ZUMspot/PiStar ZUMspot/Pi-Star Bring-up and initialization Updated for Pi-Star v4.3.11

David Hull, KC6N



Revised (04/03/2018)

Preface

This document covers initial setup and maintenance of ZUMspot based "hotspots" running on Raspberry PiZeroW (or Pi3) platforms using Pi-Star software. Parts I through IV describe steps needed to bring up a new system. This is followed by a series of appendices that cover other topics likely to be encountered during subsequent operation.

Contents

- Preparing your ZUMspot for first use
 - Part I: Preparing a Pi-Star µSD card
 - Part II: Setting up your WiFI
 - Part III: Configuring/Customizing Pi-Star
 - Part IV: Configuring your radios
- Appendices: (specific topics and issues)
 - Updating FW, Setting up Brandmeister, Access to special features, etc.

ZUMspot/PiStar

Part I Preparing a µSD card with a Pi-Star Image

Do this section if you are starting anew with a blank µ-SD card, or you are upgrading to a new version using a new blank card. If your kit came with an imaged card, you can skip to Part II.

Download the Pi-Star Image (1)

Go to the http://ww	e following URL: /w.pistar.uk/index.php	-	Pi	Star.UK - Pi-Star Digital Voice Software
			Home	Home
Click: "D	ownloads", Click: "Download Pi-		Information Help	Pi-Star is a software image built initially for the Raspberry Pi (produced by the Raspberry Pi Foundation). The design concept is simple, provide the complex services and configuration for Digial Voice on Amateur radio in a way that makes it easily accessable to anyone just starting out, but make it configurable enough to be interesting for those of us who cant help but tinker.
Star"			Pi-Star Tools	Pi-Star can be what ever you want it to be, from a simple single mode hotsport running simplex providing you with access to the increasing number of Digital Voice networks, up to a public duplex multimode repeater!
			BrandMeister Tools	The world is at your fingertips, and the choices are yours!
Pi	Star-UK - Pi-Star Digital Voice Software		DMR+ Tools	If you like to get your hands dirty, delve beneath the simple to use web based dashboard, Pi-Star provides some unique tools to make administration easy, but we also encourage those who want to understand what the average is and have it burget to be as juncted as they used to be!
			D-Star Tools	Anderstand what the system is and now it works to be as involved as they want to be! Most importantly, have fun using Pi-Star!
			Downloads	#456-11.51/ Januard #0.0598
Home	Pi-Star Downloads		Download Pi-Star	Pi-Star Digital Voice Dashboard for MW0MWZ Deenbard Armin Comp
Information	Images available to Download Pi-Star NanoPi Air V3.4.11 06-Mar-2018.zip Ri Star ManoPi Air U3.4.11 06-Mar-2018.zip	Í		Notes Point Callsign Logg/F Logg/F UTUT GTUT 9:3 9:5 9:5 2574.8 0 PLSTAR U PL-Star User Group on D-Star 30 38 44000 24000 0466.0 0466.0 0466.0 38 38
Help Pi-Star Tools	Pi-Star_Odroid_XU4_V3.4.11_06-Mar-2018.zip Pi-Star_OrangeFi_Zero_V3.4.11_06-Mar-2018.zip Pi-Star_RPi_V3.4.10_24-Feb-2016.zip		Credits	True (MST) Last 20 calls hard vid bit deferency. Last 20 calls hard vid bit deferency. True (MST) How Coll Sign (Strue Signa) True (MST) How Coll Sign (Strue Signa) Forget (Strue Signa) Strue Signa) True (MST) How Coll Signa) Forget (Strue Signa) Strue Signa) Strue Signa) True (MST) How Coll Signa) Coll Signa) Forget (Strue Signa) Strue Signa) True (MST) How Coll Signa) Coll Signa) Strue Signa) Strue Signa) Strue Signa) True (MST) How Coll Signa) Strue Signa) Strue Signa) Strue Signa) Strue Signa)
BrandMeister Tools	<pre>21-5tar_Arr_V5.4:11_00-mar_2010.21p dvmega-flash-tools.zip</pre>		Links	Reading Info 2017-02-08 2012-02 2007 2018-02
DMR+ Tools	Information Remember, all you need to do, is download the zipped version of the image that is most suitable for your Pi / Single Board Computer, Unzip the			Distant Concept and the listic is a state of the list a state of the listis a state of the listic is a sta
D-Star Tools	download, and then flash the image to your SD card (using your prefered image writing tool - see links below for some basic instructions), boot the Pi, wait 30-60 secs and then login to the admin portal in order to finish			D 5 form #r1+work R027-85-39 D 5 form weak // XIX EQ00Q via #R1499.1 C Wet 1.2 0 MI 0.00 0.00 M2D3 div.cpm22.ntl bit 0:5520 -5560 via // V/VIX COCQQ Wet 1.7 0 MI 0.00 0.00 M2D3 div.cpm22.ntl bit 0:5520 -5560 via // V/VIX COCQQ Wet 1.7 0 MI 0.00 M2D3 div.cpm22.ntl bit 0:5520 -5560 via // V/VIX COCQQ Wet 1.7 0 MI 0.00 M2D3 div.cpm22.ntl bit 0:5520 -5560 via // V/VIX COCQQ Wet 1.7 0 MI 0.00 M2D3 bit 0:5520 -5560 via // V/VIX COCQQ Wet 1.7 0 MI 0.00 M2D3 bit 0:55400 -5560 via // V/VIX COCQC Wet 1.7 0 MI 0.00
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Credits	Default Username: pi-star			Deficition 2021 / 2033 / 203 2021 / 203 / 203 2021 / 203 / 203 2021 / 203 / 203 2021 / 203 / 203 2021 / 203 / 203 2031 / 203 <t< th=""></t<>
Links	Default Password: raspberry For help getting started, see this *EXCELLENT* video by Craig (W1MSG): Here			152 member TG 12/robt 1skde Sime (SST) Mode (SSLight) Torget, Size BK2 D6R Markstrage D-Star MOMR2/M I BK 0.96
	Windows Imaging Guide: Here Mac OS Imaging Guide: Here Linux Imaging Guide: Here			bin-dnn-uk h daar / hdar jouriowed () Andre Norm ((National) () and () Attin () Andre Norm () Andre Norm () Attin () Attin () Attin () () Attin () Attin () Attin () Attin () Attin () () Attin () Attin () Attin () Attin () () Attin
	For support, please join our Facebook Support Group: https://www.facebook.com/groups/pistar/ and/or make use of the Wiki: http://wiki.pistar.uk.			pistar.uk website designed and developed by Andy Taylor (MW0MWZ) - andy@mv0mvz.co.uk © 2017-2019 MW0MWZ, All rights reserved. All trademarks acknowledged. index.php last modified on 12/09/17 at 15:14 +0000

Download the Pi-Star Image (2)

- Download the file with the name "Pi-Star_Rpi..." and save it somewhere that you will remember.
- Note this is a "zip'ed" file, you will need to "un-zip" it to get the xxx.img file which you will put on your μ-SD card.
- 3. Unzip the folder and note the "xxx.img" file (that is what you will use later)
- Note that there are some other interesting links on this page you may want to look at as well.



Format a blank µSD Card

Use "SDFormatter" to format a μ -SD card prior to loading an image.

				1 Set the drive letter for
SU Card Formatter				1. Set the unvenerter 101
гие нер				your µ-SD card here
Select card			L	<u> </u>
F:\				
		Refresh	Г	
				2. Select a format option
Card information	SDHC	_		•
Type "				
Capacity	14.46 GB			
Formatting options			г	
Quick format				3 Leave this blank the
Overwrite format				
Volume label				PI-Star Image will change
				it to "boot" when it loads.
			L	
			Г	
	(4. Select "Format"
		Format		
SD Logo, SDHC	Logo and SDXC Logo are trademarks o	f SD-3C, LLC.		

Transferring the image

- The XXX.img file is a compressed µ-SD card image which must be uncompressed by an imager program to create the file structure on the final µ-SD card.
- There are several options out there, here are three that all work well:
 - Win32 Disk Imager
 - SDImager
 - Etcher

Using Win32 Disk Imager

Option 1: Writing an image to a µ- SD card using "Win32 Imager".	1. Navigate to your image file (for example): Pi-Star_RPi_V3.4.11_06-Mar-2018.img
	-
Win32 Disk Imager Image File C:/Users/dhull/Desktop/Pi-Star_RPi_V3.4.11_06-Mar-2018.img	 2. Set the drive letter of your μ-SD card: "F" (in this case)
Copy MD5 Hash: Progress Version: 0.8 Cancel Read Write Exit 10.355MB/s	3. Select "Write" and be prepared to wait a while as the progress bar creeps along.

Note: To back up an image, simply reverse the process: In step 1, designate a the path and filename to a spot on your HDD where you want to save the image, in step 2, select the drive letter for the μ -SD card. Click "Read". This will copy an image of the card to an .img file on your HDD. You can then use the "Write" process to "clone" another card. Note: I never do this, I always image a new card.

Using SDImager

Option 2: Writing an image to a µ-SD card using SD Imager.

📰 SD Imager (Writing	g: 62 %)
SD drive	
F:\ [FAT, USB: 14	,804 MB]
Volume: Format: Partition:	F: FAT Disk #2, Partition #0
Physical drive: Physical drive size: Model:	\\PHYSICALDRIVE2 14,804 MB Generic- USB3.0 CRW -SD USB Device
Image file	
C:\Users\dhull\De	sktop\Pi-Star_RPi_V3.4.11_06-Mar-2018.img
Operations Read	Write Format Cancel
Progress	
Transfer speed: Bytes remaining: Time remaining:	9.8 MB/s 696 MB 0:01:10
······	

 Set the drive letter of your μ-SD card: "F" (in this case)

2. Navigate to your image file (i.e.): Pi-Star_RPi_V3.4.11_06-Mar-2018.img

3. Select "Write" and be prepared to wait a while as the progress bar creeps along.

Note: You can back up an image and clone cards as described for Win32 Disk Imager on the previous slide. Note that this application can also format a card. This application does everything you need.

Using Etcher



This is a nice applet that has a very simple interface that a lot of people like. It also validates the image as part of the flash process. I prefer the "portable" version since I can keep it on a thumb drive and take it with me.

Websites:

Win32DiskImager:

https://sourceforge.net/projects/win32diskimager/

• SDImager:

https://sourceforge.net/projects/sdimager/

- Etcher: <u>https://etcher.io/</u>
- SDFormatter:

https://www.sdcard.org/downloads/formatter_4/

ZUMspot/PiStar

Part II Configuring your WiFi on a pre-Imaged µ-SD card

This section assumes you have performed Part I or your kit came with a pre-imaged card.

Note:

Your hotspot must be able to make a WiFi connection in order to be configured. There are several ways to do this. This section outlines a the "classic" method that will work with any version of Pi-Star. Another (possibly simpler) method referred to as "AutoAP" became available beginning with Pi-Star v3.4.11, and is described in Appendix G.

Gather up the following:

- Basic ZUMspot kit
 - ZUM Board (w/ Antenna)
 - Raspberry Pi ZeroW (w/ connector)
 - µSD card (w/ Image)
 - Case (Optional)
- Windows PC with Internet access
- USB µSD card reader
- WiFI Credentials for at least one WiFi connection (SSID and PSK), DMR ID

Setting up your WiFi (Slide 1)

Go to the following URL: http://www.pistar.uk/index.php				Pi	PiStar.UK - Pi-Star Digital Voice Software		
					Home	Home	
Click Pi-	Star To	ools, se	elect "WiFi Builder		Information	Pi-Star is a software image The design concept is simp radio in a way that make	e built initially for the Raspberry Pi (produced by the Raspberry Pi Foundation). Die, provide the complex services and configuration for Digial Voice on Amateur es it easily accessable to anyone just starting out, but make it configurable
		,			Pi-Star Tools WiFi Builder Pi-Star Usage Stats	enough to be interesting to Pi-Star can be what ever y you with access to the in repeater! The world is at your finger	or those of us who can't help but tinker. You want it to be, from a simple single mode hotsport running simplex providing creasing number of Digital Voice networks, up to a public duplex multimode tips, and the choices are yours! upde disty, delve becasts the simple to use use based doubbased. Di Sta
				_		provides some unique too understand what the syste	is to make administration easy, but we also encourage those who want to m is and how it works to be as involved as they want to be!
	o				BrandMeister Tools	Most importantly, have fur	n using Pi-Star!
Pr	Star.UK - I	Pi-Star Dig	ital Voice Software		DMR+ Tools	Pi-	Star Digital Voice Dashboard for MW0MWZ Deshboard Admin Config
Home Information Help Pi-Star Tools	Pi-Star WiFi This tool is used to co All you need to do is the matching PSK (th hit "Submit" the gene If you require a confi lines empty, the gene All you need to do th	Builder reate your "wpa_suppli enter your SSID (this i is is the Pre-Shared Ke erated config file will do g to connect to any ava erated config will allow en is dron this onto th	cant.conf" for use with Pi-Star. s the name of your Wireless Network) and sy, or Password) for this network, when you wnload to your computer. ailable open network, leave the SSID and PSK your Pi to connect to any available open network. e "Boot" yolume of your PI-Star SD		Downloads Credits Links	O-See 044 154 P/25 Vetwork Status 0-Ston Heri Ret Heri 155 Net W255 Vetwork Status 757 Esteming 15 431.1472-00 Heri 16 431.1472-00 Heri 17 431.1472-00 Heri 18 431.1472-00 Heri 19 DeSton dispesses 2015 MW042 2012 MW042	Coll step Step Coll Step Step Coll Step Coll Step Coll Step Step Coll Step Coll Step Step Coll Step Step Step Step Step Step Step Step Step Step Step Step Step Step
DMR+ Tools	card - this will appea Once the Pi-Star syst	r as you complete writi em boots up, it will ado	d the config file for the WiFi and reboot.			D-Star Network APRS uk.aprs2.net IRC rn.openquad.n Linked to REF001 (OPlus Outpoing)	2017-05-30 15:05:09 0.5tor sec:00/000 NE 7.9 0.65 0.66 1 2017-05-30 15:15:09 0.5tor 1.000/07LIL CQCQQ Net 7.9 0.65 0.66 2017-05-30 15:15:09 0.5tor 1.000/07LIL CQCQQ Net 1.1 0.66 0.66 2017-05-30 15:15:169 0.5tor 1.000/07LIL CQCQQ Net 1.1 0.68 0.68 2017-05-30 15:15:169 0.5tor 1.000/07LIL CQCQQ Net 1.1 0.68 0.68 2017-05-30 15:51:49 0.5tor 0.000/07L
D-Star Tools	SSID:					DMR Repeater DMR ID 2353150	2017-05-30 15:46:28 D-Stor 4 € € € € € € € € € € € € € € € € € € €
Downloads	PSK:		Submit Query			TS1 disable TS2 enables TG 91/net linked	Last 20 calls that accessed this Gateway Mode CML (FVQQ) Het 6.8 @K 0.0% I Last 20 calls that accessed this Gateway Tare (SSTD) Mode CG12stprin Target Src Dur(s) BER
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Setting up your WiFi (Slide 2)

1. Enter your WiFi Credentials: SSID, and Password (PSK) for the network you want to use for bring-up.

2. Click "Submit Query"

3. When the save dialogue appears, save the resulting "wpa_suplicant.conf" file in a location you will remember.

You will move this to your imaged card so that your WiFi will start up in the subsequent steps.

