INTRODUCTION TO D-STAR

August 2025

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D-STAR Admin / Reflector Admin

HamX - *The Northeast* HamXposition

August 21-24, 2025

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WHAT IS D-STAR

- D-STAR stands for Digital Smart Technologies for Amateur Radio
  - digital voice and data protocol designed for amateur radio.
  - developed in the late 1990's by the Japan Amateur Radio League (JARL) to bring digital technology to amateur radio.
- Capable of linking repeaters together locally and through the Internet utilizing callsigns for routing of traffic.
- Repeaters are linked via TCP/IP utilizing "gateway" software
- Allows amateur radio operators to talk to any other amateurs participating in a particular gateway "trust" environment.
  - The current master gateway in the United States is operated by the K5TIT group in Texas,
    - They were the first to install a D-STAR repeater system in the U.S.
    - USTRUST

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WHAT IS D-STAR

- Advantages of digital voice modes
  - less bandwidth than older analog voice modes vs AM/FM.
  - The quality of the data received better than an analog signal
    - as long as the signal is above a minimum threshold and as long as there is no multipath propagation.
- D-STAR radios are available for HF, VHF, UHF, and microwave amateur radio bands.
  - In addition to the over-the-air protocol, spec'd for network connectivity,
  - To be used on the Internet or other networks
    - allowing streams of voice or packet data to be routed via amateur radio.

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WHY D-STAR

- Long distance comms without big radios and antennas! (Although HF D-STAR now a "thing")
- D-Star digital voice maintains its quality over a larger range of signal degradation than analog voice.
- Automatic call sign identification
  - Call sign routing
- Automatic position reporting
- Text and voice simultaneously

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WHY D-STAR

- D-Star was designed for Amateur Radio with networking in mind and supports routing and name services
- Other modes: DMR, System Fusion, P25, NexEdge
  - DMR - 2 voice paths per channel, better fidelity, no GPS, repeater owner sets channels/talkgroups, not field programmable
  - Fusion – better audio/error correction, single manufacturer
  - P25 – "original" digital, limited connectivity options
  - NexEdge – similar to DMR in capabilities

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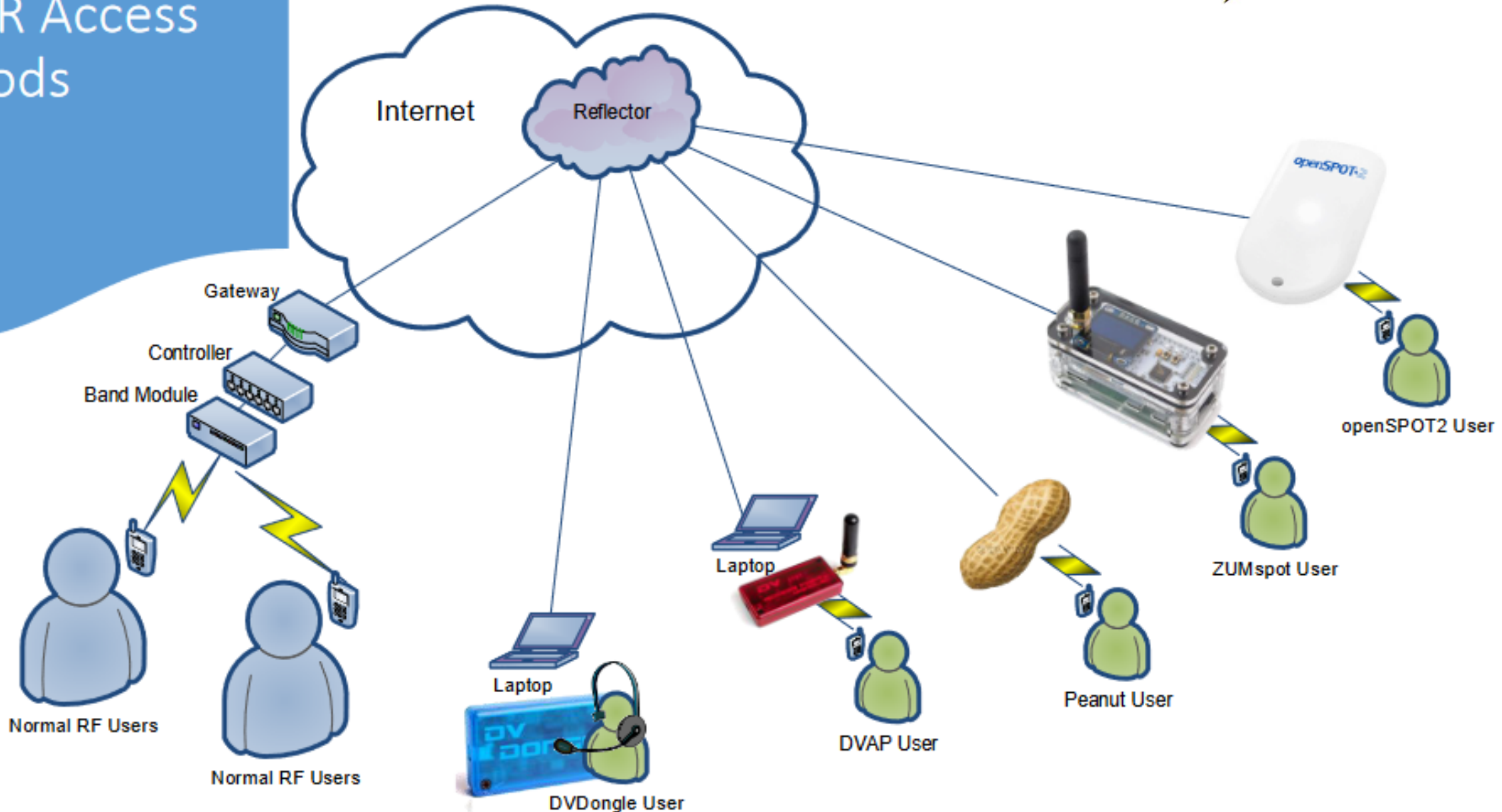
D-STAR Access Methods



- HF Transceivers, V/UHF Mobiles and Handhelds
  - For local RF coverage
- DVAP, DVDongles, DV4mini
- HotSpots
  - RPi based
  - Based on G4KLX software
    - Pi-Star https://www.pistar.uk/
    - WPSD (new) https://w0chp.radio/wpsd/
  - Use your own WiFi service
    - In your car
    - portable

ON THE ROAD

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REGISTER!

- Every D-STAR user needs to "register" a "Terminal ID" to get started on D-STAR
- Your call sign is the "foundation" of your registration
- You only need to register once at ONE "registration server"
- Best location to register is at https://regist.dstargateway.org
  - Instructions are found at https://regist.dstargateway.org/instructions/
  - Registration is a 3-step process: A-You register; B-Admin approves; C-You add your terminals
  - PLEASE READ THEM and follow step by step. Follow all the steps

REGISTRATION

- You do NOT have to be registered to talk
- Registration allows:
  - Linking repeaters to reflectors
  - Access the D-STAR network from the internet (i.e. hotspot)
- Get on the air and then register
  - http://regist.dstargateway.org
  - Add 2 terminal IDs:
    - Default: just your call sign
    - Access Point: your call + Z
- Buy the D-STAR equipment and get on the air

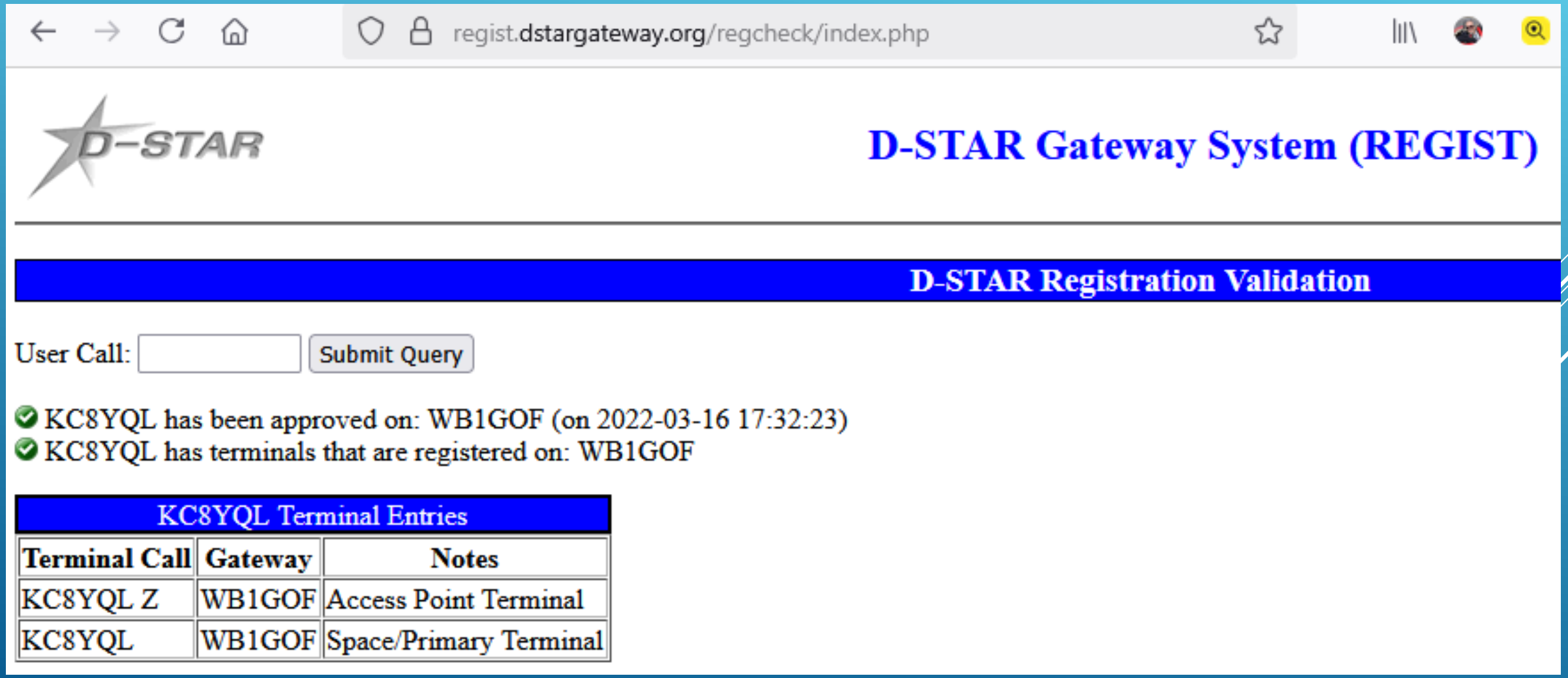
User Call: Submit Query

W1ZLA has been approved on: REGIST (on 202

W1ZLA has terminals that are registered on: REG

W1ZLA Terminal Entries		
Terminal Call	**Gateway**	**Notes**
W1ZLA Z	REGIST	Access Point Terminal
W1ZLA	REGIST	Space/Primary Terminal

SUCCESSFUL REGISTRATION?



SUCCESSFUL REGISTRATION?

WB1GOF D-STAR Gateway Registration Check

Callsign: SUBMIT

Registration Information:

Registr.Call	Registration Server	Date of Registration	IP-Address-Pool
KC8YQL	WB1GOF	2022-03-16 17:32:23	10.210.111.232-10.210.111.239

Activated Terminal-IDs:

Device Call/ID	Registration Server	IP-Address	Last Heard	Repeater	Gateway
KC8YQL	WB1GOF	0.0.0.0	2022-03-16 17:33:17	W1AAD A	W1AAD
KC8YQL Z	WB1GOF	0.0.0.0	2022-03-16 17:33:17	KC8YQL Z	KC8YQL

Registration OK!

https://wb1gof.dstargateway.org/cgi-bin/dstar-regcheck

- You may find it beneficial to also register for a CCS7 number….
- A CCS7 number, also known as a CCS7 ID or DMR ID, is a unique 7-digit identifier used in digital mobile radio (DMR) systems and other digital modes like D-STAR and P25. It's essentially a digital "callsign" that allows users to be identified on these networks.
- REGISTER AT: https://www.radioid.net
- Check for registration at https://www.pistar.uk/dmr_regcheck.php or https://radioid.net/database/search

ADDITIONAL REGISTRATION?

