BlueDV for Digital Ham Radio

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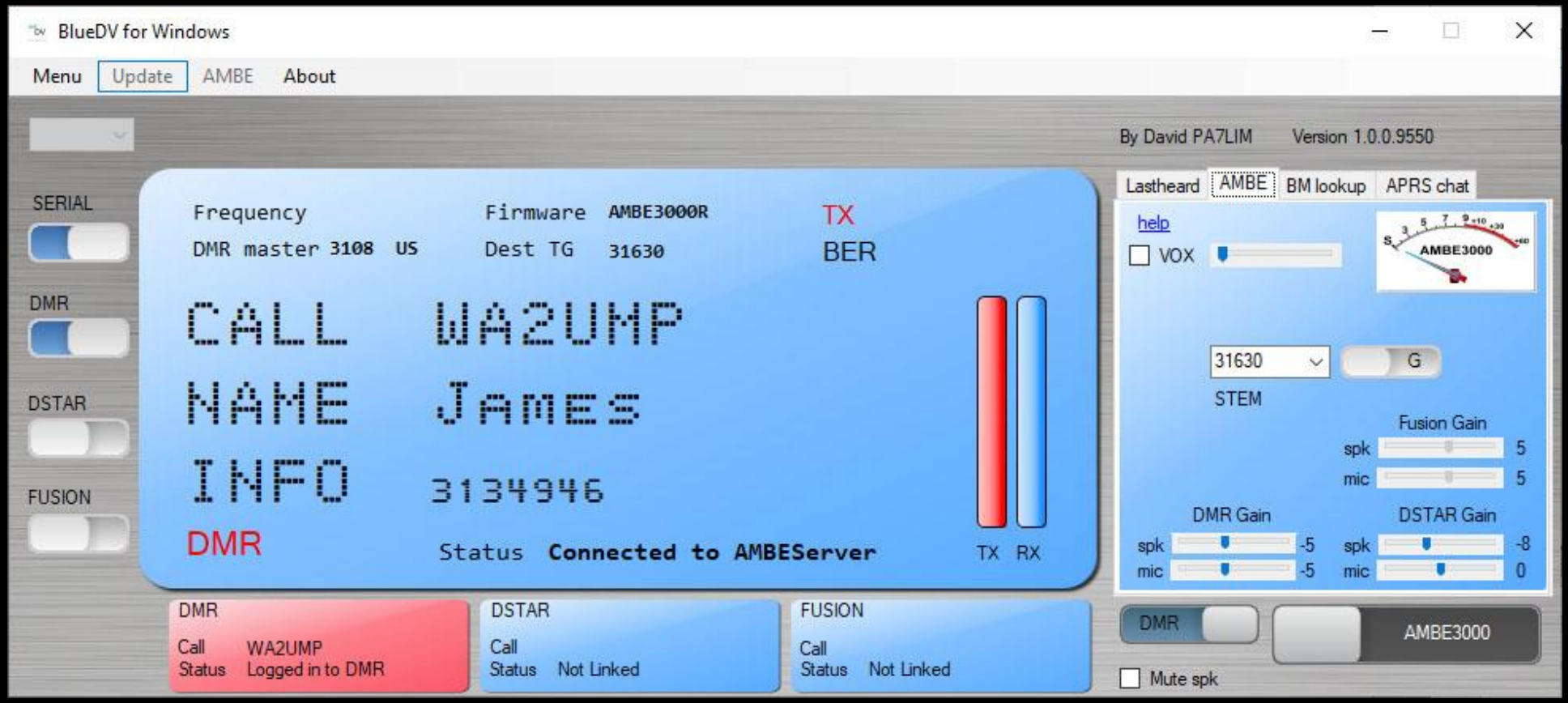
BlueDV for Digital Ham Radio

- BlueDV Software for Windows, Linux, Android and IOS
- DVMega modem/radio boards for UHF and VHF/UHF
- BlueStack with DVMega
- AMBE 3000 Vocoders (ThumbDV and others)
- AMBE Server
- Differences between BlueDV and Pi-Star

BlueDV for Digital Ham Radio

This is a screen shot of BlueDV for Windows. In this instance I am running the AMBE Vocoder (ThumbDB) using computer speakers and a mic. No radio required.



