Duplex hotspot User's Manual _v2020_12_23 #MMDVM

This guide just for the Products made by BI7JTA, Synchronous update www.youtube.com/winters_huang , www.bi7jta.org

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Overview



Prepare:

NOTE:

I have configuration your hotspot with default settings, if your purchase is from BI7JTA provider, you do not need to flash SD card.

Hardware

MMDVM Duplex Hat with Antennas, Raspberry Pi 3B, 4B, ZeroW, SD Card/ TF card 8G/16G, Nextion Display, OLED (Option) Power supply 5V2A

Software

Pi-Star OS (Raspbian integration MMDVMHost, Serial of DMR/YSF/P25/D-STAR/NXDN/POCSAG gateway serivces, Pi-Star Dashboard),

LAN IP devices address scan tools:

Fing, for iOS, Android, www.fing.com IP Scan tools, for MAC OSX https://apps.apple.com/cn/app/lanscan/id472226235?mt=12 Advanced_IP_Scanner, for Microsoft Windows http://www.advanced-ip-scanner.com/ SDFormatter v4, for format your SD Card, just for install a new OS, win32diskimager, just for install a new OS, Web browser, Mobile default browser, Chrome, Firefox for Windows, Safari, Not support Microsoft IE



Fing - Network Scanner 4+

★★★★★ 4.7 • 71.4K Ratings

Free · Offers In-App Purchases

iOS/Androiud appstore scan "Fing"

Screenshots iPad iPhone

Step 1 Hardware connection

Use 5V2A Power supply, any MicroUSB Android power supply wire, but must stable , otherwise the power will affect your TX spectrum, cause high BER% .

Wire LAN recommend, the first time you use MMDVM hotspot.



Figure: hardware wiring diagram

Step 2 Network Configuration

There are 3 methods to make MMDVM hotspot connect to internet

1, Wire LAN (Simple and Recommend)

NOTE:

1, This method cannot use in your Raspberry Pi ZW, not have LAN interface, Unless you buy a USB-LAN adapter.

2, If your hotspot with Raspberry Pi 3B/4B purchase from BI7JTA, one your plug-in Wire LAN, the display will show the true IP address.



Steps one by one:

- Connect the Wire LAN between Raspberry Pi 3B/4B and Router,



Figure: iOS/Android find HS IP Address

- The router assign IP address through DHCP ,
- Scan your MMDVM hotspot IP address,
 See Figure: Windows OS find HS IP Address

🛃 Advanced IP Scanner								
<u>F</u> ile <u>V</u> iew <u>S</u> e	ttings	Help						
Scan				Scan	hotspot	in	Microsoft	Win

11	192. 168. 2. 1–254						
	Results Favorites						
	Stati	15	Name	IP	△ Manufacturer		
	÷. 📮 🛛		100 100 0 1	100 100 0 1			
	÷- 📮		PI-STAR	192.168.2.2	Raspberry Pi Foundation		
			109 129 9 9	100 160 0 0	HUAWEI TECHNOLOGIES CO., LTD		
	<u> </u>		DT CTAD	100 100 0 4	<u> </u>		

Figure: Windows OS find HS IP Address

- Open your the default web browser , visit the URL ,as follow

http://pi-star (If your LAN have more than 1 hotspot, this possible not link to the hotspot you need)
http://192.168.x.x (the IP address you have scan from IP scan tools).
See Figure: Visit MMDVM Dashboard

智信 》	09:41	🕑 🕫 🔽 100% 💷 🧚
http:	//192.168.2.2	22 ×
Pi-Star Digi	tal Voice Dashboar Dashboar	d Admin Configuration
I don't know what m You will be re-	No Mode Defined node I am in, you probaly just r directed to the configuration p	 need to configure me. ortal in 10 secs
Log in to 192 Your password	2.168.2.222 DHC	P IP address
pi U Password P	ser: pi-star ass: raspberr	y
	Canc	el Log In
Fig	<mark>jure: Visit MMDVM Dashb</mark> o	ard

- Add your home WiFi SSID/PSK, then reboot

Refresh Reset WiFi Adapter	Configure WiFi
	Wireless Inform
Interface	Information
Interface Name : wlan	0
Interface Status : Inte	rface is down
IP Address :	
Subnet Mask :	
Mac Address : b8:2	7:eb:c3:d1:c2

- Finally you can use WiFi connection, instead of Wire LAN.

