



DMR Hotspot Setup, Techniques, and Equipment

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SeaPac - June 2, 2019

Agenda

- Overview
- PNW Registration
- Radio Setup
- Hotspot Setup
- Get on the Air

Mission Statement

This seminar will aid a casual DMR user in connecting an Anytone DMR radio to the PNW DMR Network, via a Pi-Star-based MMDVM hotspot.

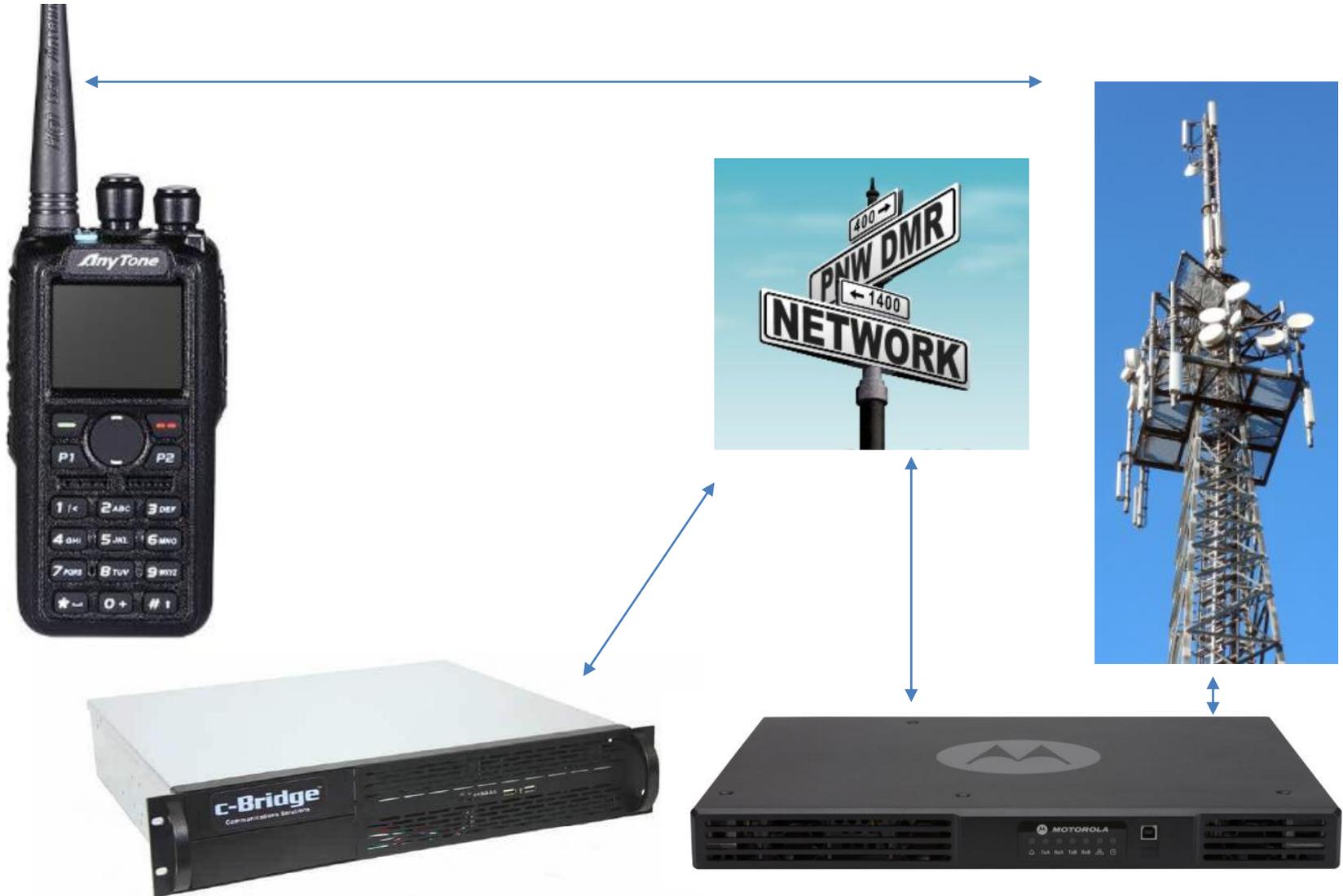
This seminar is not intended to teach basic DMR concepts, other radios, other networks, or other hotspots, however in many cases, the information is universal.

What is a DMR Hotspot?

- MMDVM – Multi Mode Digital Voice Modem
- Modes: DMR, D-Star, YSF, P25, NXDN, POGSAG
- Connects your digital radio to the Internet
- Essentially a miniature simplex repeater



