MMDVM HotSpot Setup with Pi-Star ver. 3.4.17

Notes: Do not setup the HotSpot with another working hotspot in the nearby area.
Also avoid disconnecting the power to the HotSpot during the configuration process because it may lose some of your settings.

Plug in the hotspot and after 2 minutes search for wireless networks. Connect your computer to the **pi-star** or **pi-star-setup** wireless network that is in the list.
The password for the wireless connection is: **raspberry**

Once you are connected open a web browser and go to the IP address: **192.168.50.1**
Then click on Configuration. You'll then be prompted to login. Use the below information.
Username: **pi-star** / Password: **raspberry**

Before Starting:
** We've noticed with some HotSpots its best to do a Factory Reset before configuring the unit.
This will allow for a fresh start and prevent some of the common setup issues.
You'll see the Factory Reset option when you click Configuration on the HotSpot.

** When you first plug in your MMDVM your display may or may not come on. This is normal if the unit has not been previously configured. If the lights inside are on, then the unit has power.
The Display will come on once you start doing the configuration.

Section 1:
MMDVM Hotspots are single channel simplex units.

Control Software	
Setting	**Value**
Controller Software:	○ DStarRepeater ● MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	● Simplex Node ○ Duplex Repeater (or Half-Duplex on Hotspots)
	Apply Changes

If the settings above are correct move to the next page.

Section 2:

If you are unable to turn on the **DMR2YSF** at this time leave it off. You can change it once you have completed all the steps in these instructions.

When configuring this section on a new or reformatted HotSpot the **MMDVM Display Type** drop down will only show an **OLED.** This is normal.

Anytime you make a change to any section you must click **Apply Changes** under that section and wait until the unit says its rebooting and then brings you back to the configuration screen. This can take up to 3-4 minutes so be patient.

If the configuration page does not open after applying changes. Reconnect to the **pi-star or **pi-star-setup** wireless network that is in the list.

Once you are connected open a web browser and go to the IP address: **192.168.50.1**

Click on Configuration. You'll then be prompted to login. Use the below information.

Username: **pi-star** / Password: **raspberry**

Section 3:

General Configuration

Setting	Value	
Hostname:	`-pi-star1` Do not add suffixes such as .local	
Node Callsign:		
CCS7/DMR ID:		
Radio Frequency:	446.525.000 MHz	
Latitude:	36.08 degrees (positive value for North, negative for South)	
Longitude:	-86.63 degrees (positive value for East, negative for West)	
Town:	Nashville, Tennessee	
Country:	US	
URL:	http://qrz.com/lookup/	○ Auto ● Manual
Radio/Modem Type:	STM32-DVM / MMDVM_HS - Raspberry Pi Hat (GPIO)	
Node Type:	○ Private ● Public	
APRS Host:	noam.aprs2.net	
System Time Zone:	America/Chicago	
Dashboard Language:	english_us	

Apply Changes

For the Hostname type: **yourcallsign-pi-star1**
Node Callsign: **yourcallsign**
DMR ID: **yourradioid**
If you do not have a Radio ID go to http://radioid.net and apply for one.
** The **DMR ID** field may not be visible until the unit has rebooted after entering your callsign.
Expect to go through this section multiple times to complete the configuration.
Enter the Radio Frequency: **446.525.000**
Enter you Latitude and Longitude: You can find that information at this website. Just enter your address. https://www.latlong.net/
Enter your Town & Country.
The URL should be: **https//qrz.com/lookup/yourcallsign**
If there is anything else in the box delete it and add the above line.
Match the boxes for the rest of the page and click **Apply Changes.**

If you get a **Radio/Modem Configuration Missing message you'll need to correct the Radio/Modem Type. This is common on some units.

** When you change the Hostname of the Pi-Star and click **Apply Changes** you will need to reconnect to the new wireless network name.
To do this search for wireless networks on your computer again. You will see one that says: **yourcallsign-pi-star1.**
Select it and when prompted with the password type: **raspberry**

Section 4:

DMR Configuration

Setting	Value
DMR Master:	DMRGateway
BrandMeister Master:	BM_United_States_3102
BM Hotspot Security:	
BrandMeister Network ESSID:	3160752 None
BrandMeister Network Enable:	🔴
BrandMeister Network:	Repeater Information | Edit Repeater (BrandMeister Selfcare)
DMR+ Master:	DMR+_IPSC2-Australia
DMR+ Network:	Options=
DMR+ Network ESSID:	3160752 None
DMR+ Network Enable:	
XLX Master:	XLX_950
XLX Startup Module:	Default
XLX Master Enable:	
DMR Color Code:	1
DMR EmbeddedLCOnly:	
DMR DumpTAData:	🔴

Apply Changes

**The DMR Master field may be your only option when you first configure the hotspot. Set it to DMRGateway and complete the rest of the available fields.
Once you fill out and or match the available fields click **Apply Changes**.
When you are reconnected go back over Section 4 and match all the settings. Be sure **DMR+** is turned off.
Verify: **BrandMeister Master: BM_United_States_3102**
Verify **BrandMeister Network Enable: On**
Click **Apply Changes.**
**If you find that several of the fields are not available you will need to complete those configurations after the final upgrade and update.

Go ahead and move to the next page.

