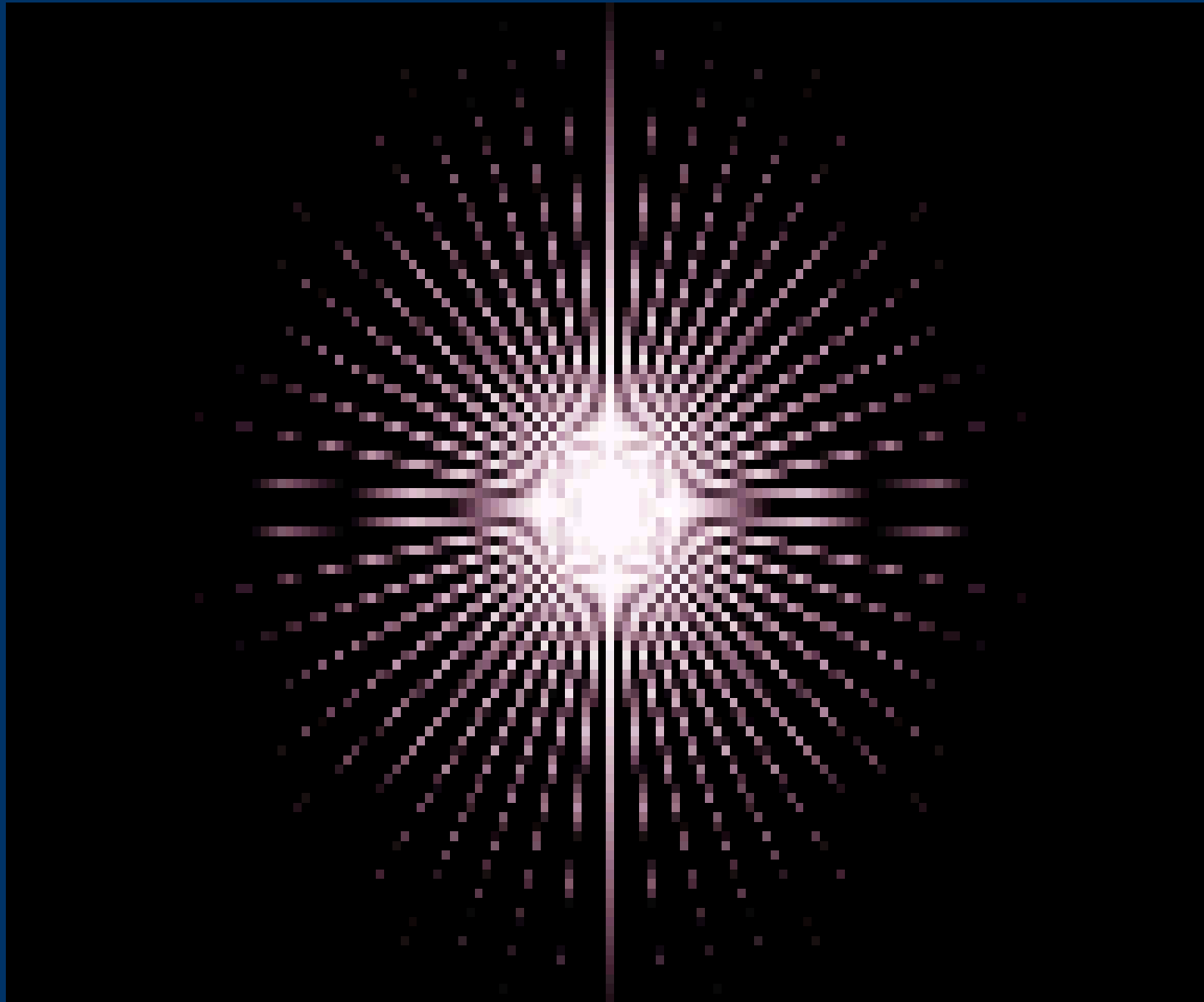


My Name and Call Sign

Leon Jurczyszyn

K8ZAG

DEE STAR



The D-STAR System



What is D-STAR?

D-STAR is a digital voice and data network for Amateur use.

- Developed by JARL
 - Marketed by ICOM in the USA
 - On air protocol is open and published by JARL
 - Dplus written by Robin Cutshaw, AA4RP
 - Digital from end to end
-
-

What can D-STAR do?

- High speed DD and DV (ID1)
- Low speed DD and DV (most users have these)
- Call Sign and Reflector Routing
- D-Plus - Enhanced Features
- DV Dongle & DV AP



In The Villages or...

Around the World!



DD and DV with ID1

DD is the high speed digital data mode.

