

John Davis

WB4QDX

Georgia D-STAR

HIGH SPEED DATA ON D-STAR

1.2 GHz Basics

- 23cm band – 1240 to 1300 MHz
- Band plan allows multiple bandwidths
- Previously used by ATV, crossband links, some repeaters
- Much more line-of-sight
- Affected by obstructions
- Limited propagation and range
- Free space loss comparison @ 5 miles
 - 146 MHz 93.9 dB
 - 445 MHz 103.5 dB
 - 1275 MHz 112.7 dB

D-STAR's 1.2 GHz Radio



- Icom ID-1
- Operates FM Voice or GMSK (D-STAR) modes
- D-STAR modes include voice, low speed data (1200 bps) or high speed data (128 kbps)
- 10W transmit output

ID-1 High Speed Data Mode

- ⦿ Radio acts as Ethernet wireless bridge
- ⦿ Has RJ-45 Ethernet connector for HS data
- ⦿ Can be used for Internet connectivity through D-STAR repeater with DD module
- ⦿ Can be used to create wireless bridge between two points
- ⦿ When communicating through DD repeater, know assigned IP address (10.x.x.x)

Uses for High Speed Data

- Internet connectivity
- Transmission of files, photos
- Setup wireless network between points



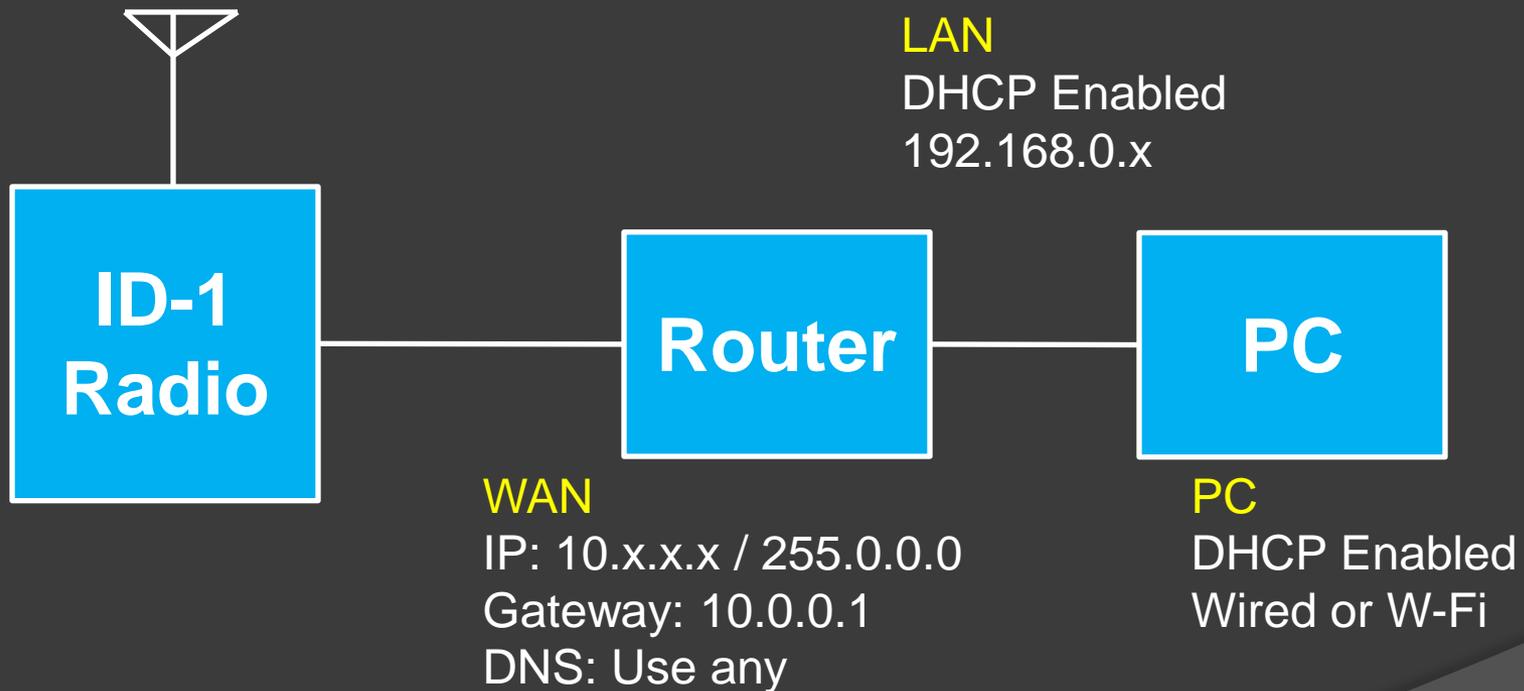
Setting Up the ID-1

- Using the programming software is recommended (USB port)
- Voice channels and memories are setup just like on 2m and 70cm (MY, UR, RPT1, RPT2)
- Mode is DV
- Low speed data uses USB connection from PC with assigned COM port

High Speed Data – DD Mode

- ⦿ Ethernet connection to PC
