



# ***D-STAR***

## ***A Practical Introduction***

**Presentation to**  
**D-STAR Workshop**  
**Saturday, March 22, 2025**  
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**[n5jh@arrl.net](mailto:n5jh@arrl.net)**

# Agenda



- D-STAR Basics
- D-STAR Current Radios
- Navigating D-STAR (Callsign Register)
- DR Mode
- Local D-STAR Repeaters
- Resources



# D-STAR Facts



- D-STAR – Digital Smart Technologies for Amateur Radio
- D-STAR protocol published by JARL in 2001
- D-STAR protocol is an open specification
- ICOM was the primary promoter of the new technology
- D-STAR operates on 2m, 70cm, and 1.2 GHz, and also on HF
- Digital data transported at 4800 bps, 2400 bits for voice, 1200 bits for Forward Error Correction (FEC), and 1200 bits for data
- 1.2 GHz Digital Data (DD) mode provides 128 kbps data communication
- DPRS (digital APRS) automatic position reporting *simultaneous* with voice
- No Squelch tail
- No courtesy tone
- PL tone not required

# What can D-STAR do?

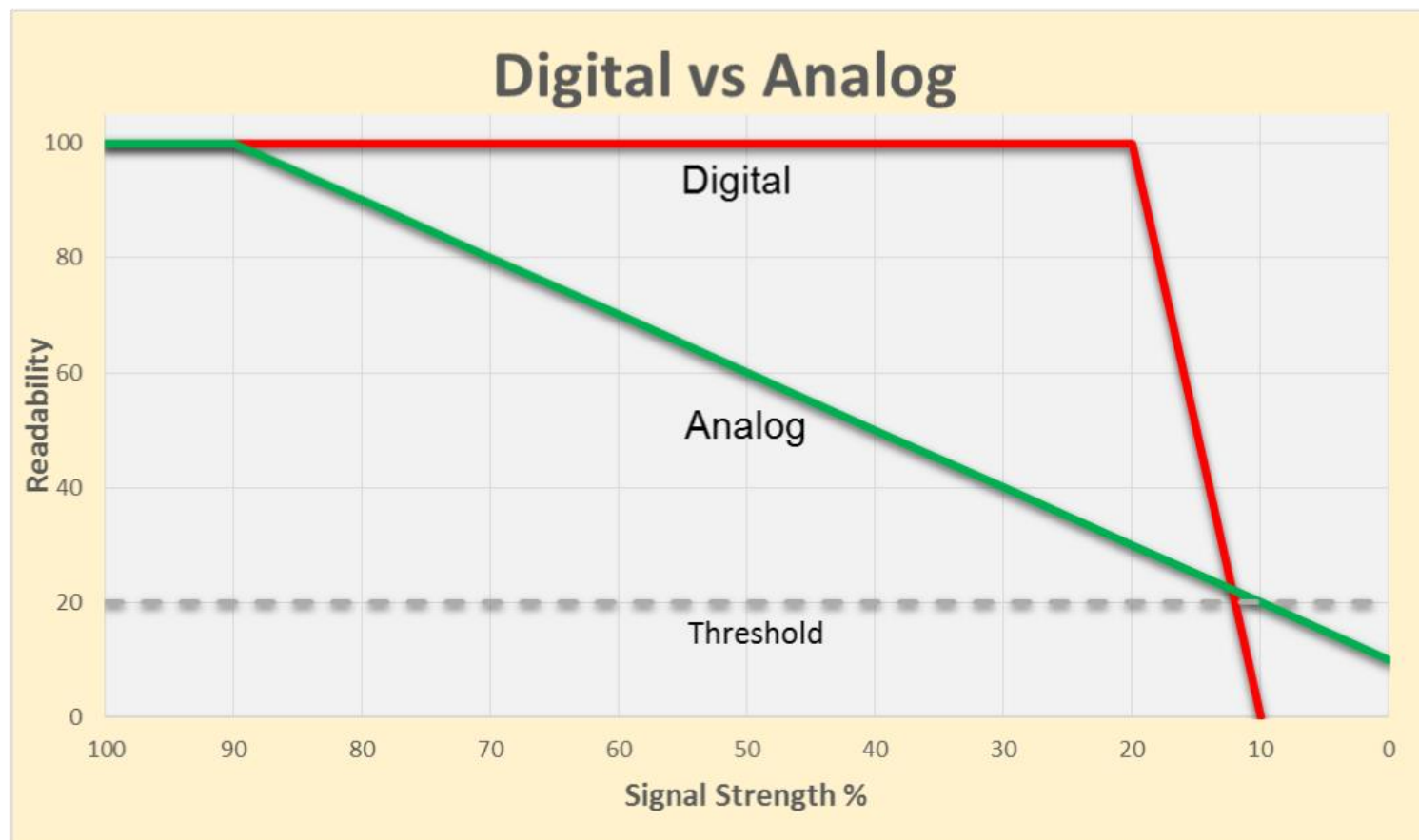


- Linking
  - Can link to reflectors (Reflectors act as conference bridge for linking multiple repeaters)
  - Can link to other repeaters
- Allows more channels in a crowded spectrum
  - FCC Emission designator for standard FM is 16 KHz
  - FCC Emission designator for D-STAR is 6.25 KHz
- Allows:
  - Older hams who have had to move into apartments or retirement homes to still talk to ham friends around the world with just a handheld radio!
  - Newer hams with a technician license to easily communicate with hams from all around the world
- Call another ham without knowing their current location or what D-STAR repeater they last transmitted on

# Digital Basics



Digital voice does not degrade in quality as the signal level decreases (FEC)



