

Hello and Welcome to the 5th Edition of the newsletter.

Please feel free to send this newsletter to anyone you think has an interest in joining the DV amateur standard.

The News from around New Zealand

Note: Only new updates are added each month

Auckland ZL1SB HOTSPOT 144.550 MHz

<http://zl1sb.ddns.net:82> CCS7 5301091

A big thanks goes to Steve Sapich ZL1SB for the installation of the D-Star hotspot in Henderson . It is getting out very well over Auckland and North Shore. You can link it to REF or DCS and XRF reflectors. Try it out and see how you go? Below is a photo of it being set up.



Hamilton and Waikato Region

<http://zl2jml.ddns.net:82> CCS7 5302009

Brian ZL1HN is very busy building another Tait TM8105 hotspot for Palmerston North. It is hoped it will be up and running before Christmas. The frequency is 144.550 Mhz. Thanks to Warren Crawley ZL2JML.

Below is a photo of the components needed for assembly. Off to the painters next week all going well. 73 Brian ZL1HN



Tauranga

All repeaters are working well.

A question from Kevin ZL1KRH. It has to do with a portable DV to cell phone unit and I know a few of you are already doing this. Perhaps you could take the time to write to Kevin and advise him what the most cost effective option is.

Kevin writes:

“I still have use for a portable DV set-up to take away in our campervan. Something like a - Pi/DV device / Wi-Fi tethered to cell phone. Something that’s not going to cost an arm and a leg so is there anything new out there? The US dollar still not the best for importing.”

So those of you already DV mobile via cell phones please step forward and share your knowledge. Contact Kevin here: zl1krh@ihug.co.nz

Wellington

ZL2VH gets CCS7 connect. DTMF **8530304** for a direct connection to ZL2VH B.

ZL2VH C is not linked to CCS7. This the same situation as ZL1TPD where only the module B is connected when DTMF **8530001** is used.

HOTSPOTS

Two new Hotspots on this month. West Auckland - ZL1SB RPi2 using VK4TUX image.

<http://zl1sb.ddns.net:82/> **CCS7 5301091**

Eastern Hutt Valley - ZL2UDG Western D-Star Debian 8 “Jessie” image.

(<http://202.154.159.177:82>) Gateway under test, no RF connected yet and no CCS7.

Christchurch Hotspot 144.550 MHz

Cashmere hills Christchurch - ZL3CHD, RPiB ,VK4TUX, Xfce image running a 25 Watt Tait Radio and DVRPTR-V1. Set up your radio with ZL3CHD C in Rpt1 and in Rpt2 ZL3CHD G. Frequency 144.550 Mhz <http://zl3chd.ddns.net:82> **CCS7 5303049**

Thanks to Peter Robo ZL3TJH

Raspberry Pi B, B+ and V2 Debian 7 “Wheezy”, Debian 8 “Jessie” & Lubuntu 14 images.

By John ZL2TWS

This month I have tested new hotspots running the Western D-Star images.

ZL2UDG Eastern Hutt Valley hotspot RPi2 has a new image and impressive DG9VH dashboard. The dashboard allows remote control connections, BER displays and TX indication of actual transmissions. More over the dashboard has clickable links to call sign QRZ pages, APRS and Hotspot QTH pages.

I have also been testing the Lubuntu 14 Western D-Star image on an Odroid C1+. The results will not be available until the January 2016 newsletter. This is explained below.

The reason for this testing is to get to the bottom of the Raspberry Pi type hotspot reliability issues. Don’t read this wrong and get the wrong idea about these PC’s. The Raspberry Pi has entered the market for D-Star connections using the G4KLX repeater and gateway software. Both Adrian VK4TUX and Brian GW6WTK have produced complete ready to go images that allows anyone to experiment. It is all part of the ham radio experimentation so we can call this “DV for hams”

If we didn't have problems to solve then hams will never learn and experiment. The open source aspect of D-Star allows us all to enjoy.

The choices for small PC's are many and various. I have also tested the Maryland images but the dashboard is not up to the quality of the VK4TUX (DL5DI) and GW6WTK (DG9VH) versions so I have passed this image by for now. Mike ZL2NSA has this one on test and reports it works well.

Known problems with the RPi2.