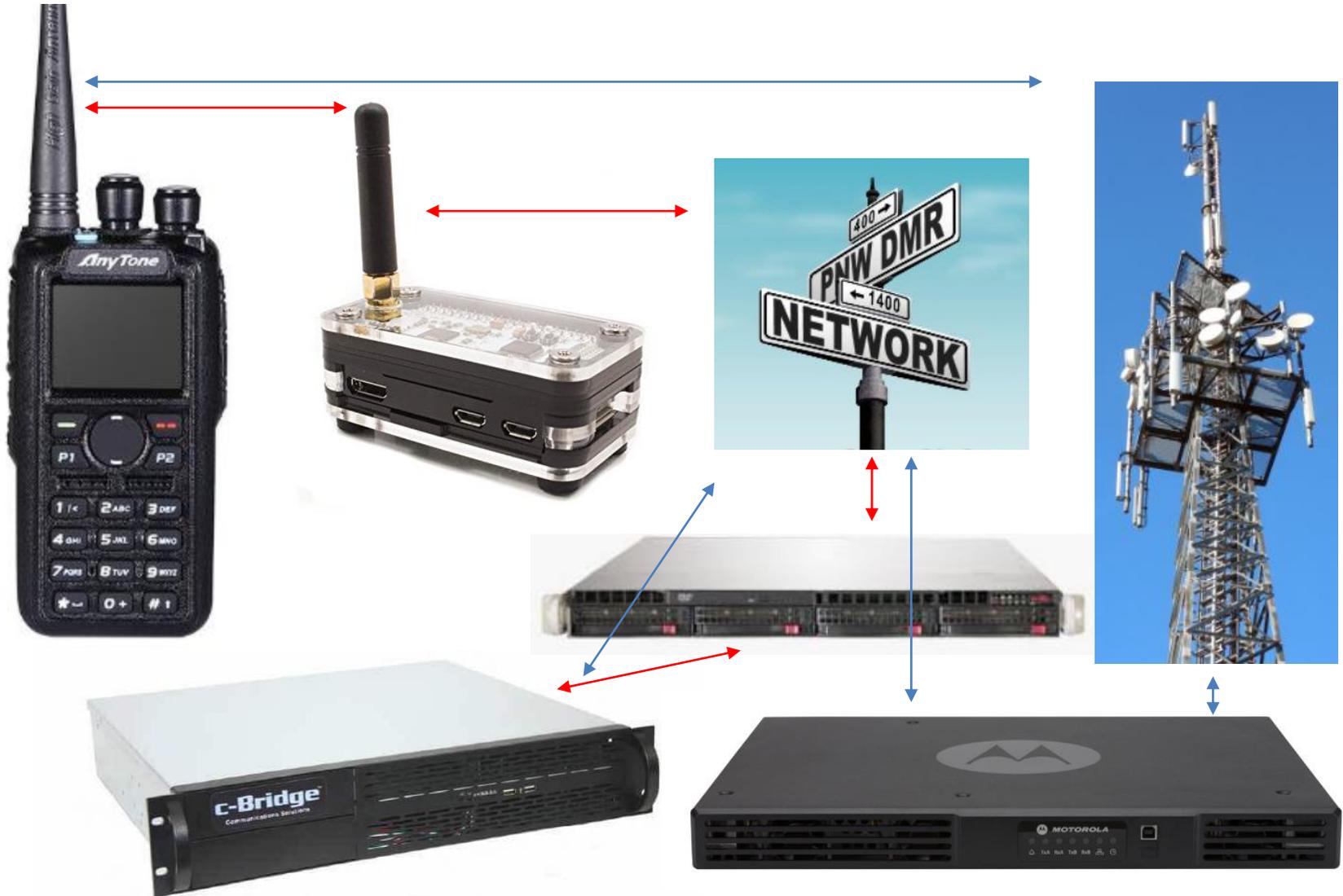
PNW Repeater Diagram



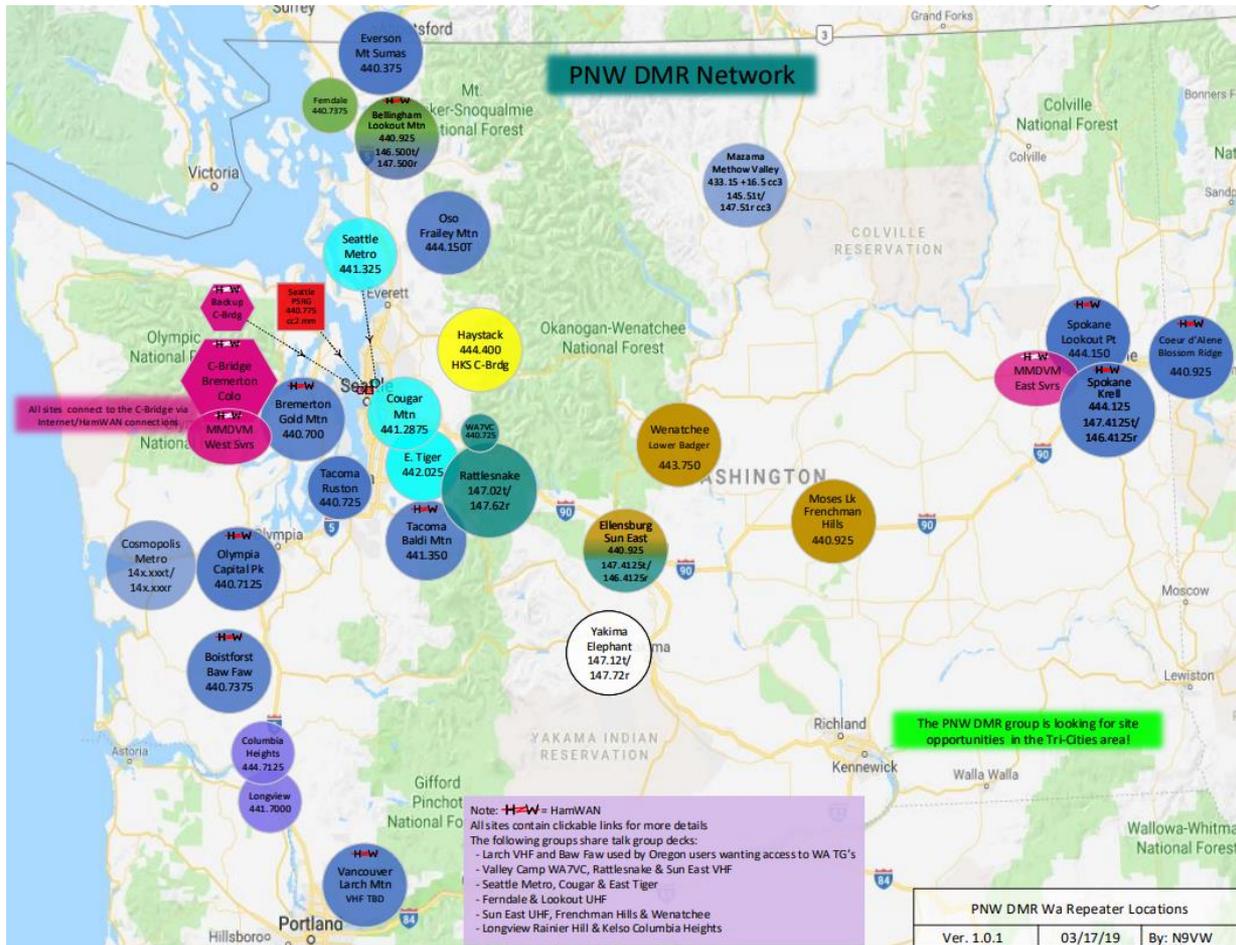
PNW MMDVM Diagram



PNW System Diagram



PNW DMR Network-WA



MMDVM Servers vs Repeaters

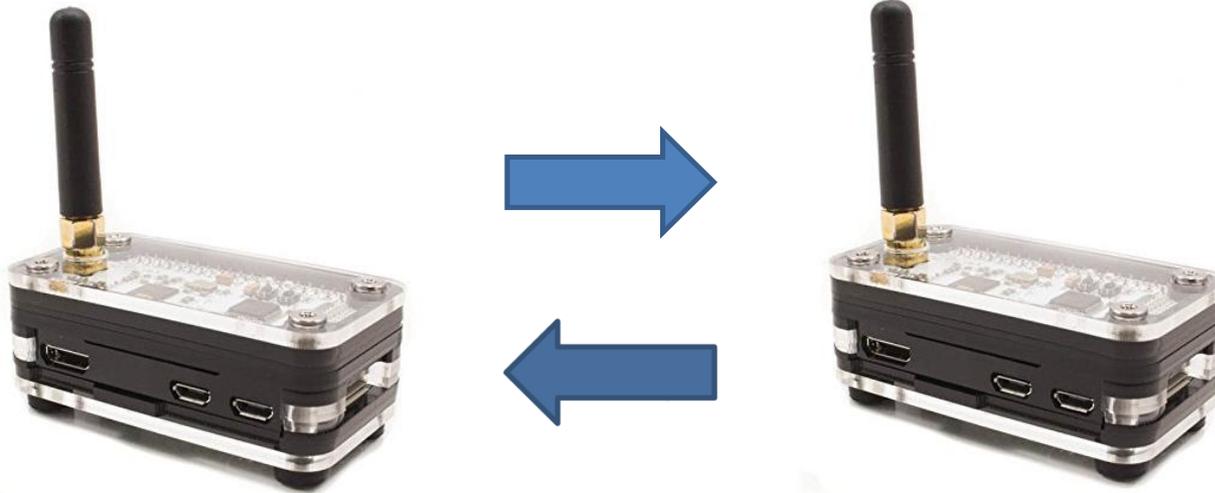
- MMDVM Servers are similar to repeaters
- Both carry one voice conversation per timeslot
- Both work with themselves and each other
 - Except PTT groups and TAC 8 (MM Only)
- Both have applicable FCC and system rules
- You can choose what works best for you

MMDVM Benefits

- Access your home system around the world
- Extended coverage in your vehicle
- HOA Antenna Restrictions
- Additional talkgroups
- More voice paths
- Redundancy
- Other networks and modes
 - Brandmeister/TGIF
 - DMR via YSF

Cautions

- Please do not operate two hotspots on the same frequency



MMDVM Server Information

- MMDVM Server information can be found at www.pnwdigital.net



PNW DMR - IO Group Repeaters Talkgroups MCT Matrix; MMDVM OR VHF WA-W WA-E/ID Netwatch LastHeard Links

PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR

WA7DMR **Pacific Northwest DMR** **WA7DMR**

pnw@pnwdigital.net MotoTRBO™.org www.pnwdigital.net

not affiliated with Motorola but we sure like their stuff

PNW MMDVM Matrix

Talkgroup/ TG Viewer	TG ID	Bridget (PNW)	Emma (EMCOM)	Peter Public Access	Suzy (WA East)	Wes (WA West)	Rex (2 slot devices)
Audio Test 2	9999	P1/0	P1/0		P1/0	P1/0	P2/0
Cascades East 1	3191	P15/2m	P5/2m?	P5/2m	F/2m	n/a	F/3m