* The IP address here just a demo value , please use your true scan result value.

2, WiFi self AP (Complicated)

View Appendix --> Configuration WiFi --> WiFi Self AP

3, WiFi config file (Need SD Card adpater)

View Appendix --> Configuration WiFi --> WiFi Config file

Step 3 Pi-Star Configuration

Base settings

Pi-Star: 4.1.2 / Dashboard: 20200520

Pi-Star Digital Voice - Configuration

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

Gateway Hardware Information							
Hostname Kernel		nel	Platform	CPU Load	CPU Temp		
pi-star	4.19.9	7-v71+	Unknown ARM based System	0.63 / 0.26 / 0.13	37°C / 98.6°F		
	Control Software						
Setting			Value	9			
Controller Software	Controller Software: ODStarRepeater 🔍 MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)						
Controller Mode: Osimplex Node ODuplex Repeater (or Half-Duplex on Hotspots)							
Apply Changes							

General Configuration					
Setting	Value				
Hostname:	pi-star Do not add suffixes such as .local				
Node Callsign:	BI7JTA				
CCS7/DMR ID:	4600724 DMR ID register www.radioid.net				
Radio Frequency RX:	434.755.000 MHz RX <>Digital radio TX				
Radio Frequency TX:	439.755.000 TX <>Digital radio RX				
Latitude:	50.00 degrees (positive value for North, negative for South)				
Longitude:	-3.00 degrees (positive value for East, negative for West)				
Town:	Town, L0C4T0R				
Country:	Country for Duplex hotspot				
URL:	http://www.grz.com/db/BI7JTA				
Radio/Modem Type:	MMDVM_HS_Hat_Dual Hat (VR2VYE) for Pi (GPIO)				
Node Type:	⊖Private ● Public				
APRS Host:	euro.aprs2.net				
System Time Zone:	Europe/London V				
Dashboard Language:	english_uk V				

Frequency range: 144MHz-148MHz, 420MHz-475MHz,842MHz-950MHz avoid the following ranges: 145.8-146.000 MHz and 435-438.000 MHz, otherwise firmware will not start. See also https://github.com/juribeparada/MMDVM_HS/releases/tag/v1.4.12

Display Type:

DMR2NXDN:	Uses 7 prefix on DMRGateway
POCSAG: Must sele	ect the correct Display Torac Paging Features
MMDVM Display Type:	Nextion V Port: /dev/ttyNextionDriver V Nextion Layout: ON7LDS L3 HS V
	None OLED Type 3 OLED Type 6 OLED Type 6 OLED Type 6
Setting	Nextion Value
Hostname:	TET Serial not add suffixes such as .local
Node Callsign:	LCDproc Nextion/USART Display
CCS7/DMR ID:	4600724
Padia Fraguerar PV.	434 755 000 MUT







DMR Mode:

Setting				Value		
DMR Mode:		RF Hangti	.me: 20	Net Hangtime:	20	
		DMR Configu	ration			
Setting			V	alue		
DMR Master:	BM_China	a_4601	√ Selec	t your loca	I BM Se	rver
Hotspot Security:			Passw	ord keep bl	ank or	passw0rd
BrandMeister Network:		Repeater Informati	.on / Edit H	lepeater (BrandMeiste	r Selfcare)	
DMR ESSID:	4600724 83	~				
DMR Colour Code:	1 🗸	Duplex mo	de nee	d set Statio	c Talkg	roup for
DMR EmbeddedLCOnly:						
DMR DumpTAData:		Keep default				

