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INTRODUCTION TO D-STAR

What is D-STAR?

- D-STAR is an <u>open</u> standard for digital voice and data on Amateur Radio
- Developed by Japan Amateur Radio League (JARL)
- Uses AMBE vocoder chip from DVSI
- Icom is first manufacturer with base, mobile, handhelds and repeater equipment
- Other vendors offering other products

How does D-STAR work?

- Voice is converted to digital modulation and transmitted at 4800 bps
  - 2400 bits for voice
  - 1200 bits for Forward Error Correction on voice
  - 1200 bits for data (error correction usually in applications
- Voice and data occupy one 6.25 KHz signal (versus 12.5 KHz FM voice, P25 and MotoTRBO)
- Can operate simplex, repeater or linked to other repeater(s)

What can D-STAR Do?

- Transmit or receive voice and 1200 baud data simultaneously on 2m, 440 and 1.2 GHz (no TNC required)

- 128 Kb data transmission on 1.2 GHz with Internet connectivity (Ethernet bridge to Internet with IP address)

- D-PRS (digital APRS) automatic position reporting simultaneous with voice with GPS

- Flexible repeater linking with Gateway and Internet connection

- Reflectors act as conference bridge for linking multiple repeaters (53 now in operation worldwide)

- DV Dongle, DV Access Point (DVAP) and DV Node Adapters allow voice and data access to D-STAR via Internet connection (similar to EchoLink)
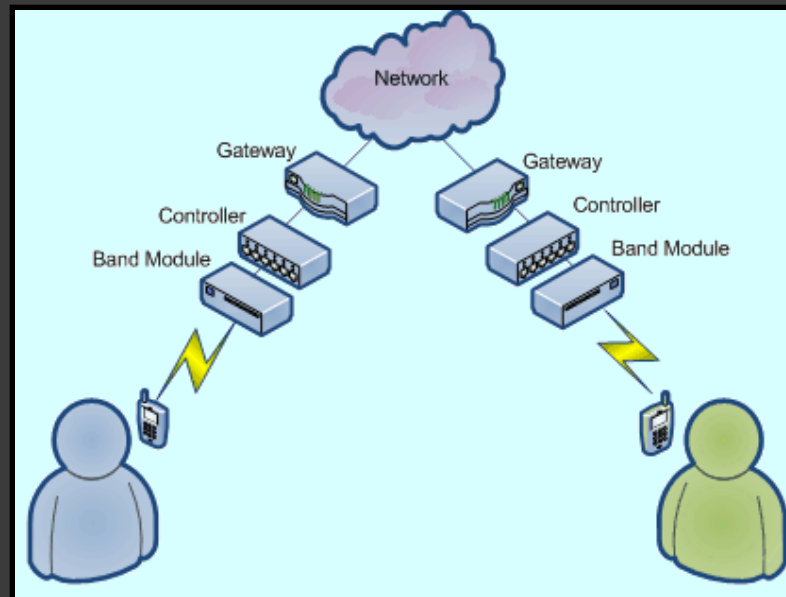
D-STAR Continues to Grow

- *As of May 13, 2012 - 939 Gateways, 1,972 Repeaters and 22,695 registered users*
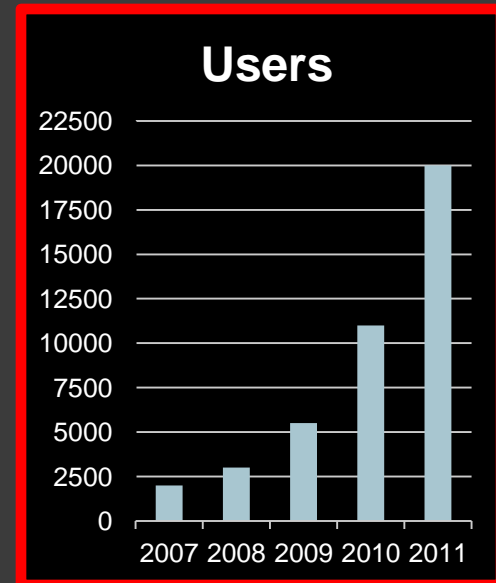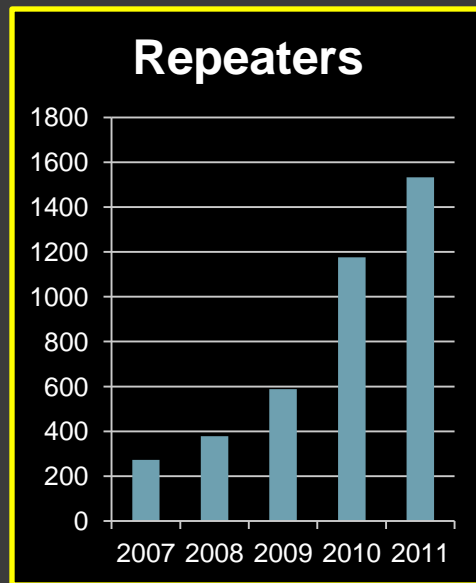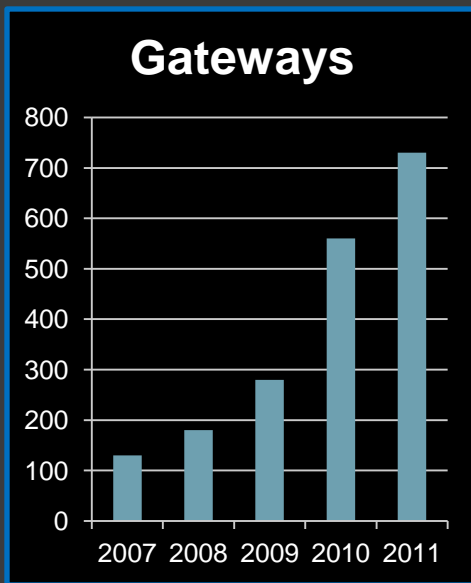
D-STAR Linked QSO

I'm near Lawrenceville, GA. I'm talking on WD4STR (port B) as well as the K4WAK repeater (port B) and my radio is set to

440.55000 +5.000 Mhz

I'm near Tallahassee FL and I'm listening to the K4WAK repeater and my radio is set to

443.95000 +5.000 Mhz

User on Repeater 1 LINKS to USER on Repeater 2

D-STAR Reflectors and Nets

- 53 reflectors available worldwide to act as "conference bridges" linking multiple repeaters, Dongle and DVAP users

- Each reflector has three separate modules for four separate "bridges" (A, B, C, D) and echo function (E)

- Regional, national and international nets established with reflectors

- Linking repeaters to reflectors allows local users to participate with no special programming

- View repeaters/Dongle users connected to reflectors (http://*refnumber*.dstargateway.org/status.html)

- Complete Net listing on www.DSTARinfo.com/reflectors