- 128kbps
- TCP/IP capable - can run web browsers, etc.
- Global reach via the Gateway network
- Available on 1.2 GHz only

DV is a simultaneous voice/low speed mode.

- 4.8kbps total bitrate
 - Voice 2400bps with 1200bps FEC
 - Voice uses proprietary AMBE vocoder
 - Data channel supports D-PRS, text messaging and data transfer
 - Several third party applications make use of data channel, including "digital SSTV" and text chat
-
-

DD and DV Low Speed

- Most D-Star radios are in this bracket
- 70% DV and 30% DD in all transmissions
- Operate simplex, over repeaters, and over reflectors
- D-Rats available for all – no radio needed
- Connect to ‘ratflectors’
- Open for hobby and EmComm use



D-Plus - Enhanced Gateway

D-Plus, written by Robin AA4RC, adds another layer of functionality to the D-STAR system, including:

- Gateway linking
- Reflector linking
- Call Sign routing



Dongles & DV AP's

- DV Dongle connections
 - DV Dongle is a piece of hardware that connects to a USB port and provides the AMBE vocoder
 - Allows PC based users to connect to D-Plus enabled gateways and reflectors
 - Means of accessing D-STAR where no local gateway exists
- DV AP connections
 - DV AP is a piece of hardware that connects to a USB port and is a VHF simplex radio
 - Allows PC based users to connect to D-Plus enabled gateways and reflectors
 - Means of accessing D-STAR where no local gateway exists
 - Must be used with a D-Star transceiver

Talking D-STAR

*Overcoming one of the hardest obstacles
in Amateur Radio.*

Programming your radio (any radio)!

Setting Up the Radio

- In the Old Days...

- Frequency Setting

- Crystal (had to buy each channel)

- Thumbwheel (single frequency)

- Multiple Memories

- PL Support

- After market board with DIP switches

- Manufacturer supplied boards

- Built-in to radio

Do you Need an antenna? Of course





LEON, What's taking you so long ?



Radios Today

- Each manufacturer uses different methods to program
- Each radio is different with different menu structures
- Lots of channels are tedious to program and hard to edit
- Software makes it easier

Registration

Before your radio can access the DSTAR Gateway system, your Callsign must be registered with the System Administrator. This process assigns an 'internal' internet address and provides you Gateway access to any DSTAR Repeater that uses the Dallas Texas Trusted Server. The repeater directory at <http://www.dstarusers.org> has a Registration link for each system listed. Follow this link for Registration.

http://www.dstargateway.org/D-Star_Registration.html



Operating on FM Repeaters

- Memory name
- Frequency
- Offset (direction and amount)
- Tone (encode and/or decode) (CTCSS or DCS)
- Linkable?
 - IRLP
 - EchoLink

D-STAR Repeaters

- Memory name
- Frequency
- Offset (direction and amount)
- Mode
- Repeater Call Signs

D-STAR Call Sign Fields



URs is MYne and MYne is URs.

This has to be Polish logic.....

Basic D-STAR Programming

- Set Frequency
- Set Offset direction and amount
- Set Mode to DV
- Set your own call sign in MY field (set once)
- Place CQCQCQ in UR field
- Set repeater call sign in RPT1 and RPT2 fields
 - In last character (8th) of the RPT1, place module (B, C, etc.)
 - In last character (8th) of the RPT2, place “G”

Module Lettering Standards

- Supported worldwide, except Japan
 - 1.2 GHz Voice A
 - 440 MHz Voice B
 - 144 MHz Voice C

Sample – Basic Repeater

- Sample for KJ4BDF Repeater
440.725 MHz +5.0 MHz Offset

–MY WB4QDX

–UR CQCQCQ

–RPT1 KJ4BDF ■ B (*where I'm going in*)