GETTING STARTED – ICOM RADIOS

- TIP #1 –Icom provides FREE programing software their D-STAR radios!
  - Icom (search for your model number, ID-51A, IC-7100, etc.)
    - https://www.icomamerica.com/support/firmware_driver/
    - https://www.icomjapan.com/support/firmware_driver
    - Look for "Cloning software" usually part number begins with "CS"
      - CS-7100, CS-52, CS-52PLUS, ID-51A PLUS, ID-51E PLUS, ID-51A Icom 50th Anniversary Limited Edition, ID-51E Icom 50th Anniversary Limited Edition, ID-51A PLUS2, ID-51E PLUS2, ID-51A, ID-51E
- TIP #2 - First thing you should do is make get a copy of what is pre-loaded on your radio and save it to our computer

GETTING STARTED – KENWOOD RADIOS

- TIP #1 –Kenwood provides FREE programing software their D-STAR radios!
  - Kenwood (search for your model number, TH-D74A, TH-D75A, etc.)
    - https://www.kenwood.com/i/products/info/amateur/mcpd74_e.html
    - https://www.kenwood.com/i/products/info/amateur/mcpd75_e.html
    - Look for "Memory Control Program" usually part number begins with "MCP"
- TIP #2 - First thing you should do is make get a copy of what is pre-loaded on your radio and save it to our computer

DR MODE

Key Icom Radios with DR Mode

ID-51 Series: The ID-51A Plus and ID-51A Plus2 handhelds feature DR mode for easy repeater connection.
ID-31 Series: The ID-31A handheld also includes DR mode.
ID-5100 Series: The ID-5100A mobile radio is equipped with DR mode.
ID-52A: The ID-52A and PLUS and PLUS Anniversary versions, support DR mode for conventional FM and D-STAR operations.
IC-705: The IC-705 mobile/handheld radio supports DR mode.
IC-7100: This HF/VHF/UHF mobile radio also includes DR mode.
IC-9700: Another Icom radio that can connect through DR mode.

Kenwood Radios with DR Mode

TH-D74A: This Kenwood triband radio offers D-STAR with DR mode.
TH-D75A: The D75 model also supports DR mode and the repeater list

Check out - https://www.charlottedstar.org/D-STAR%20DR%20Mode.pdf

How DR Mode Works

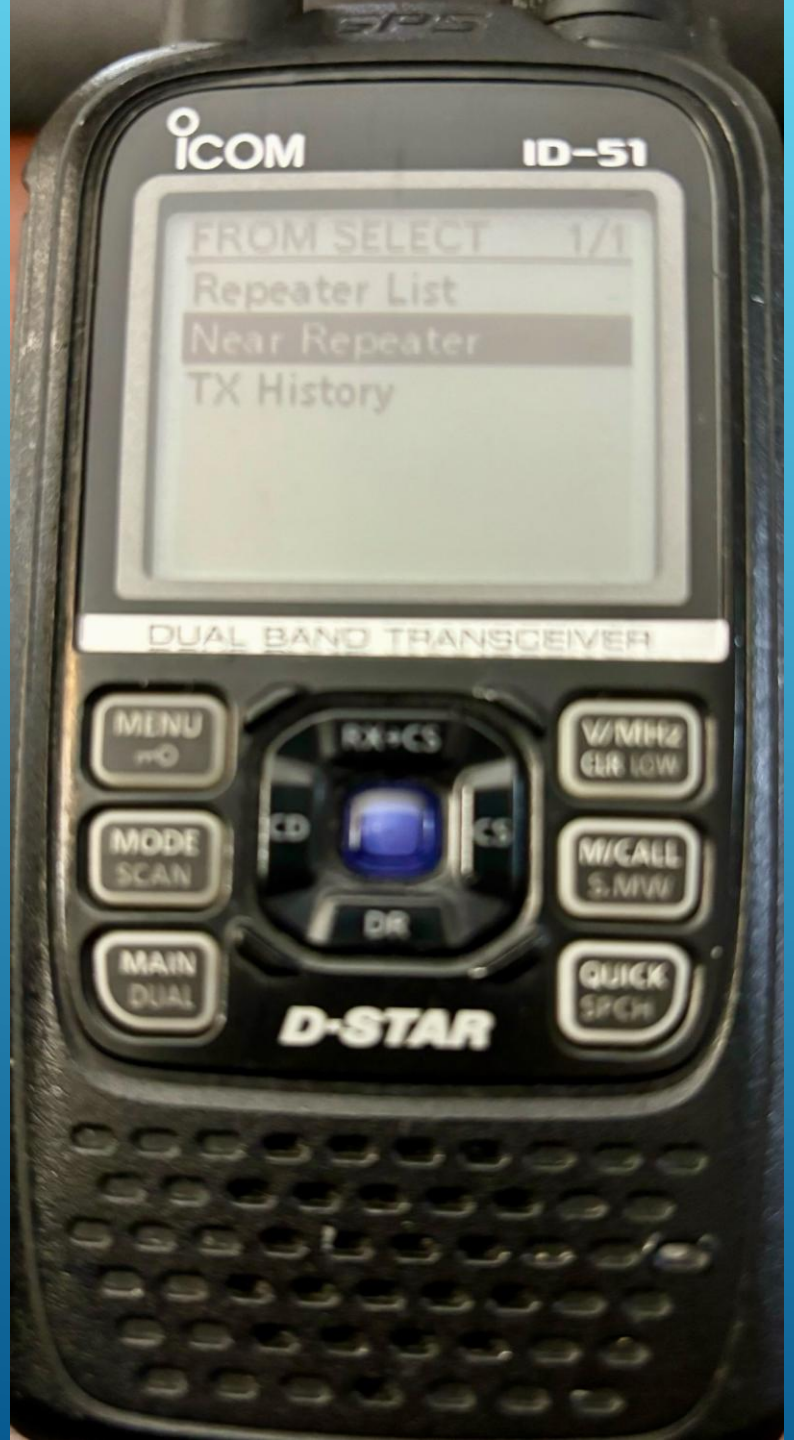
Easy Setup:
DR mode makes it simple for beginners to configure D-STAR settings without needing advanced technical knowledge.

Menu-Driven Access:
The mode offers a menu-driven way to access D-STAR repeaters and reflectors.

Repeater Lists:
Radios with DR mode utilize pre-programmed or user-imported repeater lists for easy connection (can be updated)

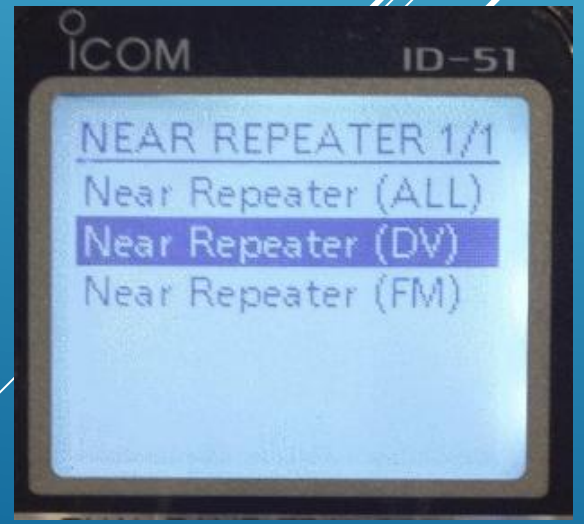
Using DR Mode

- DR Mode (Digital Repeater Mode) allows quick selection of repeaters and using linking commands
- Uses stored database of repeaters in memory and on SD card
- Press and hold DR button to activate DR Mode
- FROM – Sets local repeater you are using
- TO - Determines what you want to do with your signal



Selecting the Repeater

- Highlight From and then press blue center button
  - Repeater List – Select repeater (DV or FM) based on region
  - Near Repeater – Select nearest repeater
- Press blue again to select

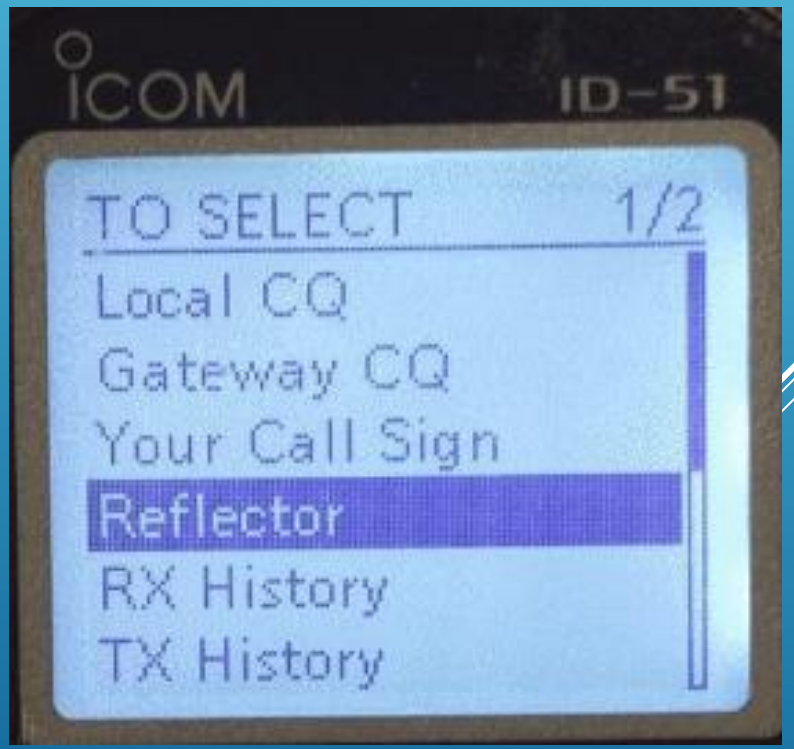


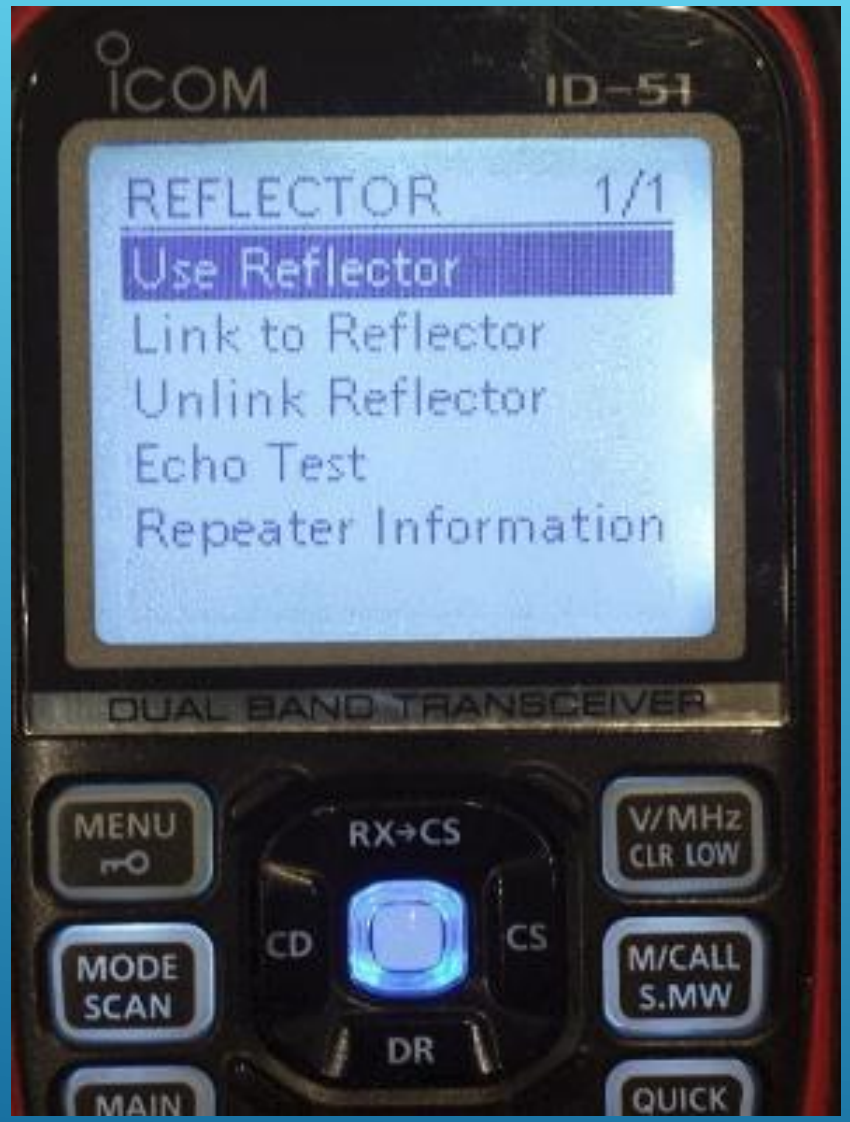
Selecting the Repeater

- Near Repeater – Select nearest repeater or scroll to your repater choice
- Press blue again to select

What to Do (TO)

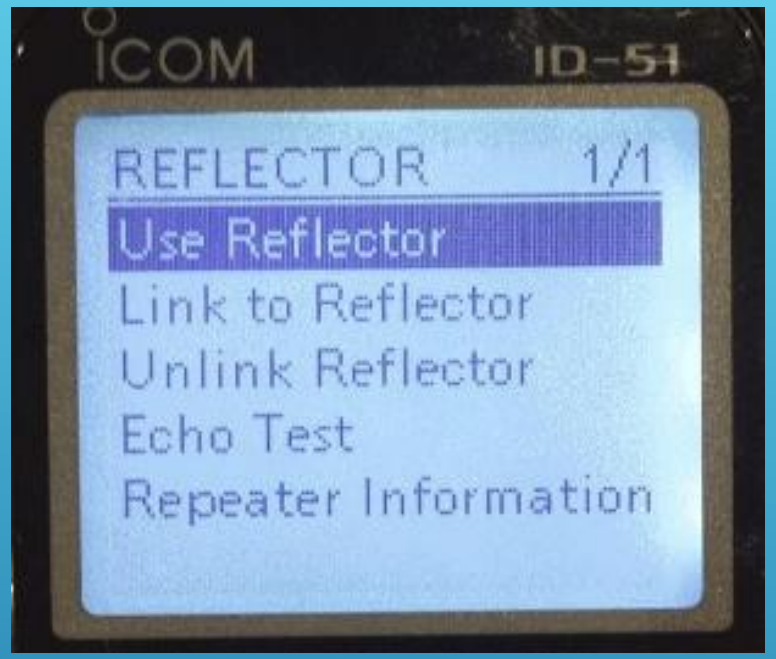
- Select TO field by pressing RX+CS button
- Most often, select Reflector





What to Do (TO)

- **Use Reflector** to use a reflector already connected to on the local repeater
- **Link to Reflector** – select to choose a reflector to link
- **Unlink Reflector** – select to unlink the local repeater from a connected reflector (you MUST do this first before linking to a new reflector choice)
- **Echo Test** – plays back your transmission
- **Repeater Information** – causes repeater to announce it's call and text to show connection status



Simple Rules for Linking and Unlinking

- If a repeater is already linked to a reflector, your radio will be heard by all on the local repeater and the connected reflector
- You must unlink before linking to another reflector
- Once a **Link** command is issued, go back to **Use Reflector** to talk

WHERE ARE THE USERS?

