



STATE OF D-STAR

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D-STAR Admin / Reflector Admin





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



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.

WHY D-STAR



- Long distance comms without big radios and antennas!
- 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

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

Application 1

Digital voice (DV mode)

Analog audio is modulated to a digital signal and transmitted in the digital mode signal by the D-STAR radio.



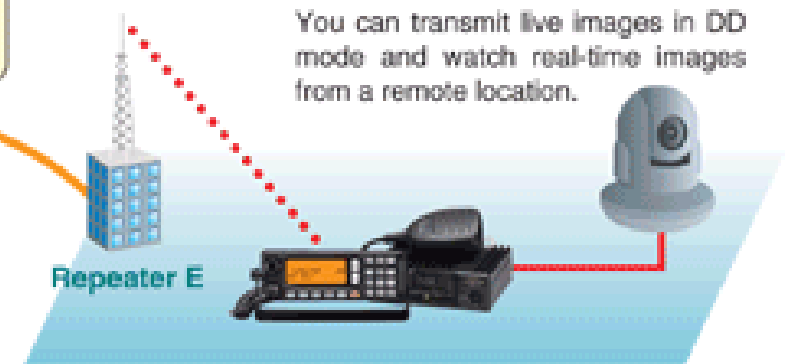
Internet connection*

The Internet gateway allows linking of D-STAR repeater sites over the Internet. You can uplink to your local repeater and downlink from a remote repeater, even from a foreign country!

Application 5

IP camera (DD mode)

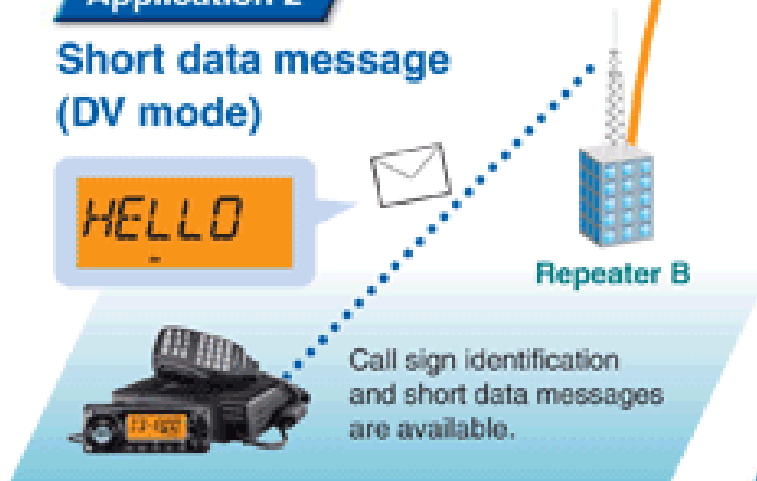
You can transmit live images in DD mode and watch real-time images from a remote location.



Application 2

Short data message (DV mode)

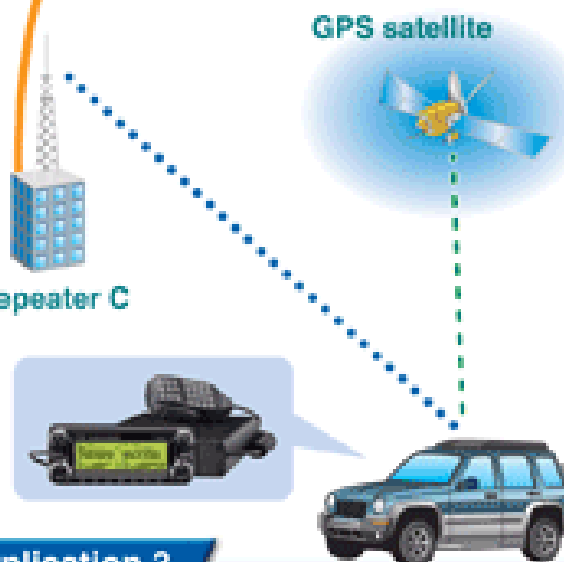
HELLO



Application 3

GPS tracking (DV mode)

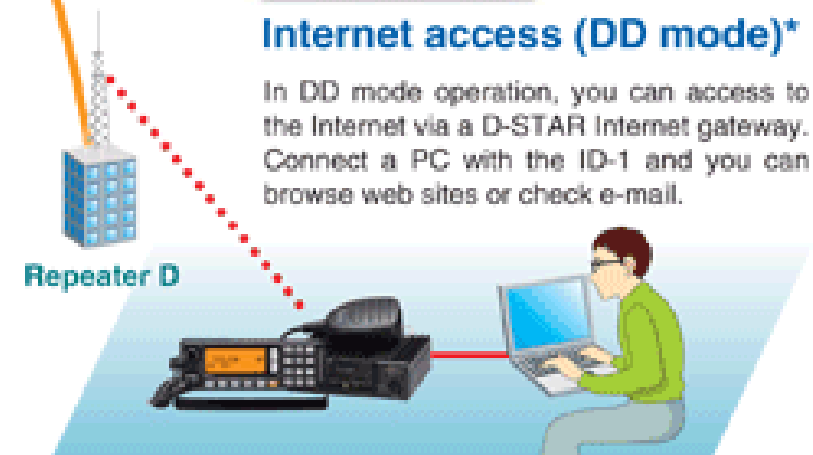
With a GPS receiver, you can send your current position information to another radio.



Application 4

Internet access (DD mode)*

In DD mode operation, you can access to the Internet via a D-STAR Internet gateway. Connect a PC with the ID-1 and you can browse web sites or check e-mail.



- Internet
- DV mode (4.8kbps)
- DD mode (128kbps)

➤ 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/>

- NEW WPSD <https://w0chp.radio/wpsd/>

- Use your own WiFi service

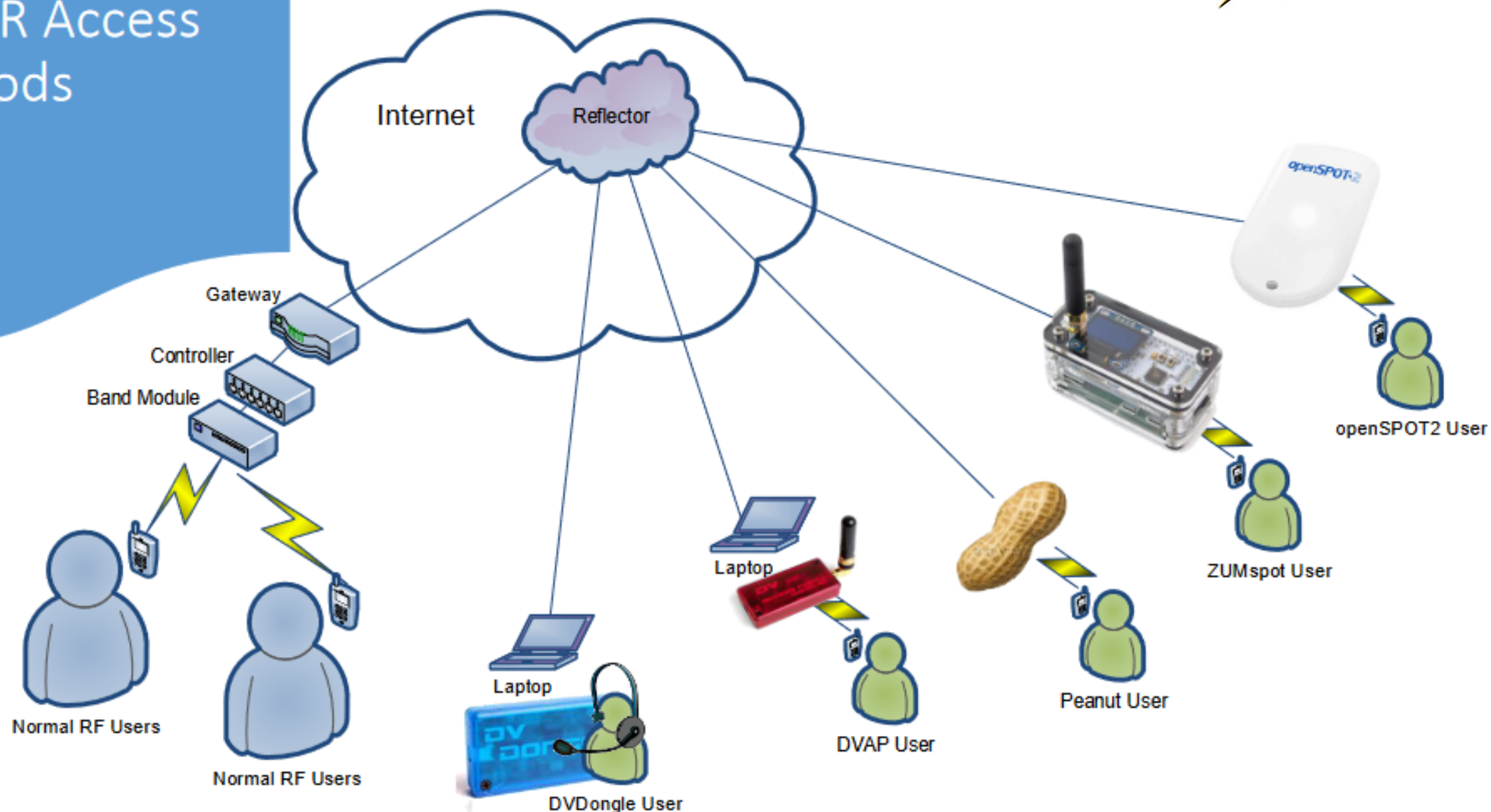
- In your car

- portable



ON THE ROAD

D-STAR Access Methods



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

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

Connected
Reflectors

Is the repeater Linked, if so,
Where?

