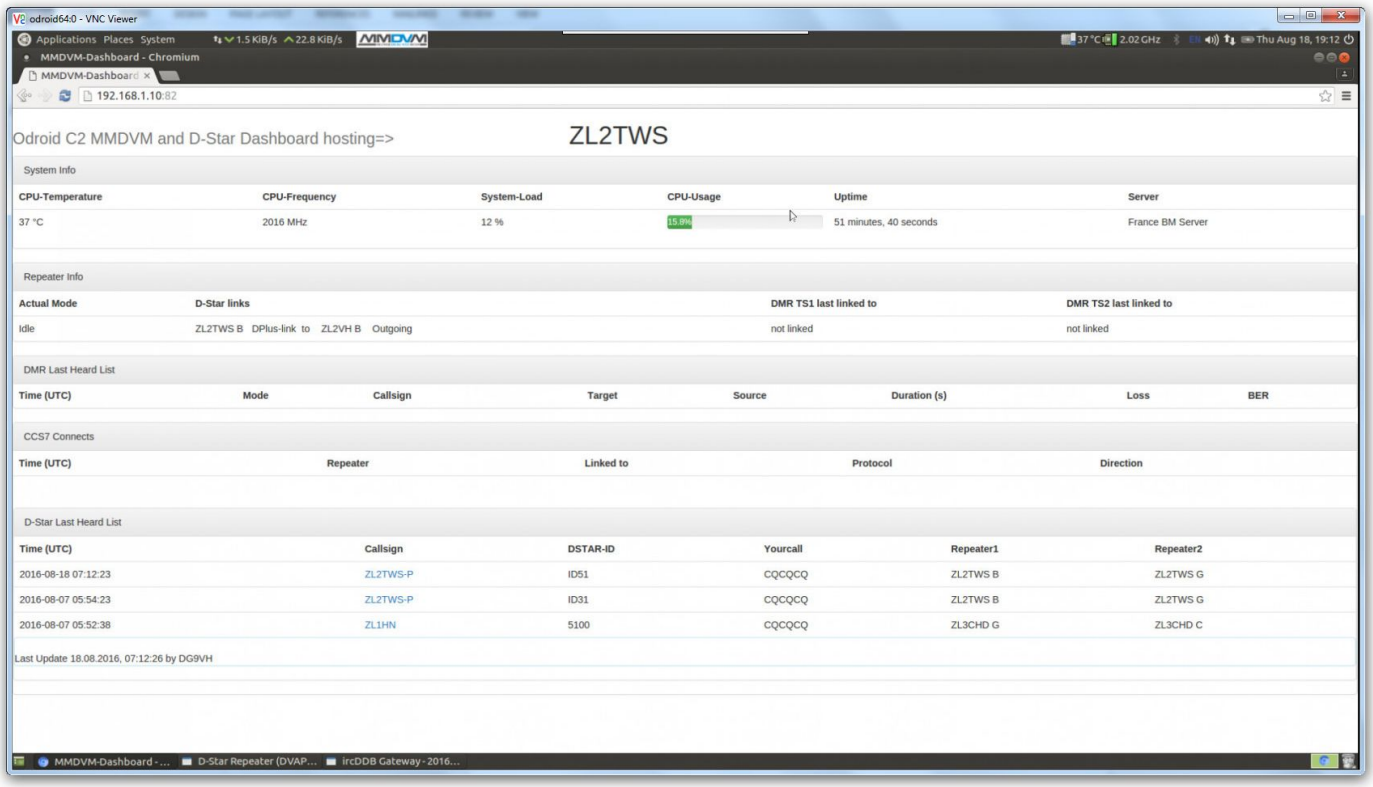
Seen in the picture below the C2 in use with DVAP and DV4mini together. (No DVRPTR)



Below: Odroid C2 + DV4mini and DVAP connections.



Below: MMDVM-D-Star latest Dashboard by Kim DG9VH (simplified from previous D-Star versions.