YSF Mode:

MMDVMHost Configuration						
Setting			Value			
DMR Mode:		RF Hangtime:	20	Net Hangtime:	20	
D Star moue.	🕨 C4FM, Yae	SU RF Hangtime:	20	Net Hangtime:	20	
YSF Mode:		RF Hangtime:	20	Net Hangtime:	20	
- 10 m do.		RF Hangtime:	20	Net Hangtime:	20	
NXDN Mode:		RF Hangtime:	20	Net Hangtime:	20	

General Configuration						
Setting	Value					
Hostname:	pi-star Do not add suffixes such as .local					
Node Callsign:	BI7JTA 🛛 🕘 YSF , DMR ID not necessary, just when you cross					
CCS7/DMR ID:	4600724 to DMR/P25, with ID will show your Callsign					
Radio Frequency RX:	434.755.000 MHz					
Radio Frequency TX:	439.755.000 MHz					
Latitude:	50.00 • Wifel (positive vila http://faprs.forfiouth)					
Longitude:	-3.00 degrees (positive value for Fast, negative for West).					
Town:	Town, LOC4TOR					
Country:	Country					
URL:	http://www.grz.com/db/BI7JTA					
Radio/Modem Type:	MMDVM_HS_Hat_Dual Hat (VR2VYE) for Pi (GPIO)					
Node Type:	OPrivate OPublic					
APRS Host:	euro.aprs2.net V					
System Time Zone:	Europe/London V					
Dashboard Language:	english_uk v					