- ⦿ PC must use assigned IP address assigned at registration (10.x.x.x)
- ⦿ Gateway is 10.0.0.1
- ⦿ Use known DNS addresses
- ⦿ ...or the easy way is to insert a router between ID-1 and PC and use DHCP!

Setup With Router



What is RPS?

- RPS is the mode is used for high speed data.
- Channel or memory is programmed:
 - Frequency: 1298.0000
 - Mode: DD
 - RP (Shift): RPS
 - UR: WD4STR
 - RPT1: WD4STR A
 - RPT2: WD4STR G

Scott Hartlage

KF4PWI

Georgia D-STAR

AERIAL PHOTOS ON D-STAR

Real Time Aerial Photos

⦿ What's Needed

- Icom ID-1
- D-Star 1.2 GHz DD repeater (distance dependent on altitude)
- Suitable digital camera
- GPS Unit
- Airplane with 1.2 GHz antenna attached
- Pilot (not optional)

What Do You Do?

- ⦿ Take picture
- ⦿ Insert GPS data into meta data
- ⦿ Upload photo to Picasa on Internet using ID-1
- ⦿ View picture on Picasa website
- ⦿ D-RATS chat session can be used for communications with ground

Operator's Position



Picasa Website of Pictures

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https://picasaweb.google.com/kf4pwi/ARESETFalcon?authkey=Gv1sRgCMany5HWzO_VoQE#

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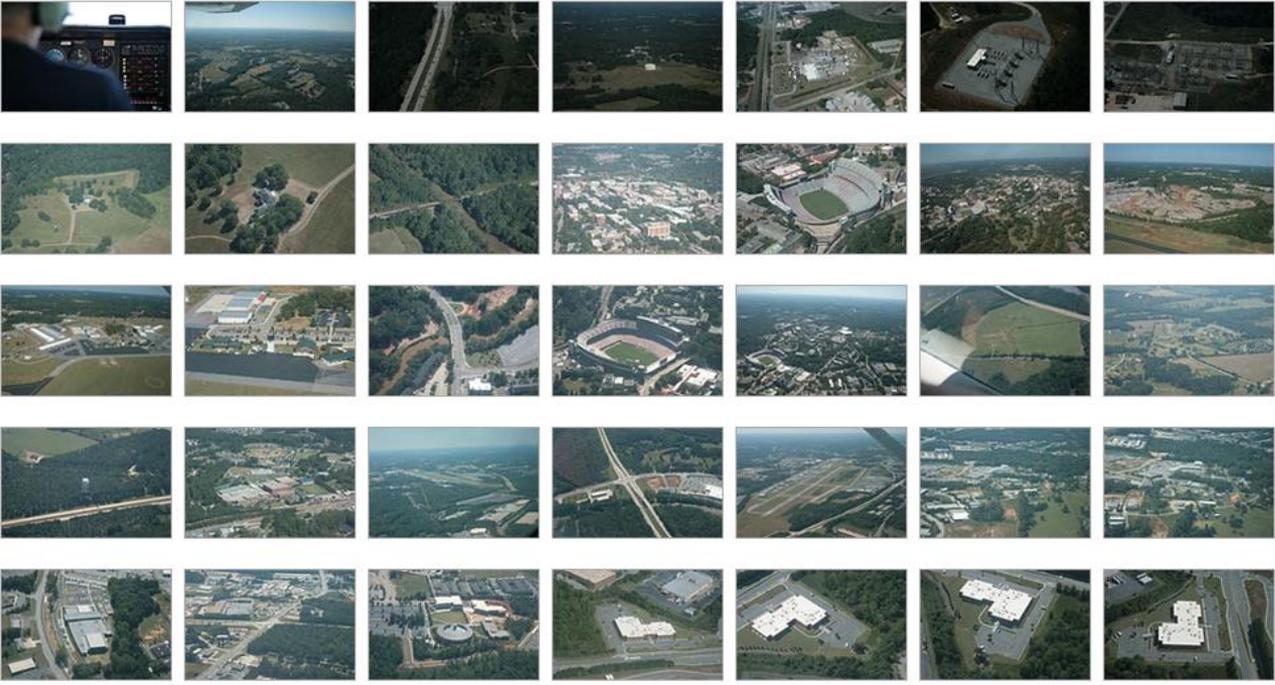
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Show photo locations to viewers of this album
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https://picasaweb.google.com/kf4pwi/ARESETFalcon?authkey=Gv1sRgCMany5HWzO_VoQE#5525817357925670370

