



D-STAR Get-On-The-Air radio configuration

Digital D-STAR technology opens up a vast new field for amateur radio. Use and linking are not exactly performed as conventional FM, IRLP or internet repeater operations. There are two methods of digital repeater linking with D-STAR, user and port linking. This document is an introduction to D-STAR linking and Internet operating.

Example 1: Local conversation

Tom, W4WLF calls Ron, W4VM on the Huntsville local D-STAR 2 meter repeater.

Tom configures his **IC-91AD** radio as follows:

UR : CQCQCQ
R1 : KI4PPF C
R2 : NOT USE*
MY : W4WLF

Tom calls Ron stating that he is on Huntsville port C. The Digital Voice, DV data is only repeated on the local 2 meter port C repeater.

Ron hears Tom calling him on the Huntsville repeater port C.

Ron configures his **ID-800** radio as follows:

MYCALL : W4VM
UrCALL : CQCQCQ
PRT 1 C : KI4PPF C
RPT 2 C :

Ron returns the call and they have a local DV conversation.

Example 2: Local cross band conversation

Tom, W4WLF moves to the 1.2g port A, on the Huntsville local D-STAR repeater. Ron, W4VM remains on the 2 meter repeater.

Tom configures his **ID-1** radio as follows:

UR : CQCQCQ
RPT1 : KI4PPF A
RPT2 : KI4PPF C
MY : W4WLF

Tom calls Ron stating that he is on Huntsville port A. The DV data is now cross banding between 1.2g port A and 2 meters port C. DV is heard on both port A and C.



Ron hears Tom calling him on the Huntsville repeater port C.

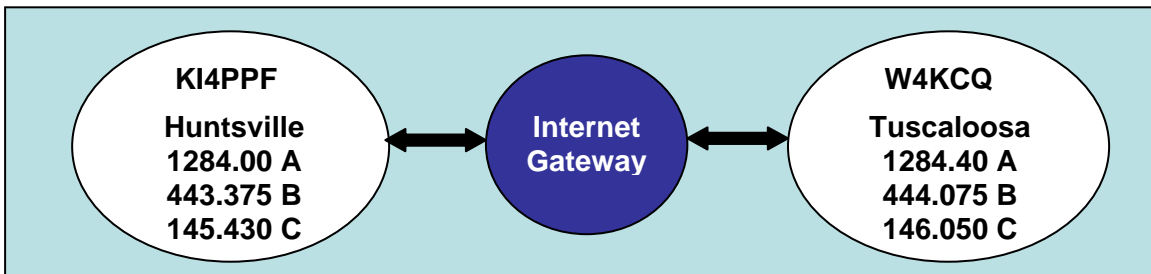
Ron configures his **ID-800** radio as follows:

MYCALL : W4VM
UrCALL : CQCQCQ
PRT 1 C : KI4PPF C
RPT 2 C : KI4PPF A

Ron returns the call and they are now cross banding between the two repeaters.

Note: If Tom did not state what port he is calling on, Ron thinks he is on the port he hears Tom on. Ron will call Tom on the port he is on, port C, but will not be heard by Tom. You do not have to state band or frequency, only the port.

Example 3: User Linking over the Internet



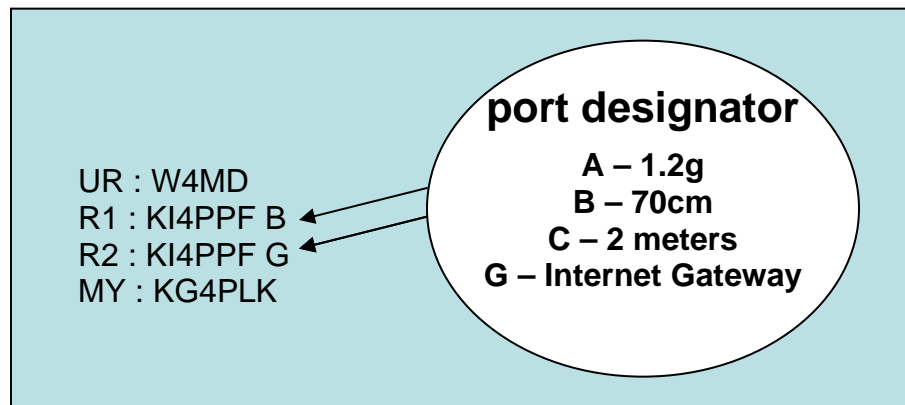
Actual configuration of two Alabama D-STAR repeaters

Robby, KG4PLK in Huntsville AL wants to call David W4MD on Digital D-STAR repeater in Tuscaloosa AL. KG4PLK is on 70cm repeater in Huntsville. The 70cm repeater is called "repeater port B". KG4PLK does not know or does he need to know where David, W4MD is located. This is called user linking.