PiStar.UK - Pi-Star Digital Voice Software					
Home	Pi-Star WiFi Builder				
Information	This tool is used to create your "wpa_supplicant.conf" for use with Pi-Star. All you need to do is enter your SSID (this is the name of your Wireless Network) and				
Help	the matching PSK (this is the Pre-Shared Key, or Password) for this network, when you hit submit" the generated config file will download to your computer.				
Pi-Star Tools	If you require a config to connect to any available open network, leave the SSID and PSK lines empty, the generated config will allow your Pi to connect to any available open network.				
BrandMeister Tools	All you need to do then, is drop this onto the "Boot" volume of your Pi-Star SD card - this will appear as your complete writing the SD Card.				
DMR+ Tools	Once the Pi-Star system boots up, it will add the config file for the WiFi and reboot.				
D-Star Tools	SSID:				
Downloads	PSK:				
Credits					
Links					
pistar.uk website designed and developed by Andy Taylor (MW0MWZ) - andy@mw0mwz.co.uk © 2017-2018 MW0MWZ. All rights reserved. All trademarks acknowledged. wifi_builder.php last modified on 23/10/17 at 20:12 +0000					

Setting up your WiFi (Slide 3)

- 1. Place your card containing the Pi-Star image in a μ SD card reader in your PC.
- 2. Drag and Drop the "wpa_suplicant.conf" file into the root directory of your µSD card.
 3. Install the µSD card containing your image and the wpa_suplicant file into your Raspberry Pi Zero W.

Icon updati			
por p	Organize Share with Burn New folder		
p25_trainin astro p25_trainin astro p25_trainin iMG p25_trainin iMG p2	Organize ▼ Share with ▼ Burn New folder	E	Name Irashes overlays Coverlays Coverla
HF-Compa	 Irashes overlays Pi-Star_Config_21-Aug-2017.zip Network 27 items 	-	Image: The second se

ZUMspot/PiStar

Part III Bringing up ZUMspot/Pi-Star the first time

You now have an imaged card with a WiFi file, let's configure pi-star with your customized setup.

Before you start:

- Install the ZUMspot onto the Raspberry Pi Zero/W – case not needed at this point.
- Install The ZUMspot's antenna.
- Install the µSD card you just prepared with the image and the "wpa_supplicant.conf" file into the Raspberry Pi Zero/W
- Power up the assembled contraption and wait about 3 minutes for it to complete it's boot sequence.

Once "Boot" is complete:

- Make sure that your PC is on the same WiFi as your ZUMspot/Pi-Star HotSpot
- Open your browser (any browser) and point it to: <u>http://pi-star</u> (on Windows) or <u>http://pi-star.local</u> (on Apple iOS).
- You will get the initial Pi-Star information screen indicating that Pi-Star is ready to be set up (see next page) momentarily followed by a Log-In dialog.

Initial Pi-Star Info Screen:

Hostname: pi-star

Pi-Star: 3.4.11 / Dashboard: 20180305

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

In the mean time, you might want to register on the support page here: https://www.facebook.com/groups/pistar/

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2018. ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI), MMDVMDash developed by Kim Huebel (DG9VH), Need help? Click here for the Support Group Get your copy of Pi-Star from here.

Wait about 10 seconds for the security pop-up to appear.

Windows Security Pop-Up:

Hostname: pi-star

Pi-Star: 3.4.11 / Dashboard: 20180305

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.

Windows Security	10 secs	
The server pi-star is asking for your user name and password. The server reports that it is from Restricted. Warning: Your user name and password will be sent using basic authentication on a connection that isn't secure. User name User name Password Remember my credentials	1. Enter the following: User name: "pi-star" Password: "raspberr 2. Click "OK"	y"

Pi-Star Configuration Screen:

		Calourau Harden	are Information		
Bostname	Kernel	Gateway Hardwi	form	CPU Load CPU Temp	
pi-star	4.9.35+	Pi Zero W Rev	7 1.1 (512MB)	0.03 / 0.13 / 0.1 37.9°C / 100.2°S	
		Control S	oftware		
Setting	0.000		Value		
Controller Mode:	Simplex No	de ODunlew Ret	neater (or Half-D	unlew on Hotenote)	
		Apply C	hanges		
		Control Con	- Enumetrica		
Setting		General Co	Value		
Bostneme:	iname: pi-star Do not add suffixes such as .local				
Node Callaign: MIABC					
Radio Frequency:	431.075.000	MHa			
Letitude:	50.000	degrees (pos:	itive value for N	orth, negative for South)	
Longitude:	0.000	degrees (pos	itive value for E	ast, negative for West)	
Town :	A Town, L0C41	TOR			
Country:	Country, UK				
URL:	http://www.qrz.	com/db/M1ABC		🖲 Auto OManual	
Radio/Moden Type:				~	
Node Type:	• Private	Public			
system Time Zone:	Europe/Londor		~		
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		D-Star Con	figuration		
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Remote Password:	*******				
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ircDDBGateway Language:	English_(UK)	~			
Time Announcements:					
Use DPlus for XRF:				Note: Update Required if changed	
		Apply C	hanges		
		Firewall Co	nfiguration		
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Refresh Reset WFIAG	apter) Configure W Wire face Information ace is up 134 155.0 55:8a:e0 rface Statistics (200.0 KiB) .6	VFi)	n and Statistics Connected To : dl AP Mac Address : Bitrate : 65.0 MB Signal Level : -29 Transmit Power : Link Quality : 70/	findess Information thull 45:f5:b3:d5:a5:07 tt/s d6m 33:d6m 70	
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Refresh Reset WFF Ad Interface Name s valand Interface Status : Interf Ponterface Status : Interf Ponter Status : 1255-255. Nace Address : b8:27reb Received Bytes : 20450 Received Bytes : 20450 Transferred Bytes : 213	apter) Configure W virace Information ace is up 134 255.0 rface Statistics (200.0 KiB) 114 (208.0 KiB) Informa	NFT) tless Information	and Statistics W Connected To : di AP Mac Address : Bitrate : 65.0 MB Signal Level : -29 Transmit Power : Link Quality : 70/ tconfig and iwconfig	Friefess Information thul 45:fb3:d8:a5:07 tfs d8m 70 70 V	
Refresh Reset WFI Ad Interface Name 3 valand Interface Status 1 Interf IP Address : 1921.186.4. Unterface Status 252.255. Nac Address : 1921.186.4. Received Packets : 0480 Transferred Packets : 051 Transferred Packets : 051 Transferred Packets : 051 Transferred Packets : 051	apter) Configure W Wirst ace Information ace is up 134 134 55:8a:e0 face Statistics i (200.0 KiB) 14 (208.0 KiB) Informa	NFT) aleas Information alion provided by it Remote Acce	and Statistics Connected To : di AP Mac Address Bitrate : 65.0 MB Signal Level : -29 Transmit Power : Link Quality : 70/ Config and inconfig ss Password Paseword	/ireless Information ichuli 48:/fb.bdsb.sdsb.s5(07 it/s dBm 33.4 Bm /70	
Refresh Reset WIFAd Interface Name 3 viano 10 Address 201, 166.11 Subnet Masks 255, 255.1 Received Patters 1043 Received Bytes 1043 Received Bytes 1043 Received Bytes 1043 Transferred Bytes 213	apter) Configure W Acc Information acc is up 134 35:83:e0 55:83:e0 frace Statistics (200.0 KiB) 114 (208.0 KiB) Informa aroust:	VFT) tess Information tion provided by if Remote Acce	and Statistics Connected To : 4 AP Mac Address : Bitrate : 65.0 MB Signal Level : -29 Link Quality : 70/ config and inconfig as Password Dassword Confirm Rase-	firdes Information thull 48:fib:03:e5:07 it/s dBm 33:dBm 70	

This will bring you the "Pi-Star Configuration Screen" to the right. The default setup is probably going to show DSTAR.

In the "General Configuration" block, select "ZUMspot – Raspberry Pi Hat (GPIO)" as the Radio/Modem Type and click "Apply Changes"

General Configuration					
Setting	Value				
Hostname:	pi-star Do not add suffixes such as .local				
Node Cellsign:	M1ABC				
Radio Frequency:	431.075.000 MHz				
Letitude:	50.000 degrees (positive value for North, negative for South)				
Longitude:	0.000 degrees (positive value for East, negative for West)				
Town:	A Town, L0C4T0R				
Country:	Country, UK				
URL:	http://www.qrz.com/db/M1ABC				
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)				
Node Type:	Private O Public				
System Time Zone:	Europe/London V				
Dashboard Language:	english_uk 🗸				
	Apply Changes				

Pi-Star Apply Changes Notice

After clicking "Apply Changes", please wait for Pi-Star to go through it's update and re-set process. This screen comes up 20 seconds or so after applying new changes followed shortly by the return of the configuration screen with the new changes applied. You will do this several times during this setup and will need to wait out this cycle each time.

			Pi-Sta	r:3.4.11 / Dashboard: 20180310		
Pi-Star Digital Voice - Configuration						
		Gateway Hardware Information				
Hostname	Kernel	Platform	CPU Load	CPU Temp		
pi-star	4.9.35+	Pi Zero W Rev 1.1 (512MB)	0.77 / 0.53 / 0.24	31.5°C / 88.7°F		
Working Stopping services and applying your configuration changes						
		Done				
		Changes applied, starting services.				
Pi-Star web config. © Andy Taylor (MW0MWZ) 2014-2018. Need help? Click here for the Support Group Get your copy of Pi-Star from here.						

Modem Warning Pop-Up:



Once this first reset cycle completes, you will probably be greeted with a message asking you to re-select your modem from the dropdown list. If so, select "ZUMspot – Raspberry Pi Hat (GPIO)" again.

		General	al Configuration	
Setting			Value	
Hostname:	pi-star	Do not ad	dd suffixes such as .local	
Node Cellsign:	M1ABC			
Radio Frequency:	431.075.000	MHz		
Latitude:	50.000	degrees ((positive value for North, negative for South)	
Longitude:	0.000	degrees ((bositive value for East, negative for West)	
Town:	A Town, L0C41	TOR		
Country:	Country, UK			
URL:	http://www.grz.	com/db/M1A	C ® Auto O Manual	
Radio/Moden Type:	ZumSpot - Ras	ZumSpot - Raspberry Pi Hat (GPIO)		
Node Type:	• Private ()	Public		
System Time Zone:	Europe/Londor	1	~	
Dashboard Language:	english_uk	~		
	-	Арр	ply Changes	

After re-entering the Modem Type, click "Apply Changes" once again and let it reset.

Pi-Star Configuration Screen:

	Pi-Star I	Digital Voi	ce - Con	figuration	1 / Conference, 2012028				
		Deshboard	Admin Export	Power Update Bookup/Resto	re Postory React				
ROACOADA	semal	Geteway Hardw	ere Information form r 1.1 (112m)	Cro Lond	Cro swap				
		Control	alterna .						
Secting	0.1		val	iu.					
Controller Software: Controller Mode:	© nitara	speater © xxrvxxxxe x xode O suplex me	t (ov-mega mini peater (or malt	inum rizmware 3.07 meguired f-suplax on motepote)	,				
Apply Changes									
Secting		value							
-Star Hode:	- 	RF HAD	raine: 20	met sangtime: 20					
(SF Node:		27 2422	rtma: 20	met sangtime: 20					
P25 Node:		RF HAD	ptime: 20	set sangtime: 20					
YSF2048:		17 141		set sangeine: [10					
MODVN Display Type:	None	y rozs: (devityA)	MO V maxtion	sayous: G4KLX V					
		Apply C	hanges						
Secting		General Co	nfiguration val	10 6					
Kostname: Node Callston:	pi-star	oo not add a	uffixes such as	.10581					
CCS7/DMR ID:	1234567								
Radio Frequency:	431.075.00	io para							
Latitude:	50.000	degrees (pos	itive value for	r worth, negative for South)				
longitude:	0.000	degrees (pos	itive value for	r mast, negative for meet)					
rown: Country:	A Town, LC	IC410R							
URL:	http://www	grz.com/db/M1ABC		@Auto Oward	*1				
Radio/Nodem Type:	-			~					
Node Type:	· vrivate	Orublic							
System Time Tone:	Europe Lo	ndon	~						
	10000	Apply C	hanges						
Secting		DHR Con	iguration 721	1 78					
DIG. Naster:	DMRGate	vey	~						
DNR Colour Code:	1 M								
DMR. DumpTAData:									
		Apply C	hanges						
Secting		D-Ster Cor	figuration val	10 0					
R971 Callsign:	siant E	V							
Renote Pageword:			1						
Default Reflector:	REF001	Y 🗸 🗸		@ grartup O Har	tual				
A994 Nost:	england.ap	vs2.net V							
Incologiateway Langua Time Announcements:		N M							
Dae Dilus for XRF:				mote: update meguired	if changed				
		Apply C	hanges						
Ascting		Firewall Co	nfiguration yal	128					
Dashboard Access:	· rrivate	Orabiic	_						
ill Access :	· · · · · · · · · · · · · · · · · · ·	Omblie							
Auto AP:	e as Oa	**	HOLE:	neboot neguired if changed					
		Apply C	hanges						
(Datash) (Course	and a state of the state	Wireless Co	ofiguration						
Charles I neset W	Cong	Vireless Informatio	n and Statistics		<u>^</u>				
Interfece Name : w	nterfece Informatic en0		Connected To :	Wireless Information					
Interfece Status : In IP Address : 192.10	sterfece is up 6.1.134		AP Mac Addres	as: 45:15:b3:d5:e5:07					
Subnet Mesk : 255.3 Mec Address : 55:23	155.255.0 Teb:55:5e:e0		Signal Level :	15kt/s -25 dSm					
	Interfoce Statistics		Trenamit Powe	er : 31 d6m					
Received Pockets : 3 Received Sytes : 66	3081 3572 (648.0 KiS)		Link Quality : 3	70/70					
Trensferred Peckets Trensferred Sytes :	: 2770 930657 (905.5 Kis)							
	Infe	rmation provided by i	foonling and incom	Ωg	~~				
		Remote Arre	as Pessword						
Deax Name		ACC .	Parmond						
pi-star	FRANCES:	whis changes the -	Confirm ras	avord:	Set Password				
		And the "pirets	ar" 22x account						
		-Dar web config. ID Andre 7	Nor INVOINT 2014	-2018.					
		Need help? Click here Get your copy of I	för the Support Group N-Star from here.						