Deutscher Amateur Radio Club (DARC) Raspberry Pi 2 / Pi 3 DV4mini and D-Star image 29th June 2016.

http://www.a23-wertheim.de/downloads/raspberry-pi/dv4mini/file/14-dv4mini-raspberrypi-mit-vnc-und-autostart

DV4mini Raspberry Pi Image
Auto start DV4mini + (D-Star DVAP or DVRPTR + DG9VH Dashboard in ZL2TWS image only)

This image is provided for the use with DV4mini stick. It already includes the pre-installed software DV4mini and (DV4MF2 Brandmeister ZL2TWS install) and continued ability to access via a VNC viewer from an external PC or Smartphone. PA7LIM Smart phone ircDDBGateway remote control is also available.

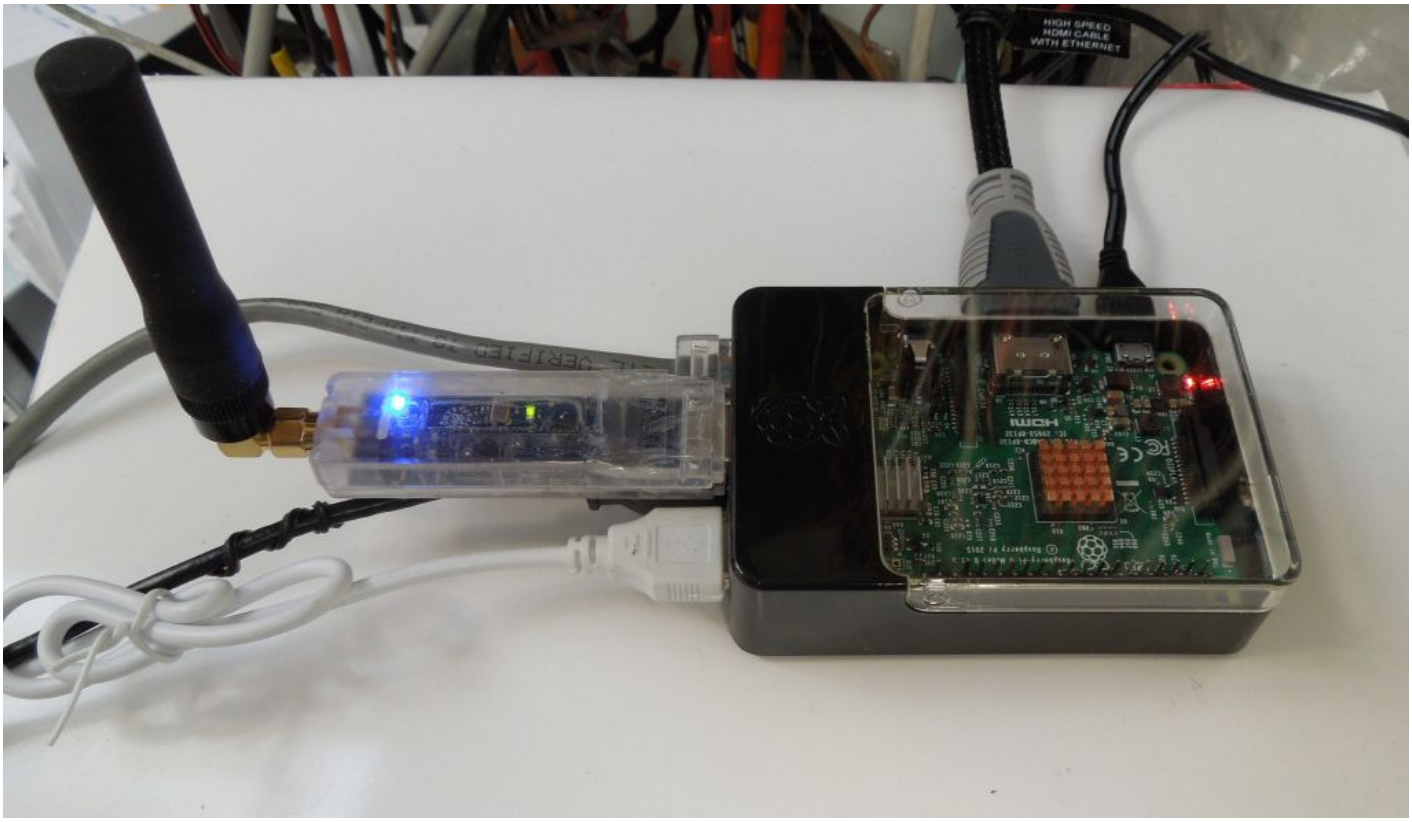
The ZL2TWS modified image is configured so that the software for the DV4MF2 and D-Star starts automatically as soon as the Raspberry Pi is booted. Tested on both DVAP and DVRPTR.