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

Last RF User
Heard



<https://wb1gof.dstargateway.org>

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DASHBOARD

AA1HD REPEATER

D - S T A R Dashboard | G3 Gateway Status



Registration

AA1HD G3 Repeater System

CentOS 7

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>

DASHBOARD REFLECTOR

Remote Users
Connected –
hotspots,
dongles

DPLUS Dashboard | Reflector Status and Control

RegistrationREF050 Reflector SystemDREFD 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		

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

Connected
Repeaters

Last
Heard

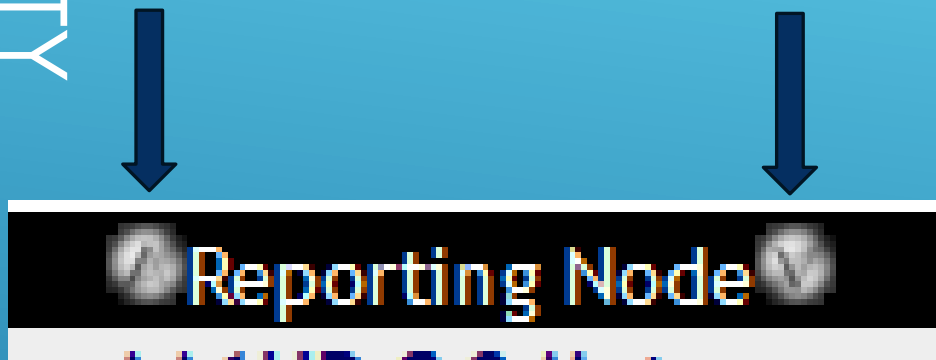
Last Heard			
Callsign	User Message	Last TX on	Time
W2DAN	DAVE - TIVERTON, RI.	C	2024/01/20 10:22:10
W1TG	Tom-Hampton, NH	E	2024/01/20 10:04:29
KO4PLT		C	2024/01/20 09:41:55
W1AST	W1AST Larry ID5100	C	2024/01/20 09:34:09
KD1UA	KD1UA/Jack	C	2024/01/20 09:04:57
OZ1ARQ	Kim QTH JO54WS	C	2024/01/20 08:39:00
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

<http://ref050.dstargateway.org>

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

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



17:57:07	HB9EZX		HB9HD_C		.	.	00 00 00
17:57:08	LU1BJW		LU3AOC_B	LU3AOC_G	.	D-Star: DX w/o QRM	00 00 00
17:57:34	G4WXN 2421	CQCQCQ	MB6IBD_B	MB6IBD_G	REF055_D	Wed 1800UTC REF055D	53.8s S:0% E:0.0%
17:57:39	*****	CQCQCQ	DB0DOS_B	DB0DOS_G	DCS001_C	.	0.8s S:0% E:0.1%
17:57:59	VA6KRK ID51	REF030CL	VE6MHD_B	VE6MHD_G	.	Kelly - Med Hat AB	0.2s S:0% E:0.0%
17:58:15	F4IVO 9700	CQCQCQ	F5ZQT_B	F5ZQT_G	DCS033_C	Claude - IC-9700	0.9s S:0% E:0.0%
17:58:27	HB9TZS	CQCQCQ	HB9HD_C	HB9HD_G	.	Giuseppe, St. Gallen	4.3s S:0% E:0.0%
17:58:42	HB9TZS	CQCQCQ	HB9HD_C	HB9HD_G	.	Giuseppe, St. Gallen	5.3s S:0% E:0.0%
17:59:00	*****	CQCQCQ	W5NGU_B	W5NGU_G	.		1.0s S:0% E:0.0%
17:59:02	HB9EZX 7100	U	HB9HD_C	HB9HD_G	.	NASSOS/JN47RL	1.6s S:0% E:0.0%
17:59:28	*****	CQCQCQ	VA3AAR_B	VA3AAR_G	.		6.1s S:0% E:0.0%
17:59:55	*****	/DB0DWLB	DB0DOS_B	DB0DOS_G	.		0.6s S:0% E:0.0%
18:00:01	*****	CQCQCQ	VA3AAR_B	VA3AAR_G	.		8.2s S:0% E:0.0%
18:00:05	*****	CQCQCQ	DB0BBW_B	DB0BBW_G	.		0.6s S:0% E:0.0%
18:00:42	SQ6VRS TH74	CQCQCQ	SR6UKB_B	SR6UKB_G	.	Radek QTH: Nysa	1.9s S:0% E:0.0%
18:01:32	SQ6VRS TH74	CQCQCQ	SR6UKB_B	SR6UKB_G	.	Radek QTH: Nysa	0.8s S:0% E:13.0%
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%
18:02:35	LX2RV 5100	CQCQCQ	LX0DRD_B	LX0DRD_G	DCS270_B	73 de Roger	1.0s
18:02:42	*****	DCS039DL	T79DV_B	T79DV_G	DCS039_D		1.0s S:0% E:0.0%
18:03:32	SQ6VRS TH74	CQCQCQ	SR6UKB_B	SR6UKB_G	.	Radek QTH: Nysa	0.8s S:0% E:12.3%
18:04:31	*****	CQCQCQ	AA1HD_C	AA1HD_G	REF069_C		0.7s S:0% E:0.0%
18:04:33	SQ6VRS TH74	CQCQCQ	SR6UKB_B	SR6UKB_G	.		0.8s S:0% E:12.6%
18:04:43	*****	CQCQCQ	AA1HD_C	AA1HD_G	REF069_C		2.3s S:0% E:0.0%
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%
18:05:39	LU1BJW	CQCQCQ	LU3AOC_B	LU3AOC_G	.	D-Star: DX w/o QRM	3.6s S:0% E:0.0%
18:05:54	VA2DFK 5100	CQCQCQ	VE2RRJ_B	VE2RRJ_G	.	5100	2.4s S:0% E:10.8%
18:05:59	*****	CQCQCQ	ED7ZAD_B	ED7ZAD_G	DCS018_D		0.4s S:0% E:0.0%
18:06:08	LU1BJW	CQCQCQ	LU3AOC_B	LU3AOC_G	.	D-Star: DX w/o QRM	TX on
18:06:33	SQ6VRS TH74	CQCQCQ	SR6UKB_B	SR6UKB_G	.	Radek QTH: Nysa	0.8s S:0% E:12.3%



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



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	Gateway:		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

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%	D07JG_/ID52	XLX900GL	D07JG_B	D07JG_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%	D07JG_/ID52	XLX900GL	D07JG_B	D07JG_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%	D07JG_/ID52	XLX900GL	D07JG_B	D07JG_G	_____