REPEATER DASHBOARDS

DPLUS Dashboard | Gateway Status and Control

Registration | WB1GOF Repeater System | DPLUS version 2.2p

Linked Gateways / Reflectors

Module	Linked to
A	unlinked
B	REF050 C
C	REF038 D
D	unlinked
E	unlinked

Connected Reflectors

Remote Users

Callsign	User Message	Last TX on	Type

Last Heard

Callsign	User Message	Last TX on	Time
N1RHY	JAMIE 51A TEWKSBURY	B	2021/05/03 15:09:54
KA8SCP	Terry - Westford MA	B	2021/05/03 15:04:01
NQ1W	Brandon/Hamilton, MA	C	2021/05/03 13:03:55
W1DYS		B	2021/05/03 11:47:10
N1UBR	DAN/D74	B	2021/05/03 11:12:16
AA1HO	Art /MOBILE/VAN/5100	B	2021/05/03 09:46:25
N1RCB	Gordon Lawrence,Ma	B	2021/05/02 23:11:11
K1SOB		B	2021/05/02 21:24:24
K1VK	Paul Bedford MA	C	2021/05/02 21:10:01

Last RF User Heard

Is the repeater Linked, if so, Where?

- **I (Info) command from radio**
- **U (Unlink) command from radio before trying to link someplace else**

DPLUS Dashboard | Gateway Status and Control

Registration | KA1EAR Repeater System | DPLUS version 2.2p

Linked Gateways / Reflectors

Module	Linked to
A	unlinked
B	REF039 C
C	unlinked
D	unlinked
E	unlinked

Remote Users

Callsign	User Message	Last TX on	Type

Last Heard

Callsign	User Message	Last TX on	Time

Status as of 2025/01/01 19:11:39

https://wb1gof.dstargateway.org

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AA1HD REPEATER DASHBOARD

D-STAR Dashboard | G3 Gateway Status

Registration | AA1HD G3 Repeater System

Gateway AA1HD

IRC	Ctry	Gateway	Last In (UTC)	Last Out (UTC)	Last Act (UTC)	QTH	Software-Rev	Package-Rev	Upd Err	WD	IRC Srv
		AA1HD	2023-08-25 03:50	2023-08-22 21:01	2023-08-25 11:28	Lnk Rptr Sys Connecticut	CIRCDDB:1.2.4 linux:ircDDBGateway-20190402	rpm:ircddbgateway-20190402.2-1-2 - DEBUG	0		Nuremberg.ircDDB

Repeater

Nr.	RPT	Repeater	Last Act (UTC)	QTH	URL	Latitude Longitude	QRG/Offset (MHz)	Range AGL	Software version
1		AA1HD B	2023-08-15 21:22:05	Lnk Rptr Sys Connecticut		+41.80016 -072.45472	442.15000 5.000	40 km 300.0 m	icom_rp2c
2		AA1HD C	2023-08-25 11:28:40	Lnk Rptr Sys Connecticut		+41.80016 -072.45472	145.26000 -0.600	80 km 800.0 m	icom_rp2c

Configuration

ircDDB-Net	APRS-Host	CCS	DCS	DExtra	DPlus	D-Rats	Info	ircDDB	Echo	Log
group2-irc.ircddb.net	noam.aprs2.net									

http://aa1hd.dstargateway.org:8211

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REFLECTOR DASHBOARD

DPLUS Dashboard | Reflector Status and Control

Registration | REF050 Reflector System | DREFD version 1.52

Linked Gateways

Module A	Module B	Module C	Module D	Module E
		K1HRO B		
		K1MRA C		
		W1DSR B		
		W1MRA B		
		WB1GOF B		

Connected Repeaters

Last Heard

Last Heard

Callsign	User Message	Last TX on	Time
W2DAN	DAVE - TIVERTON, RI.	C	2024/01/20 10:22:10
W1TG	Tom-Hampton, NH	E	2024/01/20 10:04:29
KO4PLT		C	2024/01/20 09:41:55
W1AST	W1AST Larry ID5100	C	2024/01/20 09:34:09
KD1UA	KD1UA/Jack	C	2024/01/20 09:04:57
OZ1ARQ	Kim QTH JO54WS	C	2024/01/20 08:39:00
N2XPM	ARTIE MOBILE FN30	C	2024/01/20 05:11:29
K1MIZ		C	2024/01/19 19:25:48
N1YIV		C	2024/01/19 17:13:54
KB1EJH	Carl	C	2024/01/19 17:07:01
N1RHY	Jamie Icom 5100	C	2024/01/19 14:32:02

Remote Users Connected – hotspots, dongles

Remote Users

Callsign	User Message	Last TX on	Type
K1DTC		listening	HotSpot
AJ1L		listening	HotSpot
KB1YAP D		listening	HotSpot
KU1U		listening	HotSpot
K1DDJ		listening	HotSpot
KC1PHF		listening	HotSpot
WZ3HMT		listening	HotSpot
NQ1W		listening	HotSpot
KB1IWE		listening	HotSpot
K1PGS		listening	HotSpot
W1DLO		listening	HotSpot
N1PCE		listening	HotSpot
KA1IKK		listening	HotSpot
K1AFS D		listening	HotSpot
N1MQR		listening	HotSpot
AB1VA		listening	HotSpot
KM7N		listening	HotSpot
KC1SUI		listening	HotSpot
KC1BEK		listening	HotSpot
N1HGD		listening	HotSpot
KA7VPR		listening	HotSpot
KA1UFE		listening	HotSpot
N1RHY		listening	HotSpot

http://ref050.dstargateway.org

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ACTIVITY – LAST HEARD

Callsign	Time Heard	Reporting Node	330 Unique callsigns heard in the last hour
PY2FO C	08/05/23 18:03:22 UTC	REF018 Dongle User DVD	REF018, REF018, Brazil
K9KWP	08/05/23 18:03:17 UTC	REF012 A 1.2GHz DVD	CA, USA
VE7OMD	08/05/23 18:03:17 UTC	REF001 Dongle User DVD	USA
KM7N	08/05/23 18:03:17 UTC	REF050 Dongle User DVD	Boston, MA, USA
PY2RMF	08/05/23 18:03:17 UTC	REF018 D Unknown DVD	REF018, REF018, Brazil
KI6N	08/05/23 18:03:07 UTC	REF001 C 2 Meters DVD	USA
VA2YYQ	08/05/23 18:02:56 UTC	VE2RIO A 1.2GHz	Montreal, Quebec, Canada
KN6KNE	08/05/23 18:02:52 UTC	REF012 A 1.2GHz DVD	CA, USA
N5KJJ	08/05/23 18:02:51 UTC	W5SSV B 440 MHz	NEDERLAND, TX, USA
JN3VDE	08/05/23 18:02:51 UTC	REF008 Dongle User DVD	Japan
PA0MBO	08/05/23 18:02:51 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
IU1PNJ	08/05/23 18:02:51 UTC	REF068 B 440 MHz DVD	Milan, Lombardy, Italy
G0SBN	08/05/23 18:02:46 UTC	REF001 Dongle User DVD	USA
IK4UNQ P	08/05/23 18:02:42 UTC	T79DV B 440 MHz	San Marino, SM, San Marino
K5PNG	08/05/23 18:02:17 UTC	REF004 D Unknown DVD	US, USA
OE5UAM	08/05/23 18:02:12 UTC	REF096 Dongle User DVD	Innsbruck, Tyrol, Austria
DF1OA	08/05/23 18:02:12 UTC	REF001 Dongle User DVD	USA
KC9ONY	08/05/23 18:02:12 UTC	KC9LKZ C 2 Meters	Milwaukee, WI, USA
W3DHS R	08/05/23 18:02:07 UTC	REF062 Dongle User DVD	Hunt Valley, MD, USA
W4WSM	08/05/23 18:02:07 UTC	REF056 Dongle User DVD	Danville, KY, USA
KA3OJS	08/05/23 18:02:03 UTC	W3DHS B 440 MHz	Towson, MD, USA
W4RJG	08/05/23 18:02:02 UTC	REF062 Dongle User DVD	Hunt Valley, MD, USA
K3LJ	08/05/23 18:01:57 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
LU1BJW	08/05/23 18:01:45 UTC	LU3AOC B 440 MHz	Buenos Aires, CABA, Argentina
G7USP D	08/05/23 18:01:22 UTC	REF001 Dongle User DVD	USA
KC9GSK	08/05/23 18:01:17 UTC	REF019 Dongle User DVD	WI, USA
KB3EOF	08/05/23 18:01:17 UTC	REF062 Dongle User DVD	Hunt Valley, MD, USA
WN6OTL	08/05/23 18:01:12 UTC	REF012 Dongle User DVD	CA, USA
KB7RFT	08/05/23 18:01:09 UTC	KF7VTM B 440 MHz	Jerome, ID, USA

http://dstarusers.org

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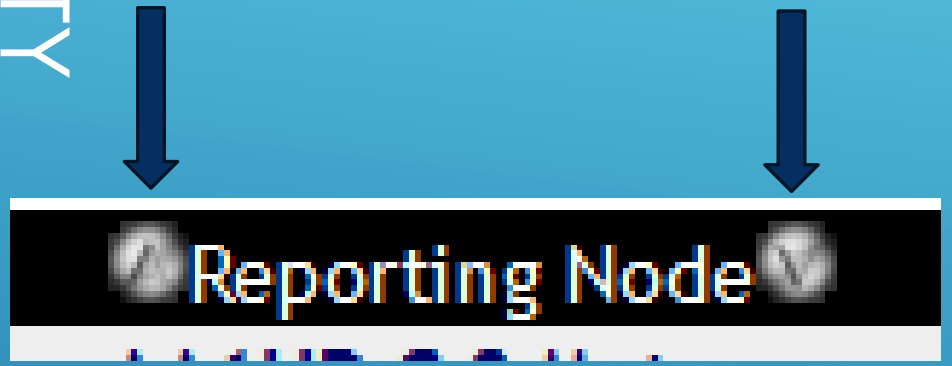
ACTIVITY



Sort by "Node"
Click on the Reporting Node column arrows

N8FM	08/05/23 18:38:34 UTC	W8DTW B 440 MHz	Westland, MI, USA
N8ASD	08/05/23 18:06:40 UTC	W8DTW B 440 MHz	Westland, MI, USA
VA3UG	08/05/23 18:38:11 UTC	W8DTW B 440 MHz DVD	Westland, MI, USA
W4WJR	08/05/23 18:12:11 UTC	W8DTW Dongle User DVD	Westland, MI, USA
N4RTD	08/05/23 18:12:11 UTC	W8DTW Dongle User DVD	Westland, MI, USA
KA8E	08/05/23 18:24:04 UTC	W8DTW Dongle User DVD	Westland, MI, USA
W8DR	08/05/23 18:12:11 UTC	W8DTW Dongle User DVD	Westland, MI, USA

