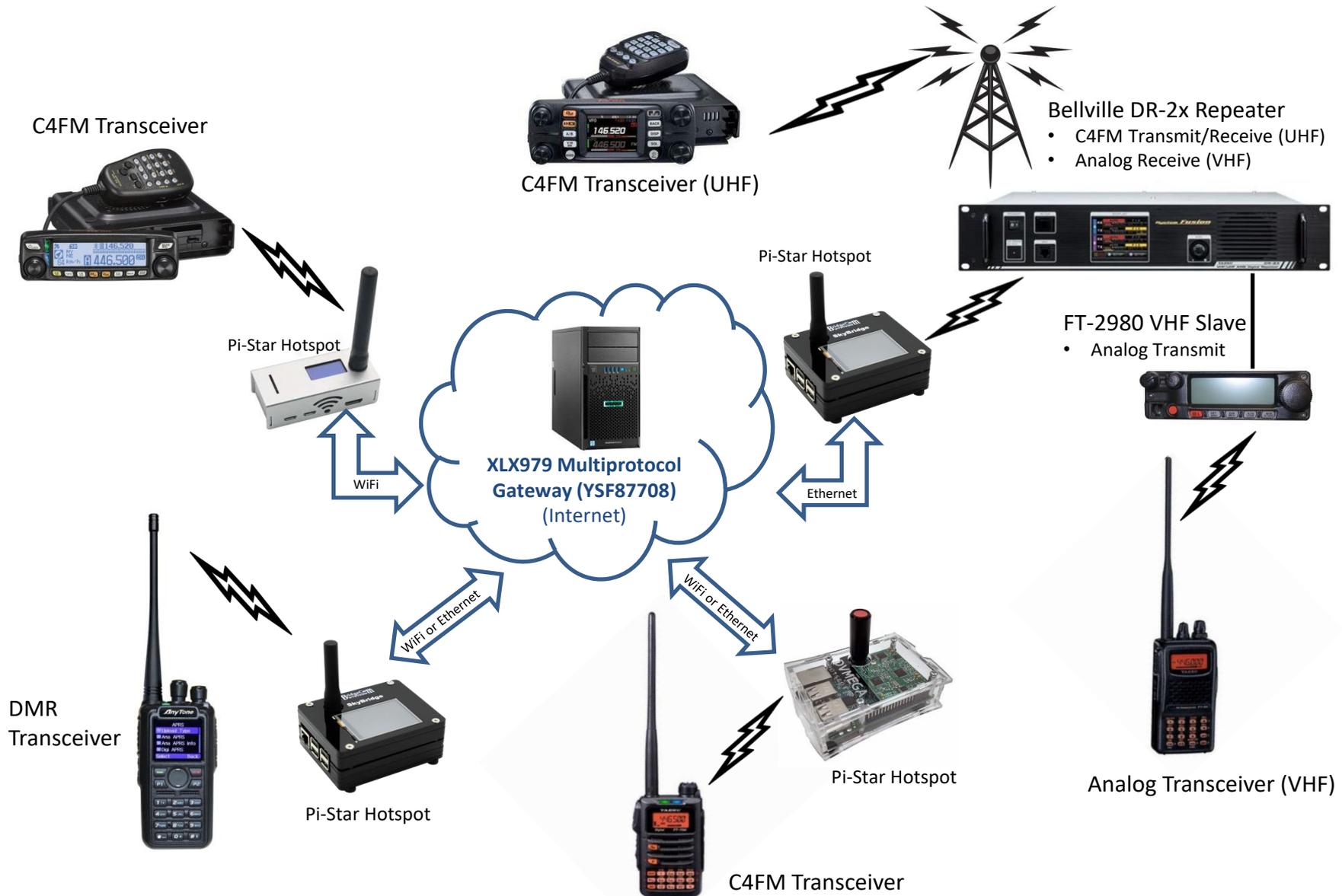


W5SFA Repeater/Gateway/Hotspot Configuration



Accessing the Club Repeater from the Internet: What You Need

- A Digital Radio, either C4FM or DMR
 - Yaesu
 - Legacy Models: FT2DR, FTM-3200, FTM-3207, FTM-100
 - Current Models: FT70DR, FT5DR, FTM-200DR, FTM-300DR, FTM-400DR, FTM-500DR, also the FT991 HF/VHF/UHF transceiver
 - DMR
 - The Anytone AT-D878UVII is a good choice – it's relatively easy to program, and several club members have them.
 - If you're buying new, the cheapest Yaesu C4FM digital radio is currently the FT-70DR, which sells for \$175.
- A Pi-Star Hotspot