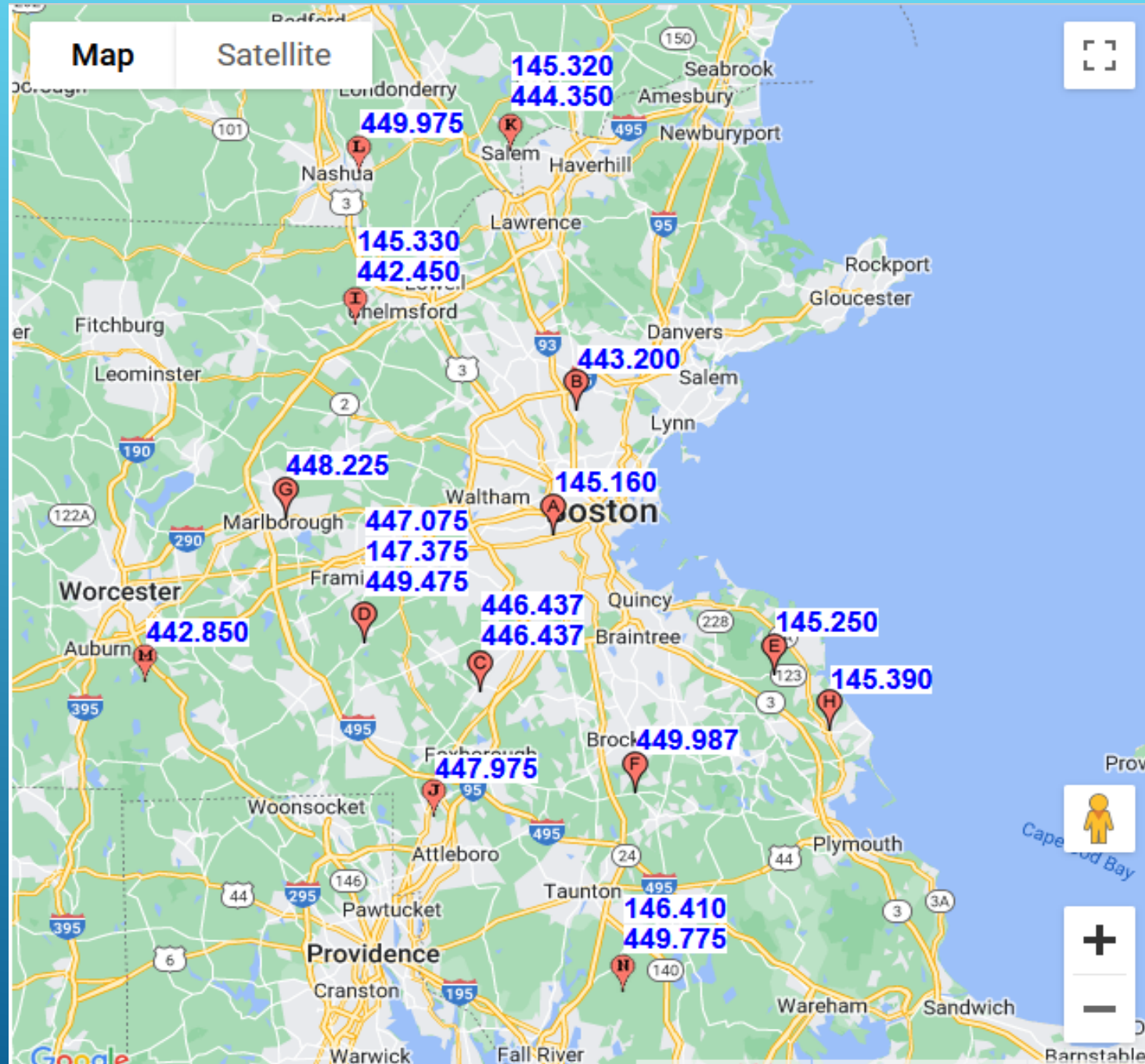


REPEATER ACTIVITY

Last 500 D-Star "sessions" for 'rpt1Call' = 'WB1GOF'

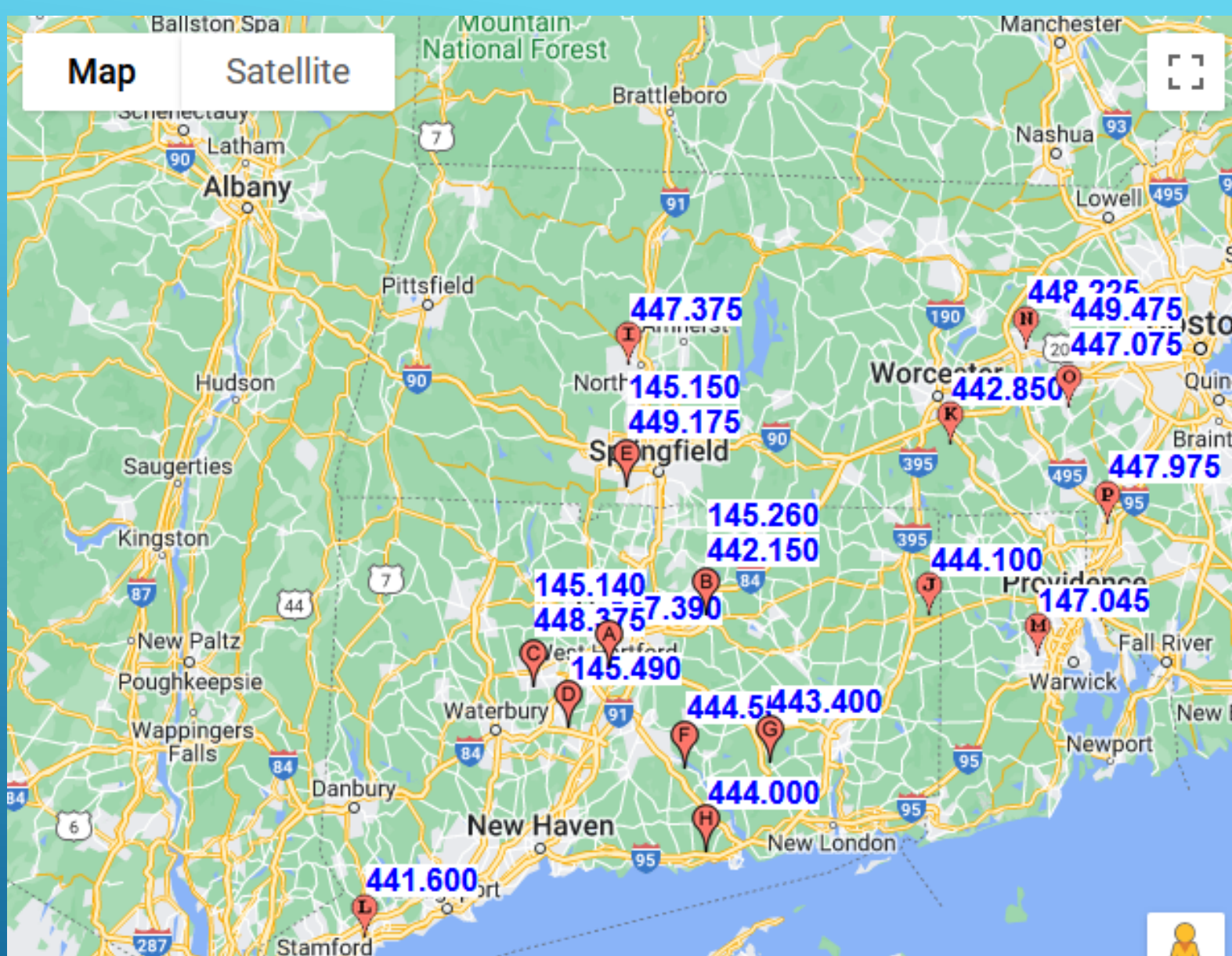
First TX (italic if overlaps)	Last TX (sort #)	TX	Session† Duration	myCall /tag	rpt1Call rpt2Call	urCall @ destination D-Star message	unproto (location) altitude ^{ft} course° knots APRS message
<i>Sat 2024-01-06</i> @ 12:30:48 EST	Sat 2024-01-20 @ 18:07:42 EST	171	14 days 05:36:55	W1KQ /2820	WB1GOF B WB1GOF G	CQ CQ CQ Jim - Loc:FN42	
<i>Sat 2024-01-20</i> @ 13:50:38 EST	Sat 2024-01-20 @ 13:50:46 EST	1	00:00:08	KA8SCP /ID51	WB1GOF C WB1GOF G	CQ CQ CQ d MA - Westfor	API51 (42°36.60'N,71°28.02'W) ID51 MA PORTABLE
<i>Fri 2024-01-19</i> @ 15:58:04 EST	<i>Fri 2024-01-19</i> @ 15:59:17 EST	5	00:01:13	KA8SCP /ID31	WB1GOF B WB1GOF G	CQ CQ CQ Terry - Westford MA	
<i>Sun 2023-09-10</i> @ 20:56:05 EDT	<i>Fri 2024-01-19</i> @ 11:17:43 EST	528	130 days 15:21:39	N1ZHA /	WB1GOF B WB1GOF G	CQ CQ CQ OF BC	
<i>Fri 2024-01-19</i> @ 09:22:55 EST	<i>Fri 2024-01-19</i> @ 09:22:57 EST	1	00:00:02	KA8SCP /ID51	WB1GOF C WB1GOF G	CQ CQ CQ Terry - Westford MA	
<i>Thu 2024-01-18</i> @ 15:55:13 EST	<i>Thu 2024-01-18</i> @ 16:16:42 EST	11	00:21:29	KA10LA /5100	WB1GOF B WB1GOF G	CQ CQ CQ Dave Lowell Mass USA	API510 (42°39.61'N,71°18.33'W) 144 ^{ft}
<i>Wed 2023-03-08</i> @ 15:00:44 EST	<i>Thu 2024-01-18</i> @ 07:31:18 EST	335	315 days 16:30:33	N1RHY /	WB1GOF B WB1GOF G	CQ CQ CQ Jamie Icom 5100	API510 (42°38.56'N,71°14.64'W)
<i>Wed 2024-01-17</i> @ 07:29:45 EST	<i>Wed 2024-01-17</i> @ 09:32:08 EST	20	02:02:23	KA8SCP /TRK	WB1GOF B WB1GOF G	CQ CQ CQ Terry Westford MA	API510 (42°36.78'N,71°27.29'W)
<i>Wed 2023-12-13</i> @ 14:05:19 EST	<i>Wed 2024-01-17</i> @ 09:21:13 EST	66	34 days 19:15:54	AA1HO /5100	WB1GOF B WB1GOF G	CQ CQ CQ Art /Lowell,MA/ 5100	API510 (42°37.44'N,71°20.06'W) 192 ^{ft}
<i>Wed 2024-01-17</i> @ 07:30:03 EST	<i>Wed 2024-01-17</i> @ 07:47:10 EST	32	00:17:08	KA1IKK /2820	WB1GOF B WB1GOF G	CQ CQ CQ STEVE, DRACUT, MA.	
<i>Tue 2024-01-16</i> @ 19:20:14 EST	<i>Tue 2024-01-16</i> @ 19:20:15 EST	1	00:00:00	KA8SCP /ID51	WB1GOF C WB1GOF G	CQ CQ CQ Terry - Westford MA	
<i>Tue 2024-01-16</i> @ 11:04:19 EST	<i>Tue 2024-01-16</i> @ 11:12:02 EST	2	00:07:43	KA8SCP /ID31	WB1GOF B WB1GOF G	CQ CQ CQ Terry - Westford MA	API31 (42°36.60'N,71°28.02'W) 257 ^{ft}
<i>Tue 2023-02-28</i> @ 09:15:37 EST	<i>Tue 2024-01-16</i> @ 09:45:43 EST	11	322 days 00:30:05	KC1OMF /D74A	WB1GOF B WB1GOF G	CQ CQ CQ Jeff Newton MA	
<i>Mon 2024-01-15</i> @ 10:55:15 EST	<i>Mon 2024-01-15</i> @ 10:55:15 EST	1	00:00:00	KC1MQX 12 /	WB1GOF C		API510 (42°32.64'N,71°45.83'W)

