COMPARISON OF AMATEUR RADIO DIGITAL HOTSPOTS

My opinions based off personal experience with each 11-2016
DIGITAL RADIO HOTPOTS COMPARED

• DV Mega with Raspberry Pi / MMDVMHost Software
  • Modes tested DMR / DStar
  • Cost Approx: $190 (total cost)

• DVMega with Bluestack / BlueDV Software
  • Modes tested DMR / DStar
  • Cost Approx: $190 (Android/Windows device not included)

• Shark RF openSpot
  • Modes tested DMR / DStar / DMR to Fusion cross mode
  • Cost Approx: $220 (total cost)

• DV4Mini on Raspberry Pi or Windows
  • Modes tested DMR / DStar / Fusion / P25
  • Cost Approx: $130 (PC/Pi cost not included)
DV MEGA RASPBERRY PI W/MMDVMHOST

- Modes Supported: DMR / DStar / Fusion (YSF) / P25 (newly added)
- Hardware Required: DVMega (single or dual band) Raspberry PI (2 or 3)
- Software Required: Raspian OS (Pi Linux), MMDVMHost, ircDDB Gateway (DStar), YSFGateway (Fusion)
- All the software can be set to start on boot for standalone headless ops
- Prebuilt images can be loaded to SD card then used in Pi
- Each mode can be enabled or disabled in the MMDVMHost ini file
- External screens supported by MMDVMHost to display info
- VNC can be used to remotely connect to Pi screen over network
- Can connect to any WiFi network or use Ethernet port
DVMEGA RASPBERRY PI W/MMDVMHOST

ADVANTAGES

• Proven hardware, DVMEga and Raspberry PI both have good track record
• WiFi support for mobile operation (built in on Pi-3)
• Can run standalone in headless mode (great for mobile operation)
• Can run all modes at one time with a user defined mode hang time
• Supports third party display screens like Nextion
• Pi can run other software (MMDVMHost Dashboard, MD380tools, etc…)
• Many prebuilt SD card images available for ease of setup
• Active development and support of MMDVMHost software
• Very good audio quality and reliability on all supported modes
DVMEGA RASPBERRY PI W/MMDVMHOST
DISADVANTAGES

• Some assembly required
• Setup a little more complex than some other devices
• No direct last heard or info unless display or web dashboard used
• No cross-mode support
• Some Linux knowledge is helpful with setup and operation
• DVMega Firmware upgrade requires soldered wire or use of arduino uno
DVMEGA BLUESTACK / BLUEDV SOFTWARE

• Modes Supported: DMR / DStar / Fusion (YSF and FCS)
• Hardware Required: DVMEga (single band) BlueStack (micro basic / micro plus) or DVMEga (dual band) BlueStack1
• Windows or Android device required to run the BlueDV software
• Software Required: BlueDV Windows or BlueDV Android
• Attach DVMEga to BlueStack and install in case
• BlueStack (micro plus) can connect via USB or Bluetooth to Windows
• For Android device: pair BlueStack device in Android settings
• Install BlueDV software on device, input required info in setup
• Connect to BlueStack in software then connect to desired Mode
PROVEN HARDWARE DVMega GOOD TRACK RECORD

BLUEDV SOFTWARE AVAILABLE FOR ANDROID AND WINDOWS (IOS IS TESTING)

BLUESTACK HARDWARE WITH DVMega: SMALL SIZE GOOD FOR MOBILE

BLUEDV SOFTWARE SHOWS REAL TIME INFO: TG/REF, CALLSIGN, NAME, LAST HEARD

VERY EASY SETUP: CONNECT MEGA TO BLUEDV, INSTALL SOFTWARE, ENTER INFO

LOW POWER CONSUMPTION OF BLUESTACK/MEGA GOOD FOR MOBILE

BLUEDV USES INTERNET CONNECTION OF DEVICE, CELL OR WiFi ON PHONE

ACTIVE SOFTWARE DEVELOPMENT AND GOOD SUPPORT AVAILABLE

VERY GOOD AUDIO QUALITY AND RELIABILITY ON ALL SUPPORTED MODES
DVMEGA BLUESTACK / BLUEDV SOFTWARE

DISADVANTAGES

• Minor assembly required
• Requires another device for BlueDV (Android or Windows device)
• BlueDV Android cannot run in background (disconnects with incoming call)
• No cross-mode support
• Only one mode can be used at a time
• DVMEga Firmware upgrade requires soldered wire or use of arduino uno
SHARK RF OPENSPOT

- Modes Supported: DMR / DStar / Fusion (YSF / FCS) / Shark RF IPconn
- Hardware Required: openSPOT device
- Software Required: None, Firmware installed on openSPOT
- Connect openSPOT to Wired Ethernet port and Power supply
- Open Web interface of openSPOT with browser from any device
- Go through a few setup screens depending on which modes used
- Set Modem to match Radio and Connector to match Mode wanted
- If using mobile external WiFi Router, (client mode) is needed
- Router connects to desired hotspot and plugs into openSPOT ethernet
SHARK RF OPENSPOT

ADVANTAGES

- Only device supporting cross-mode DMR>Fusion and Fusion>DMR
- Easy setup through web page interface
- Comes fully assembled and with software loaded
- Update process for firmware pretty simple with USB connection from PC
- All updates done with one Firmware, others have multiple components
- Device is standalone, only requires power and internet connection
- Very active firmware development and good support through forum
- SMS Messaging included in device
- Developer has open API for others to integrate software to device
- Very good audio quality and reliability on all supported modes
SHARK RF OPENSPOT

DISADVANTAGES

• No built in WiFi support, only wired Ethernet (makes mobile more difficult)
• No Dashboard info or last heard support built in to device/software
• DMR mode can require different mode settings to optimize for radio
• Hardware relatively new, not much reliability history
• Hardware repair requires unit shipped back to Estonia
DV4MINI

ADVANTAGES

• Modes Supported: DMR / DStar / Fusion (FCS) / P25 / dPMR
• One of the first devices available when introduced
• USB based; can run on Windows, Linux or Pi
• No assembly, just plug in and install software
• Setup relatively simple (once you find the right software and firmware)
• Works pretty well on DSTAR, Fusion and P25
• Supports a large number of digital modes
DV4MINI
DISADVANTAGES

• Setup on DMR is very unstable (a lot of tweaking of QRG setting)
• Sends out bursts of audio periodically to reflector or TG in DMR
• Audio quality on DMR not up to standard of other devices
• Support from developer poor to non-existent
• Very confusing software and firmware combinations
## Grades of Devices

<table>
<thead>
<tr>
<th>Name</th>
<th>Mega/ Pi</th>
<th>Mega/Blue DV</th>
<th>OpenSPOT</th>
<th>DV4Mini</th>
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<tbody>
<tr>
<td>Ease of Setup</td>
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<td>A+</td>
<td>A</td>
<td>B</td>
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<tr>
<td>Versatility</td>
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<td>Portability</td>
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<td>A</td>
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<td>B</td>
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<td>Upgrade Process</td>
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<td>A-</td>
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<td>C</td>
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<td>A+</td>
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<td>Audio Quality DMR</td>
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<td>Audio Quality DSTAR</td>
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<td>B</td>
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<tr>
<td>Potential new features</td>
<td>B+</td>
<td>A-</td>
<td>A</td>
<td>C</td>
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