



Digital Hotspots

May 9th, 2023 Program

KC9SEB – Paul Mitchell
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What is a Digital Hotspot?

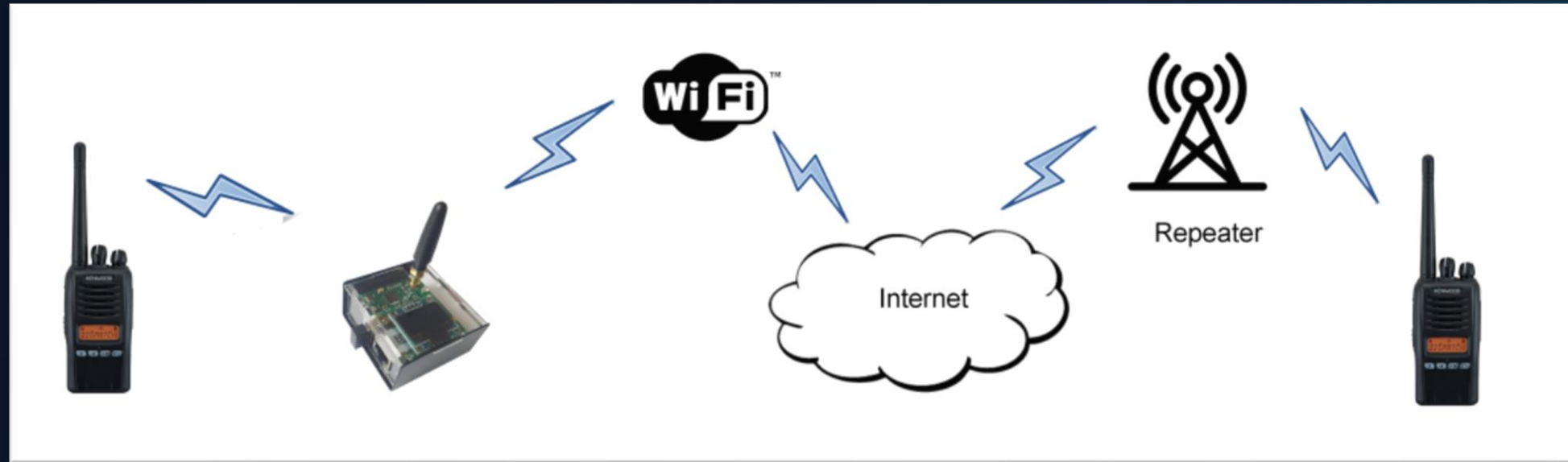
- A hotspot, simply put, is your internet gateway to a particular Digital network.
- Not really RF (end to end)
- A Hotspot acts as an RF gateway to send your local RF signals across the Internet to a remote network, to link into talkgroup and reflectors of various technologies
- Many hotspots are capable of multiple modes as well, such as D-Star, P25, DMR+, YSF and NXDN...
- Where to use
 - Linked to your home network
 - Linked to your cellphone's wireless hotspot

Why Hotspots?



- Is your HT out of range or have no local repeater?
- Multiple modes supported or needed?
 - DMR, YSF, D-Star, NXDN, P25, and (newer M17)
- Cross mode support
 - Like DMR to YSF, or vice-versa
- If Repeater doesn't offer your preferred TalkGroups or Reflectors
- If Repeater is not linked to the Internet
- Mobile, Portable, or Remote
- Or are the band conditions just BAD?? 😊

Is it RF? Kind of.....



- RF for the “short” haul
- Internet for the “long’ haul
- Lower Power – HT <> Hotspot ~1W or less

Hardware Options

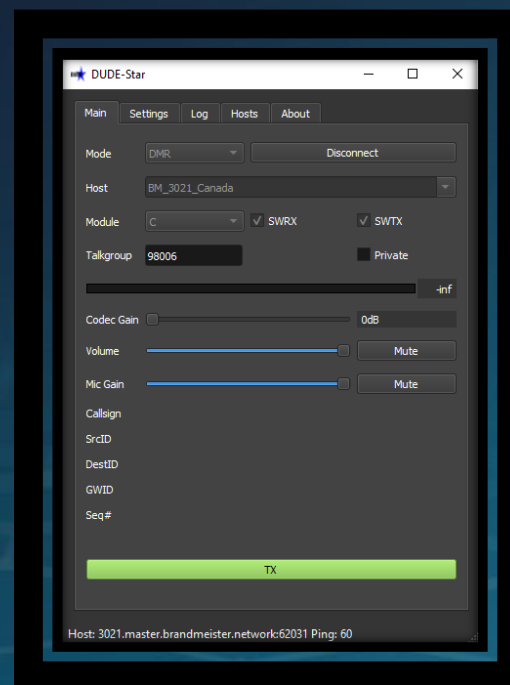
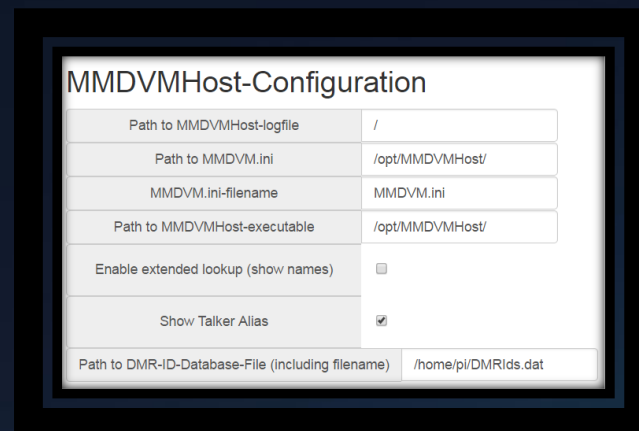