The new configuration screen will look like this.

There will be is a new block now that represents the Capabilities of the "ZUMspot – Raspberry Pi Hat (GPIO)" that is Parked atop your Raspberry Pi Zero/W.

MMDVMHost Configuration						
Setting	Value					
DMR Mode:	RF Hangtime: 20 Net Hangtime: 20					
D-Ster Mode:	RF Hangtime: 20 Net Hangtime: 20					
YSF Mode:	RF Hangtime: 20 Net Hangtime: 20					
P25 Mode:	RF Hangtime: 20 Net Hangtime: 20					
NXDN Mode:	RF Hangtime: 20 Net Hangtime: 20					
YSF2DMR:						
MMDVM Display Type:	None V Port: /dev/ttyAMAO V Nextion Layout: G4KLX V					
Apply Changes						

Here is where you will tell your ZUMspot/Pi-Star what you want it to do for you. Most can leave it as is since DMR and DSTAR is what many will want. If you want YSF (Fusion), APCO P25 and/or YSF2DMR, turn these on. A new configuration block for each will appear (once you click "Apply Changes") and the system does it's reset.

Pi-Star Control SW Setup:

Pi-Star Digital Voice - Configuration						feetory Read	
Geteway Mardware Information							
piratar	4.9.35+	Fi ter	placform o w may 1.1 (512s	leas)	0.83 / 0.29 /	0.15 38.5"0	/ 101.3"#
			ontrol Software				_
Secting	0.1			value			
Controller Mode:	© simple	apeater 0 30 ax mode O mut	invocat (nymwega lax napeatar (nr	r salf-m	plax on socepor	meguired)	
			Apply Changes				_
		MMOV	West Carlin unti				
Facting		PIPIDV	Andre Consiguration	value			
MR: Mode:			er sangeine: 20		ret sangtime:	20	
-Star Node:			ar mangeine: 20		net sangtime:	20	
127 Node:	-		er sangeine: 20	_	net sangtime:	20	
CON Mode:			AP HANGELMAN 20	_	Set Hangtine:	20	_
SF20KR:					and an open set.		_
ODVN Display Type:	None	v sort: /d	evityAMAD 🗸 🚥	stion 14g	reas: G4KLX N	/	_
			Apply Changes				_
		Gen	erel Configuration				
Secting				value			
ostrane:	pi-star	00 505	add auffinns au	ach na .3	ocal		
cone Callaign:	MIABO						
adio Framanov	431 075 0	100 www		_	_		
atituda:	50.000	darmer	a Incatative 1	a far	urth, negative (for South)	
angitude:	0.000	darres	a locateive value	a for	at. parative fo		
form :	A Town, L	JOCATOR					
lountry:	Country, L	ж					
RL:	http://www	v grz.com/db/M	ABC		() ALL	o Osenuel	
adio/Noden Type:	-				~		
lode Type:	· rrives	• Orublic					
ystem Time Tone:	Europe La	ongon	<u> </u>				_
and any	0.000	· ·	Anoly Channes				_
Secting		01	IR Configuration	value			_
NG. Naster:	DMRGate	way	~				
NG. Colour Code:	1 📉						
NG. EnheddedLCOmly:							
NR DumpTAData:			Anoly Channer				
			repty charges				-
Section		0-5	ter Configuration	value			_
1971 Callsign:	DIALK	в 🗸					
1972 Callsign:	alant G						
Anote Pageword:	000001				<u>.</u>	0	
1994 Host:	england a	ors2.net v	1	_	· star	up Omnumi	_
trobbüüstevey Language:	English_(UK) 🗸					
fine Announcements:							
ise Dilus for XRF:					mote: update :	sequired if c	hanged
			Apply Changes				
		Fire	well Configuration				
Secting				Value			
scoodistevay Remote:	· rgiver			_			
ISE Access:	· rriver	• Orublic					
Auto A9:	0 ca ()	ore		note: sei	boot mequired i	f changed	
			Apply Changes				
		Wire	less Configuration				
(Refresh) (Reset WFLA	inter Conte	ure WFT) Wireless Info	rmation and Stati	istics			^^
Enterfece Neme : wient			Connected	d To : dk	hull		
IP Address : 192.165.1	134		AP Mac Ad	odress : ·	40:15:53:d5:e5:1	27	
Subnet Mask : 255.255 Mac Address : b5:27:eb	255.0 :55:5e:e0		Signal Lav	72.2 MBit vel : -28	d5m		
Int	erfoce Statistic		Trenamit	Power :	31 d6m		
Received Pockets : 305 Received Sytes : AA332	1 2 (645.0 Kim)		Link Queli	lity : 70/	70		
Transferred Packets : 2	770	5)					
	Count Ki						~ ~
	Inf	ormation provid	and interning and i	incoul)8			
		Remo	te Access Pesswo	ard			
Dear Name			200	reverd		1 00	Passand
n	KARMING:	this changes	the password for	or this a	dmin page		
		And the	"pirecar" 25x acc	count			
		Pi-Onr waters for	D Andy Taylor Manager	2) 2014-201			
		Need help? Get you	Click here for the Support r copy of PI-Star from her	t Group			

Control Software					
Setting	Value				
Controller Software:	ODStarRepeater MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)				
Controller Mode:	Simplex Node O Duplex Repeater (or Half-Duplex on Hotspots)				
	Apply Changes				

Make sure your "Control Software" Section is set up as Shown above. The default should be good. If you change Something, remember to click "Apply Changes" and wait for the reset cycle to complete and the new changes to appear.

Pi-Star MMDVM Host Setup:

Pi	-Star Di	gital Voice	- Conf	iguratio	n	
		Deshboord Admir	Export Po	wer Update Be	ckup/Restore Postor	y React
ROATONNA R	arnal	Geteway Herdware In Flatford	formation	Cert Load	Carp Tan	9
pi-star 4.	9.35+	Fi sero w mey 1.1	(512m)	0.93 / 0.29 /	0.15 38.5'0 / 10	1.1%
		Control Softw	ere			_
Controller Software:	Ontrarren			m minovara 1.67	manuf red)	
Controller Mode:	@ Simplax m	ode O suplex nepeace	r (or salf-	suplax on motapor	t#)	
		Apply Change	5			
		MMDVMHost Coolid	wating			
Secting			value			
DNR Node:		nr sangtine:	20	ret sangtime:	20	
D-Star Mode:		nr sangtine:	20	wet Hangtine:	20	
727 Node:		ar sangtine	: 20	set sangtime:	20	
P25 Node:		nr sangtine:	: 20	wet Hangtine:	20	_
NICH Hode:		nr sangtine:	20	set sangtime:	20	_
MOVIN Display Type:	None M	man Hermanian .		040 X 3		_
	1.000	Annix Channe		guilt period	·	
Section		General Configu	ration value			
Kostnama:	pi-star	oo not add suffix	as such as	local		
Node Callsign:	MIABO					
0097/DMR ID:	1234967					
Radio Frequency:	431.075.000	- Anna				
Latituda:	50.000	degrees (positive	value for 1	worth, negative	for South)	
Longitude:	0.000	degrees (positive	value for :	man, negative f	or mest)	
Town:	A Town, LOC4	TOR				
Country:	Country, UK					
URL:	http://www.grz	comidb/M1ABC		() AU	o Omanual	
Radio/Nodem Type:	-		_	~		
Sode Type:	Ø rrivate () wiblic				_
System Time Tone:	eonlish uk					_
	1-1-0-	Anoly Change				
		THEY CHAINE				
Serving		DHR Configure	tion			
DNG. Master:	DMRGateway		V			
DNR Colour Code:	1 1					
DNR EmbeddedLOOmly:						
DMR DumpTAData:						
		Apply Change	5			
		D-Ster Configur	etion			
Secting		7	value			
R972 Callsign:	NIABC B N	1				_
Renote Pageword:						
Default Reflector:	REF001 V			® 2187	tup Omanual	
A993 Host:	england.aprs2	.net 🗸				
inchibüsteway Language:	English_(UK)	<u> </u>				
Time Announcements:						-
use owice for XRS:		Annaly C		soce: opdate :	nequired if change	a -
		Apply Change	3			
Provide a second		Firewall Configu	retion			
Dashboard Access:	Bertingen (Denhite	Wilp			
inclogesteway Remote:	O rrivere (rublic				
SSE Access:	@ rrivate (rublic				-
Auto AD:	€as Oper		note: A	aboot maquired i	if changed	
		Apply Change	5			
		Wireless Cooffee	retion			
Refresh Reset WE Adea	and Contained	MET)				
Contraction of Party and Party	and a second second	days Information	The Lot of			
Interfec	Information		V	fireless Informat	bon	
Interfece Neme : wien0 Interfece Status : Interfec	a is up	Conr AP H	nected To : d Nec Address	khull : 48:f8:b3:d8:e3:	07	
IP Address : 192.105.1.13 Subnet Mesk : 255.255.25	4 5.0	Sitre	te : 72.2 MB	in/a		
Mec Address : b5:27:eb:55	Sece0	Sign	el Level : -21	s dism		
Interf	ece Statistics	Tren	amit Power	31 dBm		
Received Pockets : 3061 Received Sytes : 663577 /	645.0 KiS)	Link	Quality : 70	/70		
Transferred Packets : 277	2 (205 5 Kir)					
	- (-ve.e kib)					
	Inform	ation provided by ifconfig	and iwconfig			ΨV
		Remote Access Po	asword			
Deax Name			Paramond			
pi-star raser	ord:	0	infirm races	ord:	Set Past	sword
	WARDING: Th	and the "pirater" 22	rd for this	admin page		
	PH2	ar web config. C Andy Taylor (N	NOMINE 2014-20			
		Get your copy of PI-Rar f				

MMDVMHost Configuration									
Setting		Value							
DMR Mode:		RF Hangtime:	20	Net Hangtime:	20				
D-Star Mode:		RF Hangtime:	20	Net Hangtime:	20				
YSF Mode:		RF Hangtime:	20	Net Hangtime:	20				
P25 Mode:		RF Hangtime:	20	Net Hangtime:	20				
NXDN Mode:		RF Hangtime:	20	Net Hangtime:	20				
YSF2DMR:									
MMDVM Display Type:	OLED	✓ Port: /dev/ttyAMA0 ✓	Nextion La	yout: G4KLX 🕚	 Image: A set of the set of the				
Apply Changes									

Here is where you will select the communications options that you want your ZUMspot/Pi-Star setup to support. Mine (shown here) is set up for DMR, DSTAR and YSF (Fusion). You have to have at least one mode enabled. The ZUMspot/Pi-Star device will "scan" whatever modes are enabled here. You can change the scan dwell and hang times as desired. The defaults are 20 seconds as Shown above. Click "Apply Changes" when done.