K5HSV	08/05/23 18:32:03 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
KD9URG	08/05/23 18:06:25 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
N2NKP	08/05/23 18:32:13 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
KD2BAN	08/05/23 18:23:13 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
AG5XY	08/05/23 18:36:42 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
K8CBR	08/05/23 18:27:30 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
M0XLR	08/05/23 18:31:18 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
K4QF	08/05/23 18:33:19 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
OZ4ACA	08/05/23 18:40:32 UTC	REF030 C 2 Meters DVD	Lawrenceville, GA, USA
KF0HSR	08/05/23 18:31:53 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
VK3PLA	08/05/23 17:44:57 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
K2CSX D	08/05/23 18:34:19 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
W2LPC	08/05/23 18:21:12 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
VK2GV	08/05/23 18:34:24 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
KG5YEL D	08/05/23 18:36:12 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
VK2GMC	08/05/23 18:38:40 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
W9PVC	08/05/23 17:43:04 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
VE6MHD	08/05/23 17:58:09 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
N4HUD D	08/05/23 18:05:10 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
K3LJ	08/05/23 18:10:30 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
M5COL D	08/05/23 18:10:55 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
W0WDW D	08/05/23 18:11:40 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
N6GVG	08/05/23 18:31:43 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
VK3YAP	08/05/23 18:29:11 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
N3UPS D	08/05/23 17:45:07 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
KN4OSM	08/05/23 17:41:19 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
KI5FTB	08/05/23 17:57:28 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
PA0MBO	08/05/23 18:30:22 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
N3HPX	08/05/23 18:36:07 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
N4PNV D	08/05/23 17:43:55 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
KE4LPL	08/05/23 18:32:54 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
AG5XY D	08/05/23 18:36:07 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
WC9AAG D	08/05/23 18:40:12 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
K4OFV	08/05/23 18:15:39 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA
GI0UVD	08/05/23 18:35:37 UTC	REF030 Dongle User DVD	Lawrenceville, GA, USA

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ACTIVITY

ircDDB Live

17:57:07	HB9EZX__ ____	________	HB9HD__C	________	·	·	·	00 00 00
17:57:08	LU1BJW__ ____	CQCQCQ__	LU3AOC_B	LU3AOC_G	·	D-Star: DX w/o QRM	·	00 00 00
17:57:34	G4WXN___ 2421	CQCQCQCQ	MB6IBD_B	MB6IBD_G	REF055_D	Wed 1800UTC REF055D	53.8s S:0% E:0.0%	00 00 00
17:57:39	******** ____	CQCQCQ__	DB0DOS_B	DB0DOS_G	DCS001_C	·	0.8s S:0% E:0.1%	08 00 00
17:57:59	VA6KRK__ ID51	REF030CL	VE6MHD_B	VE6MHD_G	·	Kelly - Med Hat AB	0.2s S:0% E:0.0%	00 00 00
17:58:15	F4IVO___ 9700	CQCQCQ__	F5ZQT__B	F5ZQT__G	DCS033_C	Claude - IC-9700	0.9s S:0% E:0.0%	00 00 00
17:58:27	HB9TZS__ ____	CQCQCQ__	HB9HD__C	HB9HD__G	·	Giuseppe, St. Gallen	4.3s S:0% E:0.0%	00 00 00
17:58:42	HB9TZS__ ____	CQCQCQ__	HB9HD__C	HB9HD__G	·	Giuseppe, St. Gallen	5.3s S:0% E:0.0%	00 00 00
17:59:00	******** ____	CQCQCQ__	W5NGU__B	W5NGU__G	·		1.0s S:0% E:0.0%	00 00 00
17:59:02	HB9EZX__ 7100	_______U	HB9HD__C	HB9HD__G	·	NASSOS/JN47RL	1.6s S:0% E:0.0%	00 00 00
17:59:28	******** ____	CQCQCQ__	VA3AAR_B	VA3AAR_G	·		6.1s S:0% E:0.0%	00 00 00
17:59:55	******** ____	/DB0DWLB	DB0DOS_B	DB0DOS_G	·		0.6s S:0% E:0.0%	00 00 00
18:00:01	******** ____	CQCQCQ__	VA3AAR_B	VA3AAR_G	·		8.2s S:0% E:0.0%	00 00 00
18:00:05	******** ____	CQCQCQ__	DB0BBW_B	DB0BBW_G	·		0.6s S:0% E:0.0%	00 00 00
18:00:42	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	Radek QTH: Nysa	1.9s S:0% E:0.0%	00 00 00
18:01:32	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	Radek QTH: Nysa	0.8s S:0% E:13.0%	00 00 00
18:01:45	LU1BJW__ ____	CQCQCQ__	LU3AOC_B	LU3AOC_G	·	D-Star: DX w/o QRM	·	00 00 00
18:02:32	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	Radek QTH: Nysa	0.8s S:0% E:12.0%	00 00 00
18:02:35	LX2RV___ 5100	CQCQCQ__	LX0DRD_B	LX0DRD_G	DCS270_B	73 de Roger	1.0s	40 00 00
18:02:42	******** ____	DCS039DL	T79DV__B	T79DV__G	DCS039_D		1.0s S:0% E:0.0%	00 00 00
18:03:32	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	Radek QTH: Nysa	0.8s S:0% E:12.3%	00 00 00
18:04:31	******** ____	CQCQCQ__	AA1HD__C	AA1HD__G	REF069_C		0.7s S:0% E:0.0%	00 00 00
18:04:33	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	·	0.8s S:0% E:12.6%	00 00 00
18:04:43	******** ____	CQCQCQ__	AA1HD__C	AA1HD__G	REF069_C		2.3s S:0% E:0.0%	00 00 00
You don't see your call sign here? Please read: http://ircddb.net/live-vis.html								
18:05:33	SQ6VRS__ TH74	CQCQCQ__	SR6UKB_B	SR6UKB_G	·	Radek QTH: Nysa	0.8s S:0% E:12.6%	00 00 00
18:05:39	LU1BJW__ ____	CQCQCQ__	LU3AOC_B	LU3AOC_G	·	D-Star: DX w/o QRM	3.6s S:0% E:0.0%	00 00 00
18:05:54	VA2DFK__ 5100	CQCQCQ__	VE2RRJ_B	VE2RRJ_G	·	5100	2.4s S:0% E:10.8%	00 00 00
18:05:59	******** ____	CQCQCQ__	ED7ZAD_B	ED7ZAD_G	DCS018_D		0.4s S:0% E:0.0%	00 00 00
18:06:08	LU1BJW__ ____	CQCQCQ__	LU3AOC_B	LU3AOC_G	·	D-Star: DX w/o QRM	TX on	00 00 00
18:06:33	SQ6VRS TH74	CQCQCQ	SR6UKB B	SR6UKB G	·	Radek QTH: Nysa	0.8s S:0% E:12.3%	00 00 00

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ACTIVITY - DPLUSMON

dplus Last Heard

Date / Time	Gateway	MyCall	UrCall	Reflector	RPT1	RPT2
2023-08-05 19:22:24 UTC	REF018	PU2PYC (5100)	CQCQCQ	REF018 C	PU2PYC B	REF018 C
2023-08-05 19:22:23 UTC	REF068	IZ2LPW (ID52)	CQCQCQ	REF068 B	REF068 G	REF068 B
2023-08-05 19:22:20 UTC	WA7HJR	WA7LZO (ID52)	CQCQCQ		WA7HJR B	WA7HJR G
2023-08-05 19:22:20 UTC	REF018	PY2TWI (2820)	CQCQCQ	REF018 C	PY2TWI D	REF018 C
2023-08-05 19:22:18 UTC	REF030	KE2BJJ (NATE)	CQCQCQ	REF030 C	KE2BJJ B	REF030 C
2023-08-05 19:22:17 UTC	REF018	PU2ORR (ID51)	CQCQCQ	REF018 C	PY2KGV B	REF018 C
2023-08-05 19:21:43 UTC	REF001	MM3GQT (AMBE)	CQCQCQ	REF001 C	MM3GQT C	REF001 C
2023-08-05 19:21:28 UTC	KJ4ZLL	KJ4VO (MARK)	CQCQCQ		KJ4VO	KJ4ZLL Z
2023-08-05 19:20:50 UTC	REF068	IT9FRN (ID52)	CQCQCQ	REF068 B	REF068 G	REF068 B
2023-08-05 19:20:29 UTC	REF001	2E0RPU (9700)	CQCQCQ	REF001 C	2E0RPU B	REF001 C
2023-08-05 19:20:14 UTC	GB7WC	M0XLR (4100)	CQCQCQ		GB7WC B	GB7WC G
2023-08-05 19:20:05 UTC	REF018	PY2RMF (ID51)	CQCQCQ	REF018 D	PY2RMF B	REF018 D
2023-08-05 19:19:06 UTC	REF018	PU2OIA (CAR)	CQCQCQ	REF018 C	PU2OIA C	REF018 C
2023-08-05 19:18:51 UTC	W7MOT	N7TWW (2820)	CQCQCQ		W7MOT B	W7MOT G
2023-08-05 19:18:47 UTC	REF024	KB8CXK (ID51)	CQCQCQ	REF024 C	KB8CXK B	REF024 C
2023-08-05 19:18:41 UTC	REF004	K5PNG (D74)	CQCQCQ	REF004 D	K5PNG D	REF004 D
2023-08-05 19:18:24 UTC	REF068	IZ2QLP (2820)	CQCQCQ	REF068 B	REF068 G	REF068 B
2023-08-05 19:18:15 UTC	REF055	G4WXN (2421)	CQCQCQ	REF055 D	MB6IBD B	REF055 D
2023-08-05 19:17:31 UTC	REF018	PY2LOC (ID52)	CQCQCQ	REF018 C	PY2LOC B	REF018 C
2023-08-05 19:17:19 UTC	REF014	K7NBO (5100)	CQCQCQ	REF014 C	K7NBO B	REF014 C
2023-08-05 19:16:35 UTC	W8MAI	KE8GIM (5100)	CQCQCQ		W8MAI B	W8MAI G
2023-08-05 19:16:22 UTC	REF096	OE5AYQ (705)	CQCQCQ	REF096 A	REF096 G	REF096 A
2023-08-05 19:16:20 UTC	REF030	G4LUE (ERNI)	CQCQCQ	REF030 C	G4LUE D	REF030 C
2023-08-05 19:16:10 UTC	REF030	AG5XY	CQCQCQ	REF030 C	AG5XY D	REF030 C
2023-08-05 19:16:04 UTC	W1SCC	KI5US	CQCQCQ		W1SCC B	W1SCC G
2023-08-05 19:15:17 UTC	REF096	OE5UAM (AMBE)	CQCQCQ	REF096 A	OE5UAM D	REF096 A

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ACTIVITY - DPLUSMON

Put REF001 in Gateway box and then the Filter button

MyCall: Gateway: Filter

dplus Last Heard

Date / Time	Gateway	MyCall	UrCall	Reflector
2023-08-05 19:24:09 UTC	REF001	MM3GQT (AMBE)	CQCQCQ	REF001 C
2023-08-05 19:23:01 UTC	REF001	2E0RPU (9700)	CQCQCQ	REF001 C
2023-08-05 19:11:15 UTC	REF001	KO4JDP	CQCQCQ	REF001 C
2023-08-05 18:56:26 UTC	REF001	KB6RRX	CQCQCQ	REF001 C
2023-08-05 18:56:12 UTC	REF001	2E0XHG (INFO)	CQCQCQ	REF001 C
2023-08-05 18:53:53 UTC	REF001	DJ7FG (E880)	CQCQCQ	REF001 C
2023-08-05 18:50:39 UTC	REF001	GW1WRV	CQCQCQ	REF001 C
2023-08-05 18:48:11 UTC	REF001	G0SEC (9700)	CQCQCQ	REF001 C
2023-08-05 18:43:31 UTC	REF001	G6LTT (RON)	CQCQCQ	REF001 C
2023-08-05 18:36:44 UTC	REF001	VE6DZ (GARY)	CQCQCQ	REF001 C
2023-08-05 18:36:24 UTC	REF001	WD6CWE	CQCQCQ	REF001 C

Put REF030 in Gateway box and then the Filter button

MyCall: Firefox Home Page eway: Filter

dplus Last Heard

Date / Time	Gateway	MyCall	UrCall	Reflector
2023-08-05 19:28:20 UTC	REF030	KA2APD (AMBE)	CQCQCQ	REF030 C
2023-08-05 19:26:15 UTC	REF030	KE2BJJ (NATE)	CQCQCQ	REF030 C
2023-08-05 19:22:47 UTC	REF030	KN6KNE	CQCQCQ	REF030 C
2023-08-05 19:16:20 UTC	REF030	G4LUE (ERNI)	CQCQCQ	REF030 C
2023-08-05 19:16:10 UTC	REF030	AG5XY	CQCQCQ	REF030 C
2023-08-05 18:41:59 UTC	REF030	K4QF	CQCQCQ	REF030 C
2023-08-05 18:40:31 UTC	REF030	OZ4ACA (PETE)	CQCQCQ	REF030 C
2023-08-05 18:32:13 UTC	REF030	N2NKP (2820)	CQCQCQ	REF030 C
2023-08-05 18:32:04 UTC	REF030	K5HSV (D74A)	CQCQCQ	REF030 C
2023-08-05 18:27:26 UTC	REF030	K8CBR (ID51)	CQCQCQ	REF030 C
2023-08-05 18:23:13 UTC	REF030	KD2BAN (DVAP)	CQCQCQ	REF030 C
2023-08-05 18:14:11 UTC	REF030	W2LPC (9700)	CQCQCQ	REF030 C