Idaho 1 (bm)	3116	P15/2m	P5/2m?	P5/2m	P15/2m		P15/3m
I-5	3168	P10/2m	n/a	n/a	n/a	P5/2	D
Montana 2 (bm)	3130		T		P5/2m		
MPRG1-2 (bm)	31301				P10/2m		
Oregon 1 (bm*)	3141	P5/2m	P5/2m?		P5/2m	P15/2	P15/3m
Parrot 1	9998	P2/0	P2/0		P2/0	P2/0	P2
PNW 1	3187	F/2m	F/2m?		P5/2m	P5/2	P3m
PNW 2	103187	F/2m	F/2m?		P5/2m	P5/2	F/3m (TS2)
PNW Reg 2 (bm)	31771	F/2m	P5/2m?	F/2m	F/2m	F/2	F/3m (TS2)
PS 1	3190	F/120m	F/120m	n/a	F/120m	F/120m	F/120m
PS 2	103190	P60/60m	P60/60m	n/a	P60/60m	P60/60m	P60/60m (TS2)
TAC 1	8951	P5/2m	P5/2m?	P5/2m	P5/2m	P5/2	P15/3m (TS2)
TAC 2	8952	P5/2m	P5/2m?	P5/2m	P5/2m	P5/2	P15/3m (TS2)
TAC 8 (MM to MM QSO)	8958	P5/2m	P5/2m?	P5/2m	P5/2m	P5/2	P5/3m (TS2)
USA 2	1776						P15/3m (TS2)
Washington 1 (bm*)	3153	F/2	P5/2m	P5/2m	F/2m	F/2	F/3m
Washington 2	103153	F/2	P5/2m	Net Only	P15/2m	F/2	F/3m (TS2)

Which Server Should I Choose

- Peter is public, no registration required
- Wes and Bridget carry I-5
- Suzy carries Montana
- Bridget carries both West and East TGs
- Rex is for use with Duplex hotspots
- You can choose more than one server
 - Change in the Pi-Star web interface
 - Buy a second hotspot, run on second frequency

Why Register

- Limited resources devoted to PNW users
 - MMDVM servers stream one talkgroup at a time
- Compliance
 - Users are transmitting on PNW repeaters
- Troubleshooting
 - Users are connected to PNW repeaters and systems, some of which are primary-SAR usage
- Cost: \$0.00
- Peter is open – no registration required

Where to Register?

