



## Newsletter January 2024 – 32nd Edition

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### 1) Terminal Mode (TM) / Access Point (AP) Mode G3 Gateways that work.

Tested 16/01/2024 - by John ZL2TWS

The Icom radios used for this article were the IC-705 and IC-9700.  
Similar settings will be used on the ID-4100, ID-50, ID-31 Plus, ID-51 Plus2, ID-52, and IC-905 models.

#### On your radio do the following:

Menu>Set>My Station>My Call Sign: ZLxxxx (Replace xxxx with your call sign)  
Menu>Set>My Station>TX Message: Terminal Mode (Identifies your station after connection)  
On the IC-705 Menu>Set>WLAN Set and turn WLAN On.  
For Terminal Mode (TM) select Connection Type>Station to (Connect to Network)  
For WiFi Access Point (AP) select Access Point (Connect to Phone, PC) (IC-705 only)  
Connection Settings (Station)>Access Point and wait for WiFi signals to be scanned.  
Choose the WiFi connection to use and enter the password. (IC-705 only)

#### Note:

Access Point for WiFi connection should not be confused with AP Mode used by the radio.  
Push the exit button a few times to return to the radio dashboard.

Menu>DV GW>Gateway Select>Internal Gateway (WLAN) or External Gateway (USB (B))

#### Note:

External Gateway (USB (B)) is used with Android Phone RS-MS3A App, Windows PC RS-MS3W APP, Windows PA7LIM Doozy program, and all via the USB (B) type cable.

Internal Gateway Settings>Gateway Repeater (Server IP/Domain) enter in the G3 gateway address. For example w6hro.dstargateway.org  
Internal Gateway Settings>Terminal/AP Call Sign enter your registered TM or AP call sign with suffix A or F. (ZLxxxx A or ZLxxxx F)  
Internal Gateway Settings>Gateway Type select Global  
Internal Gateway Settings>UDP Hole Punch. Use if you have difficulty forwarding via port 40000 to 40002. Hole punch is supposed to automate this.

The following are G3 Gateways that can be entered into a compatible Icom D-Star radio using the “Gateway Repeater (Server IP/Domain)” section of the “Internal gateway Settings” menu.

**Note:** The G3 gateway router required ports 40000, 12345 and 12346 to be open to the gateway.

ZL2VH: 123.255.47.67

VK3RWN: vk3rwn.dstar.fun

VK5RWN: vk5rwn.areg.org.au

ZL1ZLD: spamnz.zapto.org

VE7RCK: ve7rck.dstargateway.org

W6HRO: w6hro.dstargateway.org

After connection to a G3 gateway the radio can have /ZL2VH C entered as a direct UR:  
or selected from the "Gateway CQ" > "Oceania" menu.

If your radio has the “MONI” function (RPT MONI) then enable this.

**Note:** To use RPT MONI a file called Repeater List has to be downloaded from Icom.  
Download the IP address list file (Example: RepMoni\_sample.csv) from the Icom website.

<https://www.icomjapan.com/support/>

For IC-705:

[https://www.icomjapan.com/support/firmware\\_driver/3709/](https://www.icomjapan.com/support/firmware_driver/3709/)

For IC-9700:

[https://www.icomjapan.com/support/firmware\\_driver/3746/](https://www.icomjapan.com/support/firmware_driver/3746/)

You can monitor a repeater that is selected in “TO” (Destination) through the Internet.  
while monitoring, you can receive a signal from an access repeater that is selected in “FROM.”  
You need a microSD card and an Internet connection to use the DV Repeater Monitor function.  
You can use this function while displaying the Destination Repeater (DR) screen or in TM mode.  
Some repeaters cannot be monitored however I did add XLX299 xlx299.nz to the bottom of the list and reinserted into the IC-705. MONI became live when I use /XLX299J in the “TO”

### **How to load this file:**

Copy a file into the “IC-705” > “RptMoni” folder on the microSD card.

Select the IP address list file to use (Transceiver)

Insert the microSD card into the transceiver.

Open the “Connection IP Address List” screen.

SET >DV Repeater Monitor Set >Connection IP Address List.

Touch the file to use then to close the DV REPEATER MONITOR SET screen, push EXIT several times.

IC-705 and IC-9700 have this option providing the firmware for IC-705 has V1.32 and IC-9700 has >V1.40) (Currently at V1.44)

MONI allows any traffic on the local repeater to pass directly to the radio otherwise RF users typically need to push RX>CS to return the call. Remote user is linked as a DPlus DV Dongle.