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PI-STAR & HOTSPOT ACTIVITY

Live Quadnet Info:

```
2023-08-05 18:08:58    0.16s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:08:50    0.08s:  0%: 0.0% IZ6FGP__/4100 STN066_A IZ6FGP_B IZ6FGP_G                        IR6L___F
2023-08-05 18:08:49    4.62s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:08:40    0.22s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:08:39    1.24s:  0%: 0.0% IZ6FGP__/4100 STN066_A IZ6FGP_B IZ6FGP_G Mario-IZ6FGP,_CH-IT_  IR6L___F
2023-08-05 18:08:34   15.50s:  0%: 0.0% DL7AC___/ID52 CQCQCQ__ DL7AC__B DL7AC__G Romeo_Ronneburg_TH__  ________
2023-08-05 18:08:31    0.14s:  0%: 7.7% F5SDM___/ID51 CQCQCQ__ F5SDM__B F5SDM__G                        DCS033_H
2023-08-05 18:08:19    0.44s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:08:19    7.44s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:08:14    8.10s:  0%: 0.0% DO7JG___/ID52 XLX900GL DO7JG__B DO7JG__G Juergen_aus_Gera____  ________
2023-08-05 18:08:13    0.14s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:08:14   50.10s:  0%: 0.0% IW9BZW__/51P2 DCS118FL IW9BZW_C IW9BZW_G CIAO_DA_FRANCO_____  DCS118_F
2023-08-05 18:08:08    0.88s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:59    2.82s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:07:56   40.08s:  0%: 0.0% DL7AC___/ID52 CQCQCQ__ DL7AC__B DL7AC__G Romeo_Ronneburg_TH__  ________
2023-08-05 18:07:54    0.32s:  0%: 0.0% IK2YYL__/ID52 _______I IK2YYL_H IK2YYL_G                        ________
2023-08-05 18:07:53    0.28s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:51    1.42s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:07:41    2.62s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:34    0.28s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:29    0.10s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:24    0.20s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:16    0.18s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:07:12   23.62s:  0%: 0.0% DO7JG___/ID52 XLX900GL DO7JG__B DO7JG__G Juergen_aus_Gera____  ________
2023-08-05 18:07:06    2.00s:  0%:11.5% KA3JSD__/DAVE CQCQCQ__ KA3JSD_B KA3JSD_G                        ________
2023-08-05 18:07:00    1.28s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:06:56    1.18s:  0%: 0.5% KA3JSD__/DAVE CQCQCQ__ KA3JSD_B KA3JSD_G Dave_in_Latrobe,_PA_  ________
2023-08-05 18:06:51    1.30s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:06:46   24.16s:  0%: 0.3% DL7AC___/ID52 CQCQCQ__ DL7AC__B DL7AC__G Romeo_Ronneburg_TH__  ________
2023-08-05 18:06:45   10.52s:  0%: 0.0% IW9BZW__/51P2 DCS118FL IW9BZW_C IW9BZW_G CIAO_DA_FRANCO_____  DCS118_F
2023-08-05 18:06:45    1.18s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:06:38    2.86s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:06:36    0.48s:  0%: 0.0% IW4DGS__/9700 _______E IK0CHU_B IK0CHU_G                        ________
2023-08-05 18:06:35    0.72s:  0%: 0.0% KG4CWC__/BOB_ _______I KG4CWC_B KG4CWC_G Let`s_Go_Brandon____  ________
2023-08-05 18:06:33    2.14s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:06:30    2.48s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:06:28    4.58s:  0%: 0.0% WE0FUN__/DVSW CQCQCQ__ WE0FUN_B WE0FUN_G                        XRF815_B
2023-08-05 18:06:26    1.34s:  0%: 0.4% KA3JSD__/DAVE CQCQCQ__ KA3JSD_B KA3JSD_G Dave_in_Latrobe,_PA_  ________
2023-08-05 18:06:19    8.20s:  0%: 0.0% DO7JG___/ID52 XLX900GL DO7JG__B DO7JG__G                        ________
```

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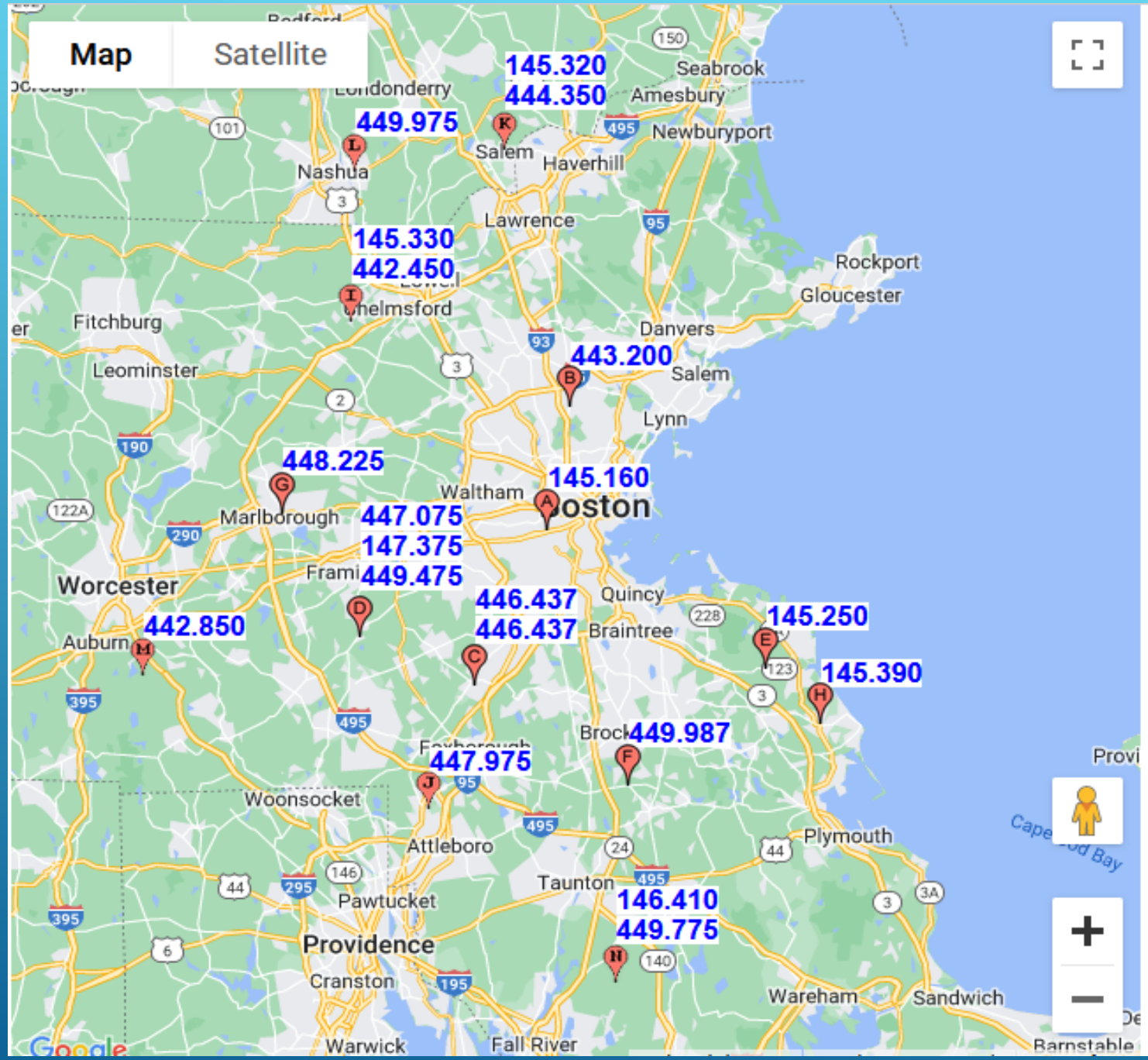
WHERE ARE THE REPEATERS?

WHERE ARE D-STAR REPEATERS



- **Brookline:** 145.160 (C) K1MRA
- **Stoneham:** 443.200 (146.2) WO1VES
- **Walpole:** 446.437 (B) WA1PLE
- **Walpole:** 446.437 (123.0) W1ZSA
- **Holliston:** 447.075 (B) W1DSR
- **Holliston:** 147.375 (136.5) W1DSR
- **Holliston:** 449.475 (136.5) W1NGS
- **Norwell:** 145.250 (NAC250/RAN2/CC5/77.0) AC1M
- **West Bridgewater:** 449.987 (NAC293/B/RAN1/CC4) KA1GG
- **Marlborough:** 448.225 (B) W1MRA
- **Marshfield:** 145.390 (NAC293/RAN1/CC9/67.0) W1ATD
- **Westford:** 145.330 (C) WB1GOF
- **Westford:** 442.450 (B) WB1GOF
- **North Attleborough:** 447.975 (88.5) NA1HS
- **Salem:** 145.320 (C) K1HRO
- **Salem:** 444.350 (B) K1HRO
- **Hudson:** 449.975 (B/71.9/88.5) KB1UAP
- **Sutton:** 442.850 (B/CC1) KC1AZZ
- **Freetown:** 146.410 (C) K1BEP
- **Freetown:** 449.775 (B) K1BEP

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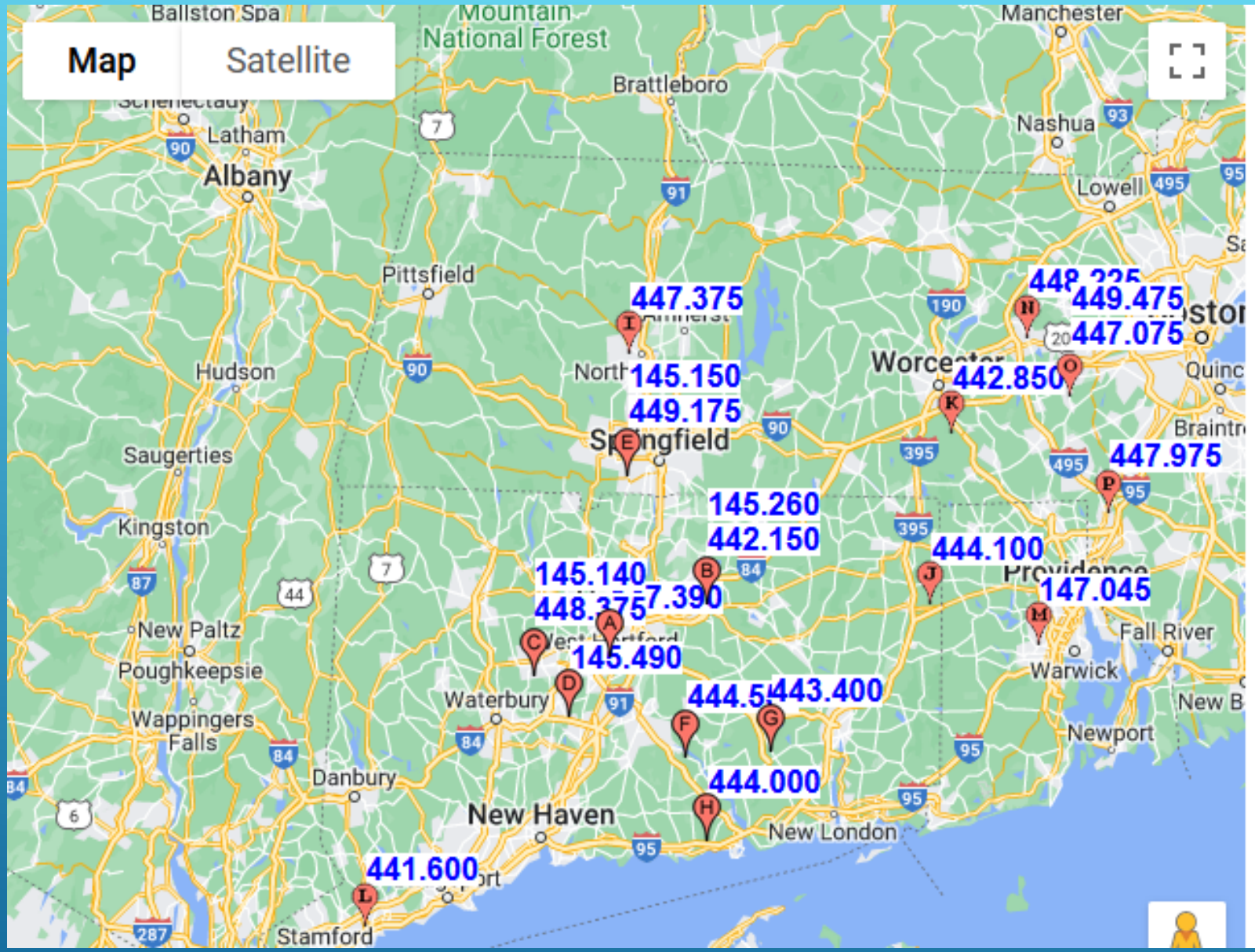
WHERE ARE D-STAR REPEATERS