- Registration link io.pnwdigital.net or from the pnwdigital.net homepage



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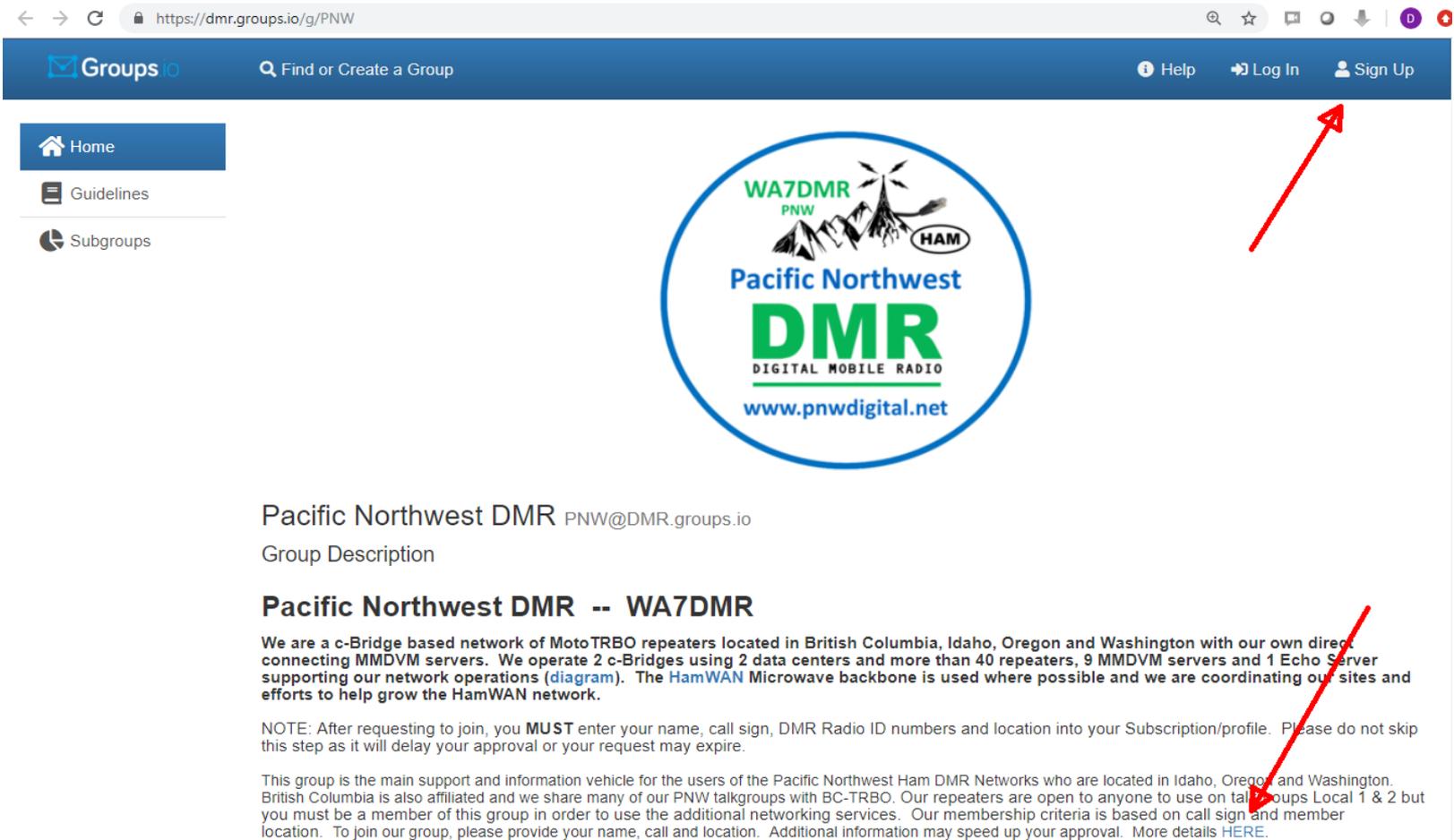
PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR | PNW DMR WA7DMR

WA7DMR **Pacific Northwest DMR** **WA7DMR**

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not affiliated with Motorola but we sure like their stuff

PNW dmr.groups.io Page



Groups.io Find or Create a Group Help Log In Sign Up

Home Guidelines Subgroups



Pacific Northwest DMR PNW@DMR.groups.io

Group Description

Pacific Northwest DMR -- WA7DMR

We are a c-Bridge based network of MotoTRBO repeaters located in British Columbia, Idaho, Oregon and Washington with our own direct connecting MMDVM servers. We operate 2 c-Bridges using 2 data centers and more than 40 repeaters, 9 MMDVM servers and 1 Echo Server supporting our network operations (diagram). The HamWAN Microwave backbone is used where possible and we are coordinating our sites and efforts to help grow the HamWAN network.

NOTE: After requesting to join, you **MUST** enter your name, call sign, DMR Radio ID numbers and location into your Subscription/profile. Please do not skip this step as it will delay your approval or your request may expire.

This group is the main support and information vehicle for the users of the Pacific Northwest Ham DMR Networks who are located in Idaho, Oregon and Washington. British Columbia is also affiliated and we share many of our PNW talkgroups with BC-TRBO. Our repeaters are open to anyone to use on talkgroups Local 1 & 2 but you must be a member of this group in order to use the additional networking services. Our membership criteria is based on call sign and member location. To join our group, please provide your name, call and location. Additional information may speed up your approval. More details [HERE](#).

MMDVM Privilege Request

- Email pnw-mm-servers@pnwdigital.net
 - Your name
 - Your callsign
 - Your DMR ID
 - Your city/state
 - Request access to MMDVM servers

Radio Setup

- **Add any needed talkgroups**
- Choose a frequency
- Create the channels
- Make a new zone
- Other notes

PNW MMDVM Matrix

Talkgroup/ TG Viewer	TG ID	Bridget (PNW)	Emma (EMCOM)	Peter Public Access	Suzy (WA East)	Wes (WA West)	Rex (2 slot devices)
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Parrot 1	9998	P2/0	P2/0		P2/0	P2/0	P2
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Talkgroup Setup

D878UV

- Public
 - Channel
 - Zone
 - Scan List
 - Roaming Zone
 - FM
 - Auto Repeater Offset Frequer
 - Roaming Channel
 - Basic information
 - Optional Setting
 - Alarm Setting
 - Local Information
 - Hot Key
- Digital
 - Radio ID List
 - Talk Groups
 - Prefabricated
 - Receive Group Call list
 - Encryption Code
 - Digital Contact List

No.	TG/DMR ID	Call Alert	Name	Ca
1	3153	None	Wash 1	Gr
2	103153	None	Wash 2	Gr
3	3187	None	PNW 1	Gr
4	103187	None	PNW 2	Gr
5	3181	None	Local 1	Gr
6	3166	None	Local 2	Gr
7	8951	None	TAC 1	Gr
8	8952	None	TAC 2	Gr
9	8953	None	TAC 3	Gr
10				Gr
11				Gr
12				Gr
13				Gr
14				Gr
15				Gr
16				Gr
17				Gr
18				Gr
19				Gr
20				Gr

Talk Group Edit---15

Name: TAC 8

Call Type: Group Call

TG/DMR ID: 8958

Call Alert: None

OK Cancel Previous Next

Radio Setup

- Add any needed talkgroups
- **Choose a frequency**
- Create the channels
- Make a new zone
- Other notes

