

Why is D-Star so complicated and confusing?

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The short answer is *it's not!*

D-STAR radios are programmed in the same way as all current radios, either by keystroke entries or with software. If you can program and use a **NON** D-STAR radio, you can program and use a D-STAR radio. The user manual is both complicated and confusing - it tells you *how* to do something, but not *why*, and shows how D-STAR is used in Japan. Fortunately the rest of the world uses a much simpler linking method called **DPLUS**. So close the user manual and put it in a safe place (it does tell you **how**), then go to the **D-STAR information web site** (see links at the end of this document) and read all about it.

When you use Digital Voice (**DV**) mode there are four (8 digit) data fields used by the D-STAR system. These data fields tell the **repeater controller and gateway** what to do with your transmission. The **D-STAR Calculator** (see links) will tell you exactly what to put in each of these fields, but in general the first two are *memory banks* that can hold multiple (menu selectable) values. **MYCALL** is used for both simplex and repeater operation, the others are for Repeater operation.

MYCALL or **MY** - This is **always** your callsign - in **DV mode** your radio sends this every time you transmit. There is also an **optional** four digit information field - some leave it blank, some put their name, etc. If more than one Ham uses a radio, there is room for multiple callsigns - be sure that yours is selected.

YOURCALL or **UR** - This is where most of the confusion comes in - For most users, most of the time this will always be **CQCQCQ**. This is where the **D-STAR Calculator** proves its value in determining what needs to go here if you want to do something different. You can Pre-Install many of the **DPLUS linking commands** that you think you might want to use, and use the menu to select them as needed. Always return to **CQCQCQ** immediately after you send a **DPLUS command**. There are also some Icom D-STAR commands that work differently - The **D-STAR calculator** also addresses these.

The next two data fields *almost never* change. They deal with the repeater you are using, and are usually programmed in at the same time you program in the frequency, offset, etc.

REPEATER1 or **RPT1** or **R1** - The callsign of the repeater you are transmitting to and the Port (A, B, or C). The port designator is the RF module for a particular band and must be in the **8th** position - use spaces as necessary. D-STAR Repeater Ports in the US and most areas of the world follow the naming convention:

Port A = 1.2Ghz
Port B = UHF
Port C = VHF
Port G = Internet Gateway

REPEATER2 or **RPT2** or **R2** - Same as above, but use Port **G** - This routes your packets to the Gateway even if you are talking local.

Most D-STAR repeaters in the USA have Gateways. The few that don't will probably eventually get one. They all have 1, 2, or all three of the other Ports or RF modules. When you key up on a repeater, the Repeater Controller (computer) routes the signal based on information contained in UR, RPT1, and RPT2. By putting Port G in RPT2, you are telling the Controller to also send your transmission to the Internet Gateway - this is important when using **DPLUS Linking**.

Beyond the Gateway, there are other Repeaters, Reflectors, and DV-Dongle users. **DPLUS Linking** is a widely used software application which simplifies connection between these entities. Because of Bandwidth constraints, each Repeater can only handle a small number of internet connections.

Reflectors are conference bridges which overcome this problem, allowing dozens of repeaters to link up. Anything transmitted on any repeater can be heard on all linked repeaters. **Reflector 1C** has become the World Wide English language place to make contacts, with Repeaters from Europe, Australia, Canada, etc. Other Reflectors are dedicated to other languages. **D-STAR information web site** has a list of which is which, but don't expect to hear conversations 24/7 - like our local repeaters, the reflectors are quiet a lot of the time. Many repeaters stay linked to a reflector most of the time so you can hear and join in a conversation. This is a decision that must be made by the administrator of each repeater, and the ability to Link/Unlink may be restricted.

Links

D-STAR information web site - <http://www.dstarinfo.com/>

This site has information on all aspects of D-STAR.

D-STAR Calculator - <http://www.dstarinfo.com/repeater-lists.aspx>

A very helpful tool for learning to program your D-STAR radio to access repeaters and link to others.

D-STAR Repeater Directory - <http://www.dstarusers.org/repeaters.php>

This is a sortable list of D-STAR Repeaters - it's worth exploring the different categories on the left of the page

Last Heard - <http://www.dstarusers.org>

This is a list of D-STAR stations heard in the last few hours on any of the Gateway-equipped repeaters. The callsign of the station and the repeater where they operated is shown.