<u>Pi-Star General Config. Setup:</u>

Pi-Star Digital Voice - Configuration						
Geshboord Admin Expert Power Update Bookup/Restore Fectory Reset						
		Getewey Herdw	rere Informet	on		
pirates 4	.9.35+	Fi tero m ne	form. 7 1.1 (512em)	Crt Lond	Carp 1980	
Recting		Control	Software	alus		
Controller Software:	Opitarnepea	542 ·	is (cyrranga a	inimum rizzware 3.07 m	equired)	
Controller Mode:	@ Simplex no	de Opuplex m	peacer (or m	if-suplex on motepote)		
		Apply 0	Changes			
		MMDVMHost	Configuration			
Recting				also .		
unix mode:		17 142	geine: 20	set sangtime: 20		
VAT Mede:		RF RME	guane: au	Bet Rengelane: 20	_	
Tar Node:		27 242	rtime: 20	set sangtime: 20	_	
Fas more.		87 845	201861 20	set Hangtine: 20	_	
YSPONR		~ ~		and any case. In		
ODVN Display Type:	None V	rers: /devityA		n savous: G4KLX V		
		Apply 0	hanges			
Secting	_	General Co	intiguration	alte		
Rostname:	pi-star	oo nos add a	uffixes such	as .local		
Node Callsign:	MIABO					
CCS7/DMR ID:	1234967					
Radio Frequency:	431.075.000	No.				
latitude:	50.000	degrees (pos	itive value :	for worth, negative for	f South)	
Longitude:	0.000	degrees (pos	itive value :	for mass, negative for	mest)	
Town:	A Town, LOC41	TOR				
Country:	Country, UK					
URL:	http://www.grz.	comidb/M1ABC		() AULO	Omnuml	
Radio/Noden Type:	-		_	~		
Node Type:	errivate C	rublic				
system Time Tone:	exclision ut	1 1	M			
ensuedra Language:	and and the	-	hannar			
		Apply (ananges			
Sec. (DMR Con	figuration	-1		
DNR. Naster:	DMRGateway		~			
NG: Colour Code:	1 1					
DMR EmbeddedLCOmly:	0					
DMR. DumpTAData:						
		Apply 0	Changes			
		D-Sher Co	figuration			
Recting			1	alos		
8971 Callaign:	HIND B V					
Anna Chillings:	SUNDL 9		1			
Default Reflector:	REFOO1				Owners	
ADDS Nost:	england.aprs2	net 🗸		- three		
incloadateway Language:	English_(UK)	¥				
Time Announcements:						
Dae Dilus for 397:				note: update net	pired if changed	
		Apply (changes			
		Firewell Co	ofiguration			
Secting		- newell Co	1	alpe		
Dashboard Access:	S rrivace C	rublic				
incloudsteway Remote:	S rrivate C	rublic				
Into 12:	Orrivate C	rublic		at asheen semired if	channel	
	Vox Uper	Acrive	to:			
		APPly C	analiges			
		Wireless C	onfiguration			
Refresh Reset WFI Adap	ter) Configure V	(F)			~ ~	
	Wire	less Informatio	n and Statisti			
Interfece Neme : wien0	ce Information		Connected T	Wireless Information a : dkhull		
Interfece Status : Interfec	ne is up		AP Mec Add	*** : 45:f5:b3:d5:e5:07		
Subnet Mask : 255.255.25	5.0		Sitrate : 72.	z MBit/s		
mec Address : b5:27:eb:5	0:00:00		pignel Level	: "zo d6m		
Interf Received Peckets : 3051	oce Statistics		Trenamit Po Link Quelieu	wer: 31 dBm : 70/70		
Received Sytes : 003572	(848.0 KiS)		Contraction of the second seco			
Transferred Packets : 277 Transferred Sytes : 93065	0 17 (905.5 KiS)					
L	Informe	tion provided by	forely and in	nofin	v .	
	andema	earrighteneed by	rooming and inc			
		Remote Acc	as Pessword			
DIST NESS			Patrice		Set Password	
	NARNING: shi	e changes the s	contrire s	this admin page	our raadword	
		And the "piret	ar" 25s accou			
			_			
	Pi-Ga	Need help? Clot have	for the Support Gro	19422018. 10		
		Get your capy of	Pi-Star from here.			

General Configuration						
Setting Value						
Hostname:	pi-star	Do not add sui	ffixes such a	s .local		
Node Callsign:	KC6N					
CCS7/DMR ID:	3106564					
Radio Frequency:	439.025.000	MHz				
Latitude:	32.717	degrees (posit	tive value fo	r North, neg	gative for South)	
Longitude:	-117.16	-117.16 degrees (positive value for East, negative for West)				
Town:	San Diego, CA					
Country:	USA					
URL:	http://www.qrz.	com/db/KC6N			● Auto ○ Manual	
Radio/Modem Type:	ZumSpot - Ras	pberry Pi Hat (GPIC))	~		
Node Type:	• Private	Private Public				
System Time Zone:	America/Los_A	America/Los_Angeles				
Dashboard Language:	english_us	~				
Apply Changes						

Here is where you will customize Pi-Star for your station. Add your Callsign, your DMR ID, set the ZUM/Pi Operating Frequency, geographic location, etc. Here is how mine is set up, yours will obviously be different. Click "Apply Changes" when done, wait for the reset cycle to complete and the configuration screen to return.

Pi-Star DMR Config. Setup:

Pi-Star Digital Voice - Configuration					
		Deshboard .	Admin Export	Power Update Bockup/Reatore Pocto	ry React
ROSCOMO	semal	Geteway Herdwo	form	Cro Lond Cro Ter	-
,		franke i s	-		
Recting		Control s	val	9 8	
Controller Software:	Opitarnepe	atar @ socryscom	(consegn sint	num rinnware 3.07 meguired)	
controller Hode:	W Simplex o	Apply C	hanges	-suplex on motepote)	
		MMDVMHost (Configuration	_	_
NG: Node:		27 8472	vine: 20	ret sangtime: 20	
D-Star Mode:		RF HADS	uime: 20	wet mangtime: 20	
727 Node:		ar sang	time: 20	ret sangtime: 20	
P25 Node:		RF HADS	uine: 20	wet sangtime: 20	
NDN Node:		27 8422	time: 20	net sangtime: 20	
YSP2DMR:	None N	and a second state of the state of the	and set mention	CHECK AND	
	NUIC V	Apply C	hanges		
		Consul Co	Course in a		
Secting		General Col	value	18	
los trans :	pi-star	oo not add e	offines such as	.local	
fode Callsign:	MIABO				
cca7/DHG. ID:	431 075 000		_		_
Latitude:	50.000	degrees inna	tive value for	worth, negative for South'	_
Longitude:	0.000	degrees (pos	trive value for	man, negative for ment)	
Town :	A Town, LOC-	ATOR			_
Country:	Country, UK				
URL:	http://www.gr	z.com/db/M1ABC		@auto Omanual	
Radio/Noden Type:	-			~	
Node Type:	· Frivate	rublic			
System Time Sone:	Europe Long	on	<u> </u>		
	10000	Acely C	hances		
Secting		DHR Cont	iguration value		
DNR. Naster:	DMRGatewa	v	×		
DNR Colour Code:	1 4				
Disk anneasealconly:					
		Apply C	hanpes		
Secting		U-Star Con	value	a.	
APT1 Calleign:	HIADC B	<u> </u>			
Renote Password:			1		_
Default Reflector:	REF001 V			@grartup Openual	
A993 Nost:	england.aprs	2.net 🗸			
inclosestevay Language:	English_(UK)	×			
Time Announcements:	_			more reduce section if charac	
		Apply C	hanges		_
Secting		Firewall Co	ntiguration Val		
Dashboard Access:	· rrivace	rublic			
inclogestevay Renote:	· rrivace	rublic .			
SSE Access:	O private	o rublic		saboon samirad if channel	
	Con Oper	Acely C	hances		
		Wireless Co	ntiguration		
Reset WFI Ad	apter Configure	WHI			^^
Inter	face Information	recess Information	end Statistics	Wireless Information	
Interfece Name : wien0 Interfece Status : Inter	fece is up		Connected To : AP Mec Addres	dkhull : 48:f8:b3:d8:e3:07	
IP Address : 192.105.1. Subnet Mark : 255.255.	134		Sitrate : 72.2 M	Bit/s	
Mec Address : b5:27:eb	55:5e:e0		Signel Level : -	25 dBm	
Inte	rfoce Statistics		Trenamit Powe	r : 31 d6m	
Received Sytes : 00357	2 (645.0 KiS)		control Quanty : 7		
Transferred Sytes : 930	887 (908.8 KiS)				
	Inform	setion provided by a	config and iversel		~~
Dear Name		Remote Acce	Pessword Personal		
pi-star rat	everd:		Confirm rate	word: Set Pas	sword
	WARDING: Th	is changes the p	asword for thi	a admin page	
	PHS	Ren yeak config. (D. Andy Th	ylor (MWOMWZ) 2014-	2018.	
		Get your copy of P	1-Star from here.		

Set up the DMR specifics here. Select your DMR Master Server, set your Color Code, etc. Turning on the last switch will allow your ZUM/Pi to pass Talker Alias data to your radio, if it supports it (Hytera, MD-380 w/tools). Click "Apply Changes" when done.

DMR Configuration					
Setting	Value				
DMR Master:	BM_United_States_3103				
BrandMeister Network:	Repeater Information Edit Repeater (BrandMeister Selfcare)				
DMR Color Code:	1 🗸				
DMR EmbeddedLCOnly:					
DMR DumpTAData:					
	Apply Changes				

Note: This block may come up looking a bit different (with a few more options). Once you set the ones shown here, it should return looking like this after the reset.

Pi-Star DSTAR Config. Setup:

Pi-Star Digital Voice - Configuration					
Gestiboerd Admin Expert Power Update Beckup/Restore Festory Reads					
		Getewey Herdw	ere Informatic	in	
ROSTRADA	remai	rist	form	Cry Lord	Cro resp
,					
Barring		Control	Software	Ine	
Controller Software:	Optornep	aataz @ socryscos	t (ovræga sis	timum minnware 3.07 meg	ired)
Controller Mode:	@ 2implax :	xode Opuplax me Apply C	peacer (or sa) Changes	if-suplex on motepote)	
Decriec		MMDVMHost	Configuration	1	
NR Node:		27 840	rstre: 20	met sangtime: 20	
D-Star Node:		RT HAD	rsine: 20	met sangtime: 20	
YS7 Node:	0	27 880	rtine: 20	met sangtime: 20	
25 Node:		DT HAD	raine: 20	met sangtime: 20	
NUDN Mode:		27 880	rtine: 20	met sangtime: 20	
YSP2DKR:					
ODVN Display Type:	None 🗸	reze: /devittyAl		a sayous: G4KLX ∨	
		General Co	afiguration		
Secting		wentered Co	Va	100	
los trans :	pi-star	oo not add a	uffixes such a	.local	
Node Callsign:	MIABO				
CCS7/DMR ID:	1234567				
Radio Frequency:	431.075.000	NH2			
Latitude:	50.000	degrees (pos	itive value fo	or worth, negative for i	louth)
longitude:	0.000	degrees (pos	itive value fo	or mass, negative for m	iet)
Town:	A Town, LOC	4TOR	_		
Country:	Country, UK				
URL:	http://www.gr	z.com/db/M1ABC		® Auto C	manual
Radio/Noden Type:	-	0		v	
	S rrivate	U sublic	-		
ayated Time Tone:	ecolish 14	~	~		
sensoure language:	Cigior_UK	*	hanner		
DNR Master: DNR Colour Code:	DMRGatewa	w.	~	199.	
DNG. EmbeddedLCOnly:					
DMR. DumpTAData:					
		Apply C	hanges		
		D-Ster Cor	figuration		
Secting	durat D		Va	100	
R972 Callsign:	MIADI 0	~			
Renote Password:					
Default Reflector:	REF001 V			· Startup	OMBRUEL
A993 Nost:	england aprs	s2.net 🗸			
ischoldsteway Language:	English_(UK)				
Time Announcements:					
Dae Dilus for XRS:				mote: update mequi	ired if changed
		Apply C	nanges		
Sector		Firewell Co	ofiguration	Ine	
Dashboard Access:	· rriver	O rublic			
incoogesteway Remote:	· rrivere	rublic			
SSE Access:	· rrivate	Orublic			
Auto AD:	Con Oper		2018	: meboot mequired if ch	anged
		Apply C	hanges		
		Wireless Co	onfiguration		
(Refresh) Reset WFLA	dapter Configure	WFI)			
	wi	ireless Informatio	n and Statistic		
Inte	face Information		Connected To	Wireless Information	
Interfece Status : Inter	fece is up		AP Mec Addre	m : 48:f8:b3:d8:e5:07	
Subnet Mesk : 255.255	255.0		Sitrate : 72.2	MBit/s	
Moc Address : b5:27:eb	:55:5e:e0		Signal Level :	-25 dSm	
Int	erfoce Statistics		Trenamit Pow	er : 31 d6m	
Received Sytes : 00357	2 (845.0 KiS)		control Quanty :		
Trensferred Pockets : 2 Trensferred Sytes : 930	770 9857 (995.5 Kin)				
	Inform	nación provided by i	reening and inco	002	
		Remote Acce	as Pessword		
Class Same			Partenose Constitu		Set Password
n n	NARMING: **	his changes the t	assword for sh	tie admin page	OCT MANUTO
		And the "piret	ar" 25x account		
	PH	Need Television Provide Lines			

Set up the DSTAR specifics here. Enter your RPT1 module letter ("B" in most cases). RPT2 will be generated for you. <u>DO NOT change the Remote Password</u>. Set a default reflector (this is where your DSTAR configuration will land on startup). Pick an APRS Host and language. Turn on Time Announcements (optional). Leave "Use DPIus for XRF" off for now (there is info later on what to do with this switch). Click "Apply Changes" when done.