Pi-Star Hotspots

- Buy commercial (\$120-\$400+) or build your own
- A typical BYO hotspot consists of:
 - Raspberry Pi 3B+, 4B, or ZeroW (\$50+)
 - RF Board that plugs into RPi's GPIO (\$50-\$100), can be simplex or duplex
 - Display, Case, Power brick (\$20-65)
- The chip shortage has jacked up RPi prices (a Pi ZeroW was \$10!)
- Requires an internet connection
 - Home ISP, cell phone, public wifi, etc.
- If you want portability, you'll need a 5V power source
- Install the Pi-Star software (free download) on the micro-SD card
- You **must** have digital transceiver, either Yaesu C4FM or DMR. The same hotspot can support both Yaesu C4FM and DMR radios

Configuring Your Pi-Star Hotspot: Yaesu C4FM

- Set up a memory channel on your transceiver for the frequency your hotspot will use
 - Most hotspot RF boards support both UHF & VHF
 - Make sure the channel is set to low power
 - Ensure your transceiver is in C4FM digital mode
- Power on your Pi-Star Hotspot, then open a web browser on your computer to connect:
 - Typically <http://pi-star>
 - Default username is **pi-star**, password is **raspberry**)
- Some useful resources on the web are
 - <https://amateurradionotes.com/pi-star.htm>
 - <https://www.pistar.uk/>

Configuring Your Pi-Star Hotspot: Yaesu C4FM

- Navigate to the Configuration page
 - Select MMDVMHost for Controller Software
 - You'll need to select the correct Radio/Modem type (your RF board) from the list
 - Set up your wifi parameters (unless using wired Ethernet)
 - This is usually followed by a reboot of the hotspot
- Once you've reconnected, log in and navigate to the Update page to update the Pi-Star software
- When update is complete, return to the Configuration page and complete the setup
 - The following slides are shown as an example
 - Test by keying up your transceiver (display should change)

Configuring Your Pi-Star Hotspot: Yaesu C4FM

Pi-Star:4.1.6 / Dashboard: 20221114

Pi-Star Digital Voice - Configuration

Dashboard | Admin | Expert | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star-zero2	5.10.17+	Raspberry Pi Zero W Rev 1.1	5.88 / 3.31 / 2.11	40.6°C / 105.1°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 type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
D-Star Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
YSF Mode:	<input checked="" type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
P25 Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
NXDN Mode:	<input type="checkbox"/> RF Hangtime: <input type="text" value="20"/> Net Hangtime: <input type="text" value="20"/>
YSF2DMR:	<input type="checkbox"/>
YSF2NXDN:	<input type="checkbox"/>
YSF2P25:	<input type="checkbox"/>
DMR2YSF:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
DMR2NXDN:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
POCSAG:	<input type="checkbox"/> POCSAG Paging Features
MMDVM Display Type:	OLED Type 3 <input type="button" value="v"/> Port: <input type="text" value="/dev/ttyAMA0"/> Nextion Layout: <input type="text" value="G4KLX"/> <input type="button" value="v"/>

Configuring Your Pi-Star Hotspot: Yaesu C4FM

General Configuration

Setting	Value
Hostname:	pi-star-zero2 <small>Do not add suffixes such as .local</small>
Node Callsign:	N5RWK
CCS7/DMR ID:	3182388
Radio Frequency:	439.000.000 MHz
Latitude:	29.8778 <small>degrees (positive value for North, negative for South)</small>
Longitude:	-96.48012 <small>degrees (positive value for East, negative for West)</small>
Town:	New Ulm, EL19sv
Country:	TX US
URL:	http://www.qrz.com/db/n5rwk <input type="radio"/> Auto <input checked="" type="radio"/> Manual
Radio/Modem Type:	LoneStar - MMDVM_HS_Dual_Hat for Pi (GPIO) ▾
Node Type:	<input checked="" type="radio"/> Private <input type="radio"/> Public
APRS Host Enable:	<input type="checkbox"/>
APRS Host:	noam.aprs2.net ▾
System Time Zone:	America/Chicago ▾
Dashboard Language:	english_us ▾

Apply Changes

Yaesu System Fusion Configuration

Setting	Value
YSF Startup Host:	YSF87708 - XLX979 - XLXreflector ▾
UPPERCASE Hostfiles:	<input checked="" type="checkbox"/> <small>Note: Update Required if changed</small>
WiresX Passthrough:	<input checked="" type="checkbox"/>