Apply Changes

Yaesu System Fusion Configuration Setting YSF80337 - CN CHINA 1 - W24166/TG46001 YSF Startup Host: YSF80337 - CN CHINA 1 - W24166/TG46001 UPPERCASE Hostfiles: YSF3710 - CA MARITIMES - CAN MARITIMES - CAROLINA LINK - 79602 Setting YSF03347 - CH 228 SWISS - BB-CONNECT YSF03050 - CH HB9VD - RADIOAMATEURS YSF03064 - CHINALINK - CHINA YSF REFL YSF03050 - CH INTSWINSS - C4FM OM YSF03730 - CHINALINK - CHINA YSF REFL YSF03270 - CL CL CHILE - YSF HOTSPOT'S YSF03270 - CL WSF - CHILE YSF ROOM YSF03270 - CL WSF - CHILE YSF ROOM YSF03270 - CL YSF - CHILE YSF ROOM YSF03270 - CL YSF - CHILE YSF ROOM YSF0333 - CN B4-C4FM - WELCOME TESTI YSF03037 - CN CHINA 1 - W24106/TG46001 <		Apply Changes	
Setting Value YSF Startup Host: YSF80337 - CN CHINA 1 - W24166/TG46001 UPPERCASE Hostfiles: YSF53710 - CAMARITIMES - CAN MARITIMES YSF48095 - CAMARITIMES - CAN MARITIMES YSF48095 - CAMARITIMES - CAN MARITIMES YSF19952 - CA NANIKANA - NANIKANA YSF36010 - CA ON-PROCOM - ON PROV COMMS YSF79602 - CAROLINA LINK - 79602 YSF13399 - CA WEST CAN - WESTERN CANADA YSF63347 - CH 228 SWISS - SWISS - CONNECT YSF30998 - CH 228 SWISS - SWISS - CONNECT YSF15280 - CH HB9VD - RADIOAMATEURS YSF66049 - CHINALINK - CHINA YSF REFL YSF66049 - CHINALINK - CHINA YSF REFL YSF37664 - CH IT-SWISS - CAFM OM YSF52796 - CH JOTA - JOTA CH YSF3250 - CL CHILE - YSF TO TG730 YSF34287 - CL CL CHILE - YSF HOTSPOT'S YSF19525 - CL EMCOMM - TG 730911 YSF19525 - CL EMCOMM - TG 730911 YSF09627 - CL YSF - CHILE YSF ROOM YSF09637 - CN CHINA - WELCOME TESTI YSF09638 - CNARN - CNARN YSF0333 - CN 84-C4FM - WELCOME TESTI YSF18829 - CN CC1 - TG 460501 WDRD Changed WPRF: WORD - Off Changed		Yaesu System Fusion Configuration	
YSF Startup Host: YSF80337 - CN CHINA 1 - W24166/TG46001 ✓ UPPERCASE Hostfiles: YSF53710 - CAMARITIMES - CAN MARITIMES reflector (Room/Server) YiresX Passthrough: YSF48095 - CAM ScileCt ryout costs reflector (Room/Server) YsF48095 - CAM ScileCt ryout costs YSF19952 - CA NANIKANA - NANIKANA YSF19952 - CA NANIKANA - NANIKANA YSF19052 - CAROLINA LINK - 79602 YSF1002 - CAROLINA LINK - 79602 YSF13339 - CA WEST CAN - WESTERN CANADA YSF19520 - CAROLINA LINK - 79602 YSF13339 - CA WEST CAN - WESTERN CANADA YSF10520 - CAROLINA LINK - 79602 YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF13520 - CH J28 SWISS - SWISS - CONNECT YSF606049 - CHINALINK - CHINA YSF REFL YSF37205 - CL CHINALINK - CHINA JSF REFL YSF72350 - CL CHILE - YSF HOTSPOT'S YSF19525 - CL EMCOMM - TG 730911 YSF19525 - CL EMCOMM - TG 730911 YSF609058 - CNARN - CNARN YSF19525 - CL SF - CHILE YSF ROOM ircDDBGateway Remote: YSF60337 - CN CHINA 1 - W24160/TG46001 Changed wToF1 - WSF80337 - CN CHINA 1 - W24160/TG46001 Changed Changed	Setting	Value	
