

Amateur Radio Notes

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Pi-Star cross modes

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Most up-to-date version: amateurradionotes.com/pi-star-cross-modes.htm

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Introduction

Pi-Star supports the capability to run a variety of cross modes, including: DMR2YSF, DMR2NXDN, YSF2DMR, YSF2NXDN, and YSF2P25.

☆ 1) DMR cross-mode configuration

To use the optional DMR2### cross-mode capability (requires Pi-Star 3.4.14 or later), in the [MMDVMHost Configuration](#) settings, enable both the DMR and DMR2### mode you want to use (you must disable the YSF or NXDN direct mode, as well as other cross modes, and normally you also should disable the other direct modes). After you have applied changes, you'll see both the Configuration modules for DMR and the other mode you selected.

1a) DMR2YSF

The screenshot shows two configuration panels. The top panel, titled "DMR Configuration", has a table with two columns: "Setting" and "Value". The "DMR Master:" setting is set to "DMR2YSF". The bottom panel, titled "Yaesu System Fusion Configuration", also has a "Setting" and "Value" table. "YSF Startup Host:" is set to "YSF99256 - US BM TG 31088 - Colorado HD". "UPPERCASE Hostfiles:" and "WiresX Passthrough:" are both disabled, indicated by red circles. A note says "Note: Update Required if changed". An "Apply Changes" button is at the bottom.

Setting	Value
DMR Master:	DMR2YSF

Setting	Value
YSF Startup Host:	YSF99256 - US BM TG 31088 - Colorado HD
UPPERCASE Hostfiles:	<input type="checkbox"/> Note: Update Required if changed
WiresX Passthrough:	<input type="checkbox"/>

Apply Changes

Hint: This feature has been evolving. For more info, see Andy Taylor's announcement: [DMR2YSF - Drive Talk-groups form radio](#), as well as related discussions in the [Pi-Star User Forum](#).

- In the **DMR Configuration** module:
 - **DMR Master** – Select the DMR Master you want to use, either DMR2YSF (easiest) or DMRGateway.

DMR2YSF: Per Andy Taylor, "when using DMR2YSF, using TG 31672 from your radio will bring you out on YSF 31672 (Pi-Star reflector) on YSF. FCS rooms are prefixed with 100, so 100290 = FCS2-90."

DMRGateway: Per Andy Taylor, "If you want to get really complex and use this with DMRGateway, using the 7 prefix and stretch the YSF numbers to 6 digits with a leading 0: TG 7031672 = Pi-Star YSF Reflector TG 7100290 = FCS2-90."
- In the **Yaesu System Fusion Configuration** module:
 - **YSF Startup Host** – Select the YSF or FCS reflector you want to use. Currently, you can't change the reflector directly in the radio.
 - **UPPERCASE Hostfiles** – If enabled, the hostfiles containing YSF and FCS rooms are converted to UPPERCASE whenever a Pi-Star Update is performed.

- **WiresX Passthrough** – When this is enabled, WiresX commands from your radio are passed through to the cross mode. Per Andy Taylor in the [Pi-Star User Forum](#): "Passthrough causes YSFGateway to pass through Wires-X commands from the radio to subordinate gateways (YSF2DMR/YSF2NXDN/YSF2P25). This enables you to navigate all of those, and then 'Unlink' to get back to controlling the YSFGateway. This really opens up the YSF mode and cross modes so that you can navigate them all from the radio. I can be on P25, finish up a QSO, check DMR, and then drop into an FCS reflector, all from the radio."

If any changes made, click Apply Changes.

See also: [YSF reflector list](#) · [FCS reflector list](#). The reflector lists include the DMR2YSF talkgroup codes and the DMR2YSF talkgroup via DMRGateway codes.