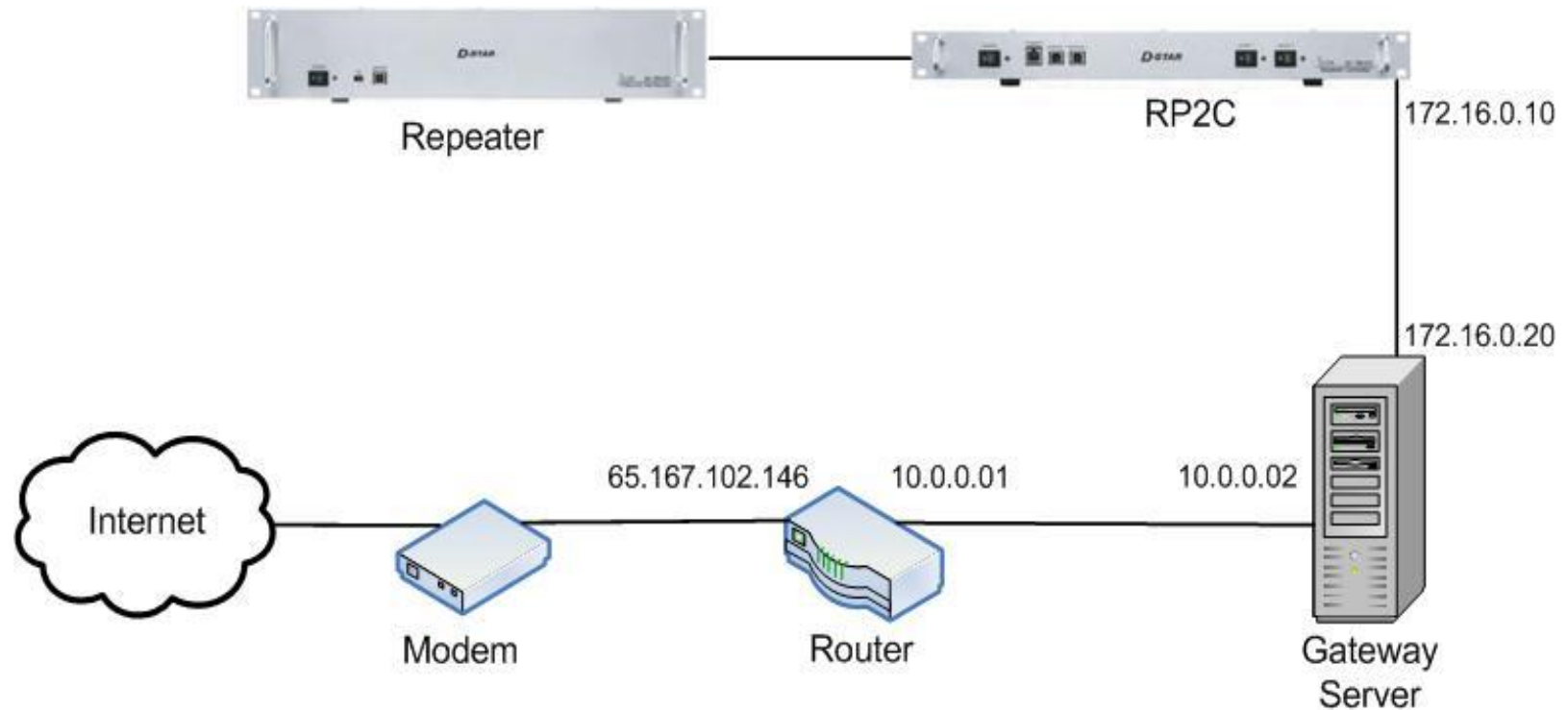
–RPT2 KJ4BDF ■ G (*where I want to go*)