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ViresX Passthrough: YSF48095 - CAM PICT GOT PETTECTOR (COOM/SETVER) YSF19952 - CA NANIKANA - NANIKANA YSF19952 - CA NANIKANA - NANIKANA YSF36010 - CA ON-PROCOM - ON PROV COMMS YSF36010 - CA ON-PROCOM - ON PROV COMMS YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF13339 - CA WEST CAN - WESTERN CANADA YSF63047 - CH 228 SWISS - HB-CONNECT NobileGPS Enable: YSF30998 - CH 228 SWISS - SWISS-CONNECT GPS Port: YSF15280 - CH HB9VD - RADIOAMATEURS YSF37664 - CH IT-SWISS - C4FM OM YSF72350 - CL CHILE - YSF HOTSPOT'S YSF34287 - CL CC CHILE - YSF HOTSPOT'S YSF34287 - CL CC CHILE - YSF HOTSPOT'S YSF19525 - CL EMCOMM - TG 730911 YSF69058 - CNARN - CNARN YSF09627 - CL YSF - CHILE YSF ROOM YSF69058 - CNARN - CNARN SSH Access: YSF07333 - CN B4-C4FM - WELCOME TESTI YSF18829 - CN CC1 - TG 460501 Valto AP: VPNP: V0n 0 0ff	UPPERCASE Hostfiles:	YSF53710 - CAMARITIMES - CAN MARITIMES	$\left(\frac{1}{2} \right)$
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GPS Port: YSF15280 - CH HB9VD - RADIOAMATEURS GPS Port Speed: YSF66049 - CHINALINK - CHINA YSF REFL YSF37664 - CH IT-SWISS - C4FM OM YSF52796 - CH JOTA - JOTA CH YSF72350 - CL CHILE - YSF TO TG730 YSF34287 - CL CL CHILE - YSF HOTSPOT'S YSF09627 - CL YSF - CHILE YSF ROOM IrcDDBGateway Remote: YSF07333 - CN B4-C4FM - WELCOME TESTI YSF18829 - CN CC1 - TG 460501 YSF18829 - CN CHINA 1 - W24166/TG46001	MobileGPS Enable:	YSF30998 - CH 228 SWISS - SWISS-CONNECT	
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SettingYSF72350 - CL CHILE - YSF TO TG730 YSF34287 - CL CL CHILE - YSF HOTSPOT'SSettingYSF19525 - CL EMCOMM - TG 730911Dashboard Access:YSF09627 - CL YSF - CHILE YSF ROOMircDDBGateway Remote:YSF69058 - CNARN - CNARNSSH Access:YSF07333 - CN B4-C4FM - WELCOME TEST!Auto AP:YSF18829 - CN CC1 - TG 460501WPNP:On Off			
Setting YSF34287 - CL CL CHILE - YSF HOTSPOT'S YSF19525 - CL EMCOMM - TG 730911 Dashboard Access: YSF09627 - CL YSF - CHILE YSF ROOM ircDDBGateway Remote: YSF69058 - CNARN - CNARN SSH Access: YSF07333 - CN B4-C4FM - WELCOME TEST! Auto AP: YSF80337 - CN CHINA 1 - W24166/TG46001 uPNP: UOn		YSE72350 - CL CHILE - YSE TO TG730	
Setting YSF19525 - CL EMCOMM - TG 730911 Dashboard Access: YSF09627 - CL YSF - CHILE YSF ROOM ircDDBGateway Remote: YSF69058 - CNARN - CNARN SSH Access: YSF07333 - CN B4-C4FM - WELCOME TEST! Auto AP: YSF18829 - CN CC1 - TG 460501 uPNP: Uon Off		YSE34287 - CL CL CHILE - YSE HOTSPOT'S	
Dashboard Access: YSF09627 - CLYSF - CHILEYSF ROOM ircDDBGateway Remote: YSF69058 - CNARN - CNARN SSH Access: YSF07333 - CN B4-C4FM - WELCOME TEST! Auto AP: YSF18829 - CN CC1 - TG 460501 VSF80337 - CN CHINA 1 - W24166/TG46001 changed	Setting	YSF19525 - CL EMCOMM - TG 730911	
ircDDBGateway Remote: YSF69058 - CNARN - CNARN SSH Access: YSF07333 - CN B4-C4FM - WELCOME TEST! YSF18829 - CN CC1 - TG 460501 YSF80337 - CN CHINA 1 - W24166/TG46001 uPNP: UOn Off	Dashboard Access:	YSF09627 - CL YSF - CHILE YSF ROOM	
SSH Access: YSF07333 - CN B4-C4FM - WELCOME TEST! Auto AP: YSF18829 - CN CC1 - TG 460501 YSF80337 - CN CHINA 1 - W24166/TG46001 changed uPNP: UOn Off	ircDDBGateway Remote:	YSF69058 - CNARN - CNARN	
Auto AP: UPNP: YSF80337 - CN CHINA 1 - W24166/TG46001 COn Off	SSH Access:	YSF07333 - CN B4-C4FM - WELCOME TEST!	
uPNP: VSF80337 - CN CHINA 1 - W24166/1G46001	Auto AP:	YSF18829 - CN CC1 - TG 460501	changed
	uPNP:	▼SF80337 - CN CHINA 1 - W24166/TG46001	-