D-Star Configuration							
Setting		Val	ue				
RPT1 Callsign:	ксби В 🗸						
RPT2 Callsign:	KC6N G						
Remote Password:	•••••	•••••					
Default Reflector:	REF012 V A V		• Startup • Manual				
APRS Host:	socal.aprs2.net						
ircDDBGateway Language:	English_(US)						
Time Announcements:							
Use DPlus for XRF:			Note: Update Required if changed				
	Apply Chang	es					

Pi-Star Firewall Config. Setup:

Pi-Star Digital Voice - Configuration							
			Deshboord	Admin Export	Power Update Bo	ckup/Acatore Pod	lory Read
piratar	4.9.35+		Fist Fi tero v nev	ristform 1 mero = mey 1.1 (512mm)		0.15 38.5°C /	101.3'r
free (an			Control :	Software	_		
Introller Software	. O:		az 🖲 2012/20104	c (cyrnega sini	nun riznware 3.07	negaired)	
Iontroller Mode:		implex sod	e Opuplex ne	peater (or sals	-puplex on motepo	ta)	
			MMDVMHost	Configuration			
Secting	1		27 840	val	net sangtine:	20	
-Star Node:			RF HAD	rtine: 20	net sangtine:	20	
YSF Node:			27 2423	rtine: 20	ret sangtine:	20	
VIS NODe: NICH Hode:	-	_	RF HAD	rtma: 20	THE HANDEINS:	20	
TET RECEIPER 20 BET RECEIPER 20							
ODVN Display Type:	Nor	ne 🗸 s	rezs: /devityAl	MO V mextion	sayous: G4KLX	~	
			Apply C	hanges			
Secting			General Co	nfiguration val	5 6		
los trans :	pi-s	tar	oo not add a	uffixes such as	.local		
fode Callsign:	MI	ABC					
adio Frequency-	123	.075.000	100	_			
Latituda:	50.0	000	degrees (pos	itive value for	worth, negative	for South)	_
Longitude:	0.0	00	degrees (pos	itive value for	mast, negative f	(or mean)	
tevn:	AT	own, LOC4TI	DR				
lountry:	Cou	intry, UK	and the second second	-	~	0	
Radio/Nodem Type:	nap		omobilitiABC			co Osanual	
Node Type:		rrivace O	rublic				
lysten Time Ione:	Eur	ope London	-	~			
Dashboard Language:	eng	jish_uk •	Y				
			Apply C	nanges			
Secting			DMR Cont	iguration 721			-
NG. Nastar:	DM	RGateway		×			
DNR Colour Code: DNR EmbeddedLCOnly:	1	<u> </u>					
DMR. DumpTAData:							
			Apply C	hanges			
			D-Ster Cor	figuration			
APT1 Calleign:	sia	ac B 🗸		Val	54		
2972 Callsign:	xix	eC 0		1			
Renote Pageword: Default Reflector:	RE	F001 V					
APPS Host:	eng	land aprs2 r	et 🗸				
incollectevey Lange	age: Eng	ilsh_(UK)	~				
Use DPlus for XPT-		-			mote: update neguired if changed		
			Apply C	hanges			
			Firewall Co	ofiguration			
Secting		O	mblic	Val			
inclogestavay Renot	•	rrivata O	rublic				
SSE Access:		civate O	rublic				_
Auto AP:		n Oorr	Apply C	hanges	Report Required :	er changed	
			Wineless To				
(Refresh) (Reset W	Fi Adapter 1	Configure W	E)				~ ~
		Wirel	ess Informatio	n and Statistics			
Interfece Name : v	vien0	rmation		Connected To	Wireless Informe	bon	1
Enterfece Status : 1 EP Address : 192.1	Interface is up 05.1.134	•		AP Mac Addres	a : 46:f8:b3:d6:e5:	07	
Mec Address : 55:3	.255.255.0 7:eb:55:5e:e0	•		Signal Level :	25 dSm		
	Interface St	atistics		Trenamit Powe	r : 31 d6m		
Received Sytes : 0	3081 83572 (848.0	KiS)		unk Quelity : 1	0770		
Transferred Packet Transferred Bytes	: 2770 : 930657 (905	5.5 KiS)					
		Informat	ion provided by i	fconfig and iwcon	ña		- ~~
			Rempte Acce	as Pessword			
Usar Name			ACE	Password			
pi-star	reserverd:	NING: This	changes the r	Confirm ras	evord:	Set Pr	sssword
			up the "piret	ar" 22x account			
			veb config. If Ander?	wher international parts	2018.		
			Need help? Click here	for the Support Group N-Dar from here.			

These settings determine who can see your ZUMspot. I set all of these to private. If this pi-star were running on an MMDVM driving a multi-mode repeater you might Want to make some of these public. But for a private node, I'd keep them private.

AutoAP: When set to "On" (default) the ZUMspot will automatically revert to "access point" mode if it finds no accessible WiFi networks. This allows direct programming of the ZUMspot WiFi as described in Appendix G.

		1			
	Fire	wall Configurat	ion		
Setting			Value		
Dashboard Access:	Private O Public				
ircDDGBateway Remote:	• Private O Public				
SSH Access:	● Private ○ Public				
Auto AP:	⊙ On ○ Off		Note: Reboot Required if changed		
		Apply Changes			

Pi-Star Wireless Setup:

		Geteway Herd	vere Informatio		
piratar 6	.9.35+	ristform Fi zero W may 1.1 (512mm)		Cry soud Cry rem 0.93 / 0.29 / 0.15 39.5°C / 103	
		Contro	Software		
Easting	Optorner	anter Contract	ar (compared at a	ion inum rigname 3.07 meru	(ped)
Controller Mode:	@ Simplex	wode O cuplex :	sepencer (or sal	f-suplex on motepote)	
		Apply	Changes		
Decision		MMDVMHos	t Configuration	-	
Dig. Node:		27 88	ngsime: 20	ret sangtime: 20	
D-Star Node:		27 84	nguine: 20	wet sangtime: 20	
YST Node:		27 23	ngcime: 20	met sangtime: 20	
P25 Node:		27 88	nguine: 20	wet Hangtime: 20	
YS72048:		17 14	opeane: [20	met sangeine: [20	
MADVN Display Type:	None	v roze: /devity	WAG V maxtion	sagous: G4KLX ∨	
		Apply	Changes		
		General C	onfiguration		
Secting .	ol-star	D0 505 444	suffices such a	.10541	
Node Callsign:	MIABO				
0087/DMR. ID:	1234967				
Radio Frequency:	431.075.000) pears			
Latituda:	50.000	degrees (p	witive value fo	r worth, negative for 2	outh)
iongitode: Town:	0.000 A Town 1.00	pegrees (pr	witive value fo	r tast, negative for me	15)
Country:	Country, UK	L			
URL:	http://www.q	rz.com/db/M1ABC		®auto O	ianual.
Radio/Nodem Type:	-			~	
Node Type:	· rrivate	Orublic			
System Time Tone: Dashboard Language:	english uk		Y		
		Apply	Changes		
		DHRC	ofinuration		
Secting		Crick Co	73	120	
DNR. Haster: DNR. Colour Code:	DMRGatewa	ay	×		
DNR EmbeddedLCOnly:					
DMR. DumpTAData:					
		Apply	Changes		
		D-Ster C	onfiguration		
APT1 Calleign:	HAND B	v	VA	.06	
2972 Callaign:	Simpi G		-		
Renote Parrword: Default Reflector:	REFORT				
ADDS Host:	england app	s2.net 🗸			- ABILLER
incooldstavay Language:	English_(UK	<			
Time Announcements:					
one ovide for MRT:		Annie	Changes	soce: opdate segui	ee is changed
		Firewall (onfiguration 72	(De)	
Secting	· rrivate	Orabiic			
Secting Dashboard Access:	· Private	Orabite			
Desthoard Access: ircDOGRateway Remote:	in Access:				
Deshboard Access: ircbbGEsteway Remote: 252 Access: Auto AD:	0 an Ore		HOLES	service requests as the	
Secting Dashboard Access: incDDGEsteway Remote: 252 Access: Auto AF:	e an Oas	Apply	Changes		
Escolug Dashboard Accass: irobb@staway Damota: iSE Accass: Xuto AD:	® on O of	Apply Wireless (Changes		
Bendary Destioner Access: InclOSBateway Renote: Sig Access: Auto AD: Refresh (Reset WFI Ada	e on Oos	Wirelass (note: Changes		~ ^
Exectory Seriboard Access Introdukterary Tamote: Jill Access: Auto AD: (Refrest) (Reset WFI Ada	e an O ar ster Configure	Mireless (Wifeless (WIFE)	changes Changes configuration		
Exclose Serbbard Accese: Inclodasceway Tanote: Jak Accese: Acto AD: Refresh (Reset WF) Ads Interfece Name : wiend	e Information	Wirelass (WFI)	Changes Configuration on and Statistics Connected To	Wireless Information	
Bectog Bectog IncDOBatewy Panta: IncDOBatewy Panta: Incode Incode Referen (Reset WRI Ade Deterfore Neme: WRI Daterfore Neme: WRI Daterfore Status : Interfor Paderme: 10,2165.1.1	e Information	Wireless (Wireless (WIF)	Changes Configuration on and Statistics Connected To AP Mac Addre	Wireless Information dkhull s : 48:18:b3:d8:e3:07	-
Sectory Sectory Sectory Sectory Sectory Sectory Sectory Reset Rese	e Information	Vireless (Wireless (WIFE)	Changes Configuration on and Statistics Connected To AP Mac Addra Bitrate : 72.2 Signel Layal :	Windows Information dkhull = : 45:15:53:d5:=3:07 M5it/s = :28 d5m	
Sector Debloard Access: IntoDistances: JIR Access: Access: Refere: Refere: Refere: Debefore: Sector Debefore: Debefo	e Information	e WFD	Changes Configuration on and Statistics Connected To AP Mac Addre Signel Level : Signel Level : Trenamit Pow	Wireless Information dkhull s : 46:f8:b3:d8:s5:07 46:k/s 26 d8m sr : 31 d8m	- I
Sectory Subhard Access IntoDiskneys Pantes Sata Access Acts A2: Refree? (Receiver Acce Sata A2: Sata A	e is up 14 5.5e:=0 14 15.0 5.5e:=0 14 15.0 5.5e:=0 14 15.0 5.5e:=0 14 15.0 5.5e:=0 16 16 16 16 16 16 16 16 16 16	f Apply Wireless E (MFI)	Configuration on and Statistics Configuration Connected To AF Mac Addre Signel Lavel : Trensmit Pow Link Quelity :	Viraless Information dishull = 45/61-53-051-65-07 MBit/s 25 dSm 70/70	
Sectory Sector	e a or e a or e a or e a or e a or star ta ta ta ta ta ta ta ta ta ta	ff Apply Wireless (traises Informat	Changes Configuration on and Statistics Connected To AP Mec Addre Signel Leval : Transmit Pow Link Quality :	Windows Information dikhuli s 45/61:53:d8:x5:07 45:47 25:d8:m sr : 31:d8:m 70/70	
Bestage Methaet Auser; tentDatesey Senses; tentDatesey Senses; Methaet Auser; Centreso New Senses; Description Senses; Methaet Auser; Methaet Auser;	e an or eter Configure we Information te is up 14 15.0 scalate (445.0 Kib) 0 17 (905.8 Kib) 14	E Apply Wireless I States Information	Changes Configuration on and Statistics Connected To AP Mac Addre Sitnese : 72.2 Signal Lavel : Transmit Pow Link Quality :	00000000000000000000000000000000000000	
Bestup Restant Auran Carolitative Jacobie Markan Auran Carolitation (Carolitation) Carolitation (Carolitation) Car	e is up 14 15.0	E Apply Wireless I (MFI) (Ireless Informat	Changes configuration on and Statistics Connected To AP Hac Addre Sitrets - 772 Signel Lavel : Trenamit Pow Link Quelity :	Windows Information dikhuli a: 48.1633.d8.c83.c9 28.05m 28.05m 29.70 70.70	
Bestage Antibacet Austan (Introducency Eastan) Introducency Eastan	e is up 15.0 (645.0 Kis) 17 (905.5 Kis) 10 10 10 10 10 10 10 10 10 10	Apply Wireless (Apply Wireless Informat mation provided by Remote As	Changes Configuration on and Statistics Connected To AP Hac Addre Siteste : 77.2 Signal Lavel : Transmit Pow Link Quality : Link Quality : rfconfig and swood	Wickess Information dishuil s + 46 fibuil s + 46 fibuil 28 diam s - 13 diam 27 diam 49	
Berland Refland Kanas (Eritöberkery Janese) Barten Kata Ja (Erites) (Erstelleriker Berland Der Kanas (Seine) Stater State (Seiner Stater State) Refland Packas (Seiner Stater Stater State) Refland Packas (Seiner Stater Stater Stater Stater Stater Refland Packas (Seiner Stater Stater Stater Stater Stater Refland Packas (Seiner Stater Stater Stater Stater Stater Stater Stater Refland Refland Stater Stater Stater Refland Refland Stater Stater Refland Refland Refland Stater Refland	(Configure (Configure (Wassel (Configure (Wassel (Configure (Wassel (Configure (Wassel (Configure (Wassel (Configure (Confi	et Apply Apply Wireless ((WF) ireless Informat matter provided b) Remote Ap	Changes Configuration on and Statistics Connected To AP Mac Addre Sitrets : 72.2 Signal Lavel : Transmit Pow Link Quality : Config and Inco Config and Inco Config and Inco	nevente sevente sevente sevente sevente sevente sevente sevente	Bet Password
Bestage Anticate Aussi Landonesery Eastern Easterne Easterne Easterne Description Easterne East	O on O or O on O on O on O or O on O on O on O on O on O on	Apply Wireless I Mony Wireless Informat Manual Apply Remote Ac	Consiguration Consiguration Consistent of the second secon	(الم الم الم الم الم الم الم الم الم الم	Bet Password

This area shows you what your WiFi is doing. You will have already configured this with the "wpa_suplicant" Step executed earlier. However, at this point you can click "Configure WiFi" to add more SSID/PSK pairs to Allow your ZUM/Pi to automatically find alternate WiFi Access if available. You can set up for your home, your Phone, your wife's phone, etc. it will hunt for what's available.

yirel	ess Configuration	
Refresh Reset WiFi Adapter Configure WiFi		~ ^
Wireless Infor	mation and Statistics	
Interface Information	Wireless Information	
Interface Name : wlan0 Interface Status : Interface is up IP Address : 192.168.1.134 Subnet Mask : 255.255.255.0 Mac Address : b8:27:eb:55:8a:e0	Connected To : dkhull AP Mac Address : 48:F8:B3:D8:A5:07 Bitrate : 65 Mb/s Transmit Power : 31 dBm	
Interface Statistics Received Packets : 75681 Received Bytes : 7226054 (6.8 MiB) Transferred Packets : 19430 Transferred Bytes : 6062376 (5.7 MiB)	Link Quality : 70/70 Signal Level : -33 dBm	
Information provid	ed by ifconfig and iwconfig	~~

Pi-Star adding additional WiFi:

Pi	Star Dig	jital Void	ce - Conf	iguration		
		Deshboard A	dmin Export P	ower Update Bock	up/Reators Postor	y Read
	(Seteway Herdwa	re Information	Orn cond	Certa com	
piratar 4.	2.35+	FI SECO W RAV	1.1 (512em)	0.93 / 0.29 / 0	.15 38.5"0 / 10	1.378
		Control Si	oftware			
Retting	0.1		valu			
Controller Node:	© Stepler and	a Ormlar an	(present sinis	un rirryare 3.07 s	teguired)	_
	-	Apply Ch	anges			
Secting		MMDVMHost C	onfiguration value			
DNR: Node:		22 22.00	time: 20	met sangtime: 2	0	
D-Star Node:		BF HADGE	time: 20	wet sangtime: 2	0	
127 Node:		27 20.00	time: 20	ret sangtime: 2	0	
925 Node:		RF HAD/21	time: 20	wet sangtime: 2	0	
NUCH Mode:		AF BADO	time: 20	set sangtime: 2	0	
Carlon Disc	Name and some literativities of some some and the second					
		Apply Ch	ances	appear. Contact V		
Secting		General Con	figuration value			
Rostname:	pi-star	oo not add au	ffings such as	.local		
Node Callsign:	MIABO					
CCS7/DHR ID:	1234567					_
Radio Frequency:	431.075.000	ana a				
Latituda:	50.000	degrees (post	tive value for	worth, negative fo	er South)	
Longitude:	0.000	degrees (post	tive value for	mast, negative for	TRAC)	
rown:	A Town, LOC4T	UK	_		_	
country:	Lountry, UK	00001010140C			0	
Radio/Noden Type:	-	CHING DIM TABLE		V AULO	Opanual	
Node Type:	@ rrivate O	rublic				
System Time Tone:	Europe London		¥			
Dashboard Language:	english_uk *					
		Apply Ch	anges			
		DHR Confi	guration			
Secting			valo			
DHG. Haster:	DMRGateway		~			
DMR EmbeddedLOOmly:						_
Did. DumpTAData:						
		Apply Ch	anges			
		D-Ster Cool	inuration			
Recting		e star com	valu			
APT1 Callaign:	HAND B V					
Renote Pageword:		1				-
Default Reflector:	REF001	o ∨		· atartu	ID CHARLE	
A993 Nost:	england.aprs2.r	net 🗸				
incholdsteway Language:	English_(UK)	~				
Time Announcements:						
Use DPius for XRF:		Aux - 21		note: update to	quired if change	d
		Apply Ch	anges			
Persing		Firewell Con	figuration			_
Dashboard Access:	Bertware O	rublic	9810			
incDDGEsteway Renote:	errivate O	rublic				
SSE Access:	@ rrivate O	rublic				
Auto AP:	⊛os Oper			aboot mequired if	changed	
		Apply Ch	817 A			
		Wireless C	figuration			
Refresh Reset WFI Adept	er) Contigure W	=				~ ~
	Wirel	less In ormation	and Statistics			
Interfece Name : wiach	Information		Connected To	Nireless Informatic	n	
Interfece Status : Interfec	in up		AP Mac Address	: 45:f5:b3:d5:e5:0	7	
Subnet Mesk : 255.255.25			Sitrete : 72.2 MI	sit/a		
Mec Address : b5:27:eb:55	:5e:e0		Signal Level : -2	5 dSm		
Enterfe Received Pockets : 3061	ce 37 distice		Trenamit Power Link Quelity : 70	: 31 d5m /70		
Received Sytes : 003572 (348.0 KiS)					
Transferred Sytes : 93065	(905.5 KiS)					
-	Informati	ion provided by ife	config and inconfi			~~
		and a second second second				
Dear Sena		Remote Acces	Pessword			_
pi-star Tassa	and:		Confirm race	rozd:	Set Past	brow
	HARMING: This	changes the pa	seword for this	admin page		
	1	And 518 -91-4561	ANN ACCOUNT			
	R-Qar	veb config. © Andy Ta Need help? Clot have fo	for (MNOMINZ) 2014-2 In the Support Group	018.		

Click "Configure WiFi" then Click "Add Network" to open up the add network dialogue. Add the additional SSID and PSK for the new network. Repeat as needed.

Wireless Configuration	
WiFi Info	<mark>^ </mark>
Network 0 Delete	
SSID :dkhull	
Scan for Networks (10 secs) Add Network Save (and connect)	× ·
7	
Wireless Configuration	
PSK :	~ /
Network 1 Delete	
SSID :	
PSK :	
Scan for Networks (10 secs) Add Network Save (and connect)	× •
Click "Save and Connect" when done	

Pi-Star Password Setup:



This dialog allows you to personalize your Pi-Star Credentials by changing the password. Initially your Credentials are:

> User Name: "pi-star" Password: "raspberry"

Here you can customize your password



Your User name is set at the top of the General Configuration block.

Change Password here if you want something different.
Pi-Star Backup/Restore:

Now that you have everything set up, it would be a good idea to back up your configuration.

Selecting "Backup/Restore" at the top of the configuration page will bring up the dialog shown on the right.

Select "Download Configuration" which will create a "zip" file containing all the information you just so painstakingly entered. Save this file somewhere you will remember (you can rename it if you like).

Later you can restore the configuration by referencing the file in the RH plane and clicking the green up arrow.



Note: if you have a previous back-up "zip" file stored, you can skip everything in this section and just copy that "zip" file to the boot sector of a newly imaged card in place of the WPA_suplicant.conf file.

Pi-Star Dashboard:

At this point you are done. Click "Dashboard" at the top of the page to switch to see your customized landing page.

This is the page that will come up when you call up <u>http://pi-star</u> or <u>http://pi-star.local</u> from your browser.

Your "Gateway Activity" and "Local RF Activity" lists may be empty at first, but will fill out as time progresses.

There is no "Log-In" needed for this page.

Pi-Star Digital Voice Dashboard for KC6N										
						Dashb	oard	Admin	Config	uration
Madaa	Paral 1 and			Gateway A	ctivity					
Modes I	Inabled	Time (PDT)	Mode	Callsign	Target		Src	Dur(s)	Loss	BER
Ver	DZE	14:47:03 Mar 16th	YSF	WJ4P	ALL at KE4L	Т	Net	0.8	0%	0.0%
Veranio	P23	14:46:42 Mar 16th	YSF	AAOKM	ALL at AAOK	1	Net	0.1	0%	0.0%
13F2DER	MADIN	14:46:29 Mar 16th	YSF	KC6N-DAVE	ALL	-	RF	1.2	0%	0.4%
No. boson 2	Chatan	14:46:05 Mar 16th	D-Star	KC6N/ID51	cococo		RF	2.1	0%	0.0%
Network	Diacus	14:45:38 Mar 16th	DMR Slot 2	KCEN	TG 31066		RF	2.2	0%	0.2%
VCE Not	DAK Net	14:44:41 Mar 16th	DMR Slot 2	AF6BY	TG 31066		Net	1.2	0%	0.0%
VCEODAD No.	PZS NEC	14:41:36 Mar 16th	DMR Slot 2	VA3RLP	TG 31066		Net	0.8	0%	0.0%
ISEZDAR NEI	NADA NEC	14:39:57 Mar 16th	DMR Slot 2	K7FAY	TG 31066		Net	4.4	0%	0.0%
Ince	inet	14:39:13 Mar 16th	D-Star	KC6N/INFO	COCOCO		Net	6.5	0%	0.0%
Dedic	Telfe	14:36:15 Mar 16th	D-Star	M1ABC/INFO	COCOCO		Net	2.5	0%	0.0%
Kaulo	aning MCR									
The All C	ening iss			Local RF A	ctivity					
12 435.0	25000 MHz	Time (PDT)	Mode	Callsign	Target	Src	Dur (s) BER	R	SSI
EX 439.0	125000 MHZ	14:46:29 Mar 16th	YSF	KC6N-DAVE	ALL	RF	1.2	0.49	S9-	+46dB
EW ZOHST	000101.3.3	14:46:05 Mar 16th	D-Star	KC6N/ID51	COCOCO	RF	2.1	0.09	5 S9-	+46dB
		14:45:38 Mar 16th	DMR Slot 2	KC 6N	TG 31066 RF 2.2		0.29	.28 S9+46		
D-Star I	Repeater	L	1		-	_			_	_
RPT1 K	JEN B									
RPT2 K	JEN G									
D-Star	Network									
APRS Socal	aprs2.net									
IRC II.op	enquad.net									
(DDlue C	REFUIZ A									
(DFIGS C	abgoing/									
DUD Do	nonton									
	2106564									
TMR CC	1									
751	disabled									
762	anabled									
TC 31066/	not linked									
TMP N	laster									
TM United	States 2102									
BH OHIDEG .	States 3103									
VCP N	otwork									
LSL N	ELWORK									
ROOM: AIa	Dama-Dink									
		Pi-Star / Pi-S	itar Dashboard, © And	y Taylor (MW0MWZ)	2014-2018.					
		ircDDB	Gateway Dashboard b	y Hans-J. Barthen (D	LSDI),					
		MM N	leed help? Click here f	or the Support Group	n),					
			Get your copy of P	-Star from here.						

4-Star: 3.4.11 / Dashboard: 201

Pi-Star Admin Dashboard:

Click "Admin" at the top of the page to switch to see your "Admin" page. You will need to provide your credentials to get here:

> UN: pi-star PW: raspberry

Assuming you haven't changed from the defaults.

There are various other options: Live Logs: allows you to start a log Power let's you power down and reset Update: initiates a SW refresh Configuration: we already looked at

-Star: 3.4.11 / Dashboard: 2018 **Pi-Star Digital Voice Dashboard for KC6N** Dashboard | Admin | Live Logs | Power | Update | Configuration **Gateway Hardware Information** Platform 4.9.35+ Pi Zero W Rev 1.1 (512MB) pi-star 4.91 / 2.78 / 1.41 Service Statu D-Star Link Information Default Link Linked to Up REF012 A DPlus Outgoing KC6N B REF012 A Auto Never 21:39:09 Mar 16th D-Star Link Manager Radio Module Network Status KC6N B 🗸 REF012 ✓ A ✓ Request Change ● Link ○ UnLink Active BrandMeister Connections BrandMeister Master Default Ref | Timeout(s) | Active Ref Static TGs BM United States 3103 REFO 0(s) TG3106 Radio Info Gateway Activity 439.025000 MHz Callsign KI6KTG/D74A 439.025000 MHz 14:47:33 Mar 16th D-Star Net 1.9 0% 0.0 ZUMspot:v1.3.3 ALL at KE4LTT 0.8 14:47:03 Mar 16th YSF Net 0% 0.0% 14:46:42 Mar 16th YSF ALL at AAOKM Net 0.1 0% 0.0% 14:46:29 Mar 16th YSF KC6N-DAVE 1.2 0% 14:46:05 Mar 16th D-Star KC6N/TD51 COCOCO 2.1 08 0.08 14:45:38 Mar 16th DMR Slot 2 TG 31066 2.2 0% 14:44:41 Mar 16th DMR Slot 2 AF6BY TG 31066 Net 1.2 0% 0.0% PRS socal.aprs2.net 14:41:36 Mar 16th DMR Slot 2 TG 31066 Net 0.8 0% 0.0% 14:39:57 Mar 16th TG 31066 Net 4.4 IRC rr.openquad.net DMR Slot 2 K7FAY 0% 0.0% Linked to REF012 A 14:39:13 Mar 16th D-Star C6N/INFO Net 6.5 0% 0.0% COCOCO (DPlus Outgoing) 14:36:15 Mar 16th Net 2.5 D-Star M1ABC/INFO cococo 08 0.08 Local RF Activity 3106564 DMR TO Time (PDT DMR CC 14:46:29 Mar 16th ALL YSF C6N-DAVE 1.2 S9+46dB COCOCO D-Star KC6N/ID51 14:46:05 Mar 16th 2 1 0.0% S9+46dB 14:45:38 Mar 16th DMR Slot 2 TG 3106 S9+46dI TG 31066/not linked DMR Master M United States 310 YSF Network Room: Alabama-Link

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MWOHWZ) 2014-2018 incDDBGateway Dashboard by Hans-J. Barthen (DLSDI), MMDVMDash developed by Kim Huebel (DGSVH), Need help? Click here for the Support Group Get your copy of Pi-Star from here.

ZUMspot/PiStar

Part IV Setting up your radios

DSTAR (ID-51 example):

For DSTAR, you need to create a channel in the form of a DV Repeater with the receive frequency being your ZUMspot frequency (439.025 MHz in this case), set –DUP (or +DUP will work as well) and an Offset Frequency of "0.00" as shown below. Add your RPT1 callsign (KC6N^^B in my case) and your RPT2 callsign (KC6N^^G in my case). You should also fill out the remainder of the channel information including the geographic coordinates which will allow your hot spot to show up in your Near Repeater search.

*	20: Hot	Spots (Remain 7 memories)										
					Call Sign		Frequency			Tone			
	No.	Туре	Name	Sub Name	Repeater Call Sign	Gateway Call Sign	Operating Freq	DUP Offset Freq	Mode	Tone	Repeater Tone	USE (FROM)	Posit
	0	DV Repeater	r ZumSpt 439.025		KC6N B	KC6N G	439.025000 -	DUP 0.000000	DV	_	_	Yes	Exact
	1	DV Simplex	OpSpt 437.025				437.025000		DV -	_		Yes	None
	2	DV Simplex	DVAP 438.025				438.025000	— , —	DV	_		Yes	None
	New				1	1							

Note that I also have an OpenSpot and a DVAP each of which can be set as a simple simplex channel as shown but the ZUMspot/Pi-Star requires a duplex setup as shown above. This is an Icom ID-51 Plus example.

DMR:

- Duplicate a Zone in your radio
- For each channel in the new Zone:
 - Set TX and RX to the ZUMspot frequency
 - Set the Color Code to "1"
 - Set the Time Slot for all channels to "2"
 - Set Admit Criteria to "Always"
 - Set the Talk Group (Group Call Code) to the TGID you want.

Yaesu System FUSION:

- Set up a channel in your radio that is simplex on the ZUMspot Frequency
- That's it.
- Note that the ZUMspot only supports YSF reflectors at this time. If you want to do FCS, you may want a device which will do both like the OpenSpot.
- None of the HotSpots do Wires-X

APCO Project 25 (P25):

- Left as an Exercise for the reader ③
- I don't have P25, so I'll not comment

NXDN:

- Left as an Exercise for the reader ③
- I don't have NXDN, so I'll not comment here either.

ZUMspot/PiStar

Appendix A Communicating with your ZUMspot

The computer that you want to use to control the ZUMspot must be joined to the same WiFi network that the ZUMspot is joined to. Be careful of firewalls, routers etc.