- "■" represents a space

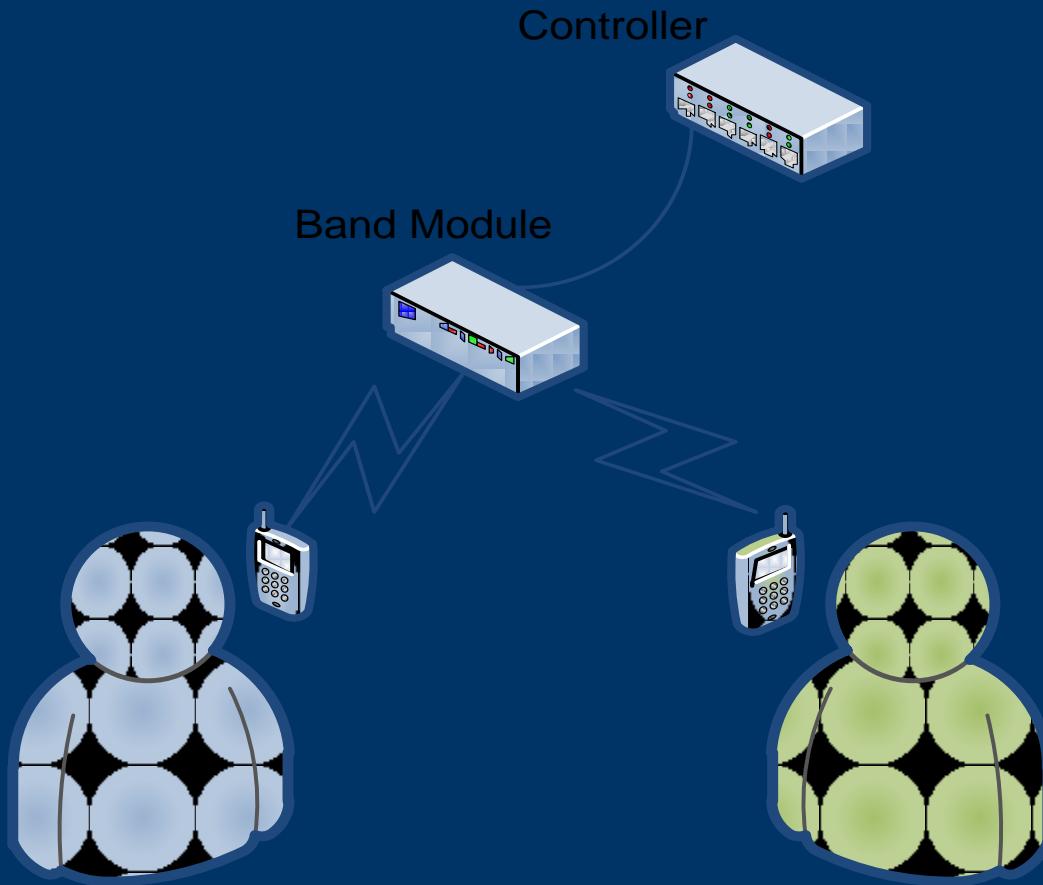
D-STAR Functions

Let's review what I can do

Gateway Configuration Diagram



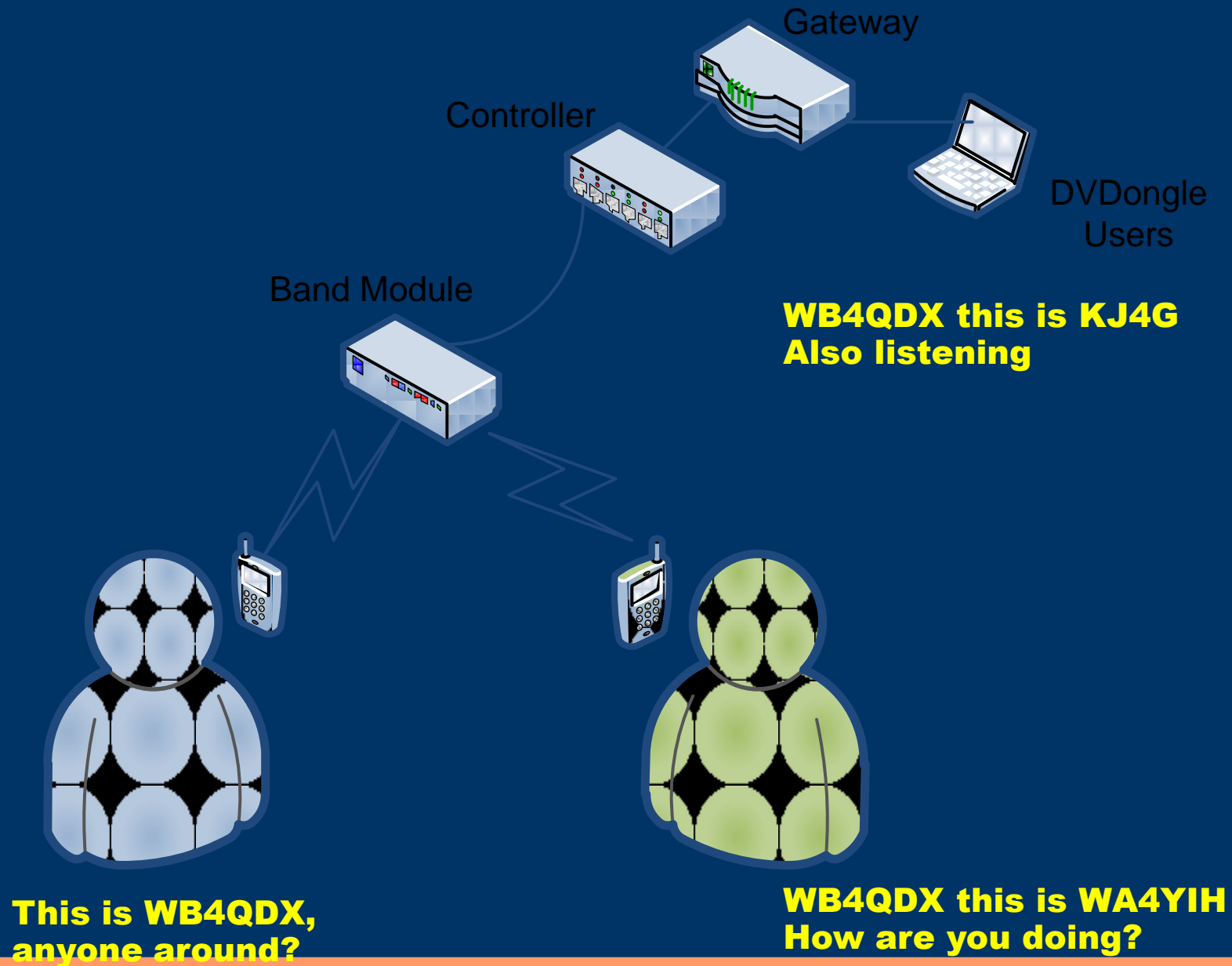
Local Repeater



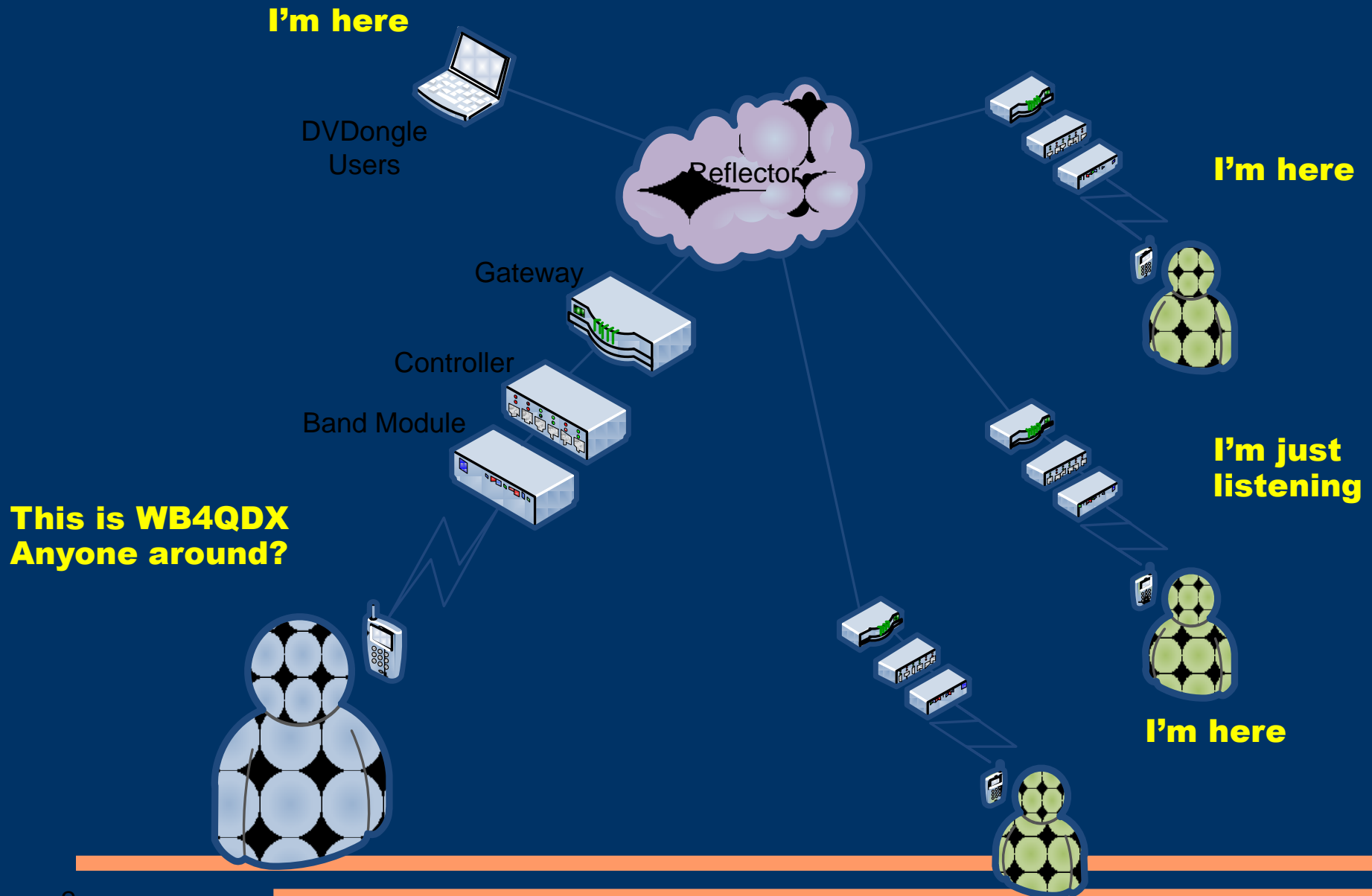
**This is WB4QDX,
anyone around?**

**WB4QDX this is WA4YIH
How are you doing?**

Local – with Gateway



Linked Repeaters



Area Repeaters Are Linked To Reflector 30C Most Of the Time

- Repeaters are located in The Villages, Tavares, and Ocala
 - The Villages & Tavares are UHF
 - Ocala is VHF
 - You can drive from Gainesville to Orlando with the D-Star radio scanning these repeaters and never miss out on the conversations.
-
-

Current EMCOMM Usage

D-STAR is already being utilised for SKYWARN/EMCOMM applications.