WHERE ARE D-STAR REPEATERS



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

WHERE ARE D-STAR REPEATERS



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



WHERE ARE NE D-STAR REPEATERS 2 METERS



FREQ	OFS	ST	CITY	CALL	MODE	CODE IN OUT	STATUS	COUNTY	IRLPECHO	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

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WHERE ARE NE D-STAR REPEATERS

FREQ	OFFST	CITY	CALL	MODE	CODE INOUT	STATUS	COUNTY	IRLPECHO	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



D-STAR REPEATERS MILES FROM AGAWAM

↓CITY	↓FREQ	PL	CALL	↓DIST	NOTES
Feeding Hills, MA	145.150	C	W1KKK	1.8	D-STAR
Feeding Hills, MA	449.175	B	W1KKK	1.8	D-STAR D-STAR REF069 C
Vernon, CT	145.260	C	AA1HD	19.5S	D-STAR D-STAR REF069 C
Vernon, CT	442.150	B	AA1HD	19.5S	D-STAR
Newington, CT	147.390	C	W1HQ	27.0S	D-STAR
Bristol, CT	145.140	C	W1IXU	30.9SW	D-STAR 147.030 (Hauppauge, NY)
Bristol, CT	448.375	B	W1IXU	30.9SW	D-STAR
Meriden, CT	145.490	C	W1ECV	38.3S	D-STAR D-STAR REF069 C
Haddam, CT	444.550	B	KB1UHS	41.9S	D-STAR D-STAR REF069 C
Salem, CT	443.400	B	KD1STR	44.7SE	D-STAR D-STAR REF069 C
Sutton, MA	442.850	B/CC1	KC1AZZ	45.7E	D-STAR DMR CC1 Brandmeister DMR Net
South Killingly, CT	444.100	B	N1GAU	46.2SE	D-STAR D-STAR REF069 C
Westbrook, CT	444.000	B	W1BCG	55.6SE	D-STAR D-STAR REF069 C
Marlborough, MA	448.225	B	W1MRA	59.6NE	D-STAR D-STAR REF050 C
Holliston, MA	447.075	B	W1DSR	63.4E	D-STAR D-STAR REF050 C
West Warwick, RI	147.045	C	W1HDN	63.6SE	D-STAR D-STAR REF069 C
Westford, MA	145.330	C	WB1GOF	71.2NE	D-STAR
Westford, MA	442.450	B	WB1GOF	71.2NE	D-STAR D-STAR REF050 C
Walpole, MA	446.4375	B	WA1PLE	72.2E	D-STAR
Norwalk, CT	441.600	B	W1NLK	78.1SW	D-STAR D-STAR REF069 C
Hudson, NH	449.975	B/71.9/88.5	KB1UAP	78.5NE	D-STAR FM 88.5 355114 RB:222 440
Portsmouth, RI	145.300	C	W1AAD	79.1SE	D-STAR [D-STAR REF069 C]
Brookline, MA	145.160	C	K1MRA	79.7NE	D-STAR D-STAR REF050 C
Fall River, MA	145.420	C	K1RFI	81.6SE	D-STAR D-STAR REF050 C
Stoneham, MA	443.200	146.2	WO1VES	84.3NE	YSF D-STAR FM 146.2 Local
West Bridgewater, MA	449.9875	NAC293/B/RAN1/CC4	KA1GG	84.4E	P25 YSF D-STAR NXDN DMR NAC293 RAN1 CC4 Brandmeister DMR Net
Goffstown, NH	446.575	B	NE1DV	84.8NE	D-STAR
Freetown, MA	146.410	C	K1BEP	86.1SE	D-STAR D-STAR REF050 C
Freetown, MA	449.775	B	K1BEP	86.1SE	D-STAR D-STAR REF069 C
Derry, NH	447.225	B	KB1UVD	88.6NE	D-STAR

DMR REPEATERS MILES FROM AGAWAM

CITY	FREQ	PL	CALL	DIST	NOTES
Somers, CT	445.8875	CC1	W1SP	11.8E	DMR CC1 CT ARES DMR Net
Bloomfield, CT	145.430	CC1	KB1TTN	17.6S	DMR CC1 CT ARES DMR Net
Bloomfield, CT	446.4375	CC1	W1SP	17.6S	DMR CC1 CT ARES DMR Net
Northampton, MA	145.180	CC1	KA1QFE	17.7N	DMR CC1 DMR-MARC New England Net
Northampton, MA	449.525	CC1	KA1OAN	17.7N	DMR CC1 DMR-MARC New England Net
Vernon, CT	440.8625	CC1	AA1HD	19.5S	DMR CC1 Brandmeister DMR Net
Vernon, CT	443.950	CC1	AA1HD	19.5S	DMR CC1 CT ARES DMR Net
Avon, CT	442.050	CC1	W1HDN	20.6S	DMR CC1 Brandmeister DMR Net
Hartford, CT	447.975	CC1	W1SP	21.6S	DMR CC1 CT ARES DMR Net
Glastonbury, CT	449.125	CC1	W1EDH	25.0S	DMR CC1 CT ARES DMR Net
Union, CT	443.800	CC1	KB1NTA	25.7E	DMR CC1 CT ARES DMR Net
Newington, CT	442.100	CC1	W1HQ	27.0S	DMR CC1 CT ARES DMR Net
Storrs, CT	441.4625	CC2	W1JLZ	27.2SE	DMR CC2 CT ARES DMR Net
Coventry, CT	449.875	CC1	K1JCL	27.3SE	DMR CC1 DMR-MARC New England Net
Torrington, CT	441.550	CC1	W1HDN	30.2SW	DMR CC1 CT ARES DMR Net
Bristol, CT	448.875	CC1	W1IXU	30.9SW	DMR CC1 Brandmeister DMR Net
Wolcott, CT	440.8125	CC1	KB1TTN	37.1SW	DMR CC1 CT ARES DMR Net
Colchester, CT	440.800	CC1	K1JCL	38.1SE	DMR CC1 DMR-MARC New England Net
Colchester, CT	445.9875	CC1	WH6SW	38.1SE	DMR CC1 CT ARES DMR Net
Cornwall, CT	444.350	CC1	W1SP	38.8SW	DMR CC1 CT ARES DMR Net
Brooklyn, CT	445.7375	CC3	KB1NTA	40.9SE	DMR CC3 CT ARES DMR Net
Prospect, CT	448.175	CC1	W1LAS	43.2SW	DMR CC1 DMR-MARC New England Net
Middlebury, CT	445.8375	CC2	WB1CQH	45.3SW	DMR CC2 CT ARES DMR Net
Worcester, MA	442.200	CC1	N1PFC	45.4NE	DMR CC1 DMR-MARC New England Net
Sutton, MA	442.850	B/CC1	KC1AZZ	45.7E	D-STAR DMR CC1 Brandmeister DMR Net