BlueDV for Digital Ham Radio

BlueDV supports DMR, Dstar and soon to support Fusion.
It can run under Windows, Linux, IOS and Android.
To run as a hotspot you need a DVMega radio/modem board.
The DVMega sits on a Bluestack board or an Arduino.
DVMega boards are costly. The Dual Band board is about $170. Bluestack is about $70.
Assembled DVMega with Bluestack and case is about $260.
Web Site: http://www.pa7lim.nl/bluedv-windows/

BlueDV AMBE for Digital Ham Radio

BlueDV also supports an AMBE Vocoder such as the ThumbDV. It cost about $120. With the vocoder BlueDV does not operate like a hotspot. It operates like a network radio. You use your computer speakers and mic and operate as if it was a radio. No RF is used. In this mode your ham transceivers do not interact with BlueDV. However, if you have Your radios on a repeater or hotspot on the same talk group as your BlueDV they can hear each other.

BlueDV AMBE for Digital Ham Radio

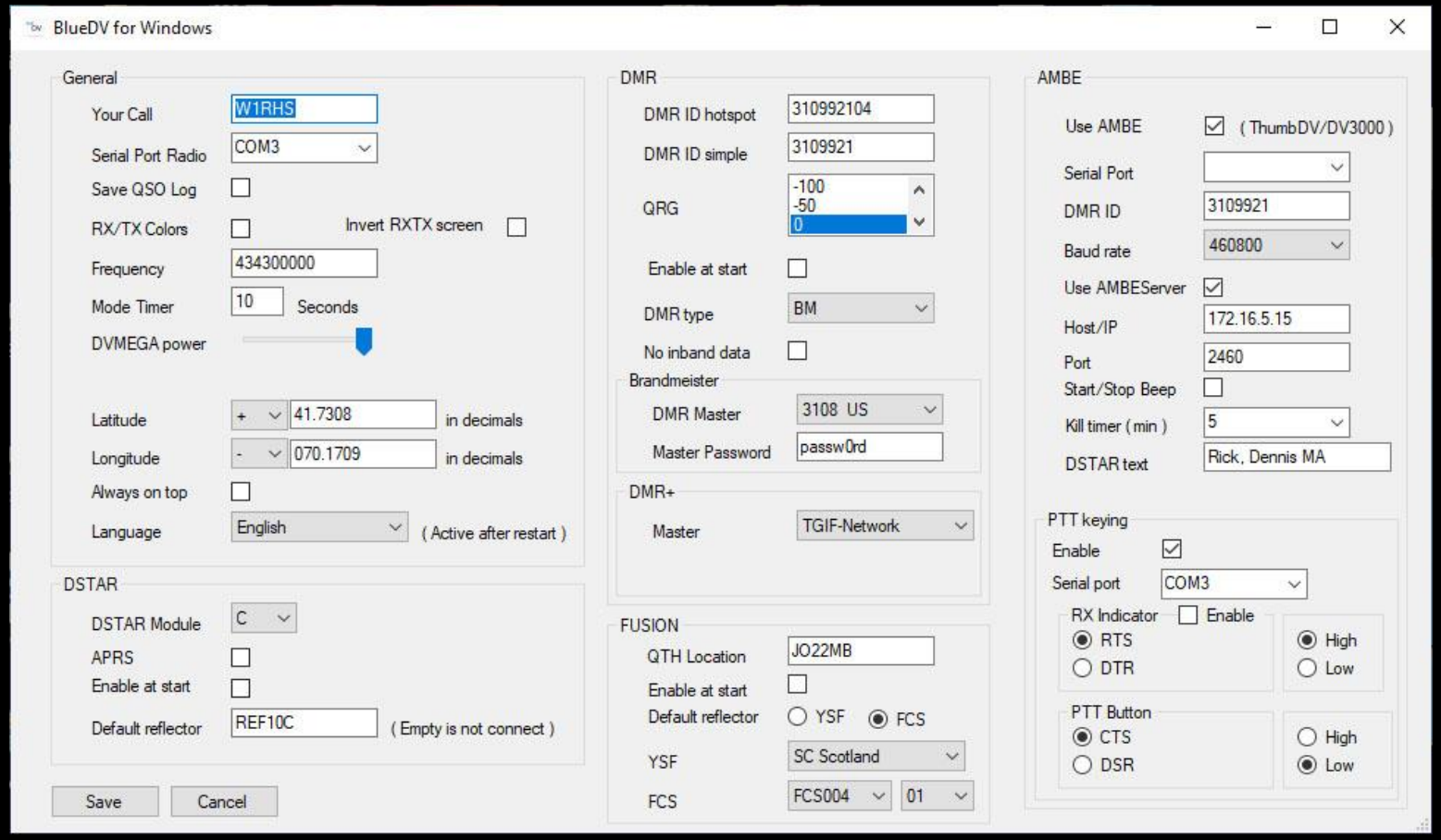
BlueDV AMBE runs well on Network Radios. Network Radios are devices that look like transceivers but have no transmitter or receiver other than cellular and wifi. With a network radio you can run programs like Echolink, Zello, Teamspeak, DVSwitch Mobile and BlueDV AMBE. Essentially, a Network Radio is an Android smartphone that looks like a transceiver. They come in mobiles and handhelds. Some people use them with the built-in cellular with a pre-paid SIM card. Others just tether to their smartphone's WIFI or house WIFI. Above is a picture of my Inrico TM-7 network radio. It is pretty challenging to operate the 2.4 inch touch screen. You can remote-display the screen on our PC and operate the functions with your mouse. You can also program the radio buttons.