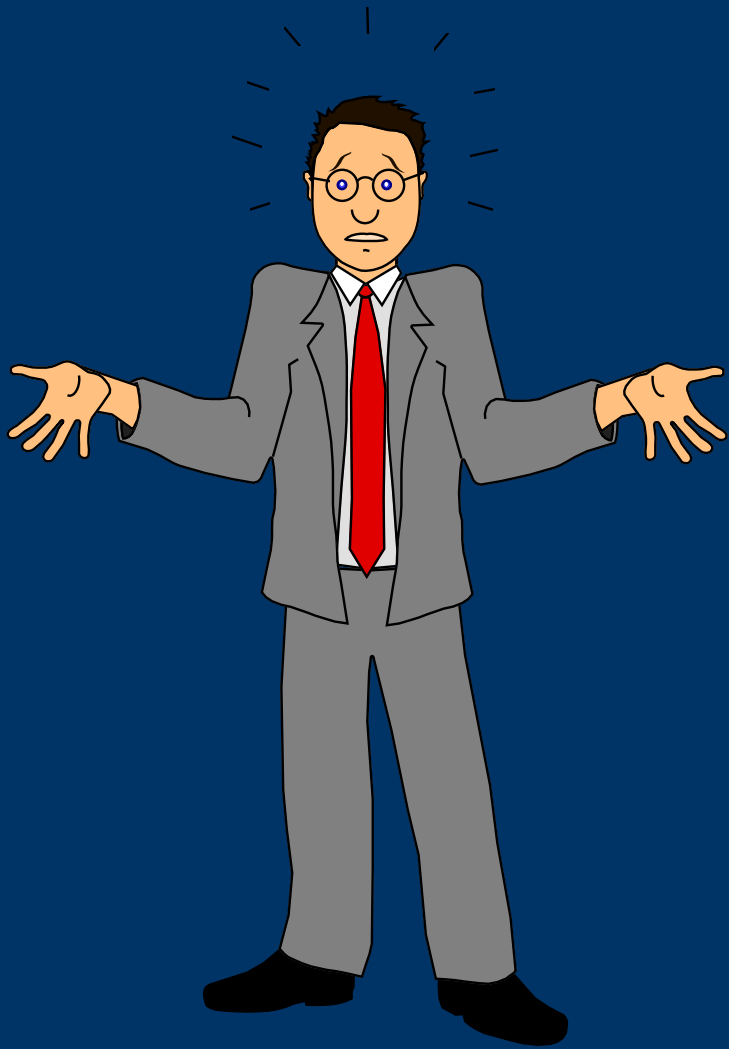
SE US has significant D-STAR infrastructure.

- SE Weather Net on REF002A at 9PM Sunday
 - Florida Hurricane Net on REF034A at 9PM Monday
 - CLFGSG Info & Training Net Thursday starting at 8PM on REF037C
 - REF037D and REF046D available for data transmissions for training and during emergencies
-
-

LEON.. Now what are doing ????



I'm playing with the DONGLE..



Keep it up and you will go blind

DV Dongle

DV Dongle - Mozilla Firefox 20:02:59

File Edit View History Bookmarks Tools Help

http://www.dvdongle.com/DV_Dongle/Home.html marek burns

DSTAR DIG DSTAR USERS Rufzeichen GW Status DPLUS MON QRZ NOAA CQoogle TDT XKCD G Maps GMAIL FOX Gville WX SW Lynx FireFTP Hot Links K5CTX

DOW 8,199.74 (-248.82 / 2.95%) NASDAQ 1,503.12 (-43.34 / 2.80%) S&P500 844.34 (-27.45 / 3.15%) TI 14.39 (-0.45 / 3.03%)

dstar_digital : D-Star * Digital Breaking News | Latest News | ... 7-Day Forecast for Latitude 31... D-StarUsers.org Your Source f... QRZ.COM Callsign N5KJN DV Dongle

[Home](#) [What's Included](#) [Installation](#) [Using the DV Dongle](#) [Technical Info](#) [FAQ](#)

DV Dongle



Welcome to DV Dongle Installation and Operation

UK: Thu 20:02 US Pacific: Thu 12:02 Hong Kong: Fri 04:02 GMT/UTC: Thu 20:02 Done

Start ThunderBrowse Start Pa... DV Dongle - Mozilla Fi... dstar - OpenOffice.org I... DVTool DV Dongle Tool Search Desktop 2:02 PM



DV Dongle

The dongle connects to a USB port on your computer and to uses software available at http://www.dvdongle.com/DV_Dongle/Home.html to connect your PC via Internet to DSTAR Repeaters or Reflectors. Add a Logitech or other headset and you can operate DSTAR in locations not served by a DSTAR repeater. You do have to register with a system administrator, just as you would with a radio, and the dongles are individually serial numbered. They are available from most Ham Stores for \$199.