Choose a frequency

- Avoid 435.0 – 438.0
- Consult your local band plan
 - ORRC
 - WWARA
 - ARRL

ORRC Band Plan

ORRC 70 Centimeter Band Plan

Frequency	Range	Allocated	Usage	Comments
420.000	421.225	1250	Linking	25kHz spacing for Linking +3.75MHz
421.350	422.350	1000	High Speed Data	100 kHz wide high speed data channels - Simplex
423.375	424.975	1625	Linking	25kHz spacing for Linking -3.75 or +10MHz Offset
425.000	431.000	6000	Amateur Television	Simplex or Repeater (Input or Output) AM VSB only
431.025	431.975	950	Simplex	Non-Coordinated. All modes allowed.
432.000	432.075	75	EME	Non-Coordinated. See ARRL Band Plan
432.100	432.100	25	Weak Signal CW	Non-Coordinated. See ARRL Band Plan
432.125	432.300	175	Simplex	Non-Coordinated. All modes allowed
432.325	432.400	75	Propagation Beacons	Non-Coordinated. See ARRL Band Plan
432.425	432.975	550	Simplex	Non-Coordinated. All modes allowed
433.025	434.875	1875	Linking	25kHz spacing for Linking -10MHz or +5MHz Offset
434.900	434.990	90	GMSK Repeater	10kHz spacing for Repeater Outputs
435.025	437.975	2950	Weak Signal	Satellite and Space Communications
438.000	439.875	1900	Linking	25kHz spacing for Linking -5MHz Offset
439.900	439.990	90	GMSK Repeater	10kHz spacing for Repeater Inputs
440.025	440.950	950	Repeater Outputs	25kHz spacing for Repeater Output +5MHz Offset
440.975	441.075	100	Packet	12.5kHz spacing for Packet Operations. Diversity Spaced
441.100	441.400	325	Repeater Outputs	25kHz spacing for Repeater Output +5MHz Offset
441.425	441.475	75	Repeater Outputs	25kHz spacing for Cross Band Repeater Output - 5MHz Offset
441.500	441.525	50	Packet	25kHz spacing for Packet Operations
441.550	441.600	75	Simplex	25kHz spacing for Simplex Operations. Non-Coordinated
441.625	444.975	3375	Repeater Outputs	25kHz spacing for Repeater Output +5MHz Offset
445.000	445.000	25	Simplex Repeater	One channel for Simplex Repeater Operation
445.025	445.950	950	Repeater Inputs	25 kHz spacing for Repeater Inputs -5MHz Offset
445.975	445.975	25	Simplex	25kHz spacing for Simplex Operations. Non-Coordinated
446.000	446.000	25	Simplex	National Calling Simplex. Non-Coordinated
446.025	446.075	50	Simplex	25kHz spacing for Simplex Operations. Non-Coordinated
446.100	446.400	325	Repeater Inputs	25kHz spacing for Repeater Input -5MHz Offset.
446.425	446.475	75	Repeater Inputs	25kHz spacing for Cross Band Repeater Input - 5MHz Offset
446.500	446.600	110	Control	10kHz spacing alternate polarization beginning with Horizontal
446.625	449.975	3375	Repeater Inputs	25kHz spacing for Repeater Input -5MHz Offset.

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Radio Setup

- Add any needed talkgroups
- Choose a frequency
- **Create the channels**
- Make a new zone
- Other notes

Our Channel Setup

- Screenshots are from Anytone 878 CPS
- Frequency: 432.500MHz (Pick your own)
- Color Code: 1
- Power: Low
- TX Permit: Always or Same Color Code
- Timeslot: 2 (Pi-Star) or 1 (OpenSpot)
- Contact /Talkgroup: One per talkgroup

Peter Channels Entered

No.	Receive Frequency	Transmit Frequency	Channel Type	Power	Band Width	CTCSS/DCS Decode	CTCSS/DCS Encode	Channel Name	Contact
1448	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter Casc E	Cascades East
1449	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter Idaho	Idaho 1
1450	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter PNWR	PNW Regional
1451	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter TAC 1	TAC 1
1452	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter TAC 2	TAC 2
1453	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter TAC 8	TAC 8
1454	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter Wash 1	Wash 1
1455	432.50000	432.50000	D-Digital	Low	12.5K	Off	Off	Peter Wash 2	Wash 2

Radio Setup

- Add any needed talkgroups
- Create a RX Group list
- Choose a frequency
- Create the channels
- **Make a new zone**
- Other notes

Make a New Zone

The screenshot shows a software interface for configuring a radio system. The left sidebar lists various settings under 'Public' and 'Digital' categories. The main window is titled 'Zone Edit---57' and contains a table with columns 'No.' and 'Zone Name'. The 'Zone Name' field is populated with 'Peter 432.5'. To the right, there are two dropdown menus for 'A Channel' and 'B Channel', both set to 'Peter Wash 1'. Below these are two lists: 'Available Channel' (1427-1447) and 'Zone Channel Member' (1448-1455). A '>>' button is positioned between the two lists. At the bottom, there are 'OK', 'Cancel', 'Previous', and 'Next' buttons. Red arrows highlight the 'Zone' option in the sidebar, the 'Zone Name' field, the 'A Channel' and 'B Channel' dropdowns, and the '>>' button.

No.	Zone Name
41	
42	Peter 432.5
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	

Available Channel	Zone Channel Member
1427	1448 Peter Casc E
1428	1449 Peter Idaho
1429	1450 Peter PNWR
1430	1451 Peter TAC 1
1431	1452 Peter TAC 2
1432	1453 Peter TAC 8
1433	1454 Peter Wash 1
1434	1455 Peter Wash 2
1435	
1436	
1437	
1438	
1439	
1440	
1441	
1442	
1443	
1444	
1445	
1446	
1447	

Other Zone Ideas

- MMDVM and Repeater Channels
- Zone for your favorite talkgroup

Radio Setup

- Add any needed talkgroups
- Choose a frequency
- Create the channels
- Make a new zone
- **Other notes**

Using PNW Stock Codeplug?

- Find the zone
- Find the channel numbers from the zone
- Change the frequency
- Change the timeslot (if needed)
- Make any other needed changes

Don't Forget

- Flash the radio
- The radio is now ready!

Hotspot Setup

- Hotspot overview
- ZUMspot configuration

Hotspot Overview

- Many different models
 - Zumspot
 - OpenSpot
 - Jumbospot
 - BlueDV
- I prefer the following:
 - Non-USB
 - Non-Bluetooth
 - Displays are nice, but not essential
 - Put it in a case

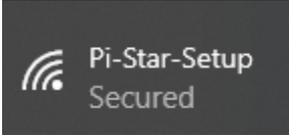
Typical Hotspot Components

- Raspberry Pi Zero
- MMDVM HAT (Hardware Attached on Top)
- Micro SD card (2G minimum)
- Power supply Micro-USB (500ma minimum)
- Antenna
- Case
- OLED Display

What is on the SD Card?