Furthermore, the driver of the WLAN stick EW 7811Un (Pi 2 use) is already installed and the power saving feature disabled.
With the Pi 3 the Internet connection is possible either via WiFi or Ethernet. (Pi 2 requires a WiFi dongle such as EDIMAX EW-7811UN Wireless USB Adapter.

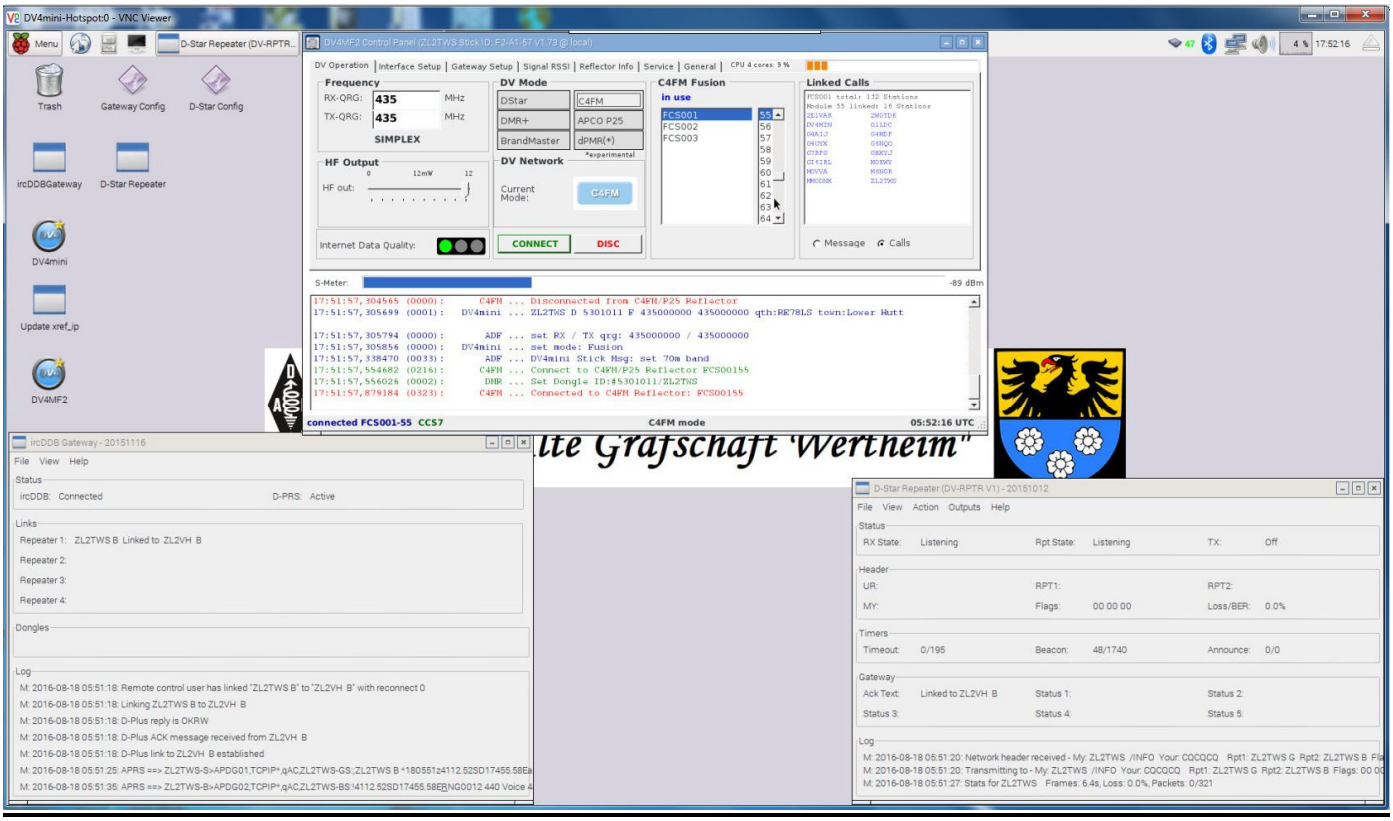
About a button on the desktop, the "xref.ip" file, required for XREF host IP's, are updated. (Recommend manual updating)
Please also note the information on http://dv4m.ham-dmr.ch/!