- 1) SMPS chip has a clear top surface and reacts badly to sudden changes of light.
- 2) Voltage input should be 4.9 to 5.0 VDC. Higher voltages can cause lockups.
- 3) uSD card corruptions due to excessive read / write cycles.
- 4) G4KLX ircDDBgateway multi core CPU wx threading bug. Read below from Michael DL1BBF.

“I think I found the problem with the memory corruptions in the ircDDB part of the software. It has to do with wxString reference counting.

This is not thread-safe. I have tested my bug fix on a Raspberry Pi2 provided by Tim, OE5STM”. The ircddbgatewayd program is now running for 5 days without a crash.

Please include the patch in the next version, I've sent a github pull request.

73s Michael, DL1BBF

Reply from Jonathan G4KLX. “I've approved the pull request so the github version of ircDDB Gateway includes your fix. I will look into doing a release of the gateway next week with it in. If people can build their own versions and give it a test, and provide feedback, it would be great.”

Anyone using a multi core processor and the G4KLX ircDDBgateway should update to this latest version 20151116. Dstarrepeater has also been updated to version 20151012.

What could be called problem 5) Intermittent internet and USB traffic crash.

The theory at the moment is an Ethernet / USB sharing chip used on some of these small computers causes an intermittent crash. After discussion with Simon ZL2BRG he pointed out that the Ethernet ports on Raspberry Pi are shared with the USB ports using the LAN9512 (USB and Ethernet IC). The USB port is the same port a DVAP or DVRPTR is using while simultaneously accessing the internet. I did find that the Odroid C1+ does not use the same and has a separate Ethernet chip. SolidRun HummingBoards i2Ex and i4Pro also use a dedicated Ethernet chip. I have not had the same lockups as experienced with the RPi2 at the time of writing. Note that the Odroid XU4 does use a shared bus. I am having difficulty with the XU4 and the DV4 Mini sharing the G4KLX software on one PC. There is something here that needs more time to evaluate.

I recommend anyone venturing into D-Star or DV4 hotspot construction to buy an Odroid C1+ direct from the HardKernel web site.

http://www.hardkernel.com/main/products/prdt_info.php?g_code=G143703355573

Use the full KDE 16GB VK4TUX or Lubuntu 8GB GW6WTK packages and you will not be disappointed. As mentioned above the jury is still out on this one and “time will tell”.

An added bonus for using the C1+ is that you can run it on a uSD card or use eMMC Ram that is a daughter card plugged on the underside of the main C1+ motherboard. This will eliminate the above mentioned uSD card corruptions and is a lot faster in operation.

Problem 6) Desktop GUI graphic package run by VK4TUX F21 image can repeatedly causes a GUI lockup and eventual GUI lockout although the dashboard is seen to still function. Reboot always fixes this. Further investigation is required and a possible different desktop running in the background. Note that a headless version of this image always works.

Current testing using an HDMi Dummy plug to prove that an RPi2 HDMi unloaded might be the cause of the lockups. This also makes the VNC screen clean and full resolution when logged in from a remote terminal.

I purchased these on the advice of Adrian from ebay.

<http://www.ebay.com.au/itm/HDMI-dummy-plug-4K-DDC-EDID-emulator-fake-display-headless-digital-slim-/161265341755?hash=item258c29d53b:g:A8EAAOSw5ZBWOAFb>

The Debian 8 “Jessie” image is a lighter graphics package and at this stage no RPi2 has had this above problem. They only have the USB-Ethernet clash problem so far so good.

Editor Note: Both Adrian VK4TUX and Brian GW6WTK put in endless free time to promote D-star and amateur radio operation. If any of their images are causing a problem then please consider fully experimenting with others to verify they also have the same issue before reporting a problem.

CCS7 (Call Connection System 7)

The following list of stations that are working. Please try them. You can check each hotspot dashboard to verify your connection.

ZL2ARN (530)1082

ZL2SFM (530)1072

ZL1HN (530)1074

ZL1SB (530)1091

NOTE: CCS7 seems to only function if the gateway or hotspot is not linked to other incoming or outgoing connections. i.e. If the hotspot or gateway is connected outgoing you can CCS into it. If there is already an incoming connection CCS will not connect. Always check the gateway or hotspot dashboard status before trying.