# D-STAR Operations



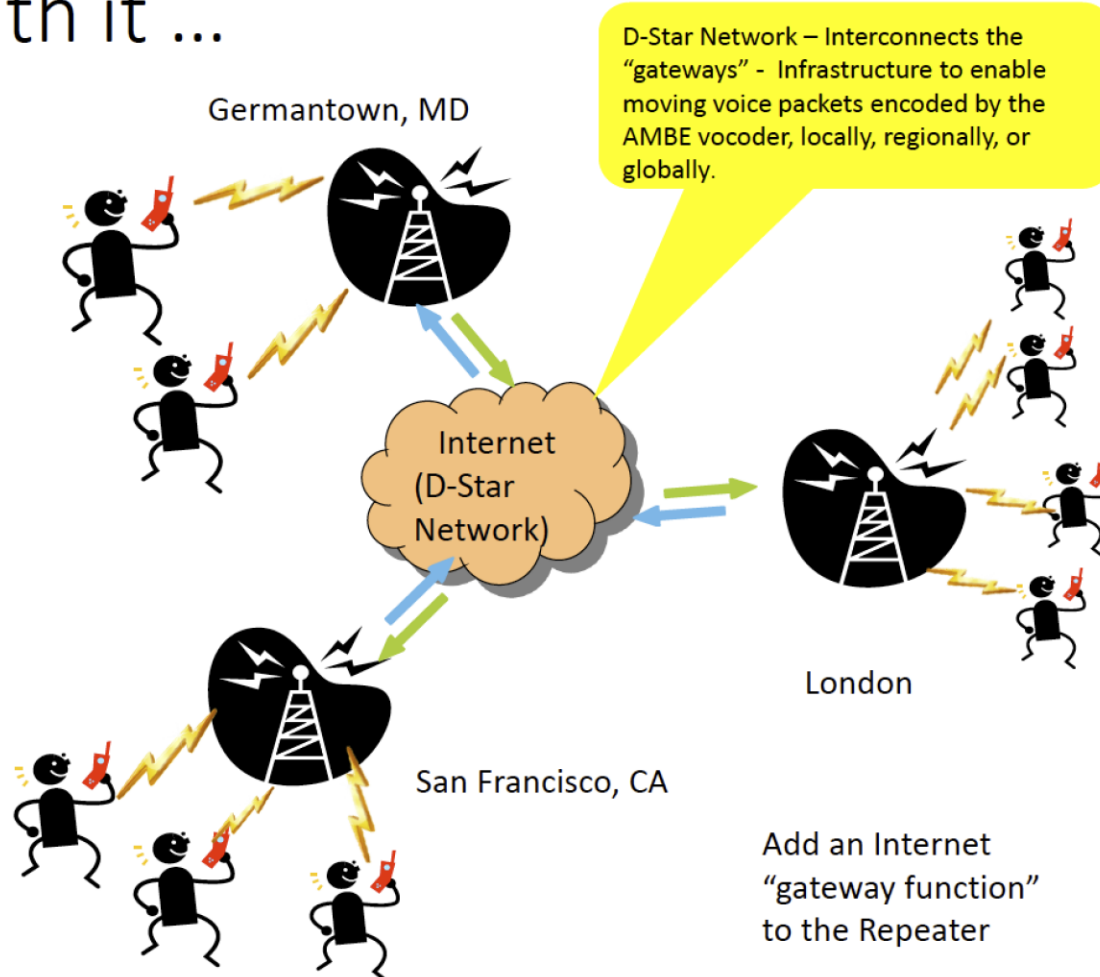
## What Can I do with it ...