- Pi-Star is a custom, pre-configured SD Card image for the Raspberry Pi
- Based on Raspbian Linux
- Includes software stacks from Jonathan G4KLX
- Dashboard by Andy MM0MWZ
- Current release 3.4.17 20-Jan-2019
- Beta release 4.0.0 RC4 21-May-2019
- www.pistar.uk

First Boot of the ZUMspot

- Power the ZUMspot up and wait 3+ minutes
- Connect to a WiFi device called 
- Browse to <http://192.168.50.1>
- Username: pi-star Password: raspberry



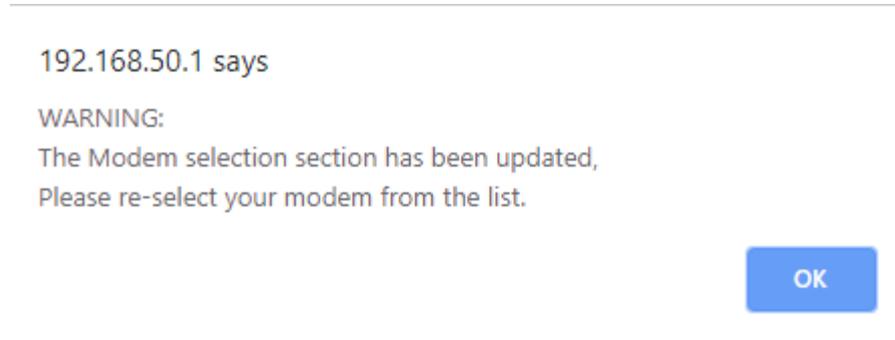
General Configuration 1

Setting	Value
Hostname:	pi-star <small>Do not add suffixes such as .local</small>
Node Callsign:	YOURFCC
Radio Frequency:	432.5 MHz
Latitude:	50.00 <small>degrees (positive value for North, negative for South)</small>
Longitude:	-3.00 <small>degrees (positive value for East, negative for West)</small>
Town:	Town, L0C4T0R
Country:	Country
URL:	http://www.mw0mwz.co.uk/pi-star/ <input type="radio"/> Auto <input checked="" type="radio"/> Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO) ▼
Node Type:	<input type="radio"/> Private <input checked="" type="radio"/> Public
APRS Host:	euro.aprs2.net ▼
System Time Zone:	America/Vancouver ▼
Dashboard Language:	english_us ▼

Helpful Tip

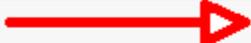
- Update one section at a time
- Click **Apply Changes**
- Wait for refresh

Reselect the Modem



- Reselect the modem
 - ZumSpot – Raspberry Pi Hat (GPIO)
- Apply changes

MMDVMHost Configuration

MMDVMHost Configuration	
Setting	Value
DMR Mode: 	<input checked="" 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 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: 	<input type="text" value="OLED"/> Port: <input type="text" value="/dev/ttyAMA0"/> Nextion Layout: <input type="text" value="G4KLX"/>



Wireless Configuration 1

Wireless Configuration

Refresh Reset WiFi Adapter **Configure WiFi**

Wireless Information and Statistics

Interface Information	
Interface Name : wlan0	Connected To :
Interface Status : Interface is down	AP Mac Address :
IP Address :	Bitrate :
Subnet Mask :	

Wireless Configuration

WiFi Info

Scan for Networks (10 secs) Add Network **Save (and connect)**

Networks found :

Connect	SSID	Channel	Signal	Security
Select		2.4GHz Ch4	-55 dBm	WPA2-PSK (AES)
Select	guestnet	2.4GHz Ch4	-56 dBm	WPA2-PSK (AES)
Select		2.4GHz Ch4	-59 dBm	WPA2-PSK (AES)
Select	CenturyLink2043	2.4GHz Ch1	-68 dBm	WPA/WPA2-PSK (AES) with WPS
Select	ourHome6	2.4GHz Ch11	-68 dBm	WPA2-PSK (TKIP) with WPS
Select		2.4GHz Ch11	-70 dBm	[WPA-PSK-CCMP+TKIP][WPA2-PSK-CCMP+TKIP][ESS]
Select		2.4GHz Ch11	-71 dBm	[WPA-PSK-CCMP+TKIP][WPA2-PSK-CCMP+TKIP][ESS]
Select	Newell12.4	2.4GHz Ch11	-74 dBm	WPA2-PSK (TKIP) with WPS
Select	Vazquez_23-2.4	2.4GHz Ch1	-81 dBm	WPA2-PSK (TKIP) with WPS

Wireless Configuration 2

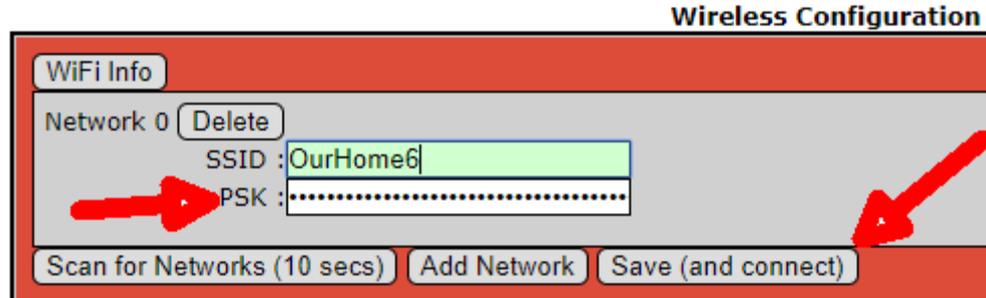
Wireless Configuration

WiFi Info

Network 0

SSID :

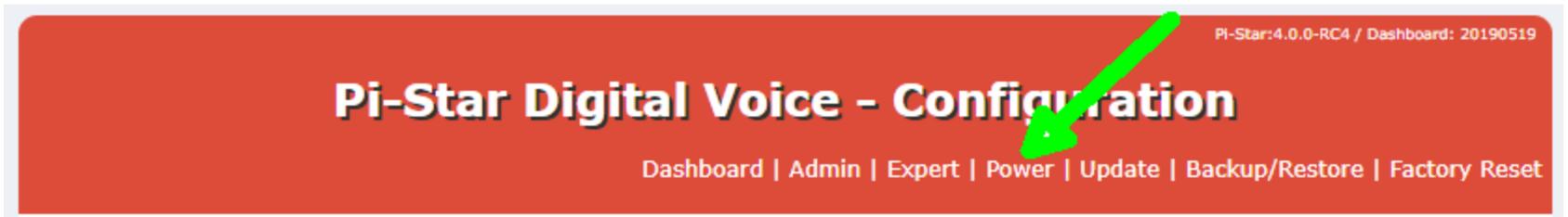
PSK :