AMBE Server

Software is available to operate a server for the AMBE Vocoder. In Windows the vocoder normally plugs Into your computer's USB port. If you want to run BlueDV AMBE on Android or IOS or in Windows without requiring the vocoder to be plugged into the computer you need to run the AMBE server on a different Windows computer or Raspberry PI to make the vocoder available to the Android or IOS device over the network. One advantage is that you can make your AMBE Server available to be accessed over the internet so you can use it anywhere you have Internet access. Setting up the AMBE server on Windows is not that hard. Setting up the AMBE server on a Raspberry Pi is not for the faint of heart.

BlueDV for Digital Ham Radio

This is a screen shot of the BlueDV for Windows configuration screen.



BlueDV versus Pi-Star

BlueDV

- Processor:
  Windows, Linux, Android, IOS
- Radio/Modem Boards
  DVMega HATs on BlueStack
- BlueDV AMBE allows the use of an AMBE Vocoder like the ThumbDV. You can use your computer or Android device without needing a radio transceiver.
- Easy to get software running.

Pi-Star

- Processor:
  Raspberry Pi
- Radio/Modem Boards
  MMDVM HATs
  DVMega HATs
  DVMega on BlueStack over USB
  Repeater Interfaces
- Download Pi-Star image
  Transfer to SD Card
  Not trivial to get up and running

Radio/Modem Boards
DVMega versus MMDVM

DVMega

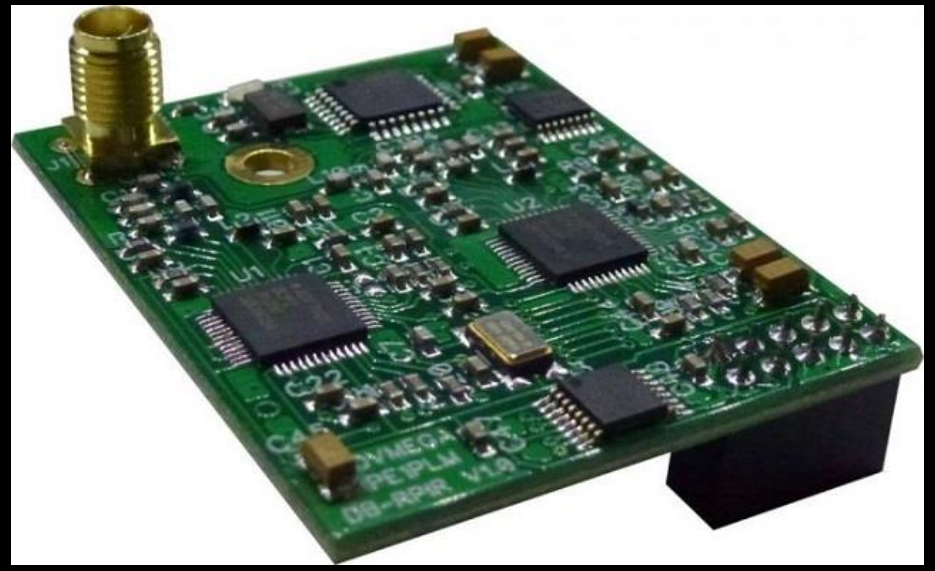
- Supports DMR, Dstar, Fusion
  Too slow to support NXDN and P25
- Seems to be higher quality
  design and construction
- No duplex versions
- Comes in dual band VHF/UHF
- Very expensive. Dual Band is $160