Apply Changes

Step 4 Radio Programming

DMR Mode:

AnyTone 878UV,

Also apply to other model DMR radios, such TYT, Baofeng, Motorola, GD77 The key items:

l, DMRID,

2, Talkgroup,

3, Receive Group CallList,

4, Color Code, Slot,

20878UV[D878UV:UHZ{400 - 480 MHz} VHZ{136 - 174 MHz}][:D:\tools\对讲机写频Anytone\写频教程视频编辑目录\MMDVT写频模板_V1.18.rdt] Version 1.18												
File Model Set Program Tool View Help												
D878UV	No.	Receive	Transmit	Channel Type	Power	Band	CTCSS/DCS	CTCSS/DCS	Channel Name		Contact	Radio ID
	1	A39 75500	A34 75500	D-Digital	Low	12.5K	Decode	Off		-	CN/6001	4600724
···· Channel	2	433.55000	433.55000	D-Digital	Low	12.51	0#	0#			CN46001	4600724
··· Zone	2	400.0000	400.00000	D-Digital	LOW	12.JN	- Oil		半工且频-40001		01440001	4000724
···· Scan List	3											
···· Roaming Zone	4		——————————————————————————————————————	nnel Informat	tion Edi	t1			for Dunlar	×	Atorr Toto o 979	
FM	0			Observal N					for Duplex 1	noae,	Any Lone 878	ΨV
···· Auto Repeater Offset Frequer	0			Channel IN	ame	XX.	上中继-46001					
··· Roaming Channel	/				_	100.75		-	E			
···· Basic information	8			Receive Frequ	lency	439.75	500	I TX Prohibit	I_ Talk Around I⊻ Digi APRS RX			
···· Optional Setting	9			Transmit Frequ	lency	434.75	500	Work Alone	DMR MODE Repeater	┓╟		
Alarm Setting	10			Correct Frequenc;	y[Hz]	0		- Digital				
···· Local Information	11							- Crightan	Cantrat CN//6001 (2)			
Hot Key	12			Channel	Type D-D	igital	-		Contact			
	13			Transmit F	ower 1		-		Radio ID 4600724 1	-		
Radio ID List	- 14 -			Band	Width 12.5	к	-		Color Code 1	ĪL		
Talk Groups	15			TY	Permit Ale	21/2				ŧ III-		
Pretabricated SMS	16			101		ays						
Receive Group Call List	17			Sca	in List INor	e	-	Rece	erve Group List ALL	<u> </u>		
AES Encryption Code	18							Dig	jital Encryption Off	• _		
⊡ Digital Contact List	19							En	cryption TYPE Normal Encryption	-		
120000	20							AES Die	nital Encryption	Ī		
20001 40000	21							12003				

Motorola P8668i, XPR4550



YSF

YSF the BER around 1% is ok, you can also adjust by set RXOffset, TXOffset in Pi-Star expert mode.



Step 5 QSO & Testing

Hostname: pi-star					Pi-St	ar:4.1.2	2 / Dashbo	ard: 202	200520
Pi-	Star Digital	Voice	Dash	boar	d for E	3171	JTA		
					D	ashboai	d Admin	Config	guration
Nodes Enabled	1		Gate	way Activ	ity				
D-Star DMR	Time (GMT)	M	ode	Callsign	Target	Src	Dur(s)	Loss	BER
YSF P25	17:56:29 Dec 23rd	DMR Slo	t 2 9	990	BI7JTA	Net	5.5	0%	0.0%
YSF XMode NXDN	17:56:20 Dec 23rd	DMR Slo	t 2 🛛 🖪	I7JTA	9990	RF	5.4	0%	0.5%
DMR XMode POCSAG	1		Loca	DE Activi	ity				
	Time (GMT)	Node	Callsign	Target	Src Dur(s)	BFR		RSST	
Network Status	17:56:20 Dec 23rd	DMR Slot 2	BITTA	9990	RF 5.4	0.5%	S9+46	1B (-47	dBm)
D-Star Net DMK Net		Dial Dive D	22.91		0.1		00 10		
ISP NET P25 NET									
VGEONADM VGEOPOS				1 Priva	te Call 9990	echo vo	oice test		
DMR2NXDN DMR2VSF	1					_			
Dimanaba Dimartor	1			🔮 🕻 Group	call 4000 d:	isconne	ct voice t	est	
Radio Info									
Trx Listening DMR	3 Try show just when	vou radio su	ccess trans	mit data t	o hotspot				
Tx 439.755000 MHz		, you ruuro su			o notopot				
Rx 434.755000 MHz		_	_	_					
FW MMDVM_HS:v1.5.2	🛛 🕘 🕻 Full logs in [Adm	in] \longrightarrow [live	$\log] \longrightarrow [a]$	lownload]					
TCX0 14.7456 MHz									
DMR Repeater									
DMR ID 4600724	4								
DMR CC 1									
ISI enabled	1								
No IG/No Kei									
No TC/No Ref	1								
DWR Master									
BM China 4601	1								
									1

Troubleshooting

* Believe me, your board I have tested full, please do not doubt the board issue, need patience to make it work.