PI-Star:4.0.0-RC4 / Dashboard: 20190519

Pi-Star Digital Voice - Configuration

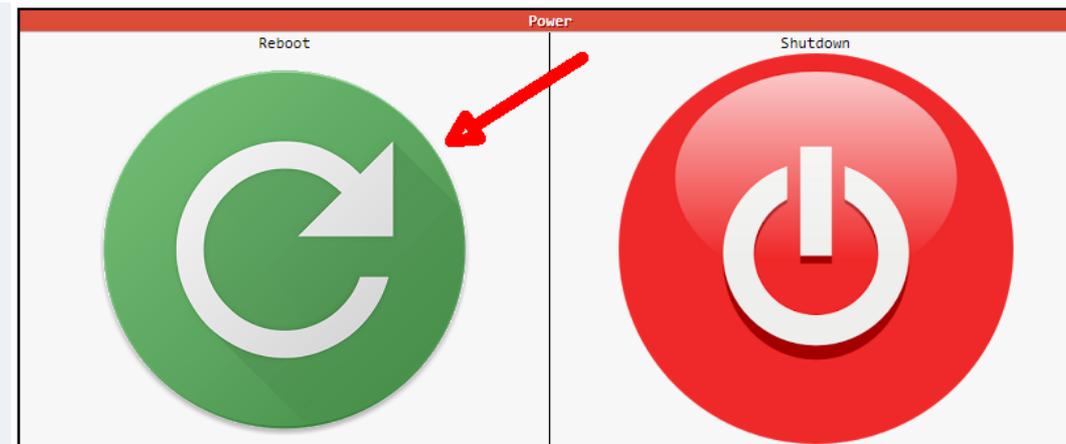
[Dashboard](#) | [Admin](#) | [Expert](#) | [Power](#) | [Update](#) | [Backup/Restore](#) | [Factory Reset](#)



Power

Reboot

Shutdown



Second Boot of the ZUMspot

- Reconnect your computer to your Wi-Fi
- Browse to <http://pi-star.local/>

The screenshot shows the Pi-Star Digital Voice Dashboard for YOURFCC. The browser address bar shows pi-star.local/. The dashboard header includes the hostname "pi-star" and version information "Pi-Star:4.0.0-RC4 / Dashboard: 20190519". The main title is "Pi-Star Digital Voice Dashboard for YOURFCC" with navigation links for "Dashboard | Admin | Configuration".

On the left side, there are three sections:

- Modes Enabled:**

D-Star	DMR
YSF	P25
YSF XMode	NXDN
DMR XMode	POCSAG
- Network Status:**

D-Star Net	DMR Net
YSF Net	P25 Net
YSF2DMR	NXDN Net
YSF2NXDN	YSF2P25
DMR2NXDN	DMR2YSF
- Radio Info:**

Trx	
Tx	432.500000 MHz
Rx	432.500000 MHz

On the right side, there are two activity tables:

- Gateway Activity:**

Time (PDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
------------	------	----------	--------	-----	--------	------	-----
- Local RF Activity:**

Time (PDT)	Mode	Callsign	Target	Src	Dur(s)	BER	SSI
------------	------	----------	--------	-----	--------	-----	-----

Green arrows point to the browser address bar, the "Configuration" link, the "Radio Info" section, and the "Local RF Activity" table.

General Configuration 2

Setting	Value
Hostname:	pi-star <small>Do not add suffixes such as .local</small>
Node Callsign:	YOURFCC
CCS7/DMR ID:	1234567
Radio Frequency:	432.500.000 MHz
Latitude:	50.00 <small>degrees (positive value for North, negative for South)</small>
Longitude:	-3.00 <small>degrees (positive value for East, negative for West)</small>
Town:	Town, L0C4T0R
Country:	Country
URL:	http://www.mw0mwz.co.uk/pi-star/ <input type="radio"/> Auto <input checked="" type="radio"/> Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)
Node Type:	<input type="radio"/> Private <input checked="" type="radio"/> Public
APRS Host:	euro.aprs2.net
System Time Zone:	America/Vancouver
Dashboard Language:	english_us



Expert Configuration/SSH

Pi-Star:4.0.0-RC4 / Dashboard: 20190519

Pi-Star Digital Voice Configuration

[Dashboard](#) | [Admin](#) | [Expert](#) | [Power](#) | [Update](#) | [Backup/Restore](#) | [Factory Reset](#)

Pi-Star:4.0.0-RC4 / Dashboard:20190519

Pi-Star Digital Voice - Expert Editors

[Dashboard](#) | [Admin](#) | [Update](#) | [Upgrade](#) | [Backup/Restore](#) | [Configuration](#)

Quick Edit: [DStarRepeater](#) | [ircDDBGateway](#) | [TimeServer](#) | [MMDVMHost](#) | [DMR GW](#) | [YSF GW](#) | [P25 GW](#) | [NXDN GW](#) | [DAPNET GW](#)
Full Edit: [DMR GW](#) | [PiStar-Remote](#) | [WiFi](#) | [BM API](#) | [DAPNET API](#) | [System Cron](#) | [RSSI Dat](#) **Tools:** [CSS Tool](#) | [SSH Access](#)

SSH - Pi-Star

```
pi-star login: pi-star  
Password: raspberry  
Last login: Mon May 27 22:18:55 PDT 2019 from 192.168.1.127 on pts/0  
Linux pi-star 4.19.42+ #1219 Tue May 14 21:16:38 BST 2019 armv6l
```

SSH Configuration

- Enter the following commands at the prompt
rpi-rw
sudo su -
wget http://script.kc7aad.com/PNW_Hotspot.sh
chmod 700 PNW_Hotspot.sh
./PNW_Hotspot.sh
- Answer the secret questions
- After complete, type pistar-update
- After complete, click Configuration at top
- Ignore message about losing changes

General Configuration 3

DMR Configuration

Setting	Value
DMR Master:	<input type="text" value="PNW_Peter-East"/>
Hotspot Security:	<input type="text"/>
BrandMeister Network:	Repeater Information Edit Repeater (BrandMeister Selfcare)
DMR ESSID:	<input type="text" value="None"/>
DMR Color Code:	<input type="text" value="1"/>
DMR EmbeddedLCOonly:	<input type="checkbox"/>
DMR DumpTADData:	<input checked="" type="checkbox"/>

Get on the Air

- Our configurations should be complete
- Test on a talkgroup like Parrot
- Don't try your first test on a statewide
- View your dashboard and netwatch
- Key up your radio and talk