Where Do You Obtain Dongle Software

From the Dongle Store ?

NO

www.dstarinfo.com





D-STAR INFO

INFORMATION, FAQs, AND MORE

Icom Test Banner

MADE WITH MYBANNERMAKER.COM

HOSTED BY JMGUR.COM

- Home
- FAQ
- Conferences
- D-STAR News
- Newsletters
- Applications
- Nets
- Reflectors
- Repeater Lists
- Calculator
- Contact Us

D-STAR Expanding...

Newest D-STAR Repeaters

Callsign	City	Country, State
KC5QGY	College Station	United States, Texas
K3AWS	Atlantic	United States, Pennsylvania
W9HSY	Madison	United States, Wisconsin
KD0IAN	Des Moines	United States, Iowa
VA7DIG	Kelowna	Canada, British Columbia
W4FWD	Carrollton	United States, Georgia
N5MNY	Many	United States, Louisiana
N5APB	Ruston	United States, Louisiana

Welcome

Welcome to D-STAR Info!

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

ID-31A/E - How To's

Check out some of the [How to's](#) for the new ID-31A/E. There's a number of










D-STAR SOFTWARE



DVDongle Software
DVTTool-2.0beta5 **New!**



Index of /tools

	<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>De</u>
	Parent Directory		-	
	CHANGELOG-DVTool.txt	10-Mar-2008 08:54	1.0K	
	CHANGELOG-dplus.txt	15-Feb-2012 09:15	20K	
	CHANGELOG-dshark.txt	28-Dec-2007 21:37	101	
	Connie.gpalette	01-Jan-2012 10:57	755	
	DPLUS_LATEST_IS_2.2h	11-Nov-2007 18:38	0	
	DSHARK_LATEST_IS_0_98	20-Dec-2007 23:50	0	
	DVAP-RS92-prog.JPG	18-Feb-2010 19:40	222K	
	DVAP-quickstart.txt	12-Feb-2010 23:22	4.9K	
	DVAPDongle.jpg	17-Jan-2010 10:52	358K	
	DVAPTechReference_101.pdf	08-Feb-2011 11:15	323K	
	DVAPTool-1.02-linux.tgz	28-Feb-2010 19:19	7.4M	
	DVAPTool-1.02-mac.tgz	28-Feb-2010 20:46	12M	
	DVAPTool-1.02.exe	28-Feb-2010 19:10	8.6M	
	DVDongle-manual-now-at-www.dvdongle.com	01-Feb-2008 11:09	0	
	DVDongle-manual.doc	02-Feb-2008 10:32	26K	
	DVDongle-manual.pdf	02-Feb-2008 10:32	8.6K	

	DVTool-2.0beta4-linux	30-Oct-2009	16:00	15M
	DVTool-2.0beta4-mac.tgz	17-Jun-2010	14:34	6.2M
	DVTool-2.0beta5-linux.tgz	01-Jan-2012	17:27	55M
	DVTool-2.0beta5-mac.dmg	01-Jan-2012	11:47	13M
	DVTool-dist-1.05.tgz	15-Jun-2008	11:17	465K
	DVTool-dist-1.05.zip	15-Jun-2008	11:17	467K
	DVTool-dist.zip	15-Jun-2008	11:17	467K
	DVTool-software-now-at-www.dvdongle.com	01-Feb-2008	11:10	0
	DVToolInstaller-2.0beta5.exe	01-Jan-2012	17:15	5.2M
	Default.gpalette	01-Jan-2012	10:58	755
	G2/	26-Sep-2010	22:27	-
	IPPortTestClient.bin	26-Aug-2009	13:23	2.3M
	dplay	29-Oct-2007	19:02	24K
	dshark	28-Dec-2007	21:34	37K
	dswatch	09-Jun-2007	13:58	34K
	dvap-on-the-bench.jpg	31-Jan-2010	11:25	57K
	dvservice.exe	31-Jan-2012	10:49	58K