YSF REPEATERS MILES FROM AGAWAM

↓CITY	↓FREQ	PL	CALL	↓DIST	NOTES
Burlington, CT	147.150	77.0	K1CRC	26.8SW	YSF FM 77.0
Bristol, CT	146.880	77.0	K1CRC	30.9SW	YSF FM 77.0 442.850 (Bristol, CT)
Greenfield, MA	147.120	131.8	KB1BSS	36.2N	YSF FM 131.8
Greenfield, MA	448.275	136.5	KB1BSS	36.2N	YSF FM
Great Barrington, MA	145.270	136.5	KA1OA	38.0W	YSF FM 136.5
Great Barrington, MA	442.650	162.2	KC1GLK	38.0W	YSF FM 162.2
Meriden, CT	444.250	77.0	KA1VT	38.3S	YSF FM 77.0
Mt. Greylock, MA	146.910	162.2	K1FFK	47.5NW	YSF FM 162.2
Foster, RI	444.500	74.4	WA1USA	48.2SE	YSF FM 74.4
Gardner, MA	442.100	88.5	N1WW	48.4NE	YSF FM 88.5
Burrillville, RI	444.750	74.4	WA1USA	50.1E	YSF FM 74.4
Leominster, MA	441.950	82.5	KB1ZKL	55.6NE	YSF FM Local
Coventry, RI	145.210	192.8	WA1USA	56.0SE	YSF FM 192.8
North Scituate, RI	147.105	74.4	WA1USA	57.0SE	YSF FM
Waterford, CT	146.970	156.7	W1NLC	57.2SE	YSF FM
Milford, MA	446.825	100.0	WA1QGU	58.2E	YSF FM 100.0 3819W1BRI-R
Groton, CT	146.925		KB1CJP	58.5SE	YSF 147.240 (Westerly, RI)
Hopkinton, MA	449.575	88.5/71.9	W1BRI	58.9NE	YSF FM 162.2 4133 4133 MMRA Net [MMRA2 Net] 88.5 linked 71.9 local
Marlborough, MA	447.875	79.7	K1IW	59.6NE	YSF FM 79.7 RB:2m
Johnston, RI	146.835		KB1TOT	61.5SE	YSF Closed
Milford, CT	147.225	77.0	KA1FAI	62.8SW	YSF FM 77.0
West Warwick, RI	146.910	100.0	KC1DGM	63.6SE	YSF FM
Westerly, RI	147.240		N1LMA	64.6SE	YSF 146.925 (Groton, CT)
Mason, NH	443.750	97.4	K1TLV	64.7NE	YSF FM 97.4 Closed
Dublin, NH	441.700	100.0	WQ2H	65.2NE	YSF FM 100.0
Providence, RI	448.925	88.5	WA1USA	65.4SE	YSF FM
Pepperell, MA	446.525	D023	WA1VVH	68.2NE	YSF FM D023 Wolfpack Net
Charlestown, RI	447.125	82.5	W1CRI	70.6SE	YSF FM 82.5
Walpole, NH	147.030	100.0	K1PH	70.8NE	YSF FM
Walpole, MA	448.975	141.3	W1ZSA	72.2E	YSF FM 141.3

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>

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

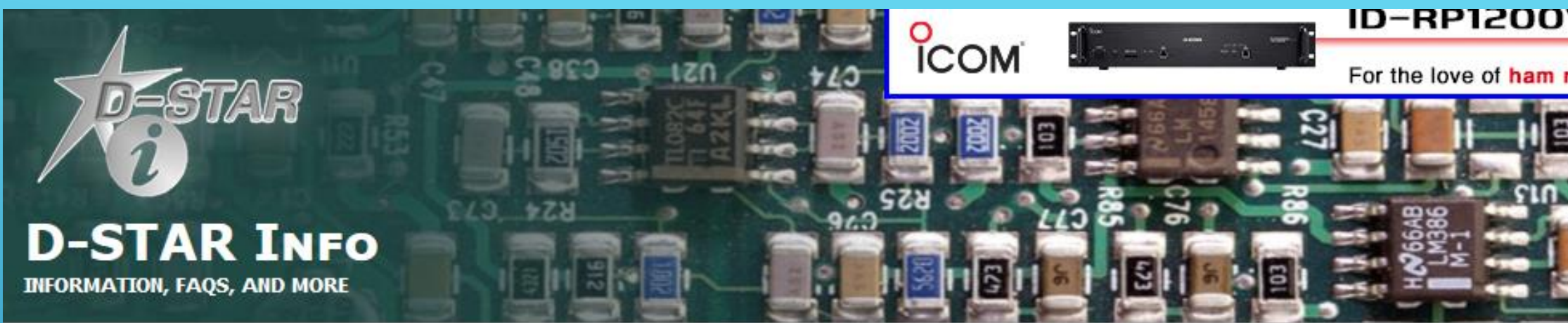
Users / Modules Repeater / Nodes (13) Peers (8) Modules list Reflectors list D-Star live

Callsign				Module			
Apply				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”



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

D-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

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		

- REF001 C 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 hotspots 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





- 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

REGISTRATION

User Call:

✓ W1ZLA has been approved on: REGIST (on 202

✓ W1ZLA has terminals that are registered on: REC

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

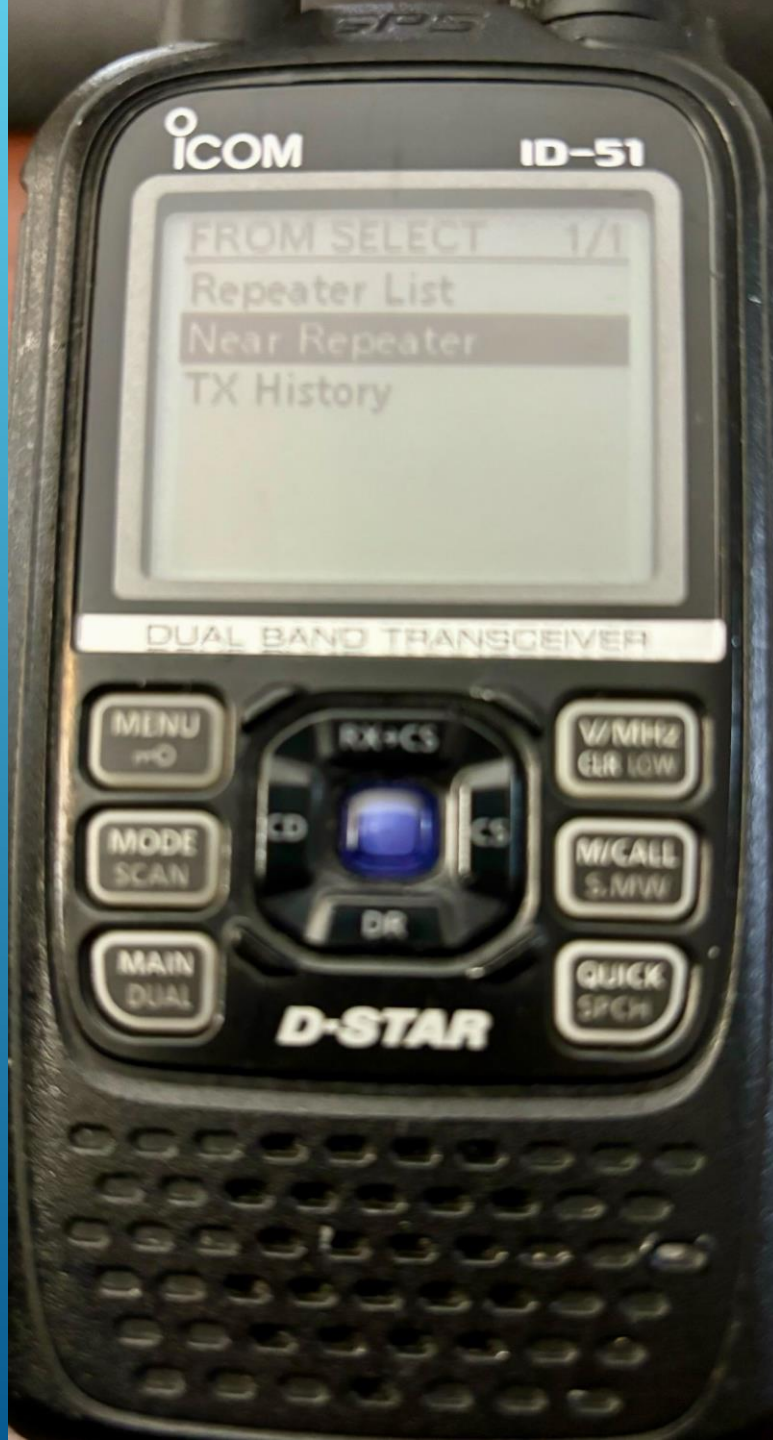


DR MODE



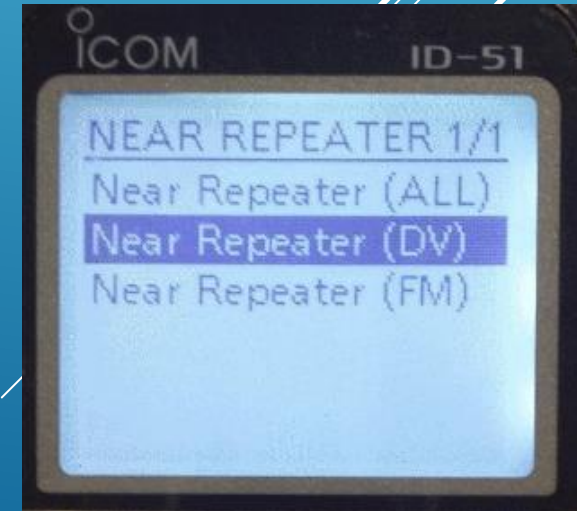
Using DR Mode

- 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





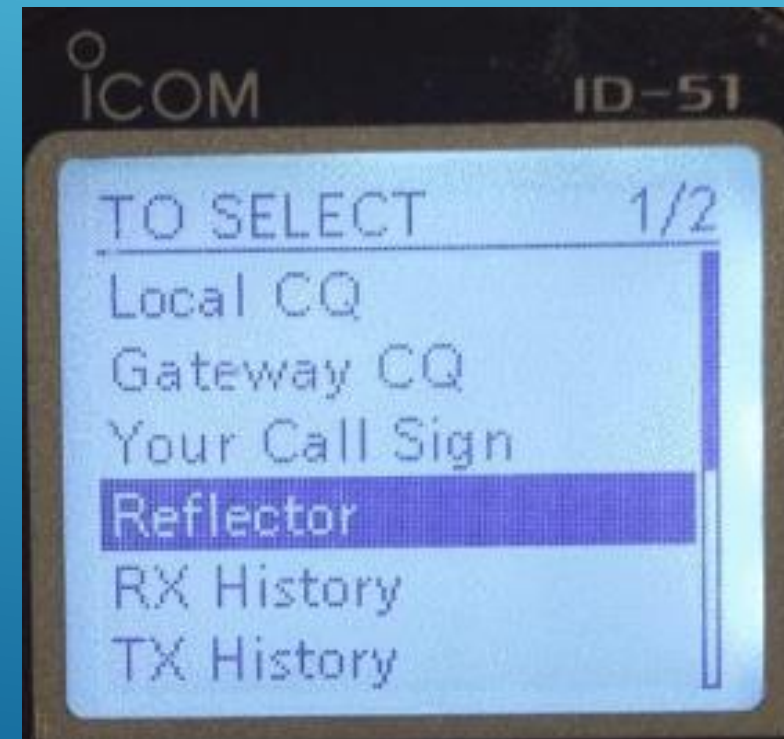
Selecting the Repeater

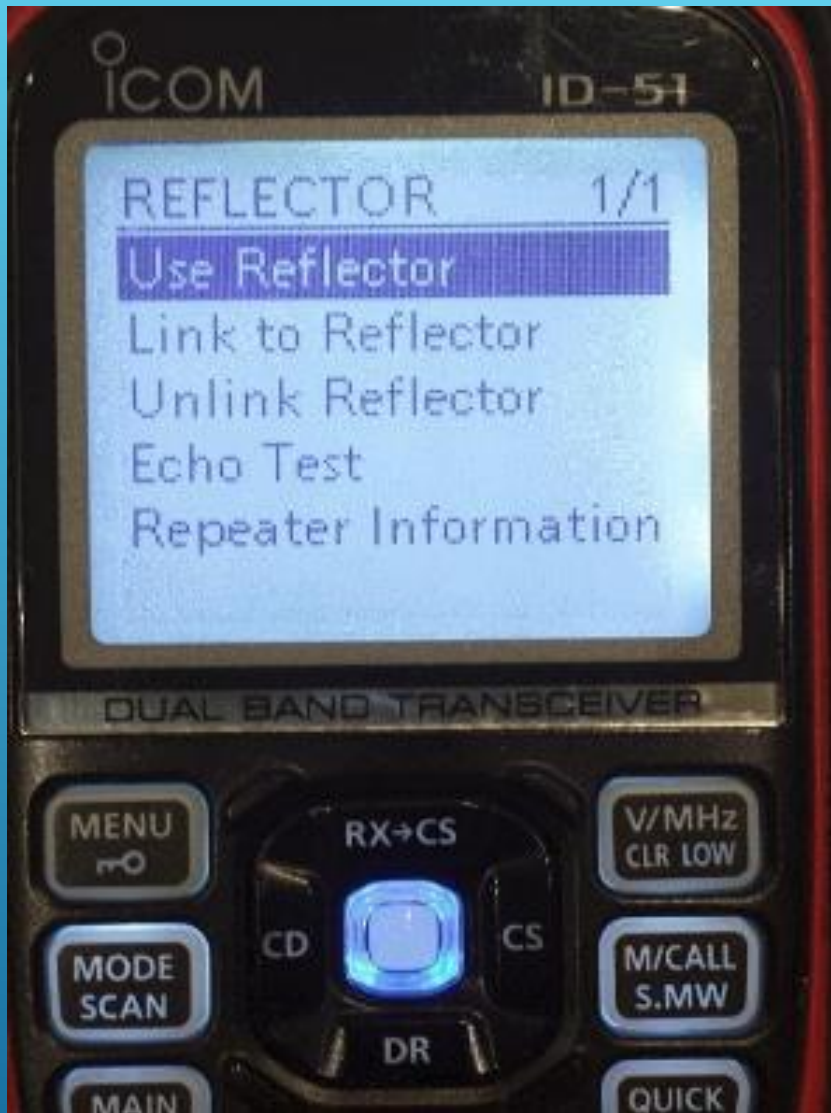
- Near Repeater – Select nearest repeater or scroll to your repeater choice
- Press blue again to select



What to Do (TO)

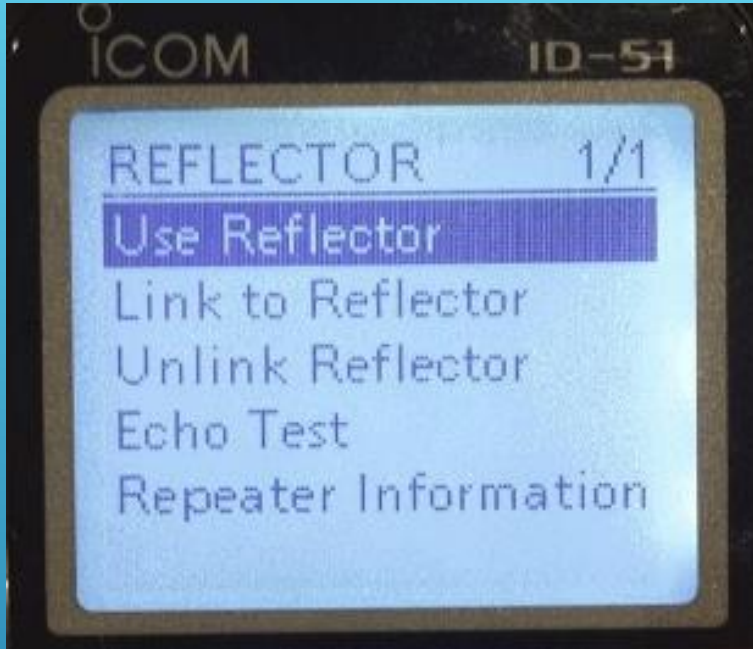
- Select TO field by pressing RX+CS button
- Most often, select Reflector