If a valid G3 server connection is established the connection will show as a Remote User>Type DV Dongle and MONI will illuminate to show the network is valid.  
On the destination gateway your call sign will be seen as a listening remote DV Dongle user.  
When using the RS-MS3W (V1.31) the DV Dongle remote user connection is not shown.

When using the IC-705 or IC-9700, first key up and watch the gateway dashboard to check for a gateway link to be established.

If passing through the G3 network to other gateways and a red **x** is seen at any time (the top section next to the cloud icon) then this will indicate a network error connecting to that gateway.

PTT to hear yourself talking out of 5425 ZL2VH C via one of the Gateway servers or when directly connected to ZL2VH.

**Note:** While editing a message "The Terminal Mode is Running" might be displayed. Turn this off by selecting "<<Normal Mode>>" to complete editing. Then select "<<Terminal Mode>>" again.

### **Icom RS-MS3W - Windows or RS-MS3A - Android phone App**

This software (V1.31) can be used via a USB cable to a PC or phone.

The information on screen is better to understand and use than displayed on the Icom radios. Any error messages can be seen and gateway IP address easily changed from the keyboard. Once any problems are sorted then the same settings can be transferred to the radio set-up. You might prefer to use the radio directly via WiFi and not the USB cable arrangement.

### **Using Doozy software by David PA7LIM**

<https://www.pa7lim.nl/doozy/>

This works perfectly on 5425 ZL2VH C after host file has ZL2VH 123.255.47.67 added to the Documents>Doozy>DPlus\_Host.txt (Doozy is a substitute Hotspot equivalent)

If ZL2VH 123.255.47.67 is commented out of the DPlus\_Hosts.txt it can be used with ZL2VH-B ircDDB via DCS or DExtra protocol after adding ZL2VH zl2vh-b.ddns.net to either host file.

**Note:** Doozy must be restarted before using it in order to load the changed host files.

**Access Point Mode** converts the radio into a high powered hotspot. An antenna is required and another D-Star radio such as an ID-51, ID-50 or ID-52 is used to remotely operate.

The preliminary setup for **Terminal Mode** is required to be done first, as above.

For more information download the appropriate advanced manual for the radio to be used.

**XLX299:** To use this reflector enter xlx299.nz as the Internal Gateway Settings> Gateway Repeater (Server IP/Domain)

In the direct UR: /XLX299J should be entered. If XLX299 has been added to the "RptMoni" folder on the microSD card this will also be available to use.

**Private Call to Call:** While connected to a G3 server such as ZL2VH two stations can QSO by replacing the Gateway CQ such as /ZL2VH with the callsign of the station you want to QSO with. For example ZL2TWS is added in the “TO” field of the radio operated by ZL2TWT. In the radio operated by ZL2TWS the “TO” field has ZL2TWT added. The result is that these stations can QSO without appearing on the G3 dashboard or being heard on any of the gateway repeaters. This is effectively a private channel. No module number is involved so it’s callsign to callsign only.

**Note:** Some radios may need the / in front of callsigns for the Call to Call to work. XLX299 requires /XLX299J or other modules to work. Callsign to callsign does not work with XLX299.

### **References:**

<https://www.icomjapan.com/lineup/options/RS-MS3W/>

<https://www.icomjapan.com/support/manual/3063/>

### **2) MMDVM Firmware update.** by John ZL2TWS

The most recent WPSD Pi-Star image now has an automatic function to intricate the MMDVM board that your Pi-Star might be running, and work out what firmware upgrade is required. From the dashboard Admin>Advanced>Tools>Modem Firmware Upgrade Once started the firmware is backed up, new firmware downloaded and installed.

### **3) Hotspot and Gateway Repeater active watch Updates - Dashboard hosting.**

This is a listing of High Power Hotspots and Gateway Repeaters you can connect to.

**NOTE:** At the time of publication the URL’s listed below were checked and active.

Their status may have changed since publication due to temporary outage or update.

See this link:

<https://zl2vh.org.nz/assets/pdf/other/new-zealand-d-star-gateways-hotspots.pdf>

### **4) ZL2VH-B KiwiDstar Update.**

No remote link radio has been finalised yet but we are working on getting a modified Motorola UHF transceiver. Brian ZL1HN is helping us with a solution.

Link is going to be via a traditional GMSK DVRPTR-V1 modem and a high speed 9k6 compatible radio such as a Motorola.