BER too high

Most Motorola radio, Hytera, Baofeng DMR radio ,will has big offset more than -300 Hz

)不安全 192.168.1.17/admin/expert/edit_mm	ndvmhost.php			278. B2210
	DisplayLevel 0		Billing LWSr Shet	
CENNONT mode	FileLevel 2		Witz ta -	
	FilePath /var/log/pi-star	·	M C 5 82	
Configuration ->	>_Expert>_MMDVMHost	(Apply Changes)	Win7	Line Contraction of the Contract
		CW Id	1 and My at window	
	Enable O	7		DVM
	Time 10	AL.		TS1 TS2
🕘 Motorola. Hytera	a. Baofeng always have	Apply Changes Modem	DM	
-200 ± 0 $-500 \mu z$	Port /dev/ttyAMA0			
300 to 300Hz C	TXInvert 1			
	RXInvert 0		D	
	PTTInvert 0	-H-		Annon Charles and Annon Charles
DVOC	TXDelay 100	ΠΖ	TIT	Contraction of the second seco
KXOffset = 12			BXoffset = ?	a dit orminate
	DMRDeLavio		TXoffset = ?	0
trv:	RXLevel 50		TAOIISCI – .	
	TXLevel 50			PXoffset=0
-300200100	RXDCOffset 0			TXoffset=0
	TXDCOffset 0		152 D_106	TX0HSet=0
100 200 300	CWIdTXLevel 50		Het Chan CH 4	
100,200,500	D-StarTXLevel 50		20c0/01/11 01.99.15	
	DMRTXLevel 50			
	P25TXLevel 50			Versio Versio DOGO
			1? 2 ABC 3 DEF *8	
Time (HKT) Mode Call	RF Activity Lsign Target Src Dur(s) BER RSSI		4 GHI 5 JKL 6MN0 0 -	
22:55:41 Mar 6th DMR Slot 2 BI7JT	A TG 6 RF 2.9 0.1% S9+46dB		7=QFS 8 TUV 9WXYZ # *	
DMR: <=	0.5% YSF: <1.5%			
		Apply Changes		
		UMP		
	Enable 0			
	POPEL ROUTING WY			

Cannot open repeater

Possible,

1) RX, TX not invert with Hat and radio;

2, BER too high,

3, Other, such as frequency be interferences, Power supply not stable,

Cannot continue listen network TG, in DMR mode

- Duplex mode(Simplex Hat not support duplex mode)

Register BM account and setup your static Talkgroup for TS1,TS2 https://www.bi7jta.org/wiki/index.php?title=Main_Page#Set_Static_Talkgroups

- Simplex mode

Simplex mode default use Dynamic talkgroup, will continue listen the last TG you have press PTT, on your DMR radio. YOu can also set more than one static Talkgroup for TS2

Cannot connect to Modem

Possible reason:

1) satellite

Frequency restrictions to avoid satellite interference. Please avoid the following ranges: 145.8-146.0 MHz and 435-438 MHz, otherwise

firmware will not start.

tail -100f /var/log/pi-star/MMDVM-2018-11-21.log

Error message Received a NAK to the SET_FREQ command from the modem

Modes H	inabled					
D-Star	DMR	Tim	e (GM1	r)		ode
YSF	🕘 Disc	onnect	ted	Mod	dem	
YSF XMode	NXDN	ennice			40m	
DMR XMode	POCSAG	Time	(GMT)		Mode	
Network	Status					
D-Star Net	DMR Net					
YSF Net	P25 Net					