DV Dongle

DV Dongle Tool 20:00:51

File Help

DV Dongle

DV Device: COM4 Close

Device Name: DV Dongle Serial Number: DV020284

DStar Connection DStar History Dstar Data Utilities Advanced Devices

Connect to Gateway REF005 Module: A

My Callsign: NU5D PIN: PTT Rx lock

My Message: Steve /K5CTX B TEXAS Mute off

MYCALL: URCALL: RPT1: RPT2:
G7MYI / ALAN **REF003AL** **REF005 A** **GB7MM G**

User Message: Bit Errors: 0 / 4

Stop

```
DVTool
Please check the DVdongle yahoo group for future software updates
Connecting to gateway REF030
state change 2 Connecting to REF030
Opened audio in device: Microphone (USB Audio CODEC ) frequency=8000
Opened audio out device: Speakers (VIA High Definition A frequency=8000
notifyIn 1000
notifyOut 1000
audio out state changed to 0
audio in state changed to 0
Audio devices started ips=640 ops=640
Audio input state=0
Audio output state=0
state change 4 Authenticating...
login OK, transmit permitted
state change 6 Connected
Login succeeded, transmit permitted
Ascp device started
Remote system reported 1042 packets transmitted on stream 41bc
new stream my (K3DCC /DNGL) ur (CQCQCQ ) r1 (KK4DFC G) r2 (REF030 C) on gatew
ay (REF030) module C
User message ->Jim in Albuquerque
end stream my (K3DCC )
Remote system reported 222 packets transmitted on stream 816d
```

I&R Block
2011

DVTool 2.0beta5

File Help

DVTool

My Callsign: My Message:

DV Device: Name: DV Dongle
Serial #: DV083183

Connection | Info | History | Data | Utilities | Setup

Module:

Favorites

MyCall | **UrCall** | **RPT1** | **RPT2**

User Message:

Bit Errors:

Gateway **REF030** TX Call mic level:

mute PTT lock

HD VDeck RealPlayer PhotoSuite



HOME NETWORK HURDLE

If you have a home NETWORK you may have to configure the Cable /DSL modem and the Router to allow the DONGLE to work.



Want to Listen TO D-Star FREE

<http://WWW.radioreference.com/apps/audio/?feed=1647>

dstar_digital Yahoo Group

bossnaross · bossnarod@gmail.com | group owner → [Edit Membership](#) [Start a Group](#) | [My Groups](#)

dstar_digital · D-Star * Digital

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 - Spam? [\[Delete\]](#)
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 - Pending
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Group Information

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Home

Activity within 7 days: **21** New Members - **41** New Messages - **1** New File

Description [\(Edit\)](#)

An International discussion group for D-STAR Digital Amateur Radio. Mobile and Portable Radios, Repeaters, Gateways, Internet, Setup, Cloning Software, ICF files, Activities, Experimentation, Data Comm, Homebrew, Alternative sources, and anything to do with DSTAR worldwide.

Keep posts civil and in the spirit of amateur radio, no-spam, flames, personal attacks or profanity. Make this list useful as a resource for all D-STAR users or folks wanting to learn more about this fast moving mode of ham radio. Posts are moderated to prevent spam. Cross posts from other lists are discouraged except under unusual circumstances and then only with the originator's consent. Help maintain a useful signal to noise ratio in your posts.

Keywords: DSTAR, D-STAR, Digital Voice, Dongle, High Speed Digital Data, EMCOM, Repeater, DV, DD, D*CHAT, D-TERM, DCHAT, JARL, DPRS, OFDM, GMSK, GPS, VOCODER, CODEC, HSMM, TCPIP, UDP, MDT, Mobile Data Terminal, Peer to Peer Network, Internet Gateway, G2, Icom, Kenwood, Trusted Server, ID-800H, IC-91AD, IC-92, IC-2820, IC-2200H, ID-1, IC-V82, IC-U82, ID-RP2000V, ID-RP-4000V, IC-RP2V/2D, ID-RP2 UT-118, UT-123. Digital Smart Technologies for Amateur Radio.



UK: Thu 20:55 | US Pacific: Thu 12:55 | Hong Kong: Fri 04:55 | GMT/UTC: Thu 20:55 | Done | Scripts Partially Allowed | <SCRIPT>: 27 | <OBJECT>: 0 | S&P500 844.34 (-27.45 / 3.15%) | Adblock

Start | [dstar-uk] Re: D-Star 28... | dstar_digital : D-Star ... | dstar - OpenOffice.org I... | DVTool | DV Dongle Tool | Search Desktop | 2:55 PM

Questions?

Afraid To Ask ????

Well I'm Afraid You Will !!!!

ASK *any* way!



THAT'S ALL FOLKS !