Pictures Display on Google Maps

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https://picasaweb.google.com/albumMap?uname=kf4pwi&aid=5525816549376128641&authkey=Gv1sRgCMany5HWzO_VoQE#map

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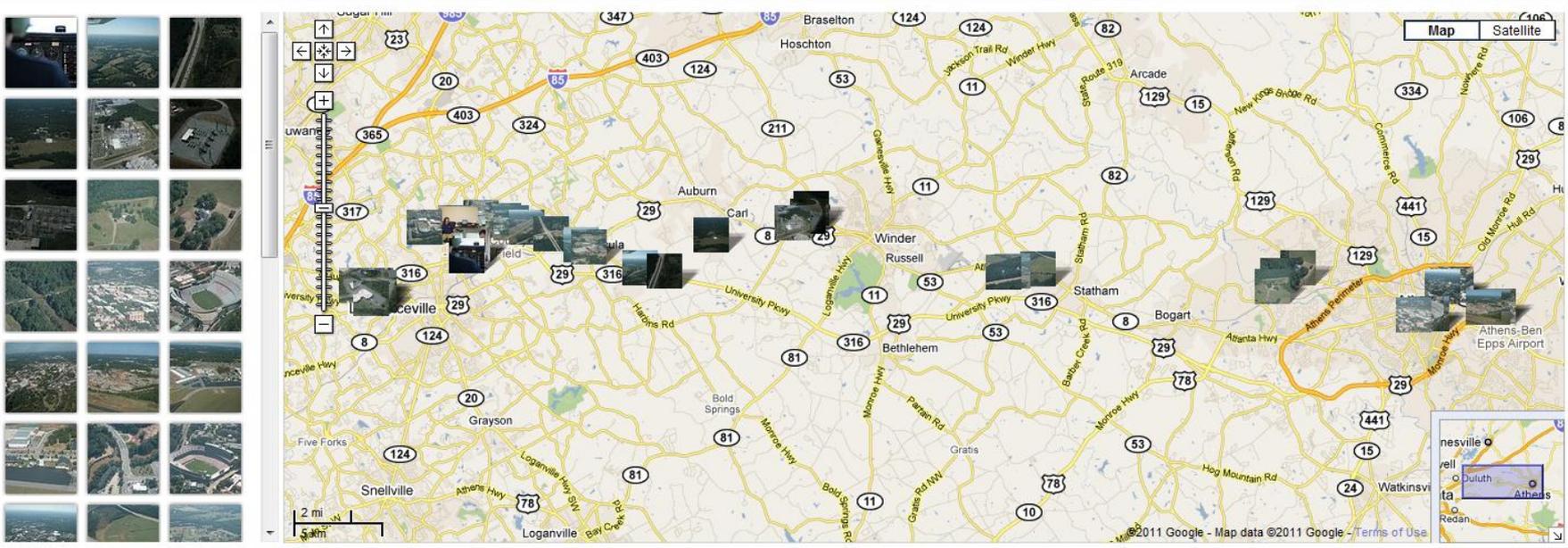
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Click on picture to see on map.

