

Digital Mobile Radio DMR MMDVM Hotspot Jumbo Spot

Talk and listen to Hams around the world at home using a small handheld radio! I just got started in DMR and have found it pretty easy and inexpensive. With an Internet connection and the [Ailunce HD1](#) combined with the MMDVM hotspot ([Jumbo Spot](#)) it is possible to talk to Hams around the world. So is this Ham Radio or is it (VOIP) Internet? I see it as Ham Radio and using the Internet as a tool. What are your thoughts?



How it Works

Using a handheld digital transceiver like the [Ailunce HD1](#) we can communicate around the world from home. It doesn't matter if you have local DMR digital repeater or not. I do not in my area, so I use the [Jumbo Spot](#) (MMDVM hotspot).

If you have a local digital DMR repeater you won't need a MMDVM hotspot, but that's for another article.

DMR stands for Digital Mobile Radio.

The [Jumbo Spot](#) allows Hams to operate on one or more digital

modes without the use of a repeater. The [Jumbo Spot](#) basically becomes your private repeater. Here we are using DMR mode.

The handheld connects to the [Jumbo Spot](#) in your home and it connects to talkgroups on Internet servers around the world using your Internet connection.

You need a digital transceiver like the [Ailunce HD1](#) and a MMDVM hotspot like the [Jumbo Spot](#). There are other more expensive alternatives. Of course you'll also need Internet access from your home. I have cable service and the cable service provides me with a cable modem and WIFI router.

The nice thing about the [Ailunce HD1](#) handheld is that it also communicates with our local analog repeaters. I consider it my dual purpose (analog/digital) VHF/UHF transceiver.



DMR MMDVM Hotspot – Jumbo Spot

The terms MMDVM hotspot and Jumbo Spot are used interchangeably. MMDVM stands for Multi Mode Digital Voice Modem. There are alternatives on the market and some run as much as \$200, but [the Jumbo Spot I found costs \\$85 shipped from California](#). This is a good E-Bay seller and I have had numerous contacts with her. When the SD card went out after two days she reimbursed me for it, no questions asked.

This device is a [Raspberry Pi zero W \(WiFi\) with a Jumbo Spot RTQ MMDVM Hotspot expansion board](#). **It's the least expensive of the alternatives that I researched and a reliable solution!**

You can build these if you want, but I chose to buy it assembled and with the software ready to go (almost).

What does RTQ stand for? Ready To QSO!

[You can find it here – Assembled MMDVM Hotspot Support P25 DMR YSF + Raspberry pi + OLED +ANT +Case US](#)

Preparation

You will need a DMR ID to setup the hotspot, so if you don't have one go to [RadioID](#) and register for an ID. You will also need power for the hotspot. I use a phone charging cable and a USB port.

Here are the steps:

1. The installed TF card (micro SD card) will need your WiFi SSID and password. Remove it from the hotspot and insert into your computer. I used an adapter. (TF stands for T-Flash. It was a SanDisk term.)
2. Go to the [WiFi Builder configuration utility here](#) and use it. Then download the wpa_supplicant.conf and save to the TF card root directory.
3. Insert the TF card into the hotspot and power it on. It will load after about 3 minutes and should be on your home network.
4. In your web browser url field type in, http://pi-star, when prompted the username is: pi-star. The password is: raspberry. That will take you to the hotspot configuration page below.



Configuration Pg. 2

Configuring Pi-Star for Digital Voice (DMR)

It's pretty straight forward and I'll show you my configuration in the video and also a little trick to keep the bit error rate (BER) down.

The video below shows a good example of transferring the TF card back and forth between the Jumbo Spot and computer. Have a look at the beginning.

Software Updates

The software and firmware of the Jumbo Spot is easily updated using the pi-star software.

Thank you

Are you on DMR? What are you thoughts on it?

If you have any questions, please ask them here. I prefer the

comment section here or in YouTube over e-mail because your comments and questions will help others as well.

Thank you for subscribing to this website. I appreciate the comments, questions and suggestions. You can follow me on [Twitter](#), [Facebook](#), [Instagram](#) and [YouTube](#) if you have those.

Please stay in touch and best 73,

Rich, K0PIR

Sources:

[RadioID](#)

[Ailunce HD1](#)

[Assembled MMDVM Hotspot – Buy on E-bay](#)

[WiFi Builder Configuration Utility](#)

[PiStar Digital Voice Software – PiStar.uk](#)

[AmateurRadio.digital](#)