Robby configures his **IC-91AD** radio as follows:

UR : W4MD
R1 : KI4PPF B
R2 : KI4PPF G
MY : KG4PLK

Robby calls David. The DV data mode finds David in the repeater system. David has recently talked on Tuscaloosa repeater port C and hears Robby calling.





David configures his **ID-800** radio as follows:

MYCALL : W4MD
UrCALL : KG4PLK
PRT 1 C : W4KCQ C
RPT 2 C : W4KCQ G

David returns the call to Robby and they have an Internet linked DV conversation.

Notice that Robby, has one space between his call and the “G” and David has two spaces. The port designator must always be in the 8th position.

Example 4: Port Linking over the Internet

David, W4MD in Tuscaloosa AL wants to call anyone on 2 meters in Huntsville AL. David is on the 2 meter repeater of the Tuscaloosa repeater system. The 2 meter repeater is called “repeater port C”. This is called port linking.

David configures his **ID-800** radio as follows:

MYCALL : W4MD
UrCALL : /KI4PPFC
PRT 1 C : W4KCQ C
RPT 2 C : W4KCQ G

David makes a general call, stating that he is on the W4KCQ repeater port C. The DV data mode from David is heard on the Huntsville repeater system, port C. Robby, KG4PLK hears David calling on the Huntsville repeater port C and wants to talk with him.

Robby configures his **IC-91AD** radio as follows:

UR : /W4KCQ C
R1 : KI4PPF C
R2 : KI4PPF G
MY : KG4PLK

OR

UR : W4MD
R1 : KI4PPF C
R2 : KI4PPF G
MY : KG4PLK

Robby returns the call to David and they have an Internet linked DV conversation.

Notice that Robby, KG4PLK has one space between the UR call and the C. The port designator always has to be in the 8th position.



Call sign designator definitions:

ICOM radios have different descriptions for the call sign configuration but they are used the same way.

D-STAR Radio Call Sign Configurations			
IC-91AD	ID-800	ID-1	IC-2820
UR : W4MD	UrCALL : W4MD	UR : W4MD	YOUR : W4MD
R1 : KI4PPF B	RPT 1 C : KI4PPF B	RPT1 : KI4PPF B	RPT1 : KI4PPF B
R2 : KI4PPF G	RPT 2 C : KI4PPF G	RPT2 : KI4PPF G	RPT2 : KI4PPF G
MY : KG4PLK	MYCALL : KG4PLK	MY : KG4PLK	MY : KG4PLK

UR: The person or repeater port call sign you want to call.

R1: The call sign of the repeater that you are talking on.

R2: The call sign of the repeater that you are talking on, plus port designator you want to cross link to or gateway designator.

MY: Your personal call sign

Digital Radio Display Status Indication:

Digital radios will indicate a status of the repeater and user that you are calling when you attempt to call them on the user display.

A repeater or user call sign display indicates who you are talking or listening to.

IC-91AD

No repeater signal: no indication

UR?: When the target station does not reply the call

UR*: When the linking repeater is unable to be found

ID-800

UR?: When the target station does not reply the call

UR*: When the linking repeater is unable to be found

ID-1

RPT UP: When the receiving signal of another station accessing the repeater

UR?: When the target station does not reply the call

RPT?: When the linking repeater is unable to be found



Additional notes:

If you are not using Alabama repeaters in these examples, simply replace your call sign and the repeater call sign in your radio digital call sign configuration area for the digital repeater that you want to use.

The users in example 3 and 4 need to be pre-registered by their local repeater administration person to use Internet linking. Amateurs that are not registered can only listen to the internet conversation, talk locally but not talk over the internet.

These examples do not use all the different configurations that are available to the operator. Consult the radio operator's manual for full operation, programming, use, other options and short cuts for user and port linking. Also, explore the digital messaging, data transfer, digital squelch, GPS operation and many other neat features.

This technology is new and we are all learning, innovating and evolving this equipment. Practice controlling the radio and operating over the Internet will make you more proficient amateur operator. The radios can also be programmed manually, via front panel or with computer software.

This document was written to help new users have more fun with D-STAR.
If you find any errors or have comments on this document please let me know.

73,
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