

Understanding DGID and IMRS

Category: IMRS

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DG-ID is like a CTCSS tone, but for digital. It filters out signals with different DGID's as well as having the ability to do split DG-ID's (like split CTCSS). DG-ID can be in a state of Rx & TX (DG-ID), Rx Only, Tx Only, and Split Rx & Tx (different DG-ID).

DG-ID servers as a means of selective signaling for access to a repeater or for a WiRES-X node. For the repeater it has a couple of different applications (IMRS and access purposes) while with WiRES-X it offers control of voice and control access.

DG-ID's cannot be reused within the same configuration or network. For a repeater that means the DG-ID can only be in the LOCAL, RPT GROUP, or GROUP. There will be issues if in an IMRS network has anything with the same DG-ID.

DG-ID Repeater usage

LOCAL DG-ID: There are two factors:

- 1) The DG-ID it will not be sent down IMRS links and only allow access to the local repeater.
- 2) In an IMRS set-up, you will always hear the status beeps: One for end conversation; Two for link drop/end; and three for a repeater is not connecting with the DG-ID/IMRS group.

RPT GROUP DG-ID: This offers the ability for an IMRS link to be established in a one-way direction. The DG-ID used is the LOCAL DG-ID of the other repeater that you are calling. If users are using DG-ID Tx AND RX they will not hear beeps the confirmation beeps (see above).

Example of RPT GROUP usage:

San Diego Repeater – Local 1
Local 2, RPT GROUP 1

Los Angeles Repeater –

San Diego users using DG-ID 1 stay on San Diego for usage; Los Angeles users use DG-ID 2 stay on Los Angeles for usage. Los Angeles users who use DG-ID 1 will establish a one-way link to San Diego and will communicate with one another until the IMRS TOT is reached. Once the link drops it is reestablished by someone using DG-ID 1 on the Los Angeles repeater group as San Diego cannot establish the link as it is not a RPT GROUP.

GROUP DG-ID: offers the ability for an IMRS link to be established in either direction by any of the repeaters that have it programmed into IMRS. If users are using DG-ID Tx AND Rx they will NOT hear the confirmation beeps.

Example of GROUP usage:

San Diego – Local 1, GROUP 10
Repeater – Local 2, GROUP 10

Los Angeles

San Diego users use DG-ID 1 only stay on San Diego for usage. Los Angeles users use DG-ID 2 only stay on Los Angeles for usage. San Diego or Los Angeles users that use DG-ID 10 will connect to one another via IMRS and stay connected till the IMRS TOT times out.

Overall example with LOCAL, RPT GROUP, and GROUP:

San Diego – LOCAL 1 – RPT GROUP (blank), GROUP 10

Los Angeles – LOCAL 2 – RPT GROUP 1 – GROUP 10

San Diego: DG-ID 1 talks locally, using DG-ID 10 talks between San Diego and Los Angeles

Los Angeles: DG-ID 2 talks locally, using DG-ID 10 talks between San Diego and Los Angeles. DG-ID 1 establishes a link between San Diego and Los Angeles.

WiRES-X & DG-ID Local

Using WiRES-X with a DG-ID, it is not recommended to use the LOCAL DG-ID if you have an IMRS setup with a DG-ID. Here's why: WiRES-X will hear all the confirmation beeps from IMRS (argh!). Also WiRES-X will hear everyone but only talk locally since a LOCAL DG-ID is being used.

Example of WiRES-X and IMRS (with three repeaters in an IMRS Network)

- San Diego – LOCAL 1 – RPT GROUP (blank) – GROUP 10, 20, 99
- Los Angeles – LOCAL 2 – RPT GROUP 1, 3 – GROUP 10, 30, 99
- Chicago – LOCAL 3 – RPT GROUP (blank) – GROUP 20, 30, 99
- WiRES-X – DG-ID 99
- DG-ID 10 connects San Diego to Los Angeles
- DG-ID 20 connects San Diego to Chicago
- DG-ID 30 connects Los Angeles to Chicago
- DG-ID 99 connects all together along with WiRES-X

In this setting the users can do the following, per repeater, with the DG-ID's.

San Diego:

- DG-ID 1 is local.
- DG-ID 10 establishes a link between San Diego and Los Angeles.

- DG-ID 20 establishes a link between Los Angeles and Chicago.
- DG-ID 99 establishes a link between San Diego, Los Angeles, Chicago and WiRES-X.

Los Angeles:

- DG-ID 2 is local.
- DG-ID 1 establishes a one-way link between Los Angeles and San Diego.
- DG-ID 3 establishes a one-way link between Los Angeles and Chicago.
- DG-ID 10 establishes a link between San Diego and Los Angeles.
- DG-ID 30 establishes a link between Los Angeles and Chicago.
- DG-ID 99 establishes a link between San Diego, Los Angeles, Chicago and WiRES-X.

Chicago:

- DG-ID 3 is local.
- DG-ID 20 establishes a link between San Diego and Chicago.
- DG-ID 30 establishes a link between Los Angeles and Chicago.
- DG-ID 99 establishes a link between San Diego, Los Angeles, Chicago, and WiRES-X

Once an IMRS link is established ALL the DG-ID's in the repeater can be used to keep the link active. If in the San Diego example a link is established, then DG-ID's 1, 10, 20, and 99 can all be used to keep the link alive. DG-ID that established the link is the only one that will be transmitted by San Diego.

If a link established by DG-ID 10 on the San Diego repeater, the repeater will Rx DG-ID's 1, 10, 20, and 99 but will only

transmit back DG-ID 10. Therefore, if you have DG-ID 99 set-up in your radio for Tx & Rx you will be able to talk down the link but you will not hear anything because the repeater is Tx DG-ID 10.

Information from N9UPC.