Recommended components:
- Raspberry Pi 2B / Pi 3 (Pi 3 has WiFi onboard but not tested at my QTH)
- SAN 8 GB micro-SD card (Class 10 or Extreme)

Below: RPi3 DV4mini and DVRPTR with local HDMi monitor and keyboard / mouse attached.



Below: The DARC desktop with D-Star DVRPTR and DV4mini connected to YSF FCS001-55.



XLX Multipurpose gateways

Here is a web site with up to date XRF and XLX reflectors. http://xrefl.net
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 file in a hotspot for direct connection.
See this URL for the most up to date list: http://xrefl.net
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.

XLX reflectors UPDATE:

XLX010xlx010.n8qq.com
XLX04545.62.233.223
XLX125xlx125.dyndns.hu
XLX204xlx204.ph0dv.nl
XLX210xlx210.xlxreflector.org
XLX226xlx226.hamnet.ro
XLX307xlx307.ddns.net
XLX311xlx311.ernix.de
XLX313xlx313.xrefl.net
XLX35086.105.53.120
XLX370xrf370.selfip.com
XLX404bendiksverden.net
XLX444xlx444.pa3dfn.nl
XLX518xlx518.n18.de
XLX519xrf519.ve3zin.com
XLX570104.128.230.153
XLX573216.189.148.204
XLX610xlx610.vkradio.com
XLX65166.240.165.26
XLX699xlx.tekniksnack.se
XLX724xlx.dvbrazil.com.br
XLX766xlx.amrase.org.br
XLX850xrf850.xrfmaster.net
XLX886xlx886.metropit.net
XLX88837.187.0.15
XLX909xlx909.ealink.org
XLX911xrf911.ns0.it

RPi and Odroid "Homebrew" Hotspot and Gateway Repeater active watch UPDATES:

Christchurch ZL3CHD – Does it again! The longest running RPi hotspot
146 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.
See last month's newsletter for more details.

New High Power Hotspot on this month:
ZL2TFG Odroid C1 eMMC RAM in Palmerston North on 144.550 MHz replaces the ZL2JML Pi2.
Check the dashboard here: ZL2FTG (http://zl2tfg.ddns.net:82)

NEW High Power Hotpsot on air in Hastings – Phil ZL2RO
ZL2ROR is on air using 432.750 MHz Simplex. Using the GMSK DVmega modem and IC-7100 FM.
Dashboard is hosted here: http://zl2ror.ddns.net:82

KIWI DSTAR Image Update
Simon ZL2BRG has offered to work some Linux magic with the /tty/ACM0 start-up problem for DVRPTR-V1 modems. This is the only thing left to do to make the Kiwi D-Star a perfect hotspot image.

Phil ZL2RO has a Kiwi D-Star image on test and found one fault with VNC login which has just been fixed. Thank you to Phil for finding this so quickly.
The Kiwi D-Star image is expected to be the ultimate one stop D-Star exclusive hotspot solution.

We are currently considering a package release once the DVRPTR-V1 start-up problem is resolved.

New Kenwood D-Star Radio on the market.
http://www.jvckenwood.com/en/press/2016/08/press_160808.html

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. 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)
ZL2FTG (http://zl2tfg.ddns.net:82)
ZL2NSA (http://zl2nsa.ddns.net:82)
ZL2SFM (http://zl2sfm.ddns.net:82)
ZL3CHD (http://zl3chd.ddns.net:83)
ZL2ROR (http://zl2ror.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

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.
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/

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.
Branch 63 NZART.