A parallel upgrade has been taking place between an SD and eMMC card version.

Paul ZL1UHX has made changes to the SD version while John ZL2TWS makes the same parallel changes to the eMMC version.

The following have been successfully implemented.

- Odroid cooling fan persistent settings so that changes made are reloaded at boot time.
- Apache2 web server shutdown and lighttpd web server moved to port 80.
- ddns.net auto update so that when the IP address changes, zl2vh-b.ddns.net is updated.
- Investigate kernel update to Ubuntu 14 in preparation to enable Odroid watchdog.
- Odroid watchdog can take care of the hotspot automatically to restart if needed.
- APRS reporting. Update with a fix in dashboard php file.
- DVRPTR-V1 - Changed key up TX before data TX timing to 200 mS in DstarRepeater.

### **G3 Gateways, US Trust DSync monitor and ircDDBGateways.**

**NOTE:** At the time of publication the URL's listed below were checked and active.

Their status may have changed since publication due to temporary outage or update.

### **G3 Gateways and G3 with ircDDB addon - Repeaters:**

**Auckland Klondyke ZL1VLD.** <https://z11vhd.dstar.org.nz/> (DPlus) ZL1VHD B [438.175-RPTR]

**Auckland Klondyke ZL1VLD.** <https://z11vhd.dstar.org.nz/> (Dplus) ZL1VHD C [145.650-RPTR]

**Auckland ZL1ZLD.** <https://spamnz.zapto.org/> (Dplus) ZL1ZLD A [1293.625-RPTR]

**Auckland ZL1ZLD.** <https://spamnz.zapto.org/> (Dplus G3 with ircDDB addon) [439.575-RPTR]

**Auckland ZL1ZLD.** <https://spamnz.zapto.org/> (Digital Data) [1294.625-RPTR]

**Te Puke.** <http://202.36.75.248:40001> (DPlus G3 with ircDDB addon) [145.725-RPTR]

**Hamilton ZL1HND.** <http://z11hnd.d-star.nz> (Dplus) ZL1HND B [439.450-RPTR]

**Wellington ZL2VH.** <https://123.255.47.67> (Dplus) ZL2VH C [145.425 RPTR]

### **US Trust DSync monitor:**

<https://dsync.dstarusers.org/>

### **ircDDBGateway - Repeaters:**

**Hamilton.** <http://z11cct.d-star.nz> (DPlus, DExtra & DCS) CCS7 8530100 [145.350-RPTR]

**Kapiti ZL2KB.** <http://z12kb.ddns.net:8080> ZL2KB C (DPlus, DExtra & DCS) [145.300 RPTR]

**Wellington ZL2VH-B.** <http://z12vh-b.ddns.net>

CCS7 8530304 [DPlus, DExtra & DCS] [860-RPTR]

**New Zealand XLX Multimode Reflector** [www.xlx299.nz](http://www.xlx299.nz)

**ircDDB Status for ZL:** <https://status.ircddb.net/cgi-bin/ircddb-gw?NZL>

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

ZL1TOB (<http://z11tob.ddns.net:83>)

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

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

### **Other Gateway Repeater Hotspots of interest:**

ZL2AUS is running the WPSD Pi-Star variant for MMDVM

<http://www.zl2aus.co.nz>

### **Dashboard - DDNS naming convention.**

PiStar: <http://callsign.ddns.net>

Note: PiStar uses port 80 by default and not required to be added to the end of the address line.

**KiwiDstar Hotspots:** <http://callsign.ddns.net:82>

UDRC Compass Hotspots: <http://callsign.ddns.net:82>

Hotspots that cannot use port 80 or 82 use port 83 (example is <http://z13tjh.ddns.net:83>) and

<http://z11tob.ddns.net:83>)

**Host files that include ZL gateways and hotspots can be downloaded from here:**

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

**D-Star Nets to join**

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

Kiwi D-Star Net on XLX299 J (D-Star only channel)

Kiwi D-Star Net on XLX299 N (Tech Talk channel)

**Sites Reference information:**

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

**For US Trust G2 Registration go here:** <http://z12vh.org.nz/d-star/gateway/>

Previous D-Star newsletters FREE to download:

<http://z12vh.org.nz/d-star/newsletter/2015/>

<http://z12vh.org.nz/d-star/newsletter/2016/>

<http://z12vh.org.nz/d-star/newsletter/2017/>

<https://z12vh.org.nz/d-star/newsletter/2023/>

73 and good DV. John ZL2TWS for Branch 63 NZART.