Pi-Star Dashboard

Hostname: pi-star Pi-Star:4.0.0-RC4 / Dashboard: 20190526

Pi-Star Digital Voice Dashboard for YOURFCC

Dashboard | Admin | Configuration

Modes Enabled	
D-Star	DMR
YSF	P25
YSF XMode	NXDN
DMR XMode	POCSAG

Gateway Activity								
Time (PDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER	
08:32:13 Jun 2nd	DMR Slot 2	W7NCX	TG 8958	RF	TX			
22:52:44 Jun 1st	DMR Slot 2	WB7DFV	TG 31771	Net	1.9	0%	0.0%	

Local RF Activity								
Time (PDT)	Mode	Callsign	Target	Src	Dur(s)	BER	RSSI	
08:32:13 Jun 2nd	DMR Slot 2	W7NCX	TG 8958	RF	TX			

Network Status	
D-Star Net	DMR Net
YSF Net	P25 Net
YSF2DMR	NXDN Net
YSF2NXDN	YSF2P25
DMR2NXDN	DMR2YSF

Radio Info	
Trx	RX DMR
Tx	432.500000 MHz
Rx	432.500000 MHz
FW	ZUMspot:v1.4.16
TCX0	14.7456 MHz

DMR Repeater	
DMR ID	1234567
DMR CC	1
TS1	disabled
TS2	enabled
TG 8958/No Ref	

DMR Master	
PNW	Peter-East

Pi-Star / Pi-Star Dashboard, © Andy Taylor (M0DMWZ) 2014-2019.
ircDDBGateway Dashboard by Hans-J. Barthen (DL501),
MMDVMDash developed by Kim Huebel (DG9VH).
Need help? Click here for the Facebook Group
or Click here to join the Support Forum
Get your copy of Pi-Star from here.

Netwatch Active Call



Control Center PNW-B

Active calls and History filter

start time	duration	source peer alias	source radio alias	dest. bridge group	RSSI (dBm)	site name	loss rate
08:37:55.930 Jun 2	3.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888\$	TAC 8-84	N/A	PNW-B	0.0%

start time	duration	source peer alias	source radio alias	dest. bridge group	RSSI (dBm)	site name	loss rate
08:32:48.145 Jun 2	6.0	MM - Suzy - East	KG7JMI - Carl - Cle Elum WA 3153175\$	Cascades 1-99	N/A	PNW-B	0.0%
08:32:13.744 Jun 2	5.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888\$	TAC 8-84	N/A	PNW-B	0.0%
08:31:40.291 Jun 2	7.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888\$	TAC 8-84	N/A	PNW-B	0.0%
08:23:12.069 Jun 2	6.0	Megler WA - Megler Mtn UHF - KB7APU 315322	W7ULV - Doug - Longview WA 3101706	Wash 1-CC	-122.6	PNW	12.8%
08:21:53.347 Jun 2	9.0	Megler WA - Megler Mtn UHF - KB7APU 315322	W7ULV - Doug - Longview WA 3101706	Wash 1-CC	-119.2	PNW	13.8%
08:21:34.319 Jun 2	5.0	Megler WA - Megler Mtn UHF - KB7APU 315322	W7ULV - Doug - Longview WA 3101706	Wash 1-CC	-121.9	PNW	15.8%
08:20:54.168 Jun 2	9.0	Megler WA - Megler Mtn UHF - KB7APU 315322	W7ULV - Doug - Longview WA 3101706	Wash 1-CC	-120.1	PNW	12.0%
08:15:59.582 Jun 2	3.0	MM - Bridget - West	KP2X - Jim - Birch Bay WA 3141183\$	Wash 2-98	N/A	PNW-B	0.0%

More Netwatch

← → ↻ Not secure | pnw.pnwdigital.net:42420/MinimalNetwatch

PNW DMR **Control Center PNW** 17:43:49 June 01, 2019 PST

Active calls and History filter

start time	duration	source peer alias	source radio alias	dest. bridge group	RSSI (dBm)	site name	loss rate
17:43:41.392 Jun 1	3.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	NO7RF - Mike 103 - Mazama WA 3153103amrv	Local 39	-51.8	PNW	0.0%
17:43:34.492 Jun 1	4.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	N7ER - Brad - Clinton WA 3153046Sam	Local 39	-79.1	PNW	0.0%
17:43:20.633 Jun 1	2.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	N7ER - Brad - Clinton WA 3153046Sam	Local 39	-80.0	PNW	0.0%
17:43:16.072 Jun 1	2.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	N7ER - Brad - Clinton WA 3153046Sam	Local 39	-79.9	PNW	0.0%
17:43:04.853 Jun 1	4.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	NO7RF - Mike 103 - Mazama WA 3153103amrv	Local 39	-53.6	PNW	0.0%
17:40:36.541 Jun 1	9.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	Cascades East-CC	N/A	PNW-B	0.0%
17:40:40.454 Jun 1	3.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	K7NUP - Steve - Pasco WA 3153390m	Audio Test-40	-96.4	PNW	0.0%
17:40:28.275 Jun 1	3.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	K7NUP - Steve - Pasco WA 3153390m	Audio Test-40	-87.6	PNW	0.0%
17:40:19.654 Jun 1	9.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	Idaho-CC	N/A	PNW-B	0.0%
17:40:08.152 Jun 1	1.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	K7NUP - Steve - Pasco WA 3153390m	Local 39	-99.4	PNW	0.0%
17:39:58.399 Jun 1	10.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	PNWR-CC	N/A	PNW-B	0.0%
17:39:43.674 Jun 1	8.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	TAC 1-CC	N/A	PNW-B	0.0%
17:39:45.952 Jun 1	0.0	Shilo Hotel - SeaPac 2019 Demo Repeater - NO7RF 315351	KA7AGH - James - Gresham OR 3141061	Local 39	-101.4	PNW	0.0%
17:39:30.377 Jun 1	7.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	TAC 2-CC	N/A	PNW-B	0.0%
17:39:19.358 Jun 1	3.0	Tacoma WA - Mt Baldi UHF - NF6C 315307	K7RED - Bruce - Des Moines WA 3153015	Wash 1-27	-111.4	PNW	0.0%
17:39:03.436 Jun 1	13.0	MM - Peter - Public	W7NCX - Dave - Vancouver WA 3153888Sm	Wash 1-CC	N/A	PNW-B	0.0%

Resource Guide

- <https://amateurradionotes.com>
- David Hull KC6N guides (papasys)
- www.pistar.uk
- Clark County Digital Group meetings
 - 3rd Saturday of the month, w7aia.org
- DMR Net Wednesday 19:00 Wash 2
- www.w7ncx.com
- w7ncx@pnwdigital.net