Section 5:

Yaesu System Fusion Configuration

Setting	Value
YSF Startup Host:	FCS00290 - AmericaLinkWIRESX
UPPERCASE Hostfiles:	🔴 Note: Update Required if changed
WiresX Passthrough:	⚪

Apply Changes

Firewall Configuration

Setting	Value
Dashboard Access:	🔵Private ⚪Public
ircDDBGateway Remote:	🔵Private ⚪Public
SSH Access:	🔵Private ⚪Public
Auto AP:	🔵On ⚪Off Note: Reboot Required if changed
uPNP:	⚪On 🔵Off

Apply Changes

Wireless Configuration

[Refresh] [Reset WiFi Adapter] [Configure WiFi]

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name : wlan0	Connected To : Station
Interface Status : Interface is up	AP Mac Address : 60:38:e0:82:66:2e
IP Address : 192.168.1.125	
Subnet Mask : 255.255.255.0	Bitrate : 72.2 MBit/s
Mac Address : b8:27:eb:f3:90:5a	Signal Level : -50 dBm

Interface Statistics	
Received Packets : 20204	Transmit Power : 31 dBm
Received Bytes : 3102804 (2.9 MiB)	Link Quality : 60/70
Transferred Packets : 9265	
Transferred Bytes : 4696930 (4.4 MiB)	WiFi Country : US

Information provided by ifconfig and iwconfig

Section 5:

The Yaesu System Fusion Configuration may or may not be showing. Skip down to the Firewall Configuration.
Turn off **uPNP**.
Click **Apply Changes** and wait for the page to reload.

Once the unit brings you back to the configuration page now you can configure the Wifi connection.
Click **Configure Wifi**.
Verify the: **WiFi Regulatory Domain (Country Code) : US**
Click **Scan for Networks**.
Select the Wifi Network you wish to connect to. It'll load it with the SSID already filled in.
Type in the Wifi password and click **Save and Connect.**

The Wireless Configuration window will sometimes start flashing or go completely gray. This is normal.

Go to the top of the page and click **Power** and then **Reboot**.

This will take some time to complete so be patient.

If the wireless network you selected connects correctly you will not be taken to the configuration page.

You will no longer be connected to or see the Pi-Star wireless network. This is a good sign that you completed the steps correctly.

Next connect your computer to the same wireless network as the HotSpot

If you have the **Parrot HS** channel on your radio. Key the radio up and if you look at the MMDVM screen you should see the IP address of your hotspot. **Write this number down.**

Next open a web browser such as Google Chrome or Mozilla Firefox and type in the IP address of your hotspot.

You are now looking at the Live information page of your hotspot.

Click the Configuration option and log in: Username: **pi-star** / Password: **raspberry**

Now click the **Expert** option at the top of the page and click **Upgrade**. Wait for this to say finished.

Then click **Update**. This will take a while to run the first time and again wait until it says Finished.

Once these steps are completed click **Power** and **Reboot**.

This may take a little longer because the HotSpot has just been updated so be patient.

After the unit reboots and you are back to the Pi-Star page click Configuration and log back in: Username: **pi-star** / Password: **raspberry**

Go back over each section and verify all the settings. The fields and options that were previously unavailable will now be available so double check everything.

Remember anything you make a change to a section you must hit Apply Changes and wait for the restart before moving to the next section.

In Section 4 verify: **BrandMeister Master: BM_United_States_3102**

Then verify **BrandMeister Network Enable: On**

Be sure **DMR+** is turned off.

Once these settings have been completed click **Apply Changes** and wait.

After the HotSpot comes back up you should now be able to use your DMR radio.

If you are looking at the HotSpot page click **Admin**.

Now select the Parrot HS channel transmit and give your callsign.

Looking at the Admin page on your computer should now see your radio connect to the HotSpot then see and hear Parrot HS replay what you transmitted.

You have now completed the HotSpot setup.

The following pages contain information about connecting to Mobile devices and HotSpot usage.

Mobile Device Setup

Connecting the HotSpots to mobile devices can be tricky.
Things to remember is first turn on your mobile hotspot and wait 2 minutes before trying to connect to it.
If you have an iPhone, you must leave it on Personal HotSpot screen to get connected. This seems to make a difference.
The iPhone name should also be lowercase with no special characters. No special characters in the password either.
Once you phone hotspot has been on for 2 minutes. Go through the Section 5 steps for configuring the Wifi Network and click **Save and Connect.**
Then go to the top and click **Power** and **Reboot.**

The HotSpot will not restart and reconnect to the normal Wifi Network but your mobile phone is now saved in the HotSpot for use.

HotSpot Usage
To avoid HotSpot issues and or corruption I recommend these steps.
If your HotSpot is connected to your home Wifi and you wish to take it with you mobile.
Log into the HotSpot using the IP address you wrote down earlier or just key up **Parrot HS** to see it again.
Open a web browser and type in that IP.
Click **Configuration** , then click **Power** and **Shutdown**. Wait 30 Seconds and unplug the unit.

Now when you get into your car, turn your phone hotspot on and wait 2 minutes.
You want to make sure you are far enough away from your home location that your home Wifi won't be detected by the HotSpot.
After waiting a few minutes plug the HotSpot and wait. You should see the system boot up and connect on the screen.
Click the **Parrot HS** channel to test that you are connected.
If it's not connected **Parrot HS** won't respond and you will see **yourcallsign-pi-star1** in your list of wireless networks on your phone.
You can try repeating Section 5 Configuring the Wifi to see if that resolves the issue.
Other suggestions are changing the phone name and or password.

If these steps do not resolve the mobile issue try checking the PI-Star support forums for suggestions.

Instructions created by Glenn Clute ~ W1KOM
No Guarantees or Warranties with these instructions.
These steps will be different if you are not using Pi-Star ver. 3.4.17.
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