D-Star Made Easy

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D-Star

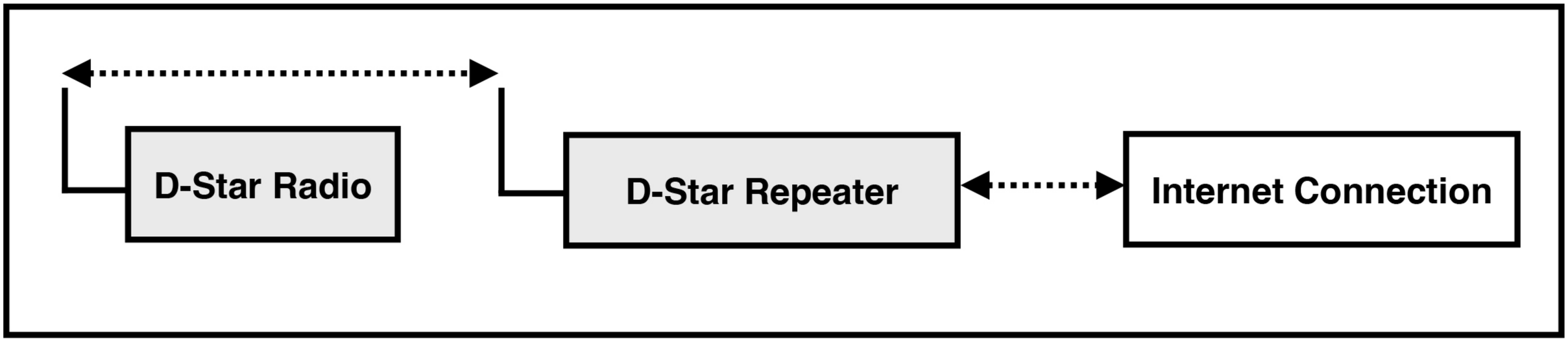
D-Star (Digital Smart Technologies for Amateur Radio) is a digital voice and text mode, which enables connections via the internet.

With a simple VHF/UHF D-Star capable transceiver one can talk to the world with crystal clear audio via a D-Star repeater or using a hotspot and an internet connection.

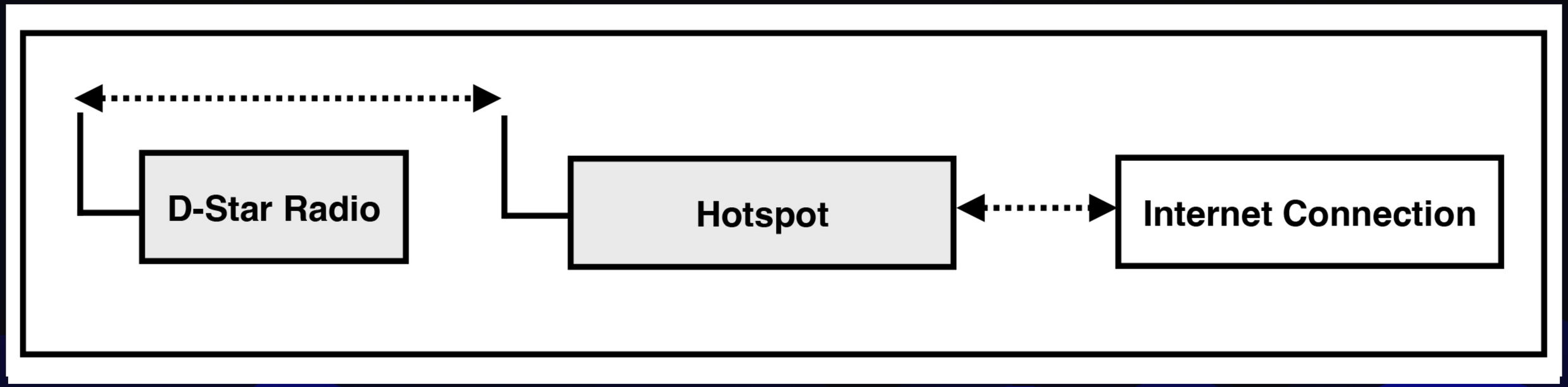
Once a D-Star connection is established, one can connect to reflectors and repeaters all around the world.