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View in Google Earth

Map Satellite (281)

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IMG_7762.JPG 33.944304° N 83.378489° W View full size

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Google Satellite view for before damage assessment.

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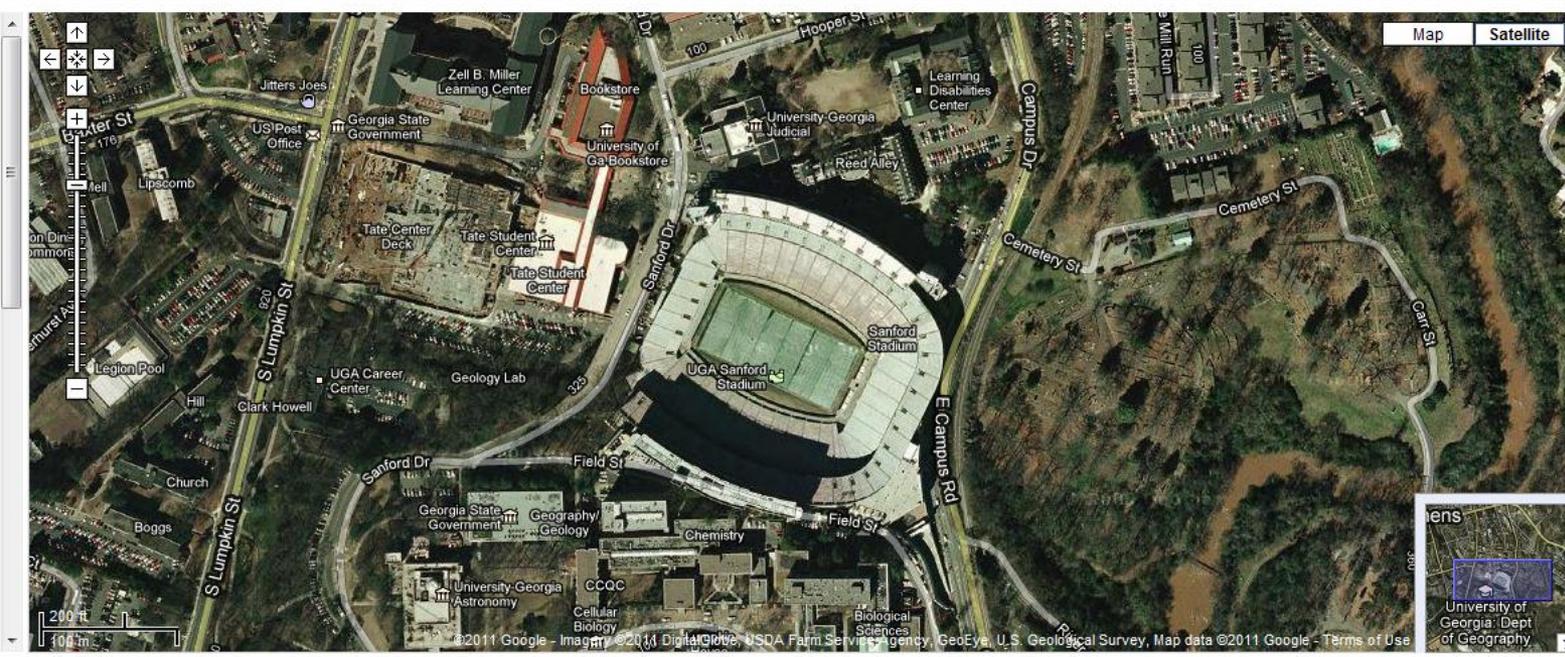
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Map Satellite

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Done

The image shows a Google Satellite view of the University of Georgia campus. The main view is a satellite image with various buildings and streets labeled. Key locations include the Sanford Stadium, UGA Career Center, Geology Lab, and several student centers. A grid of thumbnail images is visible on the left side of the page. The browser interface includes the address bar, search bar, and various navigation and utility icons. The page footer contains copyright information for 2010 and 2011, and a status bar at the bottom indicates 'Protected Mode: On' and '100%' zoom level.

Questions?