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 transciever
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.
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
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     KJ4BDFB (where I’m going in)
– RPT2     KJ4BDFG (where I want to go)

• "▪" represents a space
D-STAR Functions

Let’s review what I can do
Gateway Configuration Diagram

Internet

Modem

Router

65.167.102.146
10.0.0.01
10.0.0.02

Gateway Server

172.16.0.10
172.16.0.20
Local Repeater

Controller

Band Module

This is WB4QDX, anyone around?

WB4QDX this is WA4YIH
How are you doing?
Local – with Gateway

This is WB4QDX, anyone around?

WB4QDX this is WA4YIH
How are you doing?

WB4QDX this is KJ4G
Also listening

Gateway
Controller
Band Module
DVDongle
Users
Linked Repeaters

This is WB4QDX
Anyone around?

I'm here

Gateway

Controller

Band Module

DVDongle

Users

I'm here

I'm just listening

I'm here
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
Welcome to DV Dongle Installation and Operation
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](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
Welcome

Welcome to D-STAR Info!

This site is dedicated to helping D-STAR users worldwide. 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

DVAP Software
DVAPTool 1.02

DVTool-2.0beta5 New!

D-V Dongle Software

D-RATS Software
D-RATS 0.3.3
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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/?feeId=1647
Stay up to speed on the latest Groups news and updates, visit the Groups blog today!

Home

Activity within 7 days:

- 21 New Members
- 41 New Messages
- 1 New File

Description (Edit)


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.

Questions?

Afraid To Ask ????

Well I’m Afraid You Will  !!!!

ASK any way!
THAT’S ALL FOLKS !