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1b) DMR2NXDN

DMR Configuration	
Setting	Value
DMR Master:	DMR2NXDN

NXDN Configuration	
Setting	Value
NXDN Startup Host:	10400 - pacific.nxref.org
NXDN RAN:	1

Hint: Watch the [DMR2NXDN video](#) by Craig, W1MSG. He clearly explains the two different ways you can set up and use this feature.

- **In the DMR Configuration module:**
 - **DMR Master** – Select the DMR Master you want to use, either DMR2NXDN or DMRGateway; however, per Andy Taylor in the [Pi-Star User Forum](#): "DMR2NXDN works much better without DMRGateway, since the NXDN system will honour your TG requests."

Note: If you do choose to use DMRGateway, when you add the NXDN talkgroups to your DMR radio's codeplug, you must prefix them with a 7.
- **In the NXDN Configuration module:**
 - **NXDN Startup Host** – Select the host you want to use. If you don't want to use a startup host, choose "None."
 - **NXDN RAN** – Enter your 2-digit (1 - 64) Random Access Number.

If any changes made, click Apply Changes.

☆ 2) YSF cross-mode configuration

Yaesu System Fusion Configuration	
Setting	Value
YSF Startup Host:	None
UPPERCASE Hostfiles:	<input checked="" type="checkbox"/> Note: Update Required if changed
WiresX Passthrough:	<input checked="" type="checkbox"/>
(YSF2DMR) CCS7/DMR ID:	3108883 None
DMR Master:	BM_United_States_3103
Hotspot Security:	*****
DMR TG:	31672
(YSF2NXDN) NXDN ID:	12345
NXDN Startup Host:	65000 - 176.9.1.168
(YSF2P25) CCS7/DMR ID:	1234567
P25 Startup Host:	10100 - 85.119.82.151

To use the optional YSF2### cross-mode capability (requires Pi-Star 3.4.10 or later), in the [MMDVMHost Configuration](#) settings, enable both the YSF and YSF2### modes you want to use (you must disable the DMR, NXDN, or P25 direct mode, as well as other non-YSF cross modes, and normally you also should disable the other direct modes), and then set up as follows.

Disclaimer: I don't use YSF and, frankly, the configuration for YSF cross-modes confuses me. I've tried to provide some basic info here, but it's best to visit the [Pi-Star User Forum](#) to read about this topic. Start with: [Wires-X Auto Passthrough](#)△.

Hint: From a post by Ron, VE1AIC, in the [Pi-Star User Forum](#)△: "For P25 ONLY, use VW mode on your Fusion Radio, all others are DN."

2a) YSF2DMR

- **(YSF2DMR) CCS7/DMR ID** – Enter the ID you want to use. If you are using an extended SSID (ESSID), select the extension.

Note: Normally, you should make sure that you're logged into DMR in only one place, or else that you are using different CCS7/DMR IDs for each login instance (for example, if you're running DMR on one hotspot and YSF2DMR on another). However, on the BrandMeister, DMR Plus, and TGIF networks, you have the option of appending a two-digit extension (00 - 99) to your regular CCS7/DMR ID so that the network can distinguish between your logins. Some DMR Plus servers

use single-digit extensions. Personal, low-power hotspots also can use ESSIDs (but repeaters don't).

- **DMR Master** – Select the master you want to use for YSF2DMR mode.
- **Hotspot Security** – If you have enabled a Hotspot Security password in BrandMeister SelfCare, enter it here to enable your hotspot to access the BrandMeister Network.
- **DMR TG** – Enter the talkgroup you want to use for YSF2DMR mode. If you enable WiresX Passthrough, you can change this from the radio.

If any changes made, click Apply Changes.

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2b) YSF2NXDN

- **(YSF2NXDN) NXDN ID** – Enter the ID you want to use.
- **NXDN Startup Host** – Select the startup host you want to use.

If any changes made, click Apply Changes.

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2c) YSF2P25

- **(YSF2P25) CCS7/DMR ID** – Enter the ID you want to use.
- **P25 Startup Host** – Select the startup host you want to use.

If any changes made, click Apply Changes.

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