- SharkRF OpenSpot 4 ~\$400
- ZumSpot ~\$175
- ZumRadio ~\$249
- BridgeCom ~SkyBridge \$424
- MMDVM (Board ONLY- requires RPI etc.) ~\$60
- DVMEGA (Dual Band - Board ONLY- requires RPI etc.) ~ \$160
 - BlueStack (Android) / iBlueStack (iOS) Micro ~40
- ThumbDV ~\$120
- “Chinese” Kits on Amazon ~ \$100 -- \$200



Software Options – ALL FREE

- MMDVM Host
- Pi-Star
- BlueDV
- DV4Mini
- DudeStar for Windows
- DroidStar (Android and IOS)



Pi-Star Digital Voice Dashboard for KC9SEB

Dashboard | Admin | Configuration

Hostname: pi-star Pi-Star 3.4.15 / Dashboard: 20221114

Modes Enabled

Time (CDT)	Mode	CallSign	Target	Src	Dur(s)	Loss	BER
11:05:15 May 8th	YSF	K6BSR	(GPS) ALL at FCS003-90	Net	0.3	0%	0.0%
11:04:18 May 8th	YSF	AMERICANLINK	(GPS) ALL at FCS003-90	Net	0.7	0%	0.0%
11:03:54 May 8th	YSF	AASAH	(GPS) ALL at FCS003-90	Net	21.9	0%	0.0%
11:03:19 May 8th	YSF	K83CAY	(GPS) ALL at FCS003-90	Net	26.7	0%	0.0%
10:49:54 May 8th	YSF	K82HUK	(GPS) ALL at FCS003-90	Net	0.8	0%	0.0%
10:44:01 May 8th	YSF	K7JY	(GPS) ALL at FCS003-90	Net	23.0	0%	0.0%
10:43:00 May 8th	YSF	N7HTC	(GPS) ALL at FCS003-90	Net	57.1	0%	0.0%
10:40:28 May 8th	YSF	N8HU	(GPS) ALL at FCS003-90	Net	0.2	0%	0.0%
10:34:52 May 8th	YSF	N8RRK	(GPS) ALL at FCS003-90	Net	0.8	0%	0.0%
10:34:11 May 8th	YSF	K8EAD	(GPS) ALL at FCS003-90	Net	1.0	0%	0.0%
10:33:46 May 8th	YSF	K6VYIU	(GPS) ALL at FCS003-90	Net	1.1	0%	0.0%
10:33:14 May 8th	YSF	K1SY5Y	(GPS) ALL at FCS003-90	Net	3.1	0%	0.0%
10:32:55 May 8th	YSF	N4ZUUS	(GPS) ALL at FCS003-90	Net	10.4	0%	0.0%
10:25:48 May 8th	YSF	N4IDH	(GPS) ALL at FCS003-90	Net	1.0	0%	0.0%
10:24:57 May 8th	YSF	K5DXR	(GPS) ALL at FCS003-90	Net	1.1	0%	0.0%
10:23:35 May 8th	YSF	G4E6Q	(GPS) ALL at FCS003-90	Net	12.5	0%	0.0%
10:17:41 May 8th	YSF	VE2KEZ	(GPS) ALL at FCS003-90	Net	1.4	0%	0.0%
10:14:24 May 8th	YSF	KC3DEX	(GPS) ALL at FCS003-90	Net	1.0	0%	0.0%
10:12:50 May 8th	YSF	N5HVO	(GPS) ALL at FCS003-90	Net	0.1	0%	0.0%
10:10:53 May 8th	YSF	G2AHP	(GPS) ALL at FCS003-90	Net	1.1	0%	0.0%

Local RF Activity

Time (CDT)	Mode	CallSign	Target	Src	Dur(s)	BER	RSSE

DMR Repeater

DMR ID	3117855
DMR CC	1
TS1	disabled
TS2	enabled

DMR Master

107.191.99.14

YSF Network

FCS00390

Pi-Star / Pi-Star Dashboard, © Andy Taylor (W4WVWZ) 2014-2023.
 FCS00390 Gateway Dashboard by Hans-J. Eberlein (DL2OJ).
 MMDVMdash developed by Kim Huebel (DG3VH).
 Need help? Click here for the Facebook Group
 or Click here to join the Support Forum.
 Get your copy of Pi-Star from here.