Simplex Operation

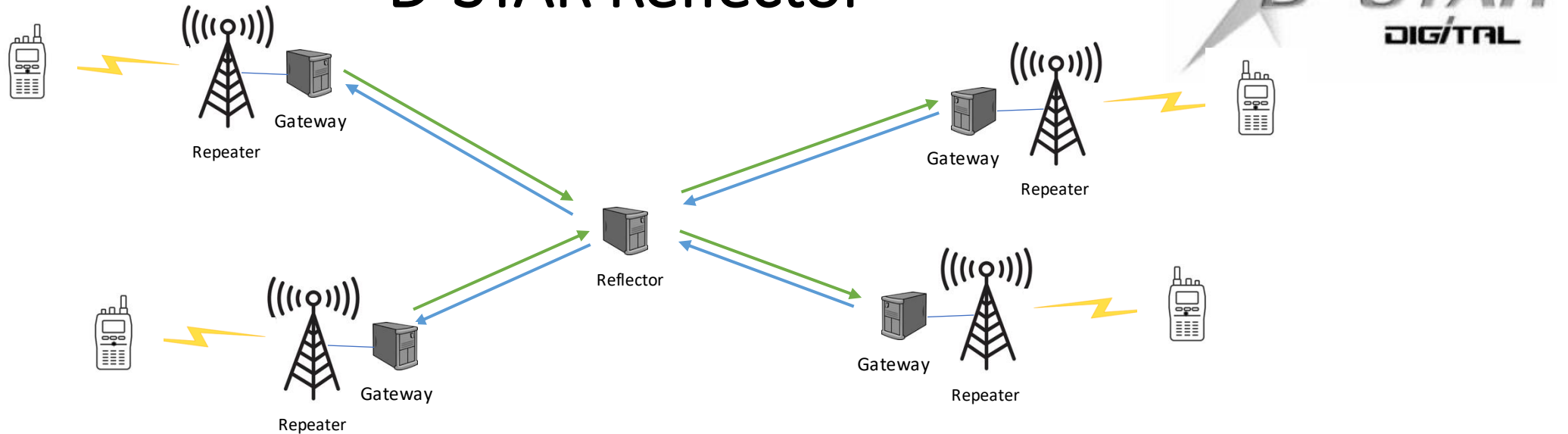


Local Repeater



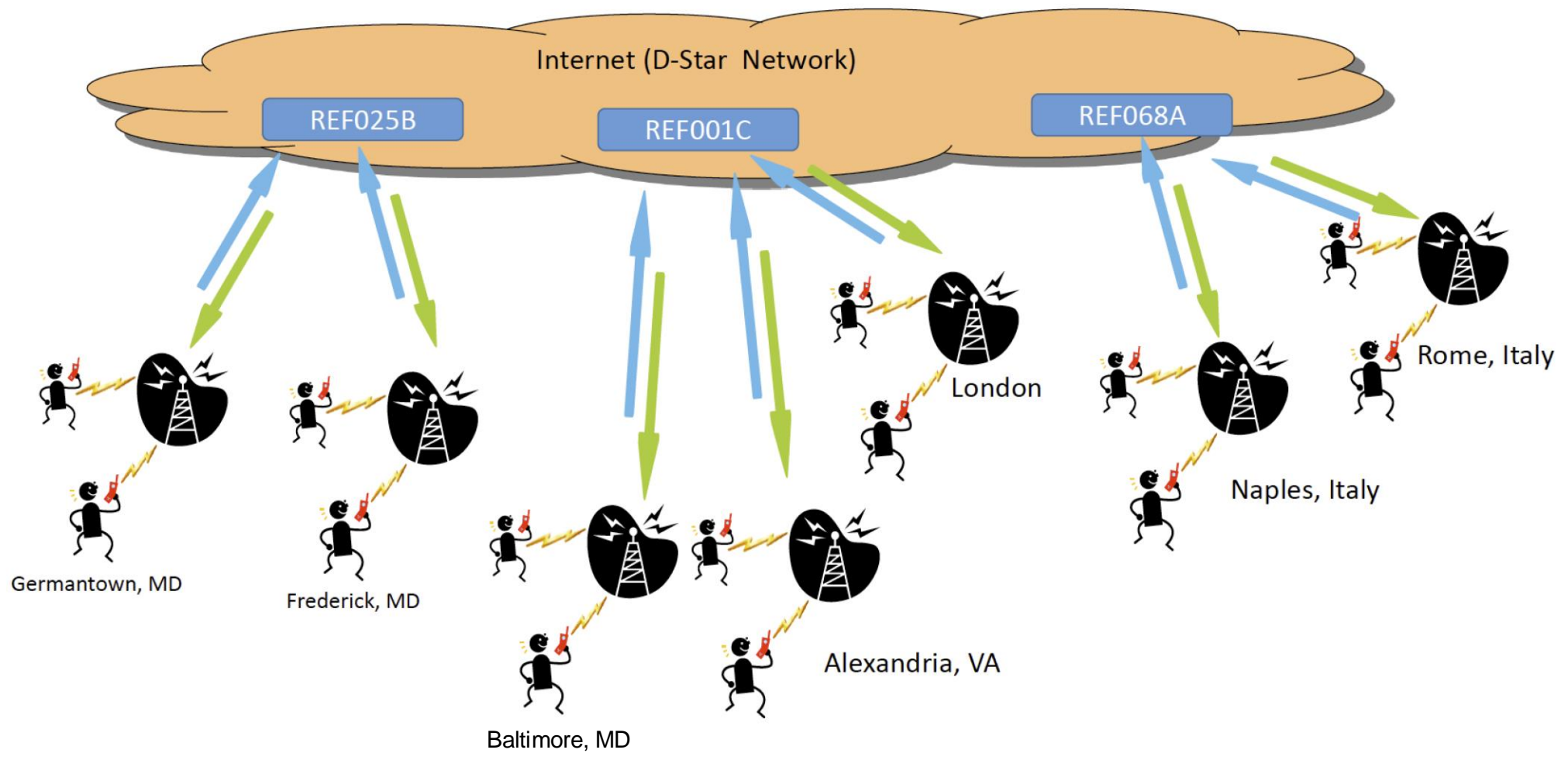
Add an Internet “gateway function” to the Repeater

# D-STAR Reflector



- Computer connected to the internet that runs special software
- Acts as a central conferencing hub
- Repeaters are “linked” to the reflector
- Key element that enables linking multiple D-STAR Repeater nodes together
- “Reflects” DV and data back to all linked nodes
- When reflector receives a transmission for one of the repeater nodes, it rebroadcasts it to all of the other linked nodes
- Presently 97 REF reflectors – REF001 to REF097 (currently taken from [dstarinfo.com](http://dstarinfo.com))
- Reflectors can have A, B, C, modules used for voice and a D module used primarily for data.

# Reflector Operation





# Reflectors



REF050A	New England Repeaters	Boston, MA, United States	<a href="#">Status</a>	
REF050B	New England Repeaters	Boston, MA, United States	<a href="#">Status</a>	
REF050C	New England Repeaters	Boston, MA, United States	<a href="#">Status</a>	
REF051A	Emergency Communications	Chicago, IL, United States	<a href="#">Status</a>	
REF051B	Club and other non-emergency nets	Chicago, IL, United States	<a href="#">Status</a>	
REF051C	Casual Use / Ragchewing	Chicago, IL, United States	<a href="#">Status</a>	
REF051D	Chicago Area Repeaters	Chicago, IL, United States	<a href="#">Status</a>	
REF052A	Oklahoma	Moreland, OK, United States	<a href="#">Status</a>	
REF052B	Oklahoma	Moreland, OK, United States	<a href="#">Status</a>	
REF052C	Oklahoma	Moreland, OK, United States	<a href="#">Status</a>	
REF053A	General use	Minneapolis, MN, United States	<a href="#">Status</a>	10 Mbps
REF053B	Nets and general use	Minneapolis, MN, United States	<a href="#">Status</a>	10 Mbps
REF053C	SKYWARN, ARES/RACES, public service, nets and general use	Minneapolis, MN, United States	<a href="#">Status</a>	10 Mbps
REF054A	Carolinas General Use	Charlotte, NC, United States	<a href="#">Status</a>	1 Gbps
REF054B	Carolinas EmComm Use / ARES	Charlotte, NC, United States	<a href="#">Status</a>	1 Gbps
REF054C	Carolinas Repeaters	Charlotte, NC, United States	<a href="#">Status</a>	1 Gbps
REF055A	New Mexico repeaters and surrounding states	NM, United States	<a href="#">Status</a>	
REF055B	New Mexico ARES, RACES, S&R, Skywarn	NM, United States	<a href="#">Status</a>	
REF055C	General Use	NM, United States	<a href="#">Status</a>	
REF055D	Data / D-RATS	NM, United States	<a href="#">Status</a>	
REF056A	Kentucky General Use	KY, United States	<a href="#">Status</a>	
REF056B	Kentucky General Use	KY, United States	<a href="#">Status</a>	
REF056C	Kentucky General Use	KY, United States	<a href="#">Status</a>	
REF056D	Kentucky Digital ONLY	KY, United States	<a href="#">Status</a>	
REF058A	Alabama General Use	Auburn, AL, United States	<a href="#">Status</a>	100 Mbps
REF058B	Alabama Nets and Emergency Communications	Auburn, AL, United States	<a href="#">Status</a>	100 Mbps
REF058C	Alabama General Use	Auburn, AL, United States	<a href="#">Status</a>	100 Mbps
REF059A	Missouri repeaters /EmComm	St. Louis, MO, United States	<a href="#">Status</a>	
REF059B	Missouri repeaters /EmComm	St. Louis, MO, United States	<a href="#">Status</a>	
REF059C	Missouri repeaters /EmComm	St. Louis, MO, United States	<a href="#">Status</a>	
REF060A	Tennessee EmComm/ARES Use	Nashville, TN, United States	<a href="#">Status</a>	
REF060B	Tennessee/Southeast repeaters	Nashville, TN, United States	<a href="#">Status</a>	
REF060C	Tennessee/Southeast repeaters	Nashville, TN, United States	<a href="#">Status</a>	
REF060D	Tennessee digital data use (D-RATS)	Nashville, TN, United States	<a href="#">Status</a>	