Communicating with ZUMspot

- In order to log onto your ZUMspot, your computer must be operating in the same WiFi domain as your ZUMspot
- Next page shows all devices logged into "MyHomeWiFi" so all can reach ZUMspot
- The subsequent page shows two domains, MyHomeWiFi and My iPhone. ZUMspot is on My iPhone so it cannot be seen by devices operating in the MyHomeWiFi domain.

Communicating with ZUMspot

Domain is:

MyHomeWiFi





Devices wanting to talk to the ZUMspot must be logged into The same internet domain as the ZUMspot as shown. Both computers can communicate with the ZUMspot here.



Laptop connected to MyHomeWifi

ZUMspot connected to "MyHomeWifi"

Home desktop

connected to

"MyHomeWifi"

Communicating with ZUMspot



ZUMspot/PiStar

Appendix B Setting the "Use DPlus for XRF" switch

Pi-Star DSTAR XRF012A Setup:

Pi-Star Digital Voice - Configuration											
				Deshboerd	Admin	Expert	Power Update B	ockup/ResCore	: Fectory React		
ROATCARA	74 2	nal	Gete	rist	form	ormation	Cru Los	4	Cero memp		
,											
Retting				Control 1	Softwa	valu					
Controller Software:		Opicar	nepeater		s (avra	mega minis	num rismoare 3.0	7 megaired)			
Controller Mode:		® Simple	ex zode 🤇	Apply C	peacez hanges	(or salf	-puplex on motep	074)			
Prove la con			м	MDVMHost	Configu	retion	_				
DNR: Mode:				27 8400	cine:	20	THE MANGEINE:	20	1		
D-Star Node:				87 840g	sine:	20	wet sangtime:	20			
127 Node:				27 247	stee:	20	net sangtime:	20			
925 Node:				RT HAD	rsine:	20	wet sangtime:	20			
NUCH Hode:				22 8820	sine:	20	net sangtine:	20			
DEVM Display Type: None V rort: [dev/th/AMAD V maxion isvout: [G4RLX V]											
			•	Apply C	hances	1	agent. Jonital	•			
						-					
Secting				veneral Co	migun	valu					
Kostname:	_	pi-star		not add a	uffixe	s such as	.local				
Node Calleign:		MIABC									
CC\$7/DMR. ID:		1234567			_						
santo Frequency:		+31.u/5.0			tertere -	alua fra		for Lout'			
longitude:		0.000		CORE (NOT	inime -	alue for	East, perarters	for mert			
Town :	-	A Town, I	LOC4TOR								
Country:		Country,	UK								
URL:		http://www	w.grz.comia	db/M1ABC				то Оналиа	1		
Radio/Moden Type:		-					~				
Node Type:		· rrive	ce Orubi	ite							
system Time Tone:		eoglish u	ik V		¥						
				Apply C	hances						
						-					
Secting				DMR Cont	guret	Value Value					
DHR. Naster:		DMRGet	eway		×	-					
DMR Colour Code:		1 📉									
Diff. DumpTAData:											
	_			Apply C	hanges						
				D-Ster Cor		tine					
Secting				0 311 00		valu					
0971 Callsign:		ManC 0	8 4								
Renote Pageword:											
Default Reflector:		REF001	V 0 V	•			® 21.0	rtup O Hans	al		
ADDS Host:		england a	sprs2.net	~							
ircbbsGateway Langua	ge:	English	(UK) V	1							
Use Dilus for XRF:							mote: update	neguired in	f changed		
				Apply C	hanges						
				Firewell Co	ofigure	tion					
Recting			-			vals					
Destingerd Access:		S rrive	Ca O sub	ite		_					
AND ACCORD		· vrive		10							
Auto AP:	_	0 cm ()	ore			note:	naboot neguired	if changed			
				Apply C	hanges						
				Wireless Co	nfigun	etion					
(Refresh) Reset We	FI Adapte	Conto	ure WFI						~ ~		
			Wireless	Informatio	n and a	Intistics					
Interface Name : wi	nterfece en0	Informat	ion		Conne	ected To :	Wireless Informe dkhull	tion			
Interfece Status : In IP Address : 192.16	sterfece	is up			AP Me	c Address	: 48:f8:b3:d8:e5	:07			
Subnet Mesk : 255.2 Mec Address : b5-77	155.255. Teb:55-	0			Signe	: 72.2 M	llit/s 25 dSm				
	Interfere	- Statist			-	mit Form	- 31 d5m				
Received Peckets : 3	3081				Link C	uelity : 7	0/70				
Transferred Packets	2770	10.0 Kiš)	-								
renaterred bytes :	-30667	(#08.8 Ki	0) 1								
		In	formation p	provided by i	fconfig i	and inconf	10				
			R	emote Acce	aa Paa	word					
Usar Nama					1.0	Password		1	Set Pessaget		
	l'anne anno a	NARMING:	: this cha	inges the p	LAANDE	d for this	admin page		and the second		
			AND	the "pirets	2" 221	account					
			P-Dar web.c	onto, E Andu Z	where the state	04WZ) 2014-	2018.	_	_		
			Need	hep/Clother		pport Group					

To make sure that you can work "X" reflectors such as XRF012A (w/o the need for passing ports), Turn on "Use Dplus for XRF" (this forces the system to use the "Dplus" protocol for the XRF reflectors). You will need to do an "update" after applying this change.

Click "Apply Changes" when done then do an "update".

"Update" can be found at the top of the configuration page (note that it may run for a while).

D-Star Configuration								
Setting	V	alue						
RPT1 Callsign:	KC6N B 🗸							
RPT2 Callsign:	KC6N G							
Remote Password:	•••••							
Default Reflector:	REF012 V A V	• Startup • Manual						
APRS Host:	socal.aprs2.net							
ircDDBGateway Language:	English_(US)							
Time Announcements:								
Use DPlus for XRF:		Note: Update Required if changed						
	Apply Changes							
Set "Use DP	lus for XRF" to "ON"	Do an Update						

Pi-Star	U	nd	at	te:
11 Juli	U	pu		

Click "Update" at the top of the configuration page:

Pi-Star Digital Voice - Coniguration

Dashboard | Admin | Expert | Pow r | Update | Fackup/Restore | Factory Reset

Gateway Hardware Information								
Hostname	Kernel	Platform	CPU Load	CPU Temp				
pi-star	4.9.35+	Pi Zero W Rev 1.1 (512MB)	4.48 / 3.94 / 2.32	48.2°C / 118.8°F				

The update window will open and it will run for a while, depending on how long it has been since the image was built. Once done, you will see:

"Starting Services" "Done" "Update Complete, Sleeping...." "Finished".

Pi-Star - Digital Voice Dashboard - Update Dashboard | Admin | Power | Backup/Restore | Configuration Indate R Services dating DV Binaries.. https://github.com/AndyTaylorTweet/Pi-Star_Binaries anch master -> FETCH HEAD eady up-to-date. ating Pi-Star Binaries... m https://github.com/AndyTaylorTweet/Pi-Star_Binaries_sbin oranch master -> FETCH HEAD eadv up-to-date. ating Hostfiles... ting Dashboard... https://github.com/AndyTaylorTweet/Pi-Star_DV_Dash anch master -> FETCH HEAD up-to-date g PiStar-Firewall. tarting Services.. lates complete, sleeping for a few seconds before making the disk Read-Only Pi-Star web config. © Andy Taylor (MW0MWZ) 2014-2018 Need help? Click here for the Support Group Get your copy of Pi-Star from here

Restoring from a backup:

Note that "Backup" (as described earlier) <u>does</u> not save the setting of this switch.

D-Star Configuration								
Setting	Val	lue						
RPT1 Callsign:	ксем В 🗸							
RPT2 Callsign:	KC6N G							
Remote Password:	•••••							
Default Reflector:	REF012 V A V	• Startup O Manual						
APRS Host:	socal.aprs2.net							
ircDDBGateway Language:	English_(US) V							
Time Announcements:								
Use DPlus for XRF:		Note: Update Required if changed						
	Apply Changes							

If you restore from a previously saved backup, you will need to reset "Use Dplus for XRF" to ON and then do the update again. In other words repeat the process described in this section.

This would become necessary if you were to build a fresh image on a new card (a version upgrade perhaps) and you restore your previous configuration settings from a backup. In this case the restored settings will come up with "Use Dplus for XRF" turned "OFF". Switch it to "ON", Apply Changes, and do the update.

ZUMspot/PiStar

Appendix C Setting up HotSpot support on Brandmeister

Setting up BM HotSpot Support

- Once you have your HS running you will want to set up Brandmeister support.
- This will allow you to do the following:
 - Designate Static talk groups
 - Kill QSO's on dynamic TG's and delete these quasi-static TG's as needed
- First you need to create an account. If you have done that, skip the first slide.

Create a Brandmeister Account

	Registerogin ¥⊭ EN Q\$ Settings
& Registration	1. From the front
Do you already have a SelfCare account on <u>dstar.su</u> ? <u>Login!</u>	page, Select
General Account Details	"Register"
Callsign	
Callsign	
Email Address	and the second
Email Address	and the second s
Account type	
Personal User Account	
Repeater Account	
Security	
Security	
Password Password	
Confirm Password	
Confirm Password	
Anti Spam	2. Fill out the registration for
What is the wavelength of the UHF band in centimeters?	
-	
Answer with a number	
Answer with a number	
Answer with a number DMR ID Enter one of your DMR IDs to validate your account	3. Don't forget the CAPTCH
Answer with a number DMR ID Enter one of your DMR IDs to validate your account	3. Don't forget the CAPTCH
Answer with a number DMR ID Enter one of your DMR IDs to validate your account I'm not a robot	3. Don't forget the CAPTCH Question.
Answer with a number DMR ID Enter one of your DMR IDs to validate your account I'm not a robot reCAPTCHA Privacy-Tems	3. Don't forget the CAPTCH Question. 4. Select "Register"

Log onto your BM Account



1. Click "Login" to Log onto your BM account

Find your HotSpot settings page



 Click the Left pointing arrow next to "My Hotspots"



3. Click on the number of the hotspot

HotSpot settings page

BrandMeiste	er	=								
🍘 User Dashboard		Settings of KC6	6N (View)							
👗 Last Heard		General Settings								
Repeaters	1778	Priority Message	Priority Message							
Hotspots	5570	Description	Description	Description						
🛱 Masters	43									
♪ Alerts										
III Data Visualisation	<	Website	http://www.qrz.com/db/KC6N		Location (City)	San Diego, CA				
Information	<	Latitude	32.716991		Longitude	-117.160004				
Services	<	Power (EIRP)	0		Gain (dBi)	0.00				
My hotspots	~	Height AGL in m	0							
O 3106564 €		0								
				Save	e changes					
		Sysops								
		Callsign	Read Settings	Write Settings		Manage Sysops				
		KC6N	×	×		~				
		A.11								
		Actions		-						
		Get IP address D	rop call Drop dynamic groups Reset connection	on						

Fill out the information on the form (part of which is shown here). We'll focus on the Bottom part of the page where you will actually set up how your HS behaves on BM.

HotSpot settings management

Callsign KC6N	Read Settings	Write Settings		
Actions Get IP address Drop call	Drop dynamic groups Reset connection	>€	-	Here you can add and drop active Calls drop dynamic talk groups etc.
Reflector Settings Active refle Default refle	4000 ctor 0		lef	Here is where you can set up and manage a reflector if you want one
Static Talkgroups	→ Calif SoCa SoCa	rnia (3106) I (31066) I (31066)) ←	Here is where you set up and manage static talk groups. I have
Scheduled static Active Timed Statics:		+ Add Scheduled Static		"StateWide" (3106) set in this example.
	Remove			You can set timed static talk groups here which are talk groups you

times (a net time for example).

Managing static talk groups

To make California Statewide a Static on your hot spot, simply enter the TGID In the entry box on the left as shown below and click the right arrow



Now the entry, California (3106) has been moved to the right hand box and is static on your HotSpot. To delete it, highlight it and use the left arrow.



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Managing Talk Groups

- You can set up additional ones as you like
- It is probably best to limit this to a couple that you really want to monitor since activity on static TG's will lock up your HS.
- If you key up on another TG, not in your list, it will be added as a dynamic TG. On HotSpots, these do not expire after 15 minutes like on repeaters. If one becomes annoying, you may need to kill it using the management tools.

Setting up multiple HotSpots

- You can set up multiple HotSpots in Brandmeister by giving them different DMR ID numbers based on your DMR ID.
- If your DMR ID is 3107XXX, for example:
 - Your first one would be 3107XXX01
 - Your second one would be 3107XXX02
 - Your third one would be 3107XXX03
 - ...and so forth appending sequential digits to the back end of your DMR ID which becomes the ID for your hotspot on Brandmeister.

Multiple HotSpot Example

BrandMeister	≡
🚯 User Dashboard	User Dashboard
🐣 Last Heard	REPEATERS
Repeaters 1859	1859
Hotspots 5884	
🗃 Masters 🛛 🛃	44
众 Alerts	Full report O
Lul Data Visualisation <	Repeater in RX
Information <	
🖋 Services 🛛 <	32
Hotspot	
🗃 My hotspots 🛛 🗸 🗸	
⊙ 3106564 O	Latest BrandMeister News
	2/10/2018
O 310656402 ℃	5/10/2018
	Introducing User API ke

Here is my setup for two hotspots, an OpenSpot and a ZUMspot:

The top number (3106564) is no longer used (unused numbers disappear from the list after 30 days of inactivity).

The second one (3106564**01**) is my ZUMspot which is on-line (as indicated by the little green "plug" symbol).

The third one (3106564**02**) is my OpenSpot, currently off-line (WRT Brandmeister). FWIW: It is "ON" but set up for DSTAR XRF012A at the moment. It shows in the list because Brandmeister has seen it within the last 30 days.

ZUMspot/PiStar

Appendix D Adding a Brandmeister Self Care Panel to Pi-Star

Adding BM Self Care to Pi-Star

- For those using Brandmeister, it is possible to add the self care features.
- This will allow you to manage your BM connected hotspot from the Pi-Star admin dashboard.
- This section assumes you will log into your established Brandmeister account, if you don't have an account, you will need to create one.

Generate BM Pi-Star API Key



- Log into your account and click on your callsign to see the drop down to the left.
- 2. Click "Profile Settings" in the dropdown.

