

# DE N5BOC

## MMDVM DUPLEX setup instructions:

Before powering the PI, please ensure the antennas are attached!

The antennas should only be finger tight. And a lose finger tight at that. Since the SMA connectors are not braced by protruding through a metal case as in the typical use case, they can easily be twisted off of the PCB.

## Pi-Star Configuration:

Under CONTROL SOFTWARE set the Controller Mode to Duplex Repeater

The screenshot shows the Pi-Star configuration interface. The top section is titled "Gateway Hardware Information" and contains a table with the following data:

Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star-debug	4.9.35+	Pi Zero Rev 1.3 (512MB)	0.65 / 0.67 / 0.71	34.7°C / 94.5°F

Below this is the "Control Software" section, which is a table with two columns: "Setting" and "Value".

Setting	Value
Controller Software:	<input type="radio"/> DStarRepeater <input checked="" type="radio"/> MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	<input type="radio"/> Simplex Node <input checked="" type="radio"/> Duplex Repeater (or Half-Duplex on Hotspots)

An "Apply Changes" button is located below the Control Software table.

Under GENERAL CONFIGURATION select the MMDVM\_HS\_Dual\_Hat

The screenshot shows the "General Configuration" section of the Pi-Star interface. It contains a table with the following data:

Town:	McKinney
Country:	United States
URL:	http://www.qrz.com/db/N5BOC <input checked="" type="radio"/> Auto <input type="radio"/> Manual
Radio/Modem Type:	MMDVM_HS_Dual_Hat (DB9MAT, DF2ET & DO7EN) for Pi (GPIO) ▼
Node Type:	<input type="radio"/> Private <input checked="" type="radio"/> Public
System Time Zone:	America/Chicago ▼
Dashboard Language:	english_us ▼

An "Apply Changes" button is located below the table.

Also under GENERAL CONFIGURATION set the RX and TX frequencies to have a 5 MHz offset just like any normal UHF repeater.

The screenshot shows the "General Configuration" section of the Pi-Star interface. It contains a table with the following data:

Setting	Value
Hostname:	pi-star-debug Do not add suffixes such as .local
Node Callsign:	N5BOC
CCS7/DMR ID:	11481122
Radio Frequency RX:	434.000.000 MHz
Radio Frequency TX:	439.000.000 MHz

All other settings are the same as a simplex MMDVM\_HS\_HAT

Make sure your code plug implements the same 5MHz offset. In the example above you can see that the receive is set to 434 MHz and transmit is set to 439 MHz. Of course the radio setup must be flipped from this. Here is an example from my code plug for TG3148

Channels Information

<b>Digital/Analog Data</b> Channel Mode: Digital Band Width: 12.5kHz Scan List: None Squelch: Normal RX Ref Frequency: Low TX Ref Frequency: Low TOT[s]: 555 TOT Rekey Delay[s]: 0 Power: Low		Channel Name: D-TG3148 RX Frequency(MHz): 439.00000 TX Frequency(MHz): 434.00000 Admit Criteria: Always Auto Scan: <input type="checkbox"/> Rx Only: <input type="checkbox"/> Lone Worker: <input type="checkbox"/> VDX: <input type="checkbox"/> Allow Talkaround: <input type="checkbox"/> Send GPS Info: <input type="checkbox"/> Receive GPS Info: <input type="checkbox"/>	
<b>Analog Data</b> CTCSS/DCS Dec: None QT Reverse: 180 Rx Signaling System: Off <input type="checkbox"/> Display PTT ID		CTCSS/DCS Enc: None Tx Signaling System: Off <input checked="" type="checkbox"/> Reverse Burst/Turn-off Code Decode 1: <input type="checkbox"/> Decode 5: <input type="checkbox"/> Decode 2: <input type="checkbox"/> Decode 6: <input type="checkbox"/> Decode 3: <input type="checkbox"/> Decode 7: <input type="checkbox"/> Decode 4: <input type="checkbox"/> Decode 8: <input type="checkbox"/>	

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Set your radio up like this and you should be enjoying your MMDVM DUPLEX hotspot right away.

I hope you enjoy your new MMDVmodem 73's David