# D-STAR Architecture



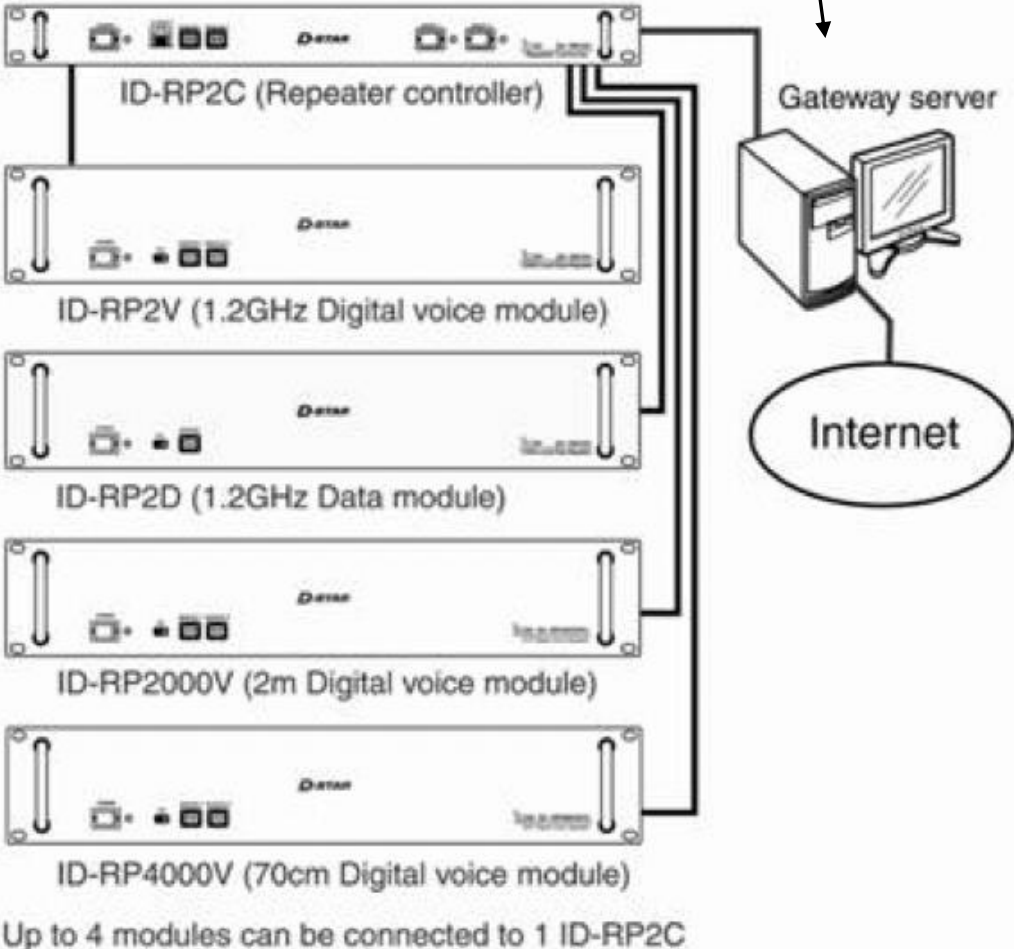
W0DK---G Internet Gateway, Module G

W0DK---A DV 1.2 GHz voice, Module A

W0DK---A DD 1.2 GHz high speed data, Module A

W0DK---C DV 144 MHz data/voice Module C

W0DK---B DV 440 MHz data/voice, Module B



*Repeater modules also referred to as ports or nodes*

# ICOM ID-5100



- Dual Channel with simultaneous receive
- Detachable faceplate only
- Touch Screen Interface
- Built-in GPS
- Output Power: 50w, 15w, 5w (Hi, Mid, Low)
- RX Frequencies: 118-174, 375-550 MHz
- TX Frequencies: 144-148, 430-450 MHz
- Memory Channels:
  - ✓ 1000 regular memory channels
  - ✓ 300 GPS memories
  - ✓ 300 Your Call memories
  - ✓ 4 call channels
  - ✓ 1500 DR Mode repeater channels
- Optional Bluetooth Module
- Current Cost: \$479 (Ham Radio Outlet)



# ICOM IC-7100



- HF/50MHz/144MHz/440MHz
- All band, all mode
- Touch Screen Interface
- Output Power:
  - ✓ 100 W – HF/50 MHz
  - ✓ 50 W – 144 MHz
  - ✓ 35 W – 430/440 MHz
- D-STAR Ready
- Memory Channels:
  - ✓ 495 regular memory channels
  - ✓ 4 call channels
  - ✓ 900 DR Memories
- Current Cost: \$1199.95 (HRO)



# ICOM ID-51a plus2



- VHF/UHF D-STAR Portable
- D-STAR DV Mode (Digital Voice + Data)
- Dual Channel Simultaneous Receive
- Plus2 adds Terminal and Access Point mode
- Built in GPS
- DV and FM Repeater Search Function
- TX voice memory (1 channel, 60 seconds)
- MicroSD card slot (up to 32GB)
- Output Power: 5.5W/2.5W/0.5W
- RX Frequencies:
  - ✓ A Band - 136-174 MHz, 380-479 MHz
  - ✓ B Band – 108-174 MHz, 380-479 MHz
- Memory Channels:
  - ✓ 750 DR Memories
  - ✓ 500 Regular Memory Channels
  - ✓ 4 Call Channels
  - ✓ 200 UR Memories
- Current Cost: Discontinued (\$379)



# ICOM ID-52



- VHF/UHF D-STAR Portable
- 2.3 Inch Color Display
- D-STAR DV Mode (Digital Voice + Data)
- Dual Channel Simultaneous Receive in V/V, U/U, V/U, and DV/DV
- Built in GPS
- Enriched D-STAR features including terminal mode/access point mode
- Voice Recorder
- MicroSD card slot
- Output Power: 5W/2.5W/1W/0.55W/0.1W
- RX Frequencies:
  - ✓ Wideband Receiver (88.0-174, 225-479)
  - ✓ VHF/UHF Airband and FM Broadcast Receiver
- Memory Channels: 1000
- Built-in Bluetooth
- Current Cost: \$599.95 (HRO)



