


D-STAR Digital Voice + Digital Data
DV + DD



MIC → AMP → CODEC → Transmitter → I/O CW
SP ← CODEC ← AMP ← MIC

D-Star Day 2012

Protocol Basics
The DV Dongle
The DV Access Point Dongle

Robin Cutshaw – AA4RC

One 20ms D-STAR frame

Frame=2

V=011110011011000101001100000100
01011001000101100011111100100001
1000010111

D=001000100111000010001011

22 70 8b

Data: 0x34:41:42 |4AB|

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Header:



Flag1: 0x40 01000000

Flag2: 0x00 00000000

Flag3: 0x00 00000000

RPT2: 0x57:34:44:4f:43:20:20:47 |W4DOC G|

RPT1: 0x57:34:44:4f:43:20:20:42 |W4DOC B|

YOUR: 0x43:51:43:51:43:51:20:20 |CQCQCQ |

MY : 0x41:41:34:52:43:20:20:20 |AA4RC |

MY+ : 0x41:54:4c:20 |ATL |

PFCS: 0x61df (GOOD)

D-STAR

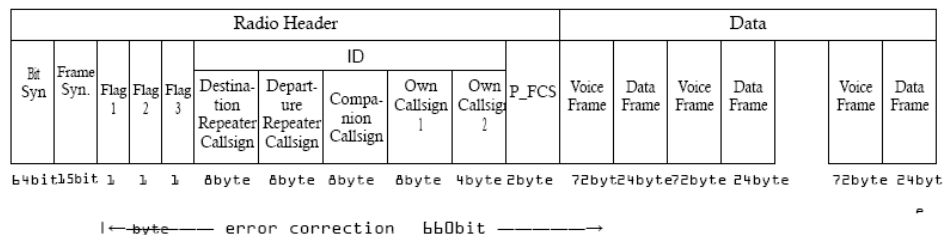
Digital Voice + Digital Data

DV + DD

MIC
SP

D-Star Voice/Data Packet Format

2.1.2 Frame structure of voice packet



D-STAR

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DPLUS

D-Star Swiss Army Knife for Gateways

Echo Test
Repeater ID
Simulcast to all Modules
Script Execution
Record Voice/Data Files
Text Message Playback

Linking Repeaters
Reflectors
DV Dongles



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DV Dongle



- D-Star from your PC/Mac without a radio

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DV+DD

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SP ← CODEC ← AMP ← MIC

The image features a blue and white background with a futuristic, glowing effect. At the top left, the text "D-STAR" is written in a bold, italicized font. To its right, the text "Digital Voice + Digital Data" is displayed in a smaller font. Further right, the large, stylized letters "DV+DD" are prominently shown. Below the text, there is a block diagram of a radio system. The diagram shows a microphone (MIC) connected to an amplifier (AMP), which is connected to a CODEC. The CODEC is connected to a Transmitter, which is connected to an I/R CW (Intercom/Receive/Transmit) switch. A speaker (SP) is connected to the CODEC. In the background, a laptop screen displays a software interface with various graphs and data.

DVTool Demo

D-STAR

Digital Voice + Digital Data

DV + DD



DV Access Point Dongle



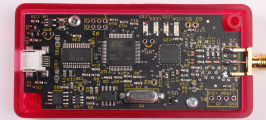
Take D-Star with you!

D-STAR

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DV Access Point Dongle

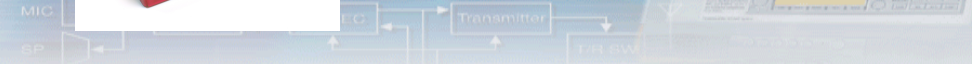


- D-Star from your PC/Mac WITH a radio

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2 meter transceiver
10mw for 100 yards/meters range
requires USB port, Internet, D-Star radio
Windows / Mac OS / Linux

D-STAR Digital Voice + Digital Data
DV+DD

MIC → AMP → CODEC → Transmitter → T/R SW

SP ← CODEC ← AMP ← MIC

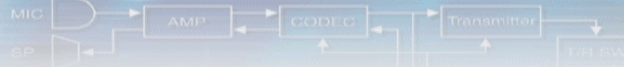
The diagram shows a signal flow from a microphone (MIC) through an amplifier (AMP) to a CODEC, which then connects to a Transmitter. A Transceiver (T/R SW) is also shown. A feedback path goes from the CODEC back to the AMP and then to a speaker (SP). A laptop in the background displays a software interface with various controls and a frequency display showing 129.4000.

DVAPTool Demo

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Digital Voice + Digital Data

DV + DD



**Enhancements
Enhancements
Enhancements**

D-STAR

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DVTool

Software for the DV Dongle

Autoreconnect on connection drop

Command line options:

default gateway/ref

auto open dongle

auto connect to gateway/ref

Notify name server on connect

Handle dummy DNS returns

Add multiple name server support

Fix DVTool file handling

Add DVRec file support

Add audio input meter

Add AMBE socket functionality

Fix D-Rats to RF issue

Add WAVE file processing

Provide for connections to other devices (dongles, dvaps, hotspots)

D-STAR

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DVAPTool

Software for the DV Access Point Dongle

Autoreconnect on connection drop

Command line options:

default gateway/ref

auto open dongle

auto connect to gateway/ref

Notify name server on connect

Handle dummy DNS returns

Add multiple name server support

Add GPS socket for DPRS support

Provide for connections to other devices (dongles, dvaps, hotspots)

D-STAR


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DPLUS/DREFD

D-Star Swiss Army Knife for Gateways

- Remove dependency on G2 with new syncing mechanism
- Remove rescan of G2 database files
- Add cross module linking (GW only)
- Add multiple module linking to same target gateway/ref module
- Add relink on connection drop functionality (ala Monlink) (GW only)
- Optimize timeout on dropped links



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DV+DD

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SP ← CODEC ← AMP ← MIC

The image features a blue and white abstract background with light trails. At the top left is the 'D-STAR' logo. To its right is the text 'Digital Voice + Digital Data' and a large 'DV+DD' logo. Below the text is a block diagram showing the signal flow: MIC and SP inputs go to an AMP, which connects to a CODEC. The CODEC is bidirectional with the AMP and also connects to a Transmitter. The Transmitter outputs to an I/O CPU. In the background, a laptop screen displays a software interface with various controls and a frequency display showing '129.4000'.

Questions & Answers