DV Dongle and DVAP devices

John ZL2TWS has been busy this month with the new DV4Mini on an Odroid XU4.

Adrian VK4TUX logged in and upgraded the DV4 to firmware version 1.64. John has been active on D-Star via DCS reflectors and testing the RF range of the DV4. The results were as disappointing as for the DV Mega. The FoxTech band pass filter discussed in last months newsletter was added and the DV4 Mini range was extended by 100 meters. The DV4 suffers from the same QRN that the DV Mega did. The solution was to mount the DV4 away from the Odroid on a 500mm extension cable along with the FoxTech filter and Icom gain antenna. Still not as good as the USA filtered DVAP designs but 500m range was achieved.

Shown below is the DV4 mini using the 500mm extension cable, FoxTech filter and Icom antenna.



DV4 Mini uses. Is it worth buying?

By John ZL2TWS.

I found this a valuable device so that I can still use my DMR radio during the long outages of the New Zealand DMR-MARC system. Last month DMR-MARC has some internet and server related issues preventing all stations being heard or being able to make two way contacts. With the DV4 Mini I was able to access the DMR+ Hytera European system making use of the DMR Ref 4400-D-Star bridge DCS005F. With out the DV4 Mini not many contacts would have been made last month so I did not buy a DMR radio for nothing.

Those of you interested in using a DV4 Mini for D-Star will be interested to know that it works well from Windows 7 desktop or on an Odroid XU4. I had many D-Star contacts via the DCS reflectors. NOTE: DV4 Mini is designed to operate as a 10 milliwatt hotspot on DMR+, C4FM Yaesu Fusion, P25 and D-Star reflectors only. No gateways or hotspots can be connected to at the time of writing. This might happen later as the DV4 Mini is a developer's sandbox at the moment.

Please also note the following from w2xab@yahoo.com and others before purchasing a DV4 Mini if you think it can be used on DMR-MARC. It cannot work, however as explained above if you have a DMR radio you can also use it on D-Star via the UK reflector 4400 linked to DCS005F.

W2XAB Writes:

The DV4MINI does NOT support the IPSC protocol used on the MOTOTRBO network. While DMR-MARC does not allow them on their Talk Groups, DMR-MARC only controls a small portion the whole MOTOTRBO network. Currently that is a bridged connection between the US Reflector and the Mototrbo network.

If the DV4MINI was in the future to support the MOTOTRBO IPSC protocol they could connect directly to the MOTOTRBO network....BUT each user would require a bridge connection that requires a license fee on the cBridges which cost about \$100 per connection plus the monthly hosting expenses. In addition someone has to provide bridge support and programming to keep everything working.

The existing Amateur MOTOTRBO infrastructure network is supported by a small number of amateurs and groups.

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 editors listed below.

The editor will acknowledge that the information has been received and will be distributed to the chief editor for compilation. The close off date is the last day of each month.

The following is a list of editors and the local contact people to send articles for the newsletter.

The newsletter is compiled from input given to these editors.

Auckland is Laurie ZL1ICU (zl1icu@dstar.org.nz)

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)

Each month useful links will be placed at the end 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/>

Gateways with dashboards:

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

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

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

Tauranga. <http://johnkc.dyndns.tv:81> (ircDDB) CCS7 8530001

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

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

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

Other sites for reference information:

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

KiwiD-Star group. <https://groups.yahoo.com/neo/groups/KiwiD-STAR/info>

VK4TUX Host Lookup. <http://vk4tux.duckdns.org/lookup.html>

VK4TUX development and Quadnet StarNet bridge. <http://vk4tux.duckdns.org/>

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

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

ZL2ARN (<http://zl2arn.dyndns.org:82>)

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

ZL1HN (<http://zl1hn.ddns.net:82>)

ZL1SB (<http://zl1sb.ddns.net:82/>)

ircDDB Visability

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/2015](https://groups.yahoo.com/neo/groups/KiwiD-STAR/files/D-Star%20Newsletters/2015)

D-Star Net to join

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

Friday afternoon at 16:00 REF012A 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/>

73 and good DV.

Chief editor John ZL2TWS. Proof reader Brian ZL1HN