My Own Experiences.....Both at Home and Mobile

- Pi-Star on RPI ZERO W with Nextion Screen
 - Managing a ZumSpot
- BlueDV on Mobile Device (Phone / Tablet)
 - Managing DVMEGA (UHF) / BlueStack Micro+



Useful Sites to see what is going on.....

BrandMeister

- <https://brandmeister.network/>
- [Hose](#)

Fusion C4FM

- [YSF & FCS Reflectors](#)

My Own Experiences.....Both at Home and Mobile

Pi-Star Digital Voice Dashboard for KC9SEB

Dashboard | Admin | Configuration

Modes Enabled

D-Star	DMR
YSF	P25
YSF_XNode	NXDN
DMR_XNode	POCSAG

Network Status

D-Star Net	DMR Net
YSF Net	P25 Net
YSF2DPM	NXDN Net
YSF2NDN	YSF2P25
DMR2NDN	DMR2YSF

Radio Info

Trx	14.7456 MHz
Rx	444.100000 MHz
Rx	444.100000 MHz
FM	ZUMspot v3.4.17
TCXO	14.7456 MHz

DMR Repeater

DMR ID	3117855
DMR CC	1
TS1	disabled
TS2	disabled
DMR Master	107.191.99.14

YSF Network

FC500390

Gateway Activity

Time (CDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
11:05:15 May 8th	YSF	K6BSR (GPS)	ALL at FC5003-90	Net	0.3	0%	0.0%
11:04:18 May 8th	YSF	AMERICANLINK	ALL at FC5003-90	Net	0.7	0%	0.0%
11:03:54 May 8th	YSF	AASAH (GPS)	ALL at FC5003-90	Net	21.9	0%	0.0%
11:03:19 May 8th	YSF	KB3CAY (GPS)	ALL at FC5003-90	Net	26.7	0%	0.0%
10:49:54 May 8th	YSF	KB2HLK (GPS)	ALL at FC5003-90	Net	0.8	0%	0.0%
10:44:01 May 8th	YSF	K7JV (GPS)	ALL at FC5003-90	Net	23.0	0%	0.0%
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10:34:11 May 8th	YSF	K0EAO (GPS)	ALL at FC5003-90	Net	1.0	0%	0.0%
10:33:46 May 8th	YSF	KNSYIH (GPS)	ALL at FC5003-90	Net	1.1	0%	0.0%
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10:17:41 May 8th	YSF	VE2KEZ (GPS)	ALL at FC5003-90	Net	1.4	0%	0.0%
10:14:24 May 8th	YSF	KC30EX (GPS)	ALL at FC5003-90	Net	1.0	0%	0.0%
10:12:50 May 8th	YSF	W5HVO (GPS)	ALL at FC5003-90	Net	0.1	0%	0.0%
10:10:53 May 8th	YSF	9Z4HP (GPS)	ALL at FC5003-90	Net	1.1	0%	0.0%

Local RF Activity

Time (CDT)	Mode	Callsign	Target	Src	Dur(s)	BER	RSSI
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Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2022.
 FCS003Gateway Dashboard by Hans-J. Barthan (DL3DZ).
 MMDVMDash developed by Kim Huebel (DQ9VH).
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 or Click here to join the Support Forum.
 Get your copy of Pi-Star from here.

[PiStar by Andy Taylor - MW0MWZ](#)

7:23 99%

YSF US America Link

Listening

TO US AMERICA LINK

MY CALL

CALL INFO DEST

INFO HOTSPOT BT CONNECTED

07:21:33 PM N4RDX

07:22:13 PM W8WOR

07:22:15 PM K5PWR

07:23:10 PM KN6YIW

07:23:23 PM KN6YIW

07:23:26 PM WZ6KEN

07:23:30 PM KK7EAL

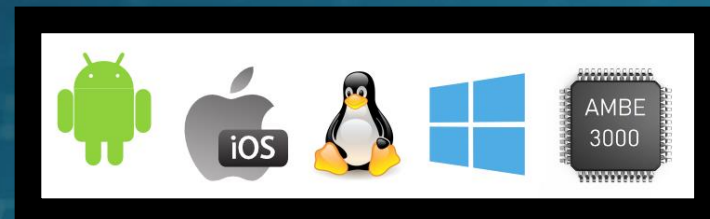
SIGNAL

CONNECT SETUP INFO DIM OFF By David PA7LIM

[BlueDV by David Grootendorst - PA7LIM](#)

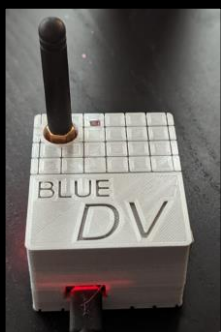


Pi-Star is a custom, pre-configured SD Card image for the Raspberry Pi (and other ARM based single board computers).





DMR
DIGITAL MOBILE RADIO



Fusion Setup – FT70D

- Simplex 438.000
- DN – Digital Mode
- 1W Power

DMR Setup – TYT MD380 (Has MD380Tools applied)

- Simplex 438.300
- Digital Mode
- TS=1 / CC=1
- Power = Low

Thank-You

Feedback and or questions?
>> director3@frri.org