Adding BM Self Care to Pi-Star

BrandMeiste	r	=				🗶 КС6N 🛒	∉ EN 🛛 🕰 Settir	gs
🚯 User Dashboard		KC6N's profile (I	Edit mode)			User Dashboard >	Profile > KC6N > E	dit
💄 Last Heard		Information		Profile Settings				1
Repeaters	1769	Name		Email Address				
🚔 Hotspots	5426	Email Confirmed	NO	dhull1@san.rr.com				
🗮 Masters	42	Created On	0000-00-00 00:00:00		Save Changes			
众 Alerts		Last Edit	торо					
Jul Data Visualisation		Last Login	TODO	Security Settings		<mark>د ا</mark>	🕰 API Keys	
Information				Password Password	Click on the "API Keys" Button			
🖋 Services				Confirm Password		1		
Hotspot				Confirm Password				
📑 My hotspots					Update Password			

BrandMeister	=		🗶 KC6N 🛒	🚝 EN 🛛 🕫 Settings
🚯 User Dashboard	API Keys		User Dashboar	rd > Profile > API Keys
着 Last Heard				
Repeaters 1769	These keys are unique to your account and you must protect them carefully as they will allow prog By creating API key(s) below, you are taking full responsibility for their usage.			
Hotspots 5426	API keys never expire but you can revoke them at anytime.			
🗃 Masters 🛛 🕰	Artiva keve			
⊈ Alerts	Active keys			
ull Data Visualisation <	Show 10 • entries	On the new page, Click "Add"	Search	
Information <			Search.	
🖋 Services 🛛 <	Name	1 Actions		ļ†.
Hotspot		No data available in table		
봅 My hotspots 〈	Showing 0 to 0 of 0 entries			Previous Next

Adding BM Self Care to Pi-Star



When you click OK, BM will create an "API Key" that is unique to you. You will need to copy this to your clipboard to paste it into Pi-Star. Click "Copy" then click "OK" At this point you will get a pop-up asking for a name for the key that will be created. Put one in and click OK. I used "Pi-Star SelfCare" as shown



Adding API key to Pi-Star

- Open Pi-Star in expert mode: by entering "http://pi-star/admin/expert" into your browser.
- 2. Click on "BM API Key" in the menu.

Pi-Star: 3.4.11 / Dashboard: 20180

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backup/Restore | Configuration

Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVM: Nost | DriRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Conf g | BM API Key) Cystem Cron | RSSI Dat Tools: SSH Access

Expert Editors

WARNING

Pi-Star Expert editors have been created to make editing some of the extra settings in the config files more simple, allowing you to update some areas of the config files without the need to login to your Pi over SSH.

Please keep in mind when making your edits here, that these config files can be updated by the dashboard, and that your edits can be over-written. It is assumed that you already know what you are doing editing the files by hand, and that you understand what parts of the files are maintained by the dashboard.

With that warning in mind, you are free to make any changes you like, for help come to the Facebook group (link at the bottom of the page) and ask for help if / when you need it. 73 and enjoy your Pi-Star experiance. Pi-Star UK Team.

> Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2018. ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI), MMDVMDash developed by Kim Huebel (DG9VH), Need help? Click here for the Support Group Get your copy of Pi-Star from here.

Adding API key to Pi-Star

1. Paste your API Key in the box labeled "Key" in the resulting dialogue. 3. Click "Admin" to return to your admin dashboard

Pi-Star:3.4.11 / Dashboard:20180310

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backup/Restore | Configuration

Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Cron | RSSI Dat Tools: SSH Access

> apikey VLxGEvj5f6en6CyTh4goJZm9UfNd0nIw5daKIuPYA1jHDRxVWOgCLDMCTwP UTvoZIyGo@tkAvDe5rM.kyeXgSGSI9FA07Y\$QuEbu4v1z5gFw0DRzSLPHpF nzhYzpTxck

> > Apply Changes

key

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ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI), MMDVMDash developed by Kim Huebel (DG9VH), Need help? Click here for the Support Group Get your copy of Pi-Star from here.

 Click on "Apply Changes". Wait for the box to clear.

New BM Self Care Panel

amer pi-star						PSGR:		iboard: J	2018031		
	Pi-Star Dig	jital Voic	e Dash	boar	d for KC6	ΰN					
			Dashboa	rd Admi	n Live Logs Powe	r Uj	odate (Config	uratio		
		Gateway Ha	rdware Inforn	ation							
Hostname	Kernel	-	Platform		CPU Load		CPU	Temp			
pi-star	4.9.35+	Pi Zero W	Rev 1.1 (512M	B)	4.39 / 4.71 / 4.	52	42.8°C	/ 10	9°F		
		Serv	vice Status								
MMDVMHost	DMRGateway	YSFGateway	YSFPa	rrot	P25Gateway		P25	Parrot			
OStarRepeater	ircDDBGateway	TimeServer	PiStar-W	atchdog	PiStar-Remote		PiSta	n-Keep	ber		
Modes Enabled			D-Star Lin	k Inform	ation						
Star DMR	Radio De	Radio Default Auto Timer Link Linked to Mode Direction					Last Change (PDT)				
YSF P25	KC6N B REF	012 A Auto Nev	er Up REF	012 A [Plus Outgoing	0	3:49:06	Mar 1	5th		
F2DMR NXDN											
	De dé entre la	1- I	D-Star L	ink Mana	iger		0				
Network Status	Radio Modu	Te	Reflector		Link / Un-Link		Act	TOU			
ar Net 🛛 DMR Ne	t KC6N B	REF	012 • A •	(🖲 Link 🔍 UnLink		Request	Chan	ge		
Net P25 Ne	t										
OMR Net NXDN Ne	et .	Active BrandMeister Connections									
Internet	BrandMeiste	r Master Def	ault Kef Iim	eout(s)	Active Ref Sta	iic I	GS Dy	namic	TGS		
	BM United St	ates 3103	REFØ	0(S)	None	13106		None			
Radio Into		BrandMeister Manager									
439 025000 MH		Tools	Active	Ref	link / Unlink		Act	tion			
439.025000 MH	Drop OSO	Drop All Dynamic	None	•		11	Modify	Rofler	tor		
7UMspot:v1.3.	Drop Q30	Drop QSO Drop All Dynamic None			Link UnLink Modify Reflector						
·	Start	c raikgroup	510		Add / Remove		AC	5100			
D-Star Repeater			U TS1	TS2	🖲 Add 🔍 Delete		Modif	y Stati	C		
KC6N B			Cataw								
KC6N G	Ti (00T)	Hada	Gdlew		Lý Tarant	I.e	Dur(-)	1	DEE		
D-Star Network	14+24+20 Mpp 15	HDUE	Callsign	ALL at	Tanger	Not	Dur(S)	LUSS			
socal.aprs2.n	et 14:34:20 Mar 15	th DWP S1of 2	WD6E7A	TG 310	66	Net	0.5	0%	0.0		
rr.openquad.n	et 14:22:40 Mar 15	th D-Star	KC6LDN	00000	via REE012 A	Net	0.5	0%	0.6		
nked to REF012 /	14:26:12 Mar 15	th YSE	KW4HT	ALL at	BM-Bridge	Net	1.6	0%	0.0		
orius outgoing)	14:24:59 Mar 15	th YSF	KT4R0Y-ALL	ALL at	KE4LTT	Net	0.2	0%	0.0		
DMD Depestor	14:21:29 Mar 15	th DMR Slot 2	W3SMK	TG 310	6	Net	0.5	0%	0.0		
TD 3106564	14:16:48 Mar 15	th DMR Slot 2	K6WDE	TG 310	6	Net	0.5	0%	0.0		
CC 1	14:07:55 Mar 15	th YSF	G3WGEKEITH	02034F	06Bo at KE4LTT	Net	0.2	0%	0.0		
1 disable	14:03:00 Mar 15	th YSF	KD7AAT	ALL at	KD7AAT	Net	11.8	0%	0.0		
2 enabled	14:00:00 Mar 15	th D-Star	KC6N/TIME	cococo	via REF012 A	Net	3.6	0%	0.0		
31066/not linke	d 13:58:56 Mar 15	th DMR Slot 2	K7FAY	TG 310	66	Net	5.9	0%	0.0		
DMR Master	13:55:47 Mar 15	th D-Star	KE6GQ0/51PL	cócócó	via REF012 A	Net	0.3	0%	0.0		
United States 31	03 13:54:56 Mar 15	th DMR Slot 2	KA6RWL	TG 310	66	Net	1.2	0%	0.0		
	13:46:14 Mar 15	th DMR Slot 2	N6BBF	TG 310	6	Net	3.7	0%	0.0		
YSF Network	13:45:20 Mar 15	th D-Star	KC7ZZN	cócócó	via REF012 A	Net	0.1	0%	0.0		
om: Alabama-Lin	13:44:39 Mar 15	th DMR Slot 2	W4ENC	TG 310	b	Net	0.1	0%	0.0		
	13:43:20 Mar 15	tn D-Star	WEAAX	CUCUCO	VIA REF012 A	Net	0.3	0%	0.0		
	13:39:56 Mar 15	th YSF	WN4VSU	ALL at	KE4LII	Net	0.2	0%	0.0		
	13:36:40 Mar 15	th Ves	MAGJEK 1/1031		Vid KEFUIZ A	Net	0.3	0%	0.0		

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This provides most of the same BrandMeister "SelfCare" functionality without having to "fire up" (no pun intended*) Brandmeister.

*Brandmeister is "Fire Chief" in German.
Revoking a key

API Keys

These keys are unique to your account and you must protect them carefuly as they will allow programs and individuals to access and change your BrandMeister account information, as well as making any action on your beha

By creating API key(s) below, you are taking full responsibility for their usage. API keys never expire but you can revoke them at anytime.

Active keys		
Show 10 • entries		
Name	LE Actions	
Pi-Star SelfCare		Revoke
Showing 1 to 1 of 1 entries	!	
	Are you sure?	
	Are you sure that you want to revoke this key?	
	No, cancel! Yes, revoke it!	

Should you change your mind, you can clear the key in Pi-Star and "Revoke the Key" in Brandmeister and you are back to where you began.

ZUMspot/PiStar

Appendix E Updating the Pi-Star firmware

NOTE: This does NOT update the ZUMspot board FW. That is covered in a subsequent appendix.

Checking your Firmware:

Pi-Star Digital Voice Dashboard for KC6N

Dashboard | Admin | Configuration

Pi-Star: 3.4.11 / Dashboard: 201803

Gateway Activity Modes Enabled Time (PDT) Mode TG 31066 0.0% 15:41:41 Mar 15th DMR Slot 2 K6WDE Net 0.5 0% 15:39:28 Mar 15th DMR Slot 2 AG6PF TG 31066 Net 0.5 0% 0.0% 15:36:55 Mar 15th D-Star C7ZZN 0.9 0% 0.0% CQCQCQ via REF012 A Net. DMR Slot 2 15:33:15 Mar 15th KE 6GVK TG 31066 Net 14.5 0% 0.0% Network Status 15:32:54 Mar 15th DMR Slot 2 KN4KBL TG 31066 0% 0.0% Net. 14.5 15:31:59 Mar 15th D-Star KM6QIP CQCQCQ via REF012 A Net 0.4 0% 0.0% 15:29:38 Mar 15th DMR Slot 2 TG 31066 Net 19.6 0% 0.0% NXDN Ne 15:27:05 Mar 15th TG 31066 DMR Slot 2 C6KGE Net 0.5 0% 0.0% 15:17:14 Mar 15th YSF KT4ROY-ALL ALL at KT4ROY Net 39.0 0% 0.0% KD6AJG TG 31066 0% 0.0% 15:16:29 Mar 15th DMR Slot 2 Net 4.8 Radio Info 15:15:55 Mar 15th DMR Slot 2 (6TFJ TG 31066 Net 26.4 0% 0.0% DMR Slot 2 X2AEK TG 31066 0.0% 15:13:33 Mar 15th Net 0.5 0% 439.025000 MHz Тχ 15:13:17 Mar 15th DMR Slot 2 (2MJ TG 31066 Net 0.5 0% 0.0% 439.025000 MHz Rx 15:13:05 Mar 15th DMR Slot 2 TG 31066 Net 5.2 60 0.0% FW ZUMspot:v1.3.3 15:08:41 Mar 15th DMR Slot 2 TG 31066 0.0% W6TUX Net. 0.5 0% 14:57:45 Mar 15th ALL at KE4LTT 0.2 0% 0.0% YSF Net D-Star Repeater 0.0% 14:55:44 Mar 15th DMR Slot 2 KK6GNC TG 31066 Net 2.6 KC6N B 14:50:37 Mar 15th D-Star KM6QMY COCOCO via REF012 A Net. 3.8 0% 1.0 KC6N G *****H51RD at W3ADC 14:44:37 Mar 15th YSF W3ADC Net 1.0 0% 0.0% D-Star Network COCOCO via REF012 A 2.7 0% 0.0% 14:40:33 Mar 15th D-Star Net socal.aprs2.net IRC rr.openguad.net Local RF Activity Linked to REF012 A Mode (DPlus Outgoing) DMR Repeater DMR ID 3106564 DMR CC 1 enabled TG 31066/not linked DMR Master BM United States 3103

Pi-Star: 3.4.11 / Dashboard: 20180310

To find the latest firmware go here:

KC6N

http://www.pistar.uk/downloads/

The quickest way to get there is by clicking "here" (literaly ⁽ⁱ⁾).

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MWOMWZ) 2014-2018. ircDDBGateway Dashboard by Hans-J. Barthen (DLSDI). MMDVMDash developed by Kim Huebel (DGAVH) Need help? Click here for the Support G' 40 Get your copy of Pi-Star from here.

YSF Network Room: Alabama-Link

Checking/Updating Firmware:

Pi	Star.UK - Pi-Star Digital Voice Software		
Home	Pi-Star Downloads		
Information	Images available to Download Pi-Star NanoPi Air V3.4.11 06-Mar-2018.zin		The current release versions are
Help	Pi-Star NanoPi V3.4.11 06-Mar-2018.zