

Configuring DMR2YSF

Just a few simple steps are required to link your DMR radio to the Yaesu System Fusion network. In this example we will be linking to the AmericasLinkWiresX room.

Before you begin you might want to save your current working configuration. Instructions for backup and restore can be found here:

https://wd5ddh.org/index.php?option=com_content&view=article&id=61&Itemid=185

All backed up? Ok, let' get going.

Open Pi-Star

Go to the "Configuration" page.

Toggle on DMR and DMR2YSF – Make sure all other modes are off

Click "Apply Changes" and give the hotspot time to refresh.

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Expert | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information				
Hostname	Kernel	Platform	CPU Load	CPU Temp
k5svv4	4.9.35+	Pi Zero W Rev 1.1 (512MB)	0.68 / 1.33 / 1.31	42.25C / 108°F

Control Software

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

MMDVMHost Configuration

Setting	Value
DMR Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
D-Star Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
YSF Mode:	<input type="checkbox"/> RF Hangtime: 10 Net Hangtime: 10
P25 Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
NXDN Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
YSF2DMR:	<input type="checkbox"/>
YSF2NXDN:	<input type="checkbox"/>
YSF2P25:	<input type="checkbox"/>
DMR2YSF:	<input checked="" type="checkbox"/> Uses 7 prefix on DMRGateway
DMR2NXDN:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
POCSAG:	<input type="checkbox"/> POCSAG Paging Features

The next step is to configure DMR and YSF for cross mode operation.

Scroll down the "Configuration" page to the *DMR Configuration* section

Change the settings to match the lines highlighted in blue below.

Scroll further down to the *Yaesu System Fusion Configuration* section

Change the settings to match the lines highlighted in blue below.

Click "Apply Changes" and give the hotspot time to refresh.

Note: For this example, we are linking to FCS00390 AmericasLinkWiresX room. For Pi-Star 3.4.X software all YSF Rooms and Reflectors are configured here. You cannot select them directly from the radio.

The screenshot shows a web browser window at the URL `k5svv4.local/admin/configure.php`. The page contains several configuration sections. The first section is for general radio/modem settings, including `Radio/Modem Type` (ZumSpot - Raspberry Pi Hat (GPIO)), `Node Type` (Public), `APRS Host` (rotate.aprs2.net), `System Time Zone` (America/Chicago), and `Dashboard Language` (english_us). Below this is the **DMR Configuration** section, which includes `DMR Master` (DMR2YSF), `DMR ESSID` (04), `DMR Color Code` (1), `DMR EmbeddedOnly` (disabled), and `DMR DumpTADData` (disabled). The **Yaesu System Fusion Configuration** section shows `YSF Startup Host` (FCS00390 - AmericaLinkWiresX), `UPPERCASE Hostfiles` (disabled), and `WiresX Passthrough` (disabled). The **Firewall Configuration** section at the bottom shows `Dashboard Access`, `ircDDBGateway Remote`, and `SSH Access`, all set to private. Blue arrows point to the `DMR Master`, `DMR ESSID`, `DMR Color Code`, and `YSF Startup Host` settings.

Setting	Value
Radio/Modem Type	ZumSpot - Raspberry Pi Hat (GPIO)
Node Type	<input type="radio"/> Private <input checked="" type="radio"/> Public
APRS Host	rotate.aprs2.net
System Time Zone	America/Chicago
Dashboard Language	english_us

Apply Changes

Setting	Value
DMR Master	DMR2YSF
DMR ESSID	04
DMR Color Code	1
DMR EmbeddedOnly	<input type="checkbox"/>
DMR DumpTADData	<input type="checkbox"/>

Apply Changes

Setting	Value
YSF Startup Host	FCS00390 - AmericaLinkWiresX
UPPERCASE Hostfiles	<input type="checkbox"/> Note: Update Required if changed
WiresX Passthrough	<input type="checkbox"/>

Apply Changes

Setting	Value
Dashboard Access	<input checked="" type="radio"/> private <input type="radio"/> Public
ircDDBGateway Remote	<input checked="" type="radio"/> private <input type="radio"/> Public
SSH Access	<input checked="" type="radio"/> private <input type="radio"/> Public

Pi-Star is now configured.

Radio Configuration

The crazy thing about this setup is there is nothing to configure in your radio. The radio talk group number is ignored. Any hotspot DMR TG channel will work. The hotspot should link to the AmericasLink room within a few seconds. Your "Dashboard" should look like this.

The screenshot shows a web-based dashboard for a radio configuration. The browser address bar shows '192.168.1.16/'. The dashboard is divided into several sections:

- Modes:** Enabled (circled in blue).
- Gateway Activity:** A table showing activity for various call signs and targets. The table has columns: Time (CDT), Mode, Callsign, Target, Src, Dur(s), Loss, and BER. The data is as follows:

Time (CDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
23:43:15 Sep 11th	DMR Slot 2	KH6VM	TG	Net	1.2	0%	0.0%
23:42:42 Sep 11th	DMR Slot 2	KI7GVM	TG	Net	2.6	0%	0.0%
23:42:08 Sep 11th	DMR Slot 2	K5SVV	TG	Net	1.2	0%	0.0%
23:34:49 Sep 11th	DMR Slot 2	VK2NJK	TG	Net	1.2	0%	0.0%
23:26:27 Sep 11th	DMR Slot 2	WA6RKE	TG	Net	1.2	0%	0.0%
23:18:42 Sep 11th	DMR Slot 2	KF7OLF	TG	Net	0.5	0%	0.0%
23:15:45 Sep 11th	DMR Slot 2	K3TEL	TG	Net	3.4	0%	0.0%
23:15:29 Sep 11th	DMR Slot 2	N3HYM	TG	Net	11.3	0%	0.0%
23:04:59 Sep 11th	DMR Slot 2	VK4KU	TG	Net	53.0	0%	0.0%
22:39:45 Sep 11th	DMR Slot 2	PY1USK	TG	Net	1.2	0%	0.0%
22:39:40 Sep 11th	DMR Slot 2	K17GGG	TG	Net	0.8	0%	0.0%
22:04:10 Sep 11th	DMR Slot 2	K8KFL	TG	Net	3.0	4%	0.0%
- Radio Info:** Shows Trx (Listening), TX (434.000000 MHz), RX (434.000000 MHz), FW (ZUMspot:v1.4.17), and TCXO (14.7456 MHz).
- DMR Repeater:** DMR ID (3148618), DMR CC (1), TS1 (disabled), TS2 (enabled).
- DMR Master:** DMR2YSF (circled in blue).
- YSF Network:** Linked to: FCS00390 (circled in blue).
- Local RF Activity:** A table with columns: Time (CDT), Mode, Callsign, Target, Src, Dur(s), BER, and RSSI.

AmericasLinkWiresX is a pretty busy room. You should begin to hear traffic within a few minutes (unless you're doing this in the middle of the night). If you do not hear traffic go back and verify all the settings match the screen shots above. Click "Apply Settings" again.

To initiate a QSO just key up and begin talking.