- **Newington:** 147.390 (C) W1HQ
- **Vernon:** 145.260 AA1HD
- **Bolton:** 442.150 AA1HD
- **Bristol:** 145.140 W1IXU
- **Bristol:** 448.375 W1IXU
- **Meriden:** 145.490 W1ECV
- **Feeding Hills:** 145.150 (C) W1KK
- **Feeding Hills:** 449.175 (B) W1KK
- **Haddam:** 444.550 (B) KB1UHS
- **Salem:** 443.400 (B) KD1STR
- **Westbrook:** 444.000 W1BCG
- **Florence:** 447.375 AA1KK
- **Danielson:** 444.100 (77.0) N1GAU
- **Sutton:** 442.850 (B/CC1) KC1AZZ
- **Norwalk:** 441.600 (B) W1NLK
- **West Warwick:** 147.045 (C) W1HDN
- **Marlborough:** 448.225 (B) W1MRA
- **Holliston:** 449.475 (136.5) W1NGS
- **Holliston:** 447.075 (B) W1DSR
- **North Attleborough:** 447.975 (88.5) NA1HS

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WHERE ARE NE D-STAR REPEATERS 2 METERS

FREQ	OFS	ST	CITY	CALL	MODE	CODE IN	CODE OUT	STATUS	COUNTY	IRLP ECHO	LINKS/COMMENTS	Last Update
145.140	-	CT	Bristol	W1IXU	D-STAR	C			Hartford		147.030 (Hauppauge, NY)	2014/04/30
145.150	-	MA	Feeding Hills	W1KK	D-STAR	C			Hampden			2015/10/11
145.160	-	MA	Brookline	K1MRA	D-STAR	C			Norfolk		D-STAR REF050 C	2014/12/23
145.260	-	CT	Vernon	AA1HD	D-STAR	C			Tolland		D-STAR REF069 C	2015/01/26
145.300	-	RI	Portsmouth	W1AAD	D-STAR	C			Newport		[D-STAR REF069 C]	2019/01/04
145.320	-	NH	Salem	K1HRO	D-STAR	C		Local	Rockingham			2012/09/06
145.330	-	MA	Westford	WB1GOF	D-STAR	C			Middlesex			2014/03/11
145.380	-	NH	Madbury	N1HIT	D-STAR	C			Strafford			2015/11/30
145.400	-	NH	Kensington	KB1TIX	D-STAR	C			Rockingham			2012/09/06
145.420	-	MA	Fall River	K1RFI	D-STAR	C			Bristol		D-STAR REF050 C	2015/12/24
145.440	-	NH	Hampton	K1HBR	D-STAR	C			Rockingham		D-STAR REF050 C	2014/04/30
145.460	-	NH	Franklin	W1JY	D-STAR	C			Merrimack			2022/08/08
145.490	-	CT	Meriden	W1ECV	D-STAR	C			New Haven		D-STAR REF069 C	2015/01/26
146.410	-1.5M	MA	Freetown	K1BEP	D-STAR	C			Bristol		D-STAR REF050 C	2020/06/16
146.460	-1.5M	NH	Windham	KC1EGN	D-STAR	C		OFF	Rockingham			2020/03/06
146.985	-	ME	Cooper	W1SCV	D-STAR	C			Washington			2023/02/20
147.045	+	RI	West Warwick	W1HDN	D-STAR	C			Kent		D-STAR REF069 C	2021/04/03
147.150	+	ME	Biddeford	KC1ALA	D-STAR	C			York	642019		2014/06/20
147.390	+	CT	Newington	W1HQ	D-STAR	C			Hartford			2012/09/06

http://nerepeaters.com/2m_bymode.htm

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WHERE ARE NE D-STAR REPEATERS 440

FREQ	OFS	ST	CITY	CALL	MODE	CODE IN	CODE OUT	STATUS	COUNTY	IRLP ECHO	LINKS/COMMENTS	Last Update
442.850	+	MA	Sutton	KC1AZZ	D-STAR DMR	B/ CC1	CC1		Worcester		Brandmeister DMR Net	2018/04/19
441.600	+	CT	Norwalk	W1NLK	D-STAR	B			Fairfield		D-STAR REF069 C	2015/01/26
441.950	+	NH	Portsmouth	KB1ZDR	D-STAR	B			Rockingham			2014/02/20
442.150	+	CT	Vernon	AA1HD	D-STAR	B			Tolland			2012/09/06
442.450	+	MA	Westford	WB1GOF	D-STAR	B			Middlesex		D-STAR REF050 C	2020/03/06
443.050	+	ME	Biddeford	KC1ALA	D-STAR	B			York			2014/06/20
443.300	+	ME	Livermore	W1NPP	D-STAR	B		OFF	Androscoggin			2019/06/01
443.400	+	CT	Salem	KD1STR	D-STAR	B			New London		D-STAR REF069 C	2015/01/26
444.000	+	CT	Westbrook	W1BCG	D-STAR	B			Middlesex		D-STAR REF069 C	2015/01/26
444.100	+	CT	South Killingly	N1GAU	D-STAR	B			Windham		D-STAR REF069 C	2015/01/26
444.300	+	ME	Knox	W1EMA	D-STAR	B		OFF	Waldo			2016/03/28
444.350	+	NH	Salem	K1HRO	D-STAR	B		Local	Rockingham		D-STAR REF050 C	2020/03/06
444.550	+	CT	Haddam	KB1UHS	D-STAR	B			Middlesex		D-STAR REF069 C	2017/01/20
446.4375	-	MA	Walpole	WA1PLE	D-STAR	B			Norfolk			2014/05/21
446.575	-	NH	Goffstown	NE1DV	D-STAR	B			Hillsborough			2012/09/07
446.725	-	NH	Greenland	KB1UVE	D-STAR	B		OFF	Rockingham			2022/05/27
447.075	-	MA	Holliston	W1DSR	D-STAR	B			Middlesex		D-STAR REF050 C	2014/05/26
447.225	-	NH	Derry	KB1UVD	D-STAR	B			Rockingham			2016/03/24
447.375	-	MA	Holyoke	AA1KK	D-STAR	B		OFF	Hampden			2017/09/27
447.375	-	NH	Derry	K1QVC	D-STAR/ FM	B/ 85.4	85.4		Rockingham			2013/06/10
447.575	-	ME	Phippsburg	KS1R	D-STAR	B			Sagadahoc			2014/12/11
447.775	-	NH	Gilford	W1CNH	D-STAR	B			Belknap			2015/10/29
448.225	-	MA	Marlborough	W1MRA	D-STAR	B			Middlesex		D-STAR REF050 C	2020/03/06
448.375	-	CT	Bristol	W1IXU	D-STAR	B			Hartford			2012/09/06
448.875	-	NH	Madbury	N1HIT	D-STAR	B			Strafford			2015/11/30
448.975	-	CT	Mystic	KB1TMO	D-STAR	B		OFF	New London			2019/08/10
449.175	-	MA	Feeding Hills	W1KK	D-STAR	B			Hampden		D-STAR REF069 C	2015/10/11
449.475	-	NH	Hampton	K1HBR	D-STAR	B			Rockingham			2012/09/06
449.575	-	NH	Moultonborough	W1CEN	D-STAR	B			Carroll			2022/03/16
449.675	-	NH	Sanbornton	W1VN	D-STAR	B			Belknap			2014/12/19
449.775	-	MA	Freetown	K1BEP	D-STAR	B			Bristol		D-STAR REF069 C	2020/06/16
449.975	-	NH	Hudson	KB1UAP	D-STAR/ FM	B/ 71.9/88.5	88.5		Hillsborough	355114	RB:222/440	2015/12/01

New England REPEATER DIRECTORY
NEREPEATERS.COM

http://nerepeaters.com/440_bymode.htm

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WHERE ABOUT REFLECTORS?

REFLECTORS

- Multiple "reflectors" available:
- Good info at: **https://www.f4fxl.org/ref-xrf-dcs-xlx-whats-the-difference**
  - DPLUS reflectors (AA4RC) are REF001-REF097
    - Dashboards are: **refxxx.dstargateway.org**
    - **http://www.dstarinfo.com/reflectors.aspx**
  - XRF reflectors (DEXTRA)
    - Non-standard numbering
    - Example: **https://xrf757.openquad.net/**
  - XLX reflectors (multi-protocol)
    - Active XLX reflectors can be found on XLX dashboard
    - Example: **http://xlx978.dyndns.org/index.php?show=reflectors**

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XLX Multiprotocol Gateway Reflector

XLX978 v2.5.3 - Dashboard v2.4.2 New England Reflector - G3 enabled - ne-dstar.org sponsored / Service uptime: 2 days 14:56:29

WB1GOF PART of WESTFORD

Users / Modules | Repeaters / Nodes (13) | Peers (8) | Modules list | Reflectors list | D-Star live

Callsign Apply Module Apply

#	Flag	Callsign	Suffix	DPRS	Via / Peer	Last heard	
1		N1RHY			REF351 G / XLX351	23.01.2024 10:46	C
2		AA1HO	5100		REF351 G / XLX351	23.01.2024 10:46	C
3		N1JXX	DMR		XLX978 G / BM3104	23.01.2024 10:41	G
4		K1VK	PAUL		REF351 G / XLX351	23.01.2024 10:32	C
5		W3GAC	DMR		XLX978 G / BM3104	23.01.2024 08:56	G

Peanut:XLX978A CanNet OWDN ORCN REF038A XRF038A XLX044A(hub) DMR:BM302050 A	Maine Statewide REF039C B	REF050C via XLX351 C	Peanut:XLX978D REF038D DMR:BM312543 YSF85560 D	Peanut:XLX978G The Gathering Spot DMR:BM31801 G	D-STAR ONLY Peanut:REF069C REF069C H	Ohio Reflector REF038C I	DV Bot S
XRF221-A	KA8SCP-D	KA8SCP-H	PA7LIM-D	PA7LIM-D	XRF638-A	KA8SCP-Z	AA1HO-D
PA7LIM-D			KF0AXA-B	KA8SCP-N			
			XRF138-D				

http://xlx978.dyndns.org

MULTIPROTOCOL REFLECTOR AND "PORTAL"

DASHBOARDS

DPLUS Dashboard | Gateway Status and Control

Registration | WB1GOF Repeater System | DPLUS version 2.2p

Linked Gateways / Reflectors

Module	Linked to
A	unlinked
B	REF050 C
C	REF038 D
D	unlinked
E	unlinked

Remote Users

Callsign	User Message	Last TX on	Type

Last Heard

Callsign	User Message	Last TX on	Time
N1RHY	JAMIE 51A TEWKSBURY	B	2021/05/03 15:09:54
KA8SCP	Terry - Westford MA	B	2021/05/03 15:04:01
NQ1W	Brandon/Hamilton, MA	C	2021/05/03 13:03:55
W1DYS		B	2021/05/03 11:47:10
N1UBR	DAN/D74	B	2021/05/03 11:12:16
AA1HO	Art /MOBILE/VAN/5100	B	2021/05/03 09:46:25
N1RCB	Gordon Lawrence,Ma	B	2021/05/02 23:11:11
K1SOB		B	2021/05/02 21:24:24
K1VK	Paul Bedford MA	C	2021/05/02 21:10:01

DPLUS Dashboard | Reflector Status and Control

Registration | REF060 Reflector System | DREFD version 1.43

Linked Gateways

Module A	Module B	Module C	Module D	Module E
		K1HRO B		
		K1MRA C		
		KB1ZEG C		
		W1DSR B		
		W1MRA B		
		WB1GOF B		

Remote Users

Callsign	User Message	Last TX on	Type
KB1AWZ		listening	HotSpot
KB1DNI		listening	HotSpot
N1OHI		listening	HotSpot
W1CH		listening	HotSpot
KC1BNE		listening	HotSpot
KA1VDZ		listening	HotSpot
N1DZS		listening	HotSpot
K1DDJ		listening	HotSpot
N1MPR	ED N1MPR FLORIDA	C	HotSpot
KA1BZE		listening	HotSpot
W1KFR		listening	HotSpot
W1BZJ		listening	HotSpot
K1WIZ D		listening	HotSpot
W1IF B		C	HotSpot
NX1W		listening	HotSpot
K1PGS		listening	HotSpot
VY2CGA		listening	HotSpot
N1PCE		listening	HotSpot
KA2CNN D		listening	HotSpot
N1JCM		listening	HotSpot