There are repeater maps, repeater lists, and other information at: http://www.dstarinfo.com

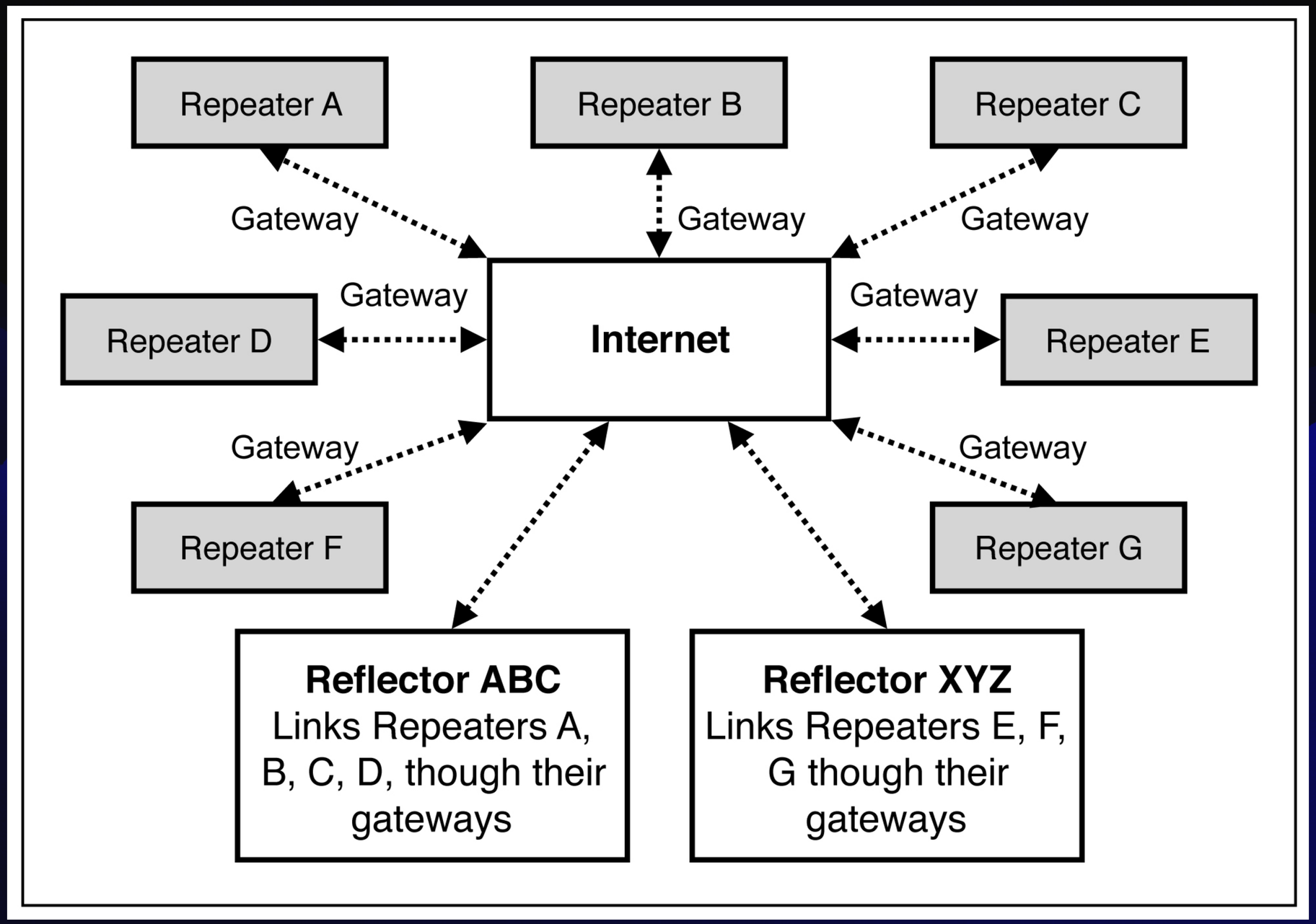
To avoid spam, one must register with D-Star. This is a one time registration.



- Using a D-Star radio, connect to a D-Star Repeater.
- The D-Star repeater may or may not be connected to the internet.
- Usually, D-Star repeaters are connected to the internet.
- If it is connected to the internet, it may be programmed for a specific Reflector.



- Using a D-Star radio, connect to a Hotspot via RF from a digital radio.
- Connect the Hotspot to the internet usually by wifi.
- Select a Reflector.


Repeater A
Repeater B
Repeater C
Gateway
Gateway
Gateway
Gateway
Gateway
Repeater D
Internet
Repeater E
Gateway
Gateway
Repeater F
Repeater G
Reflector ABC
Links Repeaters A, B, C, D, though their gateways
Reflector XYZ
Links Repeaters E, F, G though their gateways

D-Star Registration Steps (only required once)

- Make sure you register at one site and only one site. Follow ALL of the steps shown at http://www.dstargateway.org/D-Star_Registration.html
- This is a two-step process.
- After approval, further steps are required.
- Check your registration at: http://dstar.info/query.html