# ICOM ID-50A

- VHF/UHF D-STAR Handheld Transceiver
- Monochrome Display
- D-STAR DV Mode (Digital Voice + Data)
- Modes: DV, FM, FM-N, WFM\*, AM\*, AM-N\*
- Built in GPS
- Enriched D-STAR features including terminal mode/access point mode
- MicroSD card slot
- Output Power: 5W/2.5W/1W/0.5W/0.1W
- RX Frequencies:
  - ✓ Broadcast Band 88.0-108.0
  - ✓ Wideband Receiver (A Band: 108-174, 225-479)  
(B Band: 137-174, 375-479)
- Memory Channels:
  - ✓ 1000 Memory Channels
  - ✓ 2500 Repeaters
  - ✓ 300 Call Signs
  - ✓ 300 GPS Memories
- Current Cost: \$399.95 (HRO)



# ICOM IC-705



- All Band, All Mode QRP Portable
  - ✓ HF/50MHz/144/430 MHz
  - ✓ D-STAR DV, SSB, CW, AM & FM
- RF Direct Sampling System
- Touch Screen Interface
  - ✓ Real-time Spectrum Scope and Waterfall
- Output Power:
  - ✓ 10W with 13.8VDC external power supply
  - ✓ 5W with BP-272 li-ion battery pack
- RX Frequencies: 0.030-470.000 MHz
- Built-in GPS, Bluetooth, and WLAN
- Terminal Mode/Access Point Mode
- D-STAR Ready
- Memory Channels: 500
- Current Cost: \$1349.95 (HRO)





# Kenwood TH-D75



- 144/220/430 MHz D-STAR Handheld Transceiver
- Color Display
- D-STAR DV Mode (Digital Voice + Data)
- Wide-band and multi-mode reception
- Built in GPS, Bluetooth, and APRS (Supports APRS Digipeater function)
- Enriched D-STAR features including Reflector Terminal mode
- MicroSD card slot
- Output Power: 5/2/0.5/0.05 W
- Frequency Range:
  - ✓ Band-A TX: 144-148, 222-225, 430-450 MHz
  - ✓ Band-A RX: 126-174, 216-260, 310-470 MHz
  - ✓ Band-B RX: 0.1-76, 76-108 (WFM), 108-524 MHz
- Memory Channels:
  - ✓ 1000 Memory Channels
  - ✓ 1500 Repeater Lists
- Current Cost: \$639.95 (HRO)





# Call Sign Register

- **MY:** Is your own callsign and is set once in the radio - (ex. N5JH). Note: Your callsign is transmitted each time you key the radio!
- **UR:** Call of the station, repeater module or reflector you are calling
- **RPT1:** Call of the local repeater module you are transmitting to –  
(ex. K5URR--B)
- **RPT2:** Where I want my transmission to go to the gateway, or stays local  
Gateway: RPT2 is K5URR--G  
Stays local: RPT2 is “NOT USED”

*NOTE: It's a good practice to put the callsign and "G" in RPT2 even if talking local so other linked repeaters, DV Dongles and DV Access Points can hear your transmissions*



## RPT1, RPT2 Format

- Normal format – 8 characters
- Module is always in the 8<sup>th</sup> position
  - ✓ C = VHF
  - ✓ B = UHF
  - ✓ A = 1.2 GHz
  - ✓ G = Gateway
- Examples (“\*” represents a space)
  - KF5VBD\*B
  - K5URR\*\*G
  - W5GB\*\*\*C



# UR "TO" Format

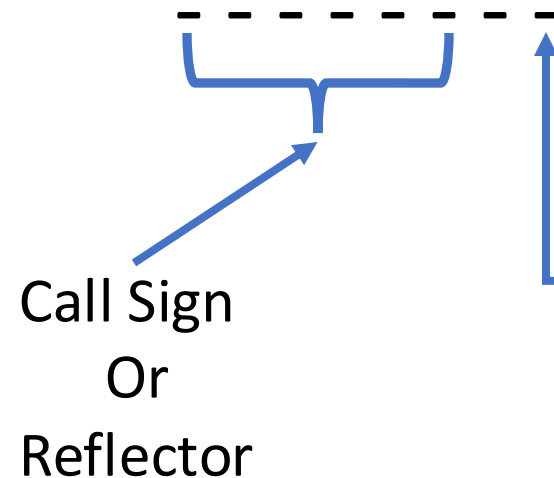
Module

Usually

A = 1.2 GHz

B = UHF

C = VHF



Command Character:

\*\*\*\*\*E – Echo Test

\*\*\*\*\*I – Information

\*\*\*\*\*U – Unlink

REF001CL – Link (To link to reflector 001Charlie)

***“\*” represent spaces***



## Basic QSO

- Example for K5URR 70cm Repeater

449.450 MHz with -5.0 MHz Offset

- ✓ UR CQCQCQ Use Repeater
- ✓ RPT1 K5URR\*\*B
- ✓ RPT2 NOT USED\*
- ✓ My N5JH /5100

*\*\* represents a space*

*Used for talking on local repeater. If repeater is linked and K5URR\*\*G is in RPT2, you are also heard on any of the linked repeaters.*



## Linking to a Reflector

- Link to Reflector 030C
- Example for K5URR 70cm Repeater  
449.450 MHz with -5.0 MHz Offset

- ✓ UR REF030CL
- ✓ RPT1 K5URR\*\*B
- ✓ RPT2 K5URR\*\*G
- ✓ My N5JH /5100

*\*\* represents a space*

*Key once, gateway responds with voice prompt "Remote System Linked".*

*Change back to CQCQCQ in UR for QSO*



## Linking to a Repeater

- Link to W7VOI in Boise Idaho, the 2M module
- Example for K5URR 70cm Repeater

449.450 MHz with -5.0 MHz Offset

- ✓ UR W7VOI\*CL
- ✓ RPT1 K5URR\*\*B
- ✓ RPT2 K5URR\*\*G
- ✓ My N5JH

*“\*” represents a space*

*Key once, gateway responds with voice prompt “Remote System Linked” and the display will show what it is linked to.*

*Change back to CQCQCQ in UR for QSO*



# Unlinking

- Example for K5URR 70cm Repeater  
449.450 MHz with -5.0 MHz Offset

✓ UR \*\*\*\*\*U  
✓ RPT1 K5URR\*\*B  
✓ RPT2 K5URR\*\*G  
✓ My N5JH

*“\*” represents a space*

*Key once, gateway responds with voice prompt “Remote System Unlinked”.*

*Change back to CQCQCQ in UR for QSO*



# DR Mode



# DR Mode



- Activate by pressing DR button
- Screen with TO area on top, FROM area below
- FROM area used to select desired repeater
  - Repeater List
  - Near Repeater
  - TX History
- TO area used to enter
  - Commands (link, unlink, repeater information, echo test, CQCQCQ)
  - Where you are communicating to (e.g. a reflector, another repeater, an individual)