MMDVM

- Supports DMR, Dstar, Fusion,
  NXDN and P25
- Varying quality mostly from
  China
- N5BOC boards raised the
  quality bar
- Comes in duplex version
- Mostly UHF. Recent ones do VHF.

DVMega

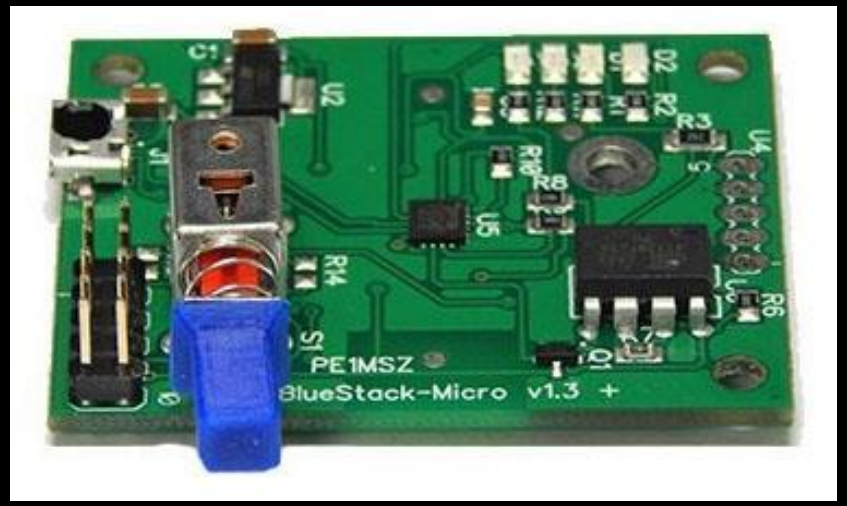
DVMega Dual Band VHF/UHF Board



Raspberry Pi Hotspot with DVMega Board running Pi-Star

Bluestack

Here's a picture on the left of my Bluestack in its case.
It can operate with BlueDV for Windows over USB or Bluetooth.
It can operate with BlueDV for Android over Bluetooth.
I have not tested with iPhone.
The Bluestack has an Android processor on board. It's only smart enough to interface to a computer, tablet or smartphone over USB or Bluetooth.



Excellent Bluestack Youtube Video:
https://www.youtube.com/watch?v=zFTmVVQo05A

ThumbDV

ThumbDV is an AMBE 3000 Vocoder build into a Thumbdrive form factor. You can plug this into a Computer USB Port and operate BlueDV software using your computer's speaker and mic. No radio required. No hotspot required. Price is $120. DVMega also makes a similar device called the DV Stick 30.

ThumbDV on NW Digital Radio website:
http://nwdigitalradio.com/product/thumbdv/

DVMega Cast

The DVMega Cast is a network radio. It has no RF receiver or transmitter except for WIFI.
It has a mic and speaker like a real radio and runs a version of Pi-Star that is built in.
Keep in mind even though this runs Pi-Star it is not a hotspot unless you also order a DVMega single band or dual band radio board for another $130 to $170. It cost about $420 without the DVMega board.
GigaParts: https://www.gigaparts.com/dvmega-cast-multimode-ip-radio.html
Manual: http://www.dvmega.nl/wp-content/uploads/2019/03/Manual-v11-Cast.pdf