How to use the D-STAR REF Reflector System

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A brief introduction to D-Star Reflectors:

Reflectors are somewhat similar to the Conference Rooms on EchoLink or Reflectors on IRLP systems. At any time any number of D-Star Repeaters from around the world can be linked to a Reflector.

This means that when you transmit through any D-Star repeater when it is linked to a Reflector, your transmission can be heard on all the other Linked Repeaters.

For RF D-Star repeater users to have access to the REF Reflector System a program called DPLUS needs to be running on their local Repeater Gateway. DPLUS enables D-Star Repeaters that are connected to the US Trust Server D-Star network to link to Reflectors & other Repeaters directly.

DV Dongle and DVAP users are independent of any local repeater so they can connect at will to the various REF Reflectors. These users will also display on the status pages of a Reflector. So it they too are linked to a reflector your transmissions will also be heard by these users as well

The ZL2VH Gateway has DPLUS installed.

Other reflector systems do exist in the D-Star world such as XREF, DCS, CCS and All Star. Currently the only one supported by ZL2VH is REF. This article is all about the REF System but can be used with or by the other systems if you have access to them.

How to Link to a Reflector:

To Link to a Reflector, first decide which Reflector & Module you want to connect to. For example, if you want to connect to Reflector 091 Module C (in Australia) then you need to transmit the following command:

YOUR: REF091CL (The L in the 8th position commands the repeater to link to **REF**lector **ZERO NINE ONE** module **C L**ink)

The local repeaters callsign must be in the RPT1 and the local Gateway in the RPT2 Location on the transceiver.

Example:
YOUR: REF091CL
RPT1: ZL2VH C (Port letter C 2M, must be in the 8th position)
RPT2: ZL2VH G (the G for Gateway must be in the 8th position)
MYCALL:<your callsign>

If you are successful the repeater will reply with an announcement “Remote System Linked”. A simple kerchuck of the repeater is all that is required for

any command such as this, not actually voice comment is required, but as good operating practice words like ZL2VH connecting to Reflector 091 Charlie".

Now that you have linked the repeater to Reflector 091C you need to return your transceivers YOUR: information to CQCQCQ, otherwise the repeater will attempt to Link every time you transmit and will constantly announce "Remote System is Currently Linked".

To unlink from a Reflector transmit the following information, YOUR: U (seven spaces and then U to Unlink which must be in the 8th position).

Example:
YOUR: ——-U (seven spaces then the U in the 8th position)
RPT1: ZL2VH C (Port letter C, must be in the 8th position)
RPT2: ZL2VH G (the G for Gateway must be in the 8th position)
MYCALL: <your callsign>

In order to link and unlink from reflectors, it is a good idea to create separate memory channels in your transceiver to handle the various functions. The following are examples of how you might program your radio to link and unlink from a given Reflector. This is only an example as you may wish to choose other Names for your memories and save them under different memory numbers etc.

Memory 1 (normal channel use for ZL2VH B repeater)
Alpha Numeric Name: 860
YOUR:CQCQCQ
RPT1: ZL2VH B (Port letter B must be in the 8th position)
RPT2: ZL2VH G G (the G for Gateway must be in the 8th position)
MYCALL: <your callsign>

Memory 2 (used to link Repeater ZL2VH C to Reflector 091C)
Alpha Numeric Name: 860 LINK
YOUR: REF091CL (The L in the 8th position commands the repeater to link to REFlector ZERO NINE ONE module C)
RPT1: ZL2VH B (Port letter B must be in the 8th position)
RPT2: ZL2VH G (the G for Gateway must be in the 8th position)
MYCALL: <your callsign>

Memory 3 (Used to unlink a repeater from any reflector)
Name: Unlink (optional)
YOUR: ——-U (seven spaces then the U in the 8th position)
RPT1: ZL2VH B (Port letter B must be in the 8th position)
RPT2: ZL2VH G (the G for Gateway must be in the 8th position)
MYCALL: <your callsign>

As an example, and using the memory channel examples above, use the following procedure to link ZL2VH B Repeater to Reflector 091C:

First switch to memory channel 1 and listen to assure that the repeater is not in use then announce your callsign and your intention to link to Reflector REF091C.

If the repeater is currently linked to a different reflector you must first disconnect from the currently connected reflector by going to memory channel 3 and pushing the PTT button. The repeater will tell you that it has unlinked.

Next switch to Memory 2 and press your PTT button.

After the link is established switch to Memory 1 and wait for a few seconds to check that the Reflector isn't already in use then make your call.

When you have finished on the Reflector announce that you are unlinking, then switch to Memory channel 3, and push the PTT button.

The local repeater will announce that it has unlinked.

Then switch back to Memory 1 for normal use on the local repeater.

This memory positioning of linking makes it very easy to link and unlink from any reflector very fast, and is ideal whether used from home base or mobile. In my experiences when done mobile it is far easier that doing a simpler process on say IRLP.

Check the link status of the repeater:

To check the link status of the repeater, transmit the following information, YOUR: I (seven spaces and then I to Link Status which must be in the 8th position).

Example:
YOUR: ——-I (seven spaces then the U in the 8th position)
RPT1: ZL2VH C (Port letter C, must be in the 8th position)
RPT2: ZL2VH G (the G for Gateway must be in the 8th position)
MYCALL: <your callsign>

Reflector Modules:

Most, if not all Reflectors have at least 5 Modules labeled, A, B, C, D and E.

You will probably find most activity is on Module C.

From experience the most active Reflector Modules are 001C and 030C in the USA, with Australia on 091C.

Note: that Reflector module designations do not refer to and have no relationship to the Port letters used on D-Star Repeaters.

Reflector Status Page Links (Worldwide or All):

http://www.dstarinfo.com/reflectors.aspx

Reflector Status Page Links (more activate Reflectors):

http://ref001.dstargateway.org

http://ref030.dstargateway.org

http://ref091.dstargateway.org

ZL2VH Gateway Status page:

https://123.255.47.67