# DR Memory Example - Repeaters




Receive Freq	Transmit Freq	Offset Freq	OP Mode	Name	Sub Name	Your Callsign	Rpt-1 CallSign	Rpt-2 CallSign	Latitude	Longitude	UTC Offset	Bank
449.0000	444.0000	5.00 MHz	DV	BILLINGS	Montana	CQCQCQ	K7EFA B	K7EFA G	45°46'12"N	108°34'48"W	-07:00	19: USA West
446.8000	441.8000	5.00 MHz	DV	Las Vegas	Nevada	CQCQCQ	N7ARR B	N7ARR G	36°09'58"N	115°01'05"W	-08:00	19: USA West
145.1750	144.5750	600 kHz	DV	Las Vegas	Nevada	CQCQCQ	N7ARR C	N7ARR G	36°09'58"N	115°01'05"W	-08:00	19: USA West
449.5750	444.5750	5.00 MHz	DV	Las Vegas	Nevada	CQCQCQ	W7AES B	W7AES G	36°06'56"N	115°06'30"W	-08:00	19: USA West
147.9750	147.3750	600 kHz	DV	Las Vegas	Nevada	CQCQCQ	W7AES C	W7AES G	36°06'56"N	115°06'30"W	-08:00	19: USA West
444.6250	449.6250	5.00 MHz	DV	Reno	Nevada	CQCQCQ	N7NDS B	N7NDS G	39°17'60"N	119°40'12"W	-07:00	19: USA West
449.4500	444.4500	5.00 MHz	DV	Albuquerque	New Mexi	CQCQCQ	K5URR B	K5URR G	35°02'60"N	106°35'24"W	-07:00	19: USA West
146.8600	146.2600	600 kHz	DV	Albuquerque	New Mexi	CQCQCQ	K5URR C	K5URR G	35°02'60"N	106°35'24"W	-07:00	19: USA West
446.7750	441.7750	5.00 MHz	DV	Raton	New Mexi	CQCQCQ	KDORDI B	KDORDI G	36°59'24"N	104°28'48"W	-07:00	19: USA West
145.2100	144.6100	600 kHz	DV	Santa Fe	New Mexi	CQCQCQ	W5SF C	W5SF G	35°42'36"N	105°55'12"W	-07:00	19: USA West
443.8000	448.8000	5.00 MHz	DV	Albuquerque	NM	CQCQCQ	W5MPZ B	W5MPZ G	35°13'01"N	106°27'08"W	-07:00	19: USA West
444.5250	449.5250	5.00 MHz	DV	Albuquerque	NM	CQCQCQ	W5URD B	W5URD G	34°42'04"N	106°24'07"W	-07:00	19: USA West
146.8400	146.2400	600 kHz	DV	Las Cruces	NM	CQCQCQ	W5GB C	W5GB G	32°17'24"N	106°41'60"W	-07:00	19: USA West
442.4250	447.4250	5.00 MHz	DV	Los Alamos	NM	CQCQCQ	NM5WR B	NM5WR G	35°48'60"N	106°12'53"W	-07:00	19: USA West
444.5750	449.5750	5.00 MHz	DV	Santa Fe	NM	CQCQCQ	W5SF B	W5SF G	35°43'02"N	105°54'59"W	-07:00	19: USA West
444.5000	449.5000	5.00 MHz	DV	Socorro	NM	CQCQCQ	W5AQA B	W5AQA G	34°04'18"N	106°57'46"W	-07:00	19: USA West

# Refreshing DR Memories



← → ↻ Not secure | dstarinfo.com



## D-STAR Info

INFORMATION, FAQs, AND MORE

[Home](#) [FAQ](#) [Conferences](#) [Nets](#) [Reflectors](#) [Downloads](#) [Repeater Maps & List](#) [Calculator](#) [Apps/Devices](#) [DV Pro](#) [D-RATS](#) [Contact Us](#)

D-STAR Expanding...

### Newest D-STAR Repeaters

Callsign	City	Country, State
K15MMC	Bryan	United States, Texas
WC4PEM	Bartow	United States, Florida
PY3DMR	Santo Angelo	Brazil
pu7var	Garanhuns	Brazil
wa4asi	COVINGTON	United States, Georgia
KA3WOW	New Castle	United States, Delaware
KP4RF	Agua Buenas	Puerto Rico
ND4L	Greensboro	United States, North Carolina
DB0ROE	Lehrte	Germany, Lower Saxony
W4EAE	Cayce	United States, South Carolina

## Welcome to D-STAR Info!

This site is dedicated to helping D-STAR users world wide. From basic information on what D-STAR is to detailed technical information, This site can hopefully solve any of your cravings!

### Repeater Downloads


Includes FM repeaters for US D-STAR Repeater Downloads

*Repeater owners or administrator may update their information at [www.DSTARInfo.com/update](http://www.DSTARInfo.com/update).*

### D-STARInfo ID-31, 51, 5100 Quick-Start Guide

### Experimenting on D-STAR

There's a lot of opportunity for experimentation with D-STAR. We want to encourage people to expand and create new things in Amateur Radio.



Check out the D-RATS tab for the latest software.

Format the SD card in the radio!!!!