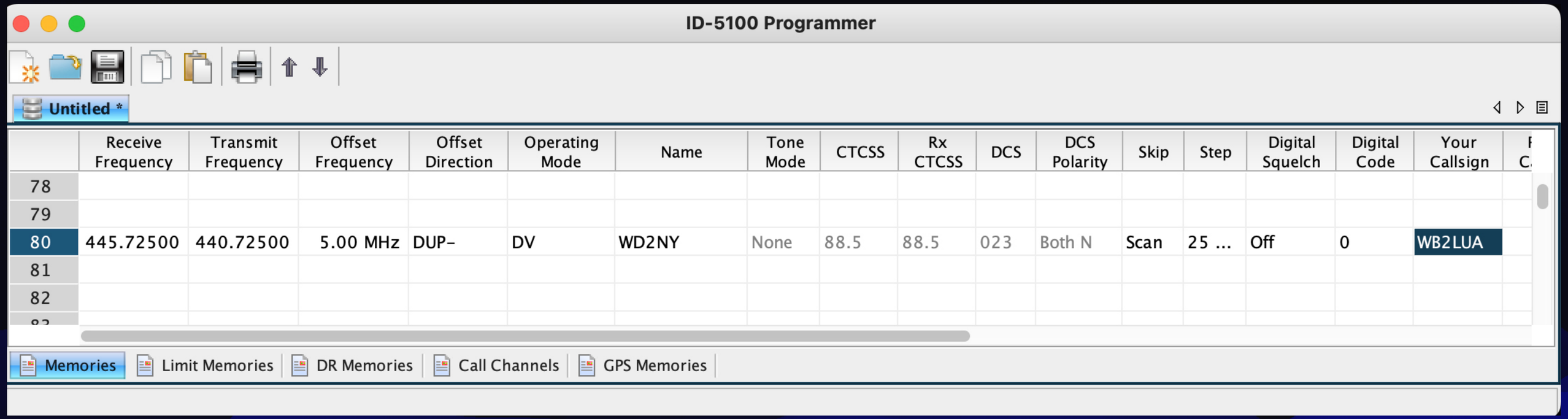
- 1. Find a D-Star repeater in your area that has a website that you can register with or any on the internet.
- 2. Follow the registration steps.
- 3. Wait for an email from the D-Star administrator approving your registration or try to log in periodically to check on the status of your registration at the same URL you used to register with using your callsign (IN UPPER CASE) and the password you entered during registration.

- If your registration is pending approval, you will see an Error that the registration has not yet been approved.
- If it is approved, you will be granted access and you will be able to log into the system and configure your personal information.

- THIS NEXT STEP IS REQUIRED. Once you are logged in, click on “Personal Information” at the right of the page.
- 4. Click on the checkbox next to the number “1”
- Then click inside the “Initial” box

Radio Memory Programming

- Programming a D-Star radio from the front panel can be complicated and difficult.
- This author recommends using the RT Systems cable and software for multiple memory channels.
- It makes programming easy and fast.
- For the hotspot, only one frequency needs to be programmed in DV mode. https://www.rtsystemsinc.com/



- Enter the frequency of the repeater.
- Enter the offset frequency.
- Enter the offset frequency direction (DUP- or Dup+).
- Enter Operating Mode (DV).
- Enter the repeater’s callsign and your call sign.
- Connect the cable and send data to your radio.

Hotspots

- Hotspots are like mini repeaters within the home or car.
- The D-Star radio connects to the hotspot via RF, which is usually in the 70 cm band.
- The hotspot connects to the internet.

- The hotspot this author favors is the SharkRF OpenSpot 4 Pro.
- This hotpot can be used with a PC, Mac, iPhone, or Android phone.
- Once setup, the hotpot doesn’t require the iPhone, etc. unless changes are to be made.
- Furthermore, the OpenSpot 4 Pro can perform cross mode operation.
- For example, a C4FM transceiver can be used to connect to D-Star and so on.
- It also can be used directly from a phone without a radio. https://www.sharkrf.com/

Testing

- Connect to the remote system "E" module to run an echo test completely through the network. Connect to "REF030EL" and key up and talk for a few seconds.

- The audio and data should appear on the screen in a few seconds.

Commonly Used D-Star Reflectors

- D-Star Repeaters connect to an internet gateway. Reflectors link specific gateways.
- All linked gateways hear all traffic from all of the gateways connected to the reflector.
- Reflectors provide a way to link multiple gateways together, providing an easy way to create a wide-area repeater, hold a multi-gateway net, etc. on the fly.
- Each reflector has three modules, A, B and C

- REF069C (New England Repeaters)
- REF030C (Georgia/Southeast Repeaters)
- REF009C (Arizona Permalink Repeaters)
- REF014B (US West Coast Repeaters)
- REF056C (Kentucky)

For more information, visit
www.wb2lua.com