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



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>

HOTSPOTS



Pi-Star Digital Voice Dashboard for KA8SCP

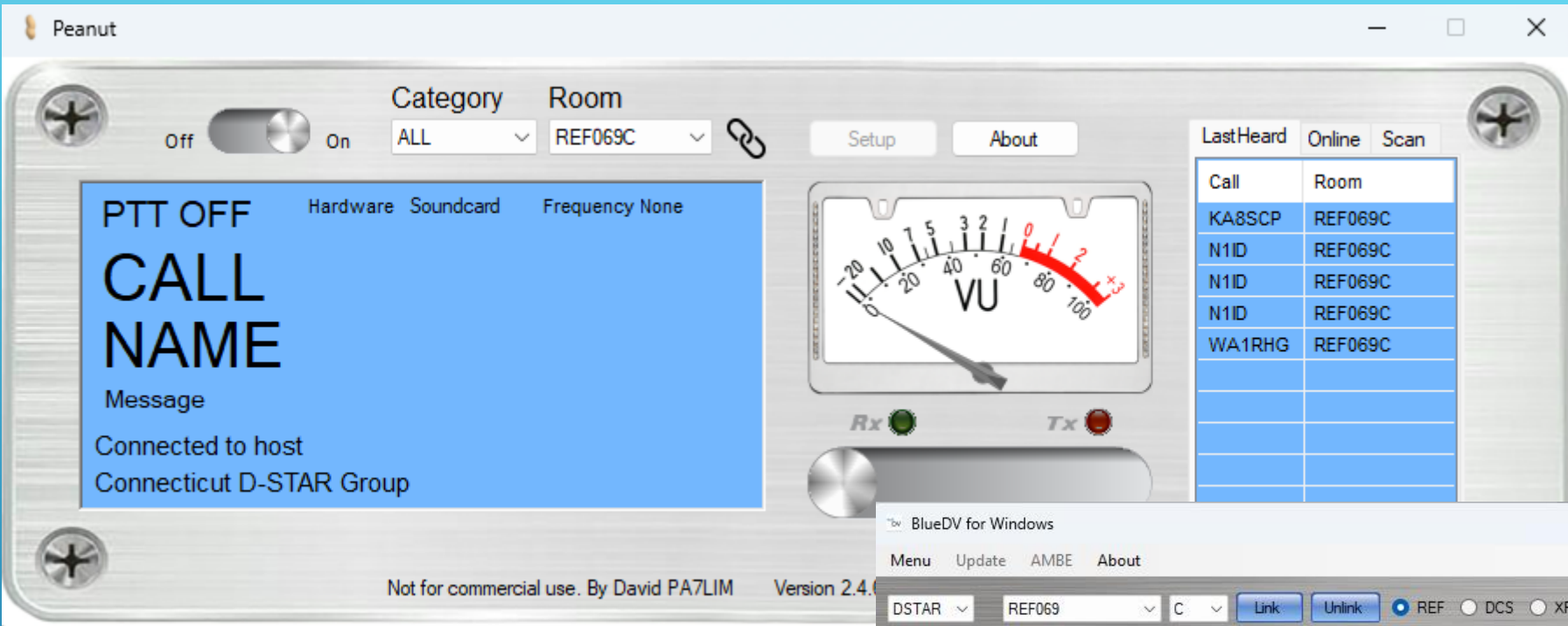
Dashboard | Admin | Configuration

Modes Enabled	
D-Star	DMR
M17	NXDN
P25	YSF
DMR X-Mode	YSF X-Mode
POCSAG	

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

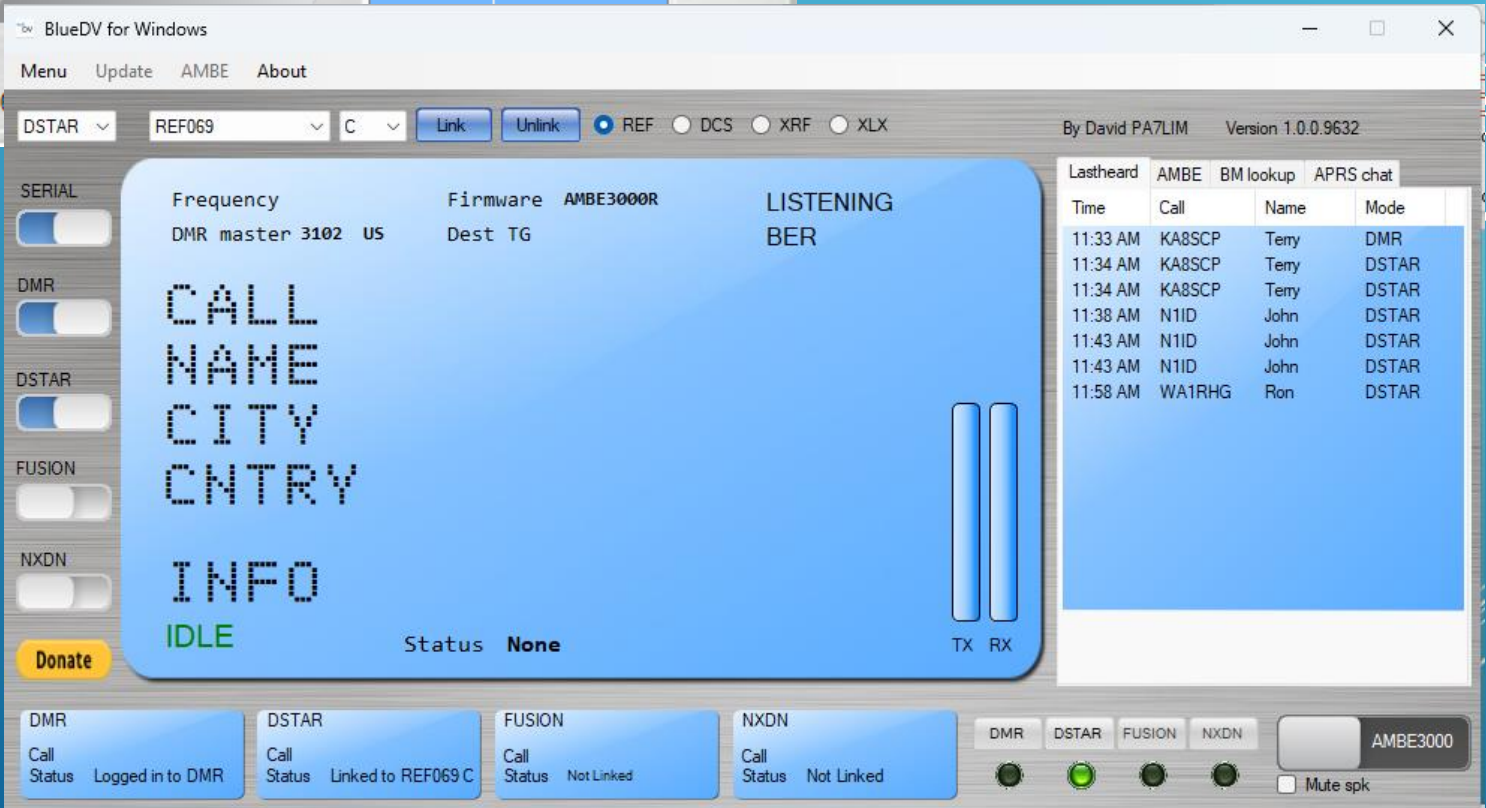
Gateway Activity

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%



<http://www.pa7lim.nl>

THE PEANUT & BLUE DV





DVMEGA

The Swiss army knife for
Digital Voice

DVMEGA DVstick 30

<https://www.dvmega.nl/dvstick30>



Costs: approximately
\$120-\$180



ZUM Radio ZUMspot-USB

<https://zumradio.com>

DV STICK & THUMB DV



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.
- You can log into -> <http://hf.dstar-relay.net> to find others that may want to join you.
- 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>