Ask me for help

Before ask me for help, please analysis Pi-Star running logs first, http://pi-star/admin/download_modem_log.php

Download the log: here	
Pi-Star web config, © Andy Taylor (MW0MWZ) 2014-2018. Need help? Click here for the Support Group	
Download here	

- 1) Download Pi-Star full logs
- 2) your radio channel settings detail screenshots
- 3) Send to email bi7jta@gmail.com ,

Too large size video please upload to Youtube.com, then send me a link. Remote Desktop: Microsoft Teams, Teamviewer

Demo video

https://www.youtube.com/winters_huang



Reference

BI7JTA Wiki https://www.bi7jta.org Pi-Star http://pistar.uk MMDVM Project https://github.com/g4klx/MMDVM

Appendix

Frequency range:

144MHz-148MHz, 420MHz-475MHz,842MHz-950MHz avoid the following ranges: **145.8-146.000 MHz and 435-438.000** MHz, otherwise firmware will not start.

Other method for Configuration WiFi

- WiFi self AP,

NOTE: This method cannot use in your NanoPi NEO, Raspberry Pi 2B not have inner WiFi model. **Steps one by one:**

- Power on your hotspot, after 2 or 3 minutes, if MMDVM hotspot cannot join any WiFi netwok, Pi-Star OS will generate a WiFi AP(access point/router),



- Open your iOS or Android , PC with WiFi adapter, join the Pi-Star WiFI AP,



Figure: Join WiFi Self AP

- Open your the default web browser , visit the URL ,as follow (Must join this WiFi AP)

http://pi-star or

http://192.168.50.1 (the IP address is fix, if your display show this 50.1 address, means hotspot WiFi have not connect to internet). Figure: Visit management page

督修	09:41	🕑 🔊 🔽 100% 💷 🗲
iOS/Android/PC-	192.168.50.1 -WiFi, http:/	∠ //192. 168. 50. 1



Figure: Visit management page

- Add your home WiFi SSID/PSK, then reboot

Refresh Reset WiFi Adapter Configure WiFi
Wireless Inform
Interface Information
Interface Name : wlan0
Interface Status : Interface is down
IP Address :
Subnet Mask :
Mac Address : b8:27:eb:c3:d1:c2

- Use Fing APP or IP scan tools in Windows/OSX, find the Pi-Star hostname and DHCP IP

88	PI-STAR	Fing APP Raspberry Pi	5
Æ	192. <u>1</u> 68.2. 222	Raspberry Pi	

- Finally you have made the MMDVM hotspot connect to your router, do the next step

	09:41
	http://192.168.2.222
	Producted 20000000 Pi-Star Digital Voice Dashboard for M1ABC Dashboard Admin Configuration
	No Mode Defined I don't know what mode I am in, you probaly just need to configure me. You will be re-directed to the configuration portal in 10 secs
	Log in to192.168.2.222DHCP IP addressYour password will be sent unencrypted.
L	pi User: pi-star
	Password Pass: raspberry
	Cancel Log In

Known issue:

1, Some Android OS will reject join the WiFi network without internet connection.

2, One you have reset factory settings ,re-flash SD card , MMDVM Hat Modem connect failed, the Nextion Display or OLED will not show normal data (connecting always), but do not worry, the WiFi AP will be made, ignore the display data, Nextion/OLED display not a System Monitor.

- WiFi config file

https://www.pistar.uk/wifi_builder.php

- Input your home WiFi SSID/PSK
- Submit to download, the file wpa_supplicant.conf
- Copy this file to the root of Pi-Star SD card
- Power on again ,if all correct , your MMDVM hotspot will connect to your WiFi router

WiFi Cou	GB 💌					
	SSID:					
Your WiFi	PSK:					



(Continue and not the end) Write by bi7jta@gmail.com www.bi7jta.org 2020.12.24



Figure: MMDVM Network diagram(Overall)