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Maine D-STAR

Bringing Maine D-STAR users together at REF039 and XLX139

XLX Multiprotocol Gateway Reflector

XLX139 v2.5.3 - Dashboard v2.4.2 Maine XLX Reflector-Terminal Mode enabled-transcoded / Service uptime: 134 days 23:48:40

Users / Modules | Repeaters / Nodes (3) | Peers (1) | Modules list | Reflectors list | D-Star live

Callsign Apply Module Apply

#	Flag	Callsign	Suffix	DPRS	Via / Peer	Last heard	
1		WU1Z			KB1SBJ G	05.01.2025 10:55	C
2		N2XPM			KB1SBJ G	05.01.2025 10:55	C
3		KI5QOU			KB1SBJ G	05.01.2025 09:25	C
4		N1MRE	ANDY		KB1SBJ G	05.01.2025 09:25	C
5		KC1ANY			KB1SBJ G	05.01.2025 07:40	C
6		N1VLZ	51A		KB1SBJ G	04.01.2025 18:54	C
7		KC1VBO			KB1SBJ G	04.01.2025 15:55	C
8		AC1NC	5100		KB1SBJ G	04.01.2025 13:07	C
9		W1RAB			KB1SBJ G	04.01.2025 08:32	C

Caribou EARS REF039A A	Maine Statewide REF039C C
XRF138-A	KB1SBJ-G
	KB1EJH-H

http://xlx139.dyndns.org

DPLUS Dashboard | Reflector Status and Control

Registration | REF039 Reflector System | DREFD version 1.52

Linked Gateways

Module A	Module B	Module C	Module D	Module E
		KA1EAR B		
		KC1SBG B		
		KS1R B		

Remote Users

Callsign	User Message	Last TX on	Type
KC1ALA		listening	HotSpot
KI5QOU D		C	HotSpot
ZL2WPA		listening	HotSpot
N1MRE		C	HotSpot
KC1ANY D		C	HotSpot
VE1TE		listening	HotSpot
KC1TV D		listening	HotSpot
KB1SBJ		C	HotSpot
WU1Z D		C	HotSpot
N1URA		C	HotSpot

Last Heard

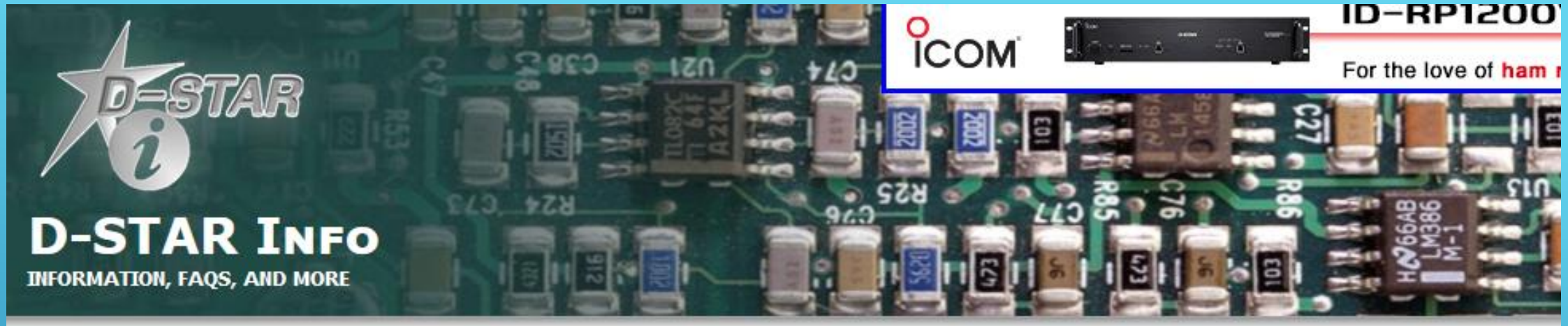
Callsign	User Message	Last TX on	Time
KU1U	CORY IN MAINE	C	2025/01/05

http://ref039.dstargateway.org

MAINE D-STAR REFLECTORS

REFLECTORS

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



Home | FAQ | Conferences | Nets | Reflectors | Downloads | Repeater Maps & List | Calculator | Apps/Devices | DV Pro | D-RATS | Contact Us

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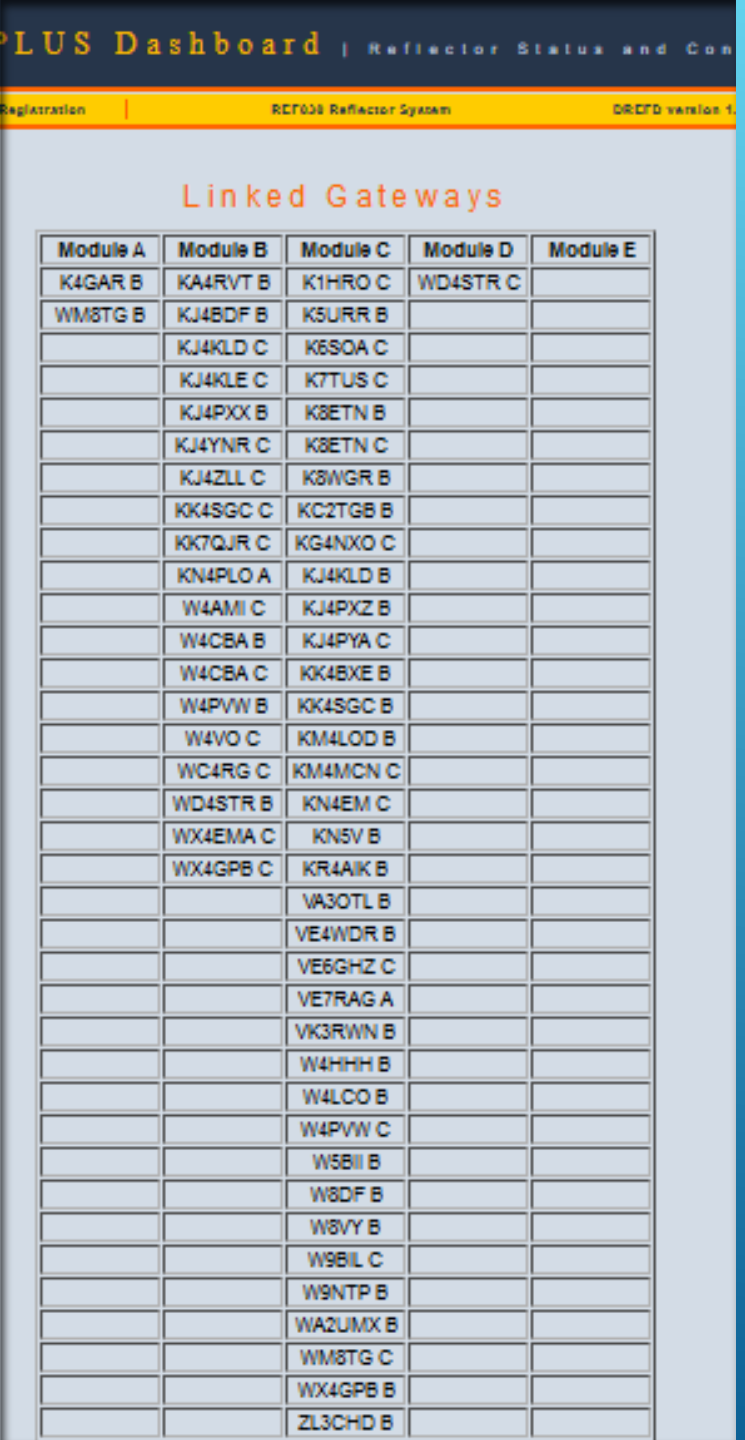
Repeater owners or administrator may update their information by going to www.DSTARInfo.com/update.

)-STAR Reflectors

Reflector	Usage	Location	Links	Speed
REF001B			Status	
REF001C	D-Star Mega Reflector		Status	
REF002A			Status	
REF002B				
REF002C				
REF003A	Ad-hock & Emergency Use - Australia	Australia	Status	
REF003B	Permalink for Repeaters, including all WIA Port B Repeaters – Australia	Australia	Status	
REF003C	Australian Nets	Australia	Status	
REF004A	Alternate for Southeastern US D-STAR Weather Net	United States	Status	1 Gbps
REF004B	Texas Permalink Repeaters	United States	Status	1 Gbps
REF004C	General Rag Chew (English only please)	United States	Status	1 Gbps
REF005A	UK Nets, Permalink Repeaters	London, England	Status Usage Guide Information	100 Mbps


PLUS Dashboard | Reflector Status and Con

Registration | REF030 Reflector System | DREFD version 1.

Linked Gateways

Module A	Module B	Module C	Module D	Module E
K4GAR B	KA4RVT B	K1HRO C	WD4STR C	
WM8TG B	KJ4BDF B	K5URR B		
	KJ4KLD C	K6SOA C		
	KJ4KLE C	K7TUS C		
	KJ4PXX B	K8ETN B		
	KJ4YNR C	K8ETN C		
	KJ4ZLL C	K8WGR B		
	KK4SGC C	KC2TGB B		
	KK7QJR C	KG4NXO C		
	KN4PLO A	KJ4KLD B		
	W4AMI C	KJ4PXZ B		
	W4CBA B	KJ4PYA C		
	W4CBA C	KK4BXE B		
	W4PVW B	KK4SGC B		
	W4VO C	KM4LOD B		
	WC4RG C	KM4MCN C		
	WD4STR B	KN4EM C		
	WX4EMA C	KN5V B		
	WX4GPB C	KR4AIK B		
		VA3OTL B		
		VE4WDR B		
		VE6GHZ C		
		VE7RAG A		
		VK3RWN B		
		W4HHH B		
		W4LCO B		
		W4PVW C		
		W5BII B		
		W8DF B		
		W8VY B		
		W9BIL C		
		W9NTP B		
		WA2UMX B		
		WM8TG C		
		WX4GPB B		
		ZL3CHD B		

- REF001C and REF030C are some of the busiest reflectors in D-STAR
- Each reflector commonly has 50+ repeaters and 500+ hotspots connected from all over the world
- Please don't experiment or play with hotpots on these and other busy reflectors
- Don't connect two hotspots on the same frequency or computer

REPEATER ETIQUETTE

http://ref030.dstargateway.org

901 remote users - 50 gateways

D-STAR

ABOUT HOTSPOTS AND APPS?

Hostname: wpsd-mmdvm

WPSD Digital Voice Dashboard for KA8SCP

11:22:54, Jan 21

Profiles | Live Caller

Radio Status	TX/RX Freq.	Radio Mode	Modem Port	Modem Speed	TCXO Freq.
IDLE	433.800 MHz	Simplex	/dev/ttyAMA0	115,200 bps	14.7456 MHz

Mode Status	
D-Star	DMR
YSF	P25
M17	NXDN
DMR X-Mode	YSF X-Mode
POCSAG	

Gateway Activity

Display TG Names | Caller Det

Time (EST)	Callsign	Country	Mode	Target
03:02:48 Jan 21	KA8SCP/INFO		D-Star	CQCQCQ
21:05:23 Jan 20	KB1G/5100		D-Star	CQCQCQ
19:36:20 Jan 20	W1RAB		D-Star	CQCQCQ