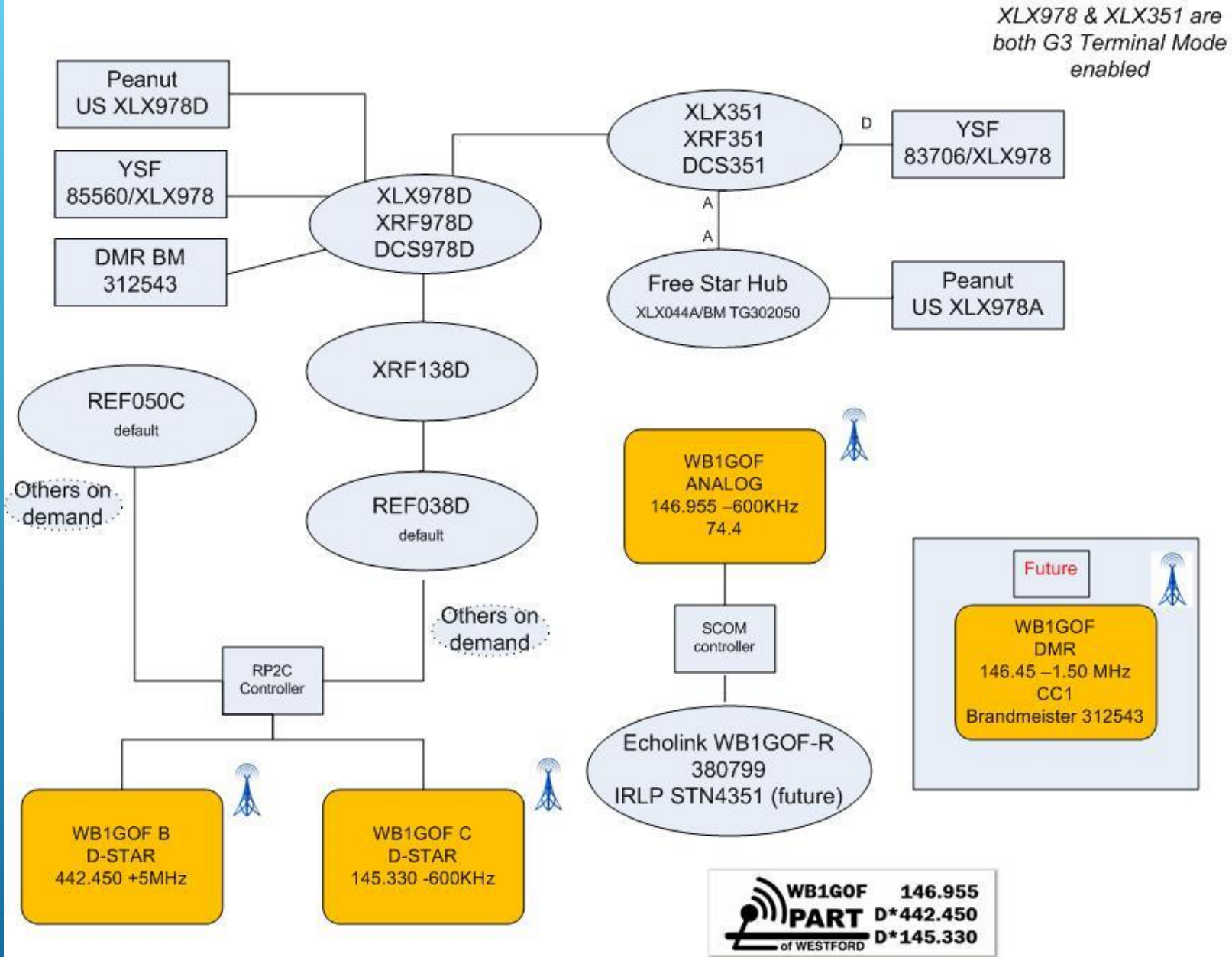
Also: Checkout the September issue of QST for a great article on “FREE DV”. It’s another way to operate HF Digital Radio!

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

SO MANY WAYS TO CONNECT



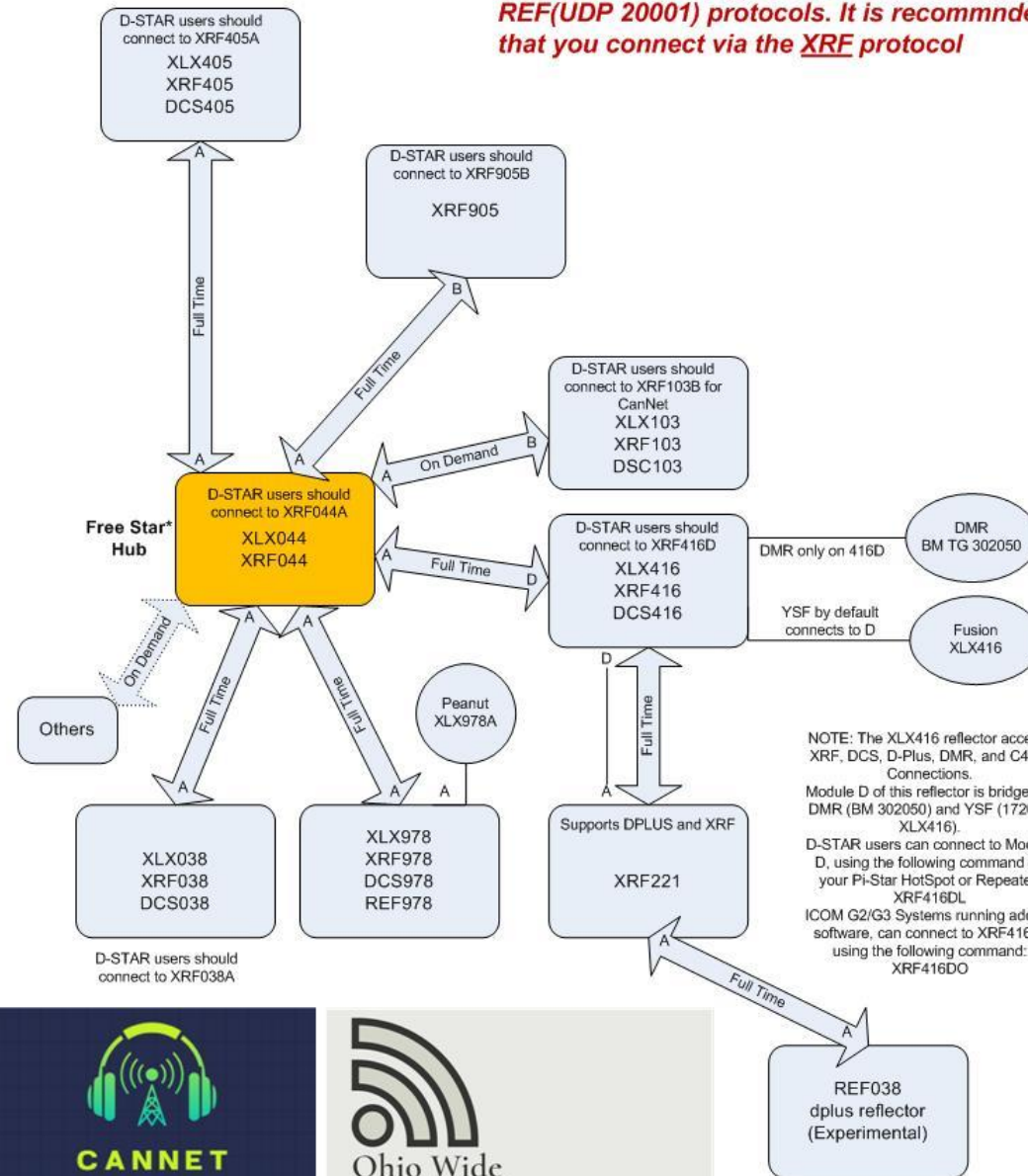
WB1GOF REPEATERS



WB1GOF Repeaters
Block Diagram

FREE-STAR* NETWORK

XLX reflectors are multi-protocol, i.e., means they support D-STAR connections to them via XRF(UDP 30001), DCS(UDP 30051) and REF(UDP 20001) protocols. It is recommended that you connect via the XRF protocol



The Free-Star* Network



As of 18 October 2023

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PRESENTER



Terry M. Stader - KA8SCP (KA8SCP@ARRL.net)

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

PART 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-KS1R-W1MRA-K1MRA-KB1SBJ-AF2A-TF3RPI

Reflector Admin: [REF038](#)-[REF039](#)-[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

D-Star Cab

FM Analog Cab

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

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