# Local D-STAR Repeaters

- W5MPZ
  - ✓ Located on Sandia Crest
  - ✓ Operated by Sandia National Labs ARC & Rocky Mt. Ham Radio
  - ✓ Modules:
    - B Module – 70 cm, 443.8000 MHz +5.000
    - A Module Voice – 23 cm, 1283.9625 MHz -12.000
    - A Module Data – 23 cm, 1299.9000 MHz
  - ✓ Website: <https://w5mpz.dstargateway.org>
  - ✓ Gateway Registration URL: <https://w5mpz.dstartgateway.org/Dstar.do>

# Local D-STAR Repeaters



- K5URR

- ✓ Located at the Hub (S. side of Gibson, just W. of San Mateo)
- ✓ Operated by the Upper Rio FM Society
- ✓ Modules:
  - B Module – 70 cm, 449.4500 MHz -5.000
  - C Module – 2 Meters, 146.8600 MHz -0.600
- ✓ Website: <http://www.urfmsi.org/wp/repeaters/d-star>
- ✓ Gateway Registration URL: <http://k5urr.dstargateway.org/Dstar.do>

# Local D-STAR Repeaters



- W5URD
  - ✓ Located on Capilla Peak
  - ✓ Operated by the Upper Rio FM Society
  - ✓ Modules:
    - B Module – 70 cm, 444.5250 MHz -5.000
  - ✓ Website: <https://www.urfmsi.org/wp/repeaters/d-star>
  - ✓ Gateway Registration URL: <https://w5urd.dstartgateway.org/Dstar.do>

# D-STAR Resources



- [dstarinfo.com](http://dstarinfo.com) (The best resource, hands down!!)
- Nifty E-Z Guide to D-STAR Operation, Third Edition, by Bernie Lefreniere, N6FN
- DPLUS Dashboards
  - ✓ Ex: [k5urr.dstargateway.org](http://k5urr.dstargateway.org)
  - ✓ Ex: [ref055.dstargateway.org](http://ref055.dstargateway.org)
- Articles on D-STAR
  - ✓ D-STAR Quick-Start Guide by Rob Locher, W7GH  
[www.roblocher.com/whitepapers/dstar.html](http://www.roblocher.com/whitepapers/dstar.html)
  - ✓ D-STAR for Dummies, V4.0 by Charles Johnston III, W8KWA  
[www.tmrahamradio.org/D-STAR\\_for\\_Dummies\\_v4.pdf](http://www.tmrahamradio.org/D-STAR_for_Dummies_v4.pdf)
  - ✓ MARC D-STAR Presentation by Bruce Semple, WA3SWJ  
[https://www.marcclub.org/mweb/doc/MARC\\_D-STAR\\_Pres\\_01072015c.pdf](https://www.marcclub.org/mweb/doc/MARC_D-STAR_Pres_01072015c.pdf)
  - ✓ The Newbie's Guide to Using D-Star by Susan Mackay, VK3ANZ  
<https://www.la1b.no/wp-content/uploads/2016/12/Newbies-Guide-to-D-Star-V2.0.pdf>
- Many, many, many [youtube.com](http://youtube.com) videos



# More D-STAR Resources



- D-STAR Nets
  - El Paso D-STAR net, Monday evening at 7:15 pm. Access through K5URR and REF055A.
  - New Mexico D-STAR net, Thursday evening at 8:00 pm. Access through K5URR and REF055A.
  - D-STAR Simplex Net, Wednesday evening at 7:00 pm on 441.000 MHz.
  - Comprehensive list of D-STAR, D-RATS, and Echolink Nets - <http://www.wx4qz.net/elk.htm>
- D-STAR Coverage Map for New Mexico
- D-STAR Last Heard:
  - <https://www.dstarusers.org/lastheard.php>
- NM-D-STAR email reflector. Details at <https://groups.io/g/nm-dstar>

“The New Mexico D-STAR reflector exists to provide information on D-STAR operations in and around New Mexico. List subscribers are encouraged to contribute and share D-STAR information to help new and existing user gain knowledge about the technology, radio setup and operations, best practices and more. This group is also intended to serve as a central point of contact for New Mexico D-STAR users and repeater owners to plan, coordinate and collaborate.”

# DPLUS Dashboards – [k5urr.dstargateway.org](http://k5urr.dstargateway.org)



**DPLUS Dashboard** | Gateway Status and Control

Registration | K5URR Repeater System | DPLUS version 2.2p

### Linked Gateways / Reflectors

Module	Linked to
A	unlinked
B	REF055 A
C	unlinked
D	unlinked
E	unlinked

### Remote Users

Callsign	User Message	Last TX on	Type
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### Last Heard

Callsign	User Message	Last TX on	Time
N5JH	Bob - Albuquerque NM	B	2021/01/12 10:00:01
KC6UQT	Craig RioRancho NM	B	2021/01/11 19:00:09
WD5CAD	Terry - Albuquerque	B	2021/01/11 12:14:21

Status as of 2021/01/12 10:11:49

# DPLUS Dashboards – [ref055.dstargateway.org](http://ref055.dstargateway.org)



**DPLUS Dashboard** | Reflector Status and Control

Registration | REF055 Reflector System | DREFD version 1.50

### Linked Gateways

Module A	Module B	Module C	Module D	Module E
K5URR B				
K7RST C				
KR7ST C				
NM5WR B				
W4LET B				
W5AQA B				
W5MPZ B				
W5SF B				
W5SF C				
W5ZU B				

### Remote Users

Callsign	User Message	Last TX on	Type
ZL2FT D		listening	HotSpot
KC5IGH	Johnnie/New Mexico	A	HotSpot
W9BKM		listening	HotSpot
N5RWT		listening	HotSpot
NM5DD D		listening	HotSpot
AG5CQ A		listening	HotSpot
NM5K D		listening	HotSpot
NE5U		listening	HotSpot
KG5JLA		listening	HotSpot
KD5KSI		listening	HotSpot
KA8JMW		listening	HotSpot
NT7V		listening	HotSpot
W5QCP		listening	HotSpot
K7GRR		listening	HotSpot
NV9U		listening	HotSpot
KB5HPT D		A	HotSpot
NM5MW	MERLE DE ALBUQUERQUE	A	HotSpot
NM5PB		listening	HotSpot
K9PTF	Paul/Chelsea,AL/ID51	A	HotSpot
W4DTA D		A	HotSpot
W6HO D		A	HotSpot
KB5HQS	Frank El Paso Tx.	A	HotSpot
KF5XW D		A	HotSpot
KA2BSM	Rick-D74-GTOWN TN	listening	DV Dongle
KF5ZBL		A	HotSpot
KG5QFN	Net Control-Russell	A	HotSpot
K8DRO		listening	HotSpot
KE5FYL		A	HotSpot
KI5DLN		A	HotSpot
WF5TWT		listening	HotSpot
N6CZE	Gary - Montclair, CA	A	HotSpot
NE8U		listening	HotSpot
WJ5Z		A	HotSpot
W5AW C		listening	HotSpot
KM5TC D		A	HotSpot
N0BF D		A	HotSpot