The WPSD Project
https://w0chp.radio/wpsd

PI-STAR
https://www.pistar.uk

Pi-Star Digital Voice Dashboard for KA8SCP

Dashboard | Admin | Configuration

Modes Enabled	
D-Star	DMR
M17	NXDN
P25	YSF
DMR XMode	YSF XMode
POCSAG	

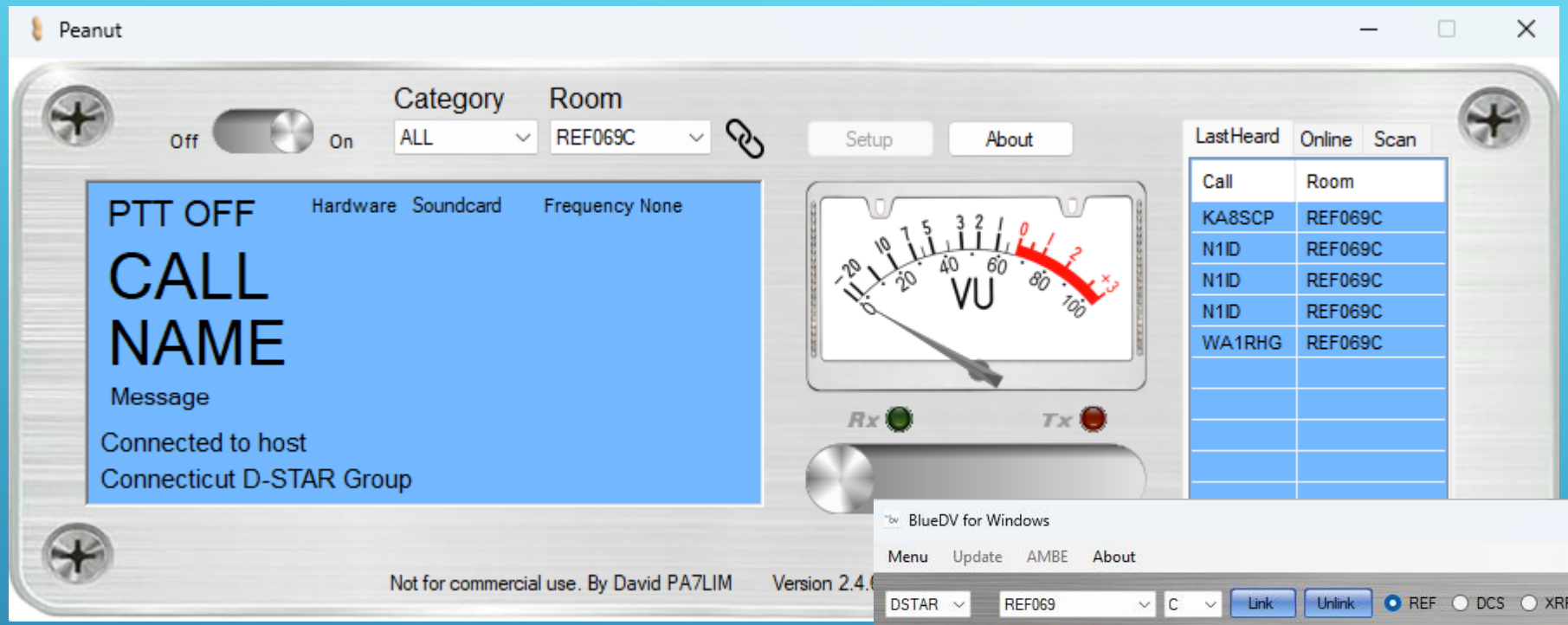
Network Status	
D-Star Net	DMR Net
M17 Net	NXDN Net
P25 Net	YSF Net
DMR2NXDN	DMR2YSF

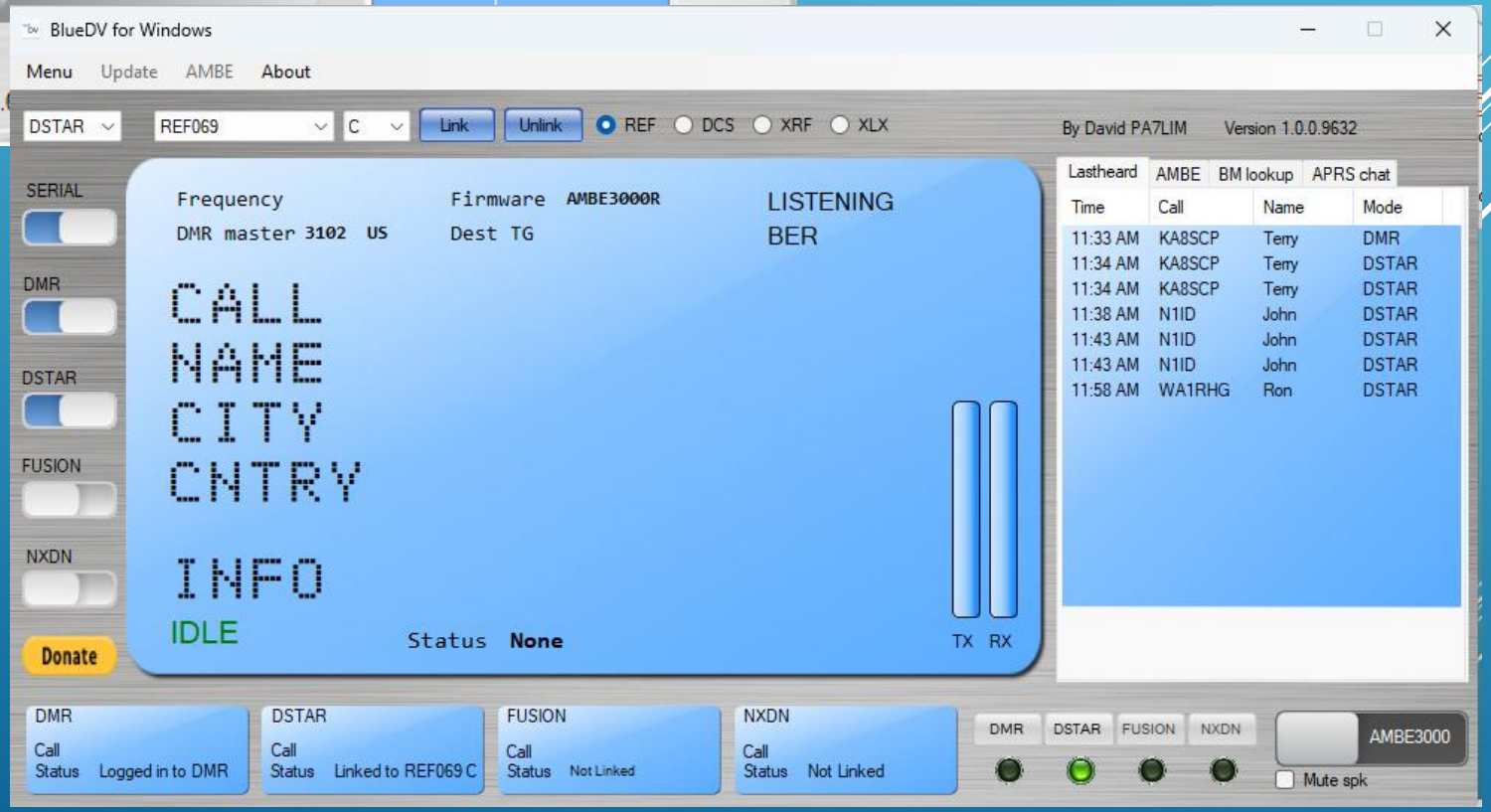
Gateway Activity

Time (EST)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
10:53:57 Jan 21st	D-Star	KW4KC/DMR (GPS)	CQCQCQ	Net	1.0	97%	0.0%
10:53:57 Jan 21st	DMR TS2	KW4KC (GPS)	TG 31801	Net	0.5	0%	0.0%
09:05:39 Jan 21st	DMR TS2	K4PMD (GPS)	TG 31801	Net	3.0	0%	0.0%
08:54:16 Jan 21st	DMR TS2	VA3KY (GPS)	TG 31801	Net	102.0	0%	0.0%
08:52:55 Jan 21st	DMR TS2	AC2ED (GPS)	TG 31801	Net	74.5	0%	0.0%
08:52:23 Jan 21st	DMR TS2	W3GAC (GPS)	TG 31801	Net	26.0	0%	0.0%
02:20:08 Jan 21st	D-Star	KC8YQL/DMR (GPS)	CQCQCQ via DCS978 G	Net	1.0	97%	0.0%
02:20:08 Jan 21st	DMR TS2	KC8YQL (GPS)	TG 31801	Net	25.6	4%	0.0%
23:54:38 Jan 20th	DMR TS2	KC9SIO (GPS)	TG 31801	Net	4.8	3%	0.1%
23:32:46 Jan 20th	D-Star	KC9SIO/DMR (GPS)	CQCQCQ via DCS978 G	Net	10.4	4%	0.0%

HOTSPOTS

D-STAR





http://www.pa7lim.nl

THE PEANUT & BLUE DV

DV STICK & THUMB DV

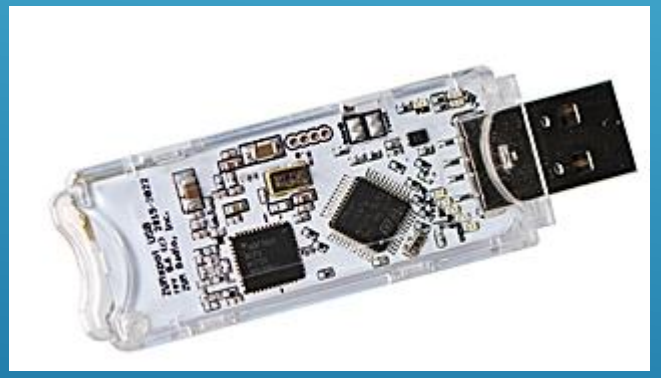
DVMEGA The Swiss army knife for Digital Voice

DVMEGA DVstick 30

https://www.dvmega.nl/dvstick30

D-STAR

Costs: approximately $120-$180



ZUM Radio ZUMspot-USB
https://zumradio.com

DVSI AMBE3000 Digital Voice Vocoder on USB

https://nwdigitalradio.com

OPENSPOT4 PRO

- The openSPOT4 Pro has the **best voice quality** in cross mode operation
- **You don't need a transceiver** for the Pro! Use the free SharkRF Link app on your computer or phone to talk.
- Supports **D-STAR® cross modes**: use your D-STAR® transceiver to access DMR, C4FM, NXDN® networks, or your DMR, C4FM, NXDN® transceiver to access D-STAR® networks
- Supports **call audio playback** on the web interface

https://www.sharkrf.com/products/openspot4

OPENSPOT4 COMPATIBLE DIGITAL RADIO PROTOCOLS AND NETWORKS

- **DMR** (BrandMeister, DMRplus, DMR-MARC, Phoenix, XLX, TGIF and others)
- **D-STAR®** (DCS, REF/DPlus, XRF/DExtra, XLX)
- **System Fusion®/C4FM** (FCS, YSFReflector, XLX)
- **NXDN®** (NXDNReflector)
- **P25** (P25Reflector)
- **POCSAG** (DAPNET)
- **APRS® messaging and location data forwarding** (APRS-IS)

Supports cross modes* (example: talk with your D-STAR® transceiver on DMR, or with your DMR transceiver on D-STAR® networks).

D-STAR ON HF

- To work HF simplex D-STAR on the HF bands you will need an HF D-STAR radio:

Icom 7100 Icom 9100 Icom 705

- HF D-STAR is allowed in the VOICE portions of the HF Bands, based on your license privileges.
- As always, monitor for activity whether AM or SSB, so as NOT to interfere with others.

6 mtrs 50.210 DV for 2 mins 10 mtrs 28.570 DV for 5 mins

12 mtrs 24.938 DV for 5 mins 15 mtrs 21.380 DV for 5 mins

17 mtrs 18.148 DV for 5 mins 20 mtrs 14.**340** DV for 5 mins

40 mtrs 7.285(or another open freq) DV for 5 mins 75 mtrs 3.855 DV for 5 mins

- There is a D-STAR net every Saturday at 7PM and Sunday at 10AM coordinated by Kent (KQ4KK) on REF030C. http://ref030.dstargateway.org
- All the Info is on his QRZ page: https://www.qrz.com/db/KQ4KK

Also https://groups.io/g/HFDstar

Info: Checkout the September 2023 issue of QST for a great article on "FREE DV". It's another way to operate HF Digital Radio!

SUMMARY / QUESTIONS

- Started out with “digital” repeaters: D-STAR, DMR, Fusion, P25
- Now there are multi-mode repeaters based on MMDVM (Pi-Star and WPSD)
- Hotspots of all types
- Reflectors now are multimode: XLX
  - With transcoding devices to allow cross-mode operation

SO MANY WAYS TO CONNECT

PRESENTER

Terry M. Stader - KA8SCP (KA8SCP@WB1GOF.org)

PART of Westford-WB1GOF, Senior Club Advisor

NESMC – EMA Director / MEMA Region 1 CommO/RACES Officer

WB1GOF Repeaters: FM-146.955, D-Star-145.330 & 442.450, ~~DMR-146.450~~

Police Amateur Radio Team of Westford website: www.wb1gof.org

WB1GOF Repeaters: www.wb1gof.org/repeaters

PART forum: https://groups.io/g/PARTofWestford

WB1GOF D-STAR Users: https://groups.io/g/wb1gof-dstar

D-STAR Admin: WB1GOF-K1HRO-W1MRA-K1MRA-KB1SBJ-AF2A-TF3RPI (and more)

Reflector Admin: REF038-REF039-REF040-REF049-XLX038(XRF038)-XRF138-XLX139-XRF221-XLX351-XLX416-XLX539-XLX978

WB1GOF/R

Current

Icom
D-Star Controller
145.330 Repeater (18w)
442.450 Repeater (18w)

Wacom UHF (4)
BPBR/Duplexer

UHF Rcvr Bandpass
Cavity (1) & Preamp

Network Router/FIOS

HP DL580 G2 (4 way)
CentOS (Linux)
D-Plus Gateway
Routing Software
Link Scheduling
User Logging
D-Star Registration

AT&T Cell Site - Prospect Hill
Westford, Ma
579 feet/AMSL

3 Open Repeaters
On the Air 24/7

21 Years of
Continuous
Public Service

146.955 TPL power amp (55W/at Ant)

146.955 Kenwood TKR-750 repeater

146.955 SCOM controller & Spare

Phelps Dodge
145.330 (back) (6)
Duplexer

Wacom 146.955
(front) (4) Duplexer

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