### Last Heard

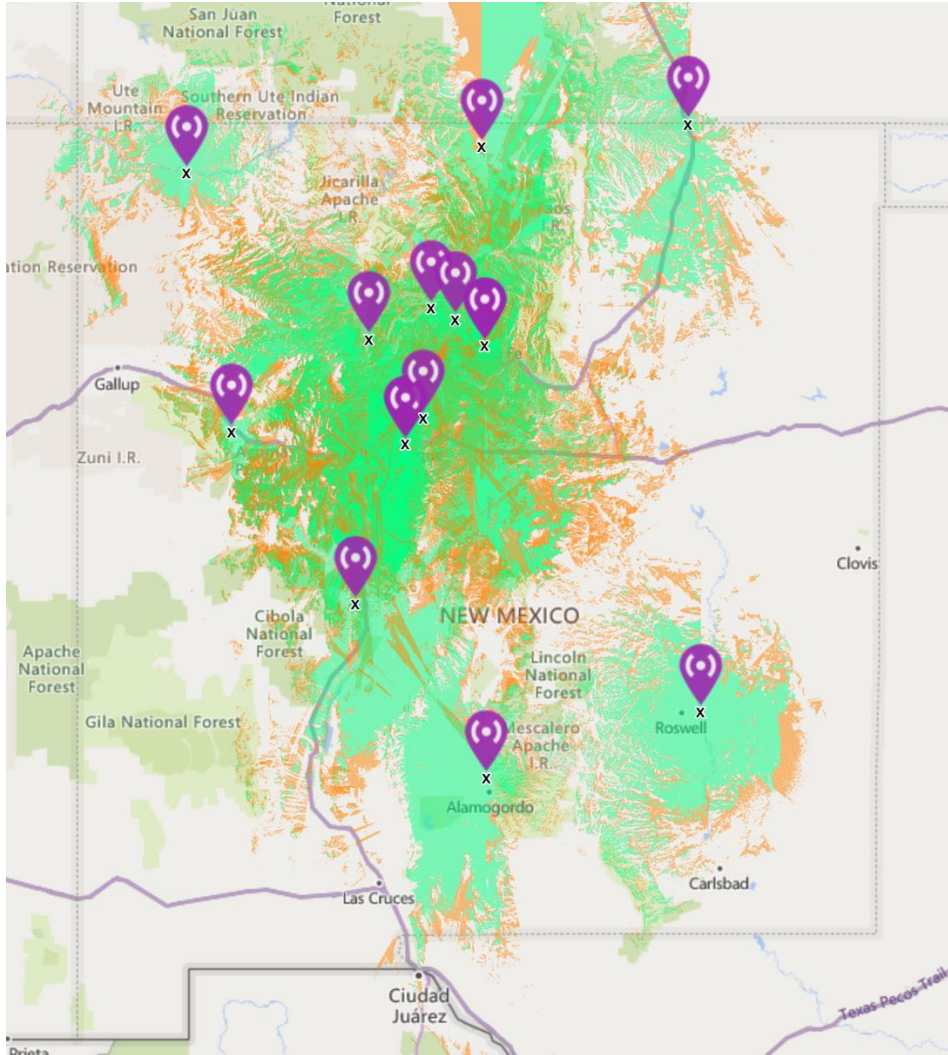
Callsign	User Message	Last TX on	Time
<b>KG5QFN</b>		A	2021/01/11 19:04:44
N0BF	steve in colorado	A	2021/01/11 19:04:32
KM5TC 51		A	2021/01/11 19:01:06
N5LEV	Otis - Odessa, TX	A	2021/01/11 18:57:09
WJ5Z P	ROY TYLER TX EM22j	A	2021/01/11 18:55:58
KF5XW	TH-D74*OpenSpot 3	A	2021/01/11 18:51:37
WD6ZJH	Kevin-BlueDV-Nevada	A	2021/01/11 18:47:36
W4DTA		A	2021/01/11 18:47:27
<b>K9PTF</b>	Paul/Chelsea,AL/ID51	A	2021/01/11 18:46:20
KC5IGH		A	2021/01/11 18:46:13
KF5ZBL		A	2021/01/11 18:46:09
KB5HPT		A	2021/01/11 18:44:47
KB5HQS	Frank El Paso Tx.	A	2021/01/11 18:44:13
N6CZE	Gary - Montclair, CA	A	2021/01/11 18:42:58
N5WNA	James Grants, NM	A	2021/01/11 18:41:01
W6HO		A	2021/01/11 16:31:54
NM5MW	MERLE DE ALBUQUERQUE	A	2021/01/11 12:00:07
2E0FXJ		B	2021/01/11 11:13:51
<b>W5RKA</b>	E/BoundMobileRodger	C	2021/01/10 20:40:45

36 remote users - 9 gateways

Status as of 2021/01/11-19:06:01.981

Monday, Jan 11, 2021 (El Paso D-STAR Net)

# D-STAR New Mexico Coverage Map



Current New Mexico D-STAR Repeaters

W6DHS Info	Alamogordo	144.9600 -0.4000	440.6000 +5.000		
K5URR Info	Albuquerque	146.8600 -0.6000	449.4500 -5.0000		
W5MPZ Info	Albuquerque		443.8000 +5.0000	1283.9625 -12.0000	1299.9000 RPS
W5URD Info Register	Albuquerque		444.5250 +5.0000		
KF5VBE Info	Aztec			1291.0000 -20.0000	1248.0000 RPS
KF5VBD Info	Bloomfield	145.1900 -0.6000	442.0750 +5.0000		
KF5VBD Info	Bloomfield	147.1500 -0.6000	442.0750 +5.0000		
KF5VBF Info	Farmington		444.1500 +5.0000	1291.7000 -20.0000	1248.6000 RPS
KE5FYL Info Register	Grants		444.6500 +5.0000		
N5BL Info	Las Cruces	146.8400 -0.6000			
NM5EC	Los Alamos	145.1900 -0.6000			
KD0RDI Info	Raton		446.7750 -5.0000		
W5ZU Info	Roswell		444.4250 +5.0000		
NM5HR Info	Santa Fe		443.0000 +5.0000		
W5SF Info	Santa Fe	145.2100 -0.6000	444.5750 +5.0000		
W5AQA Info Register	Socorro		444.5000 +5.0000		
KF5PFO Info	Tres Piedras		442.0750 +5.0000		

# Thank you!



## Questions??

If you would like help getting setup in D-STAR, I would be happy to help out.

My contact information:

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[n5jh@arrl.net](mailto:n5jh@arrl.net)

505-400-3689

# Terminal & Access Modes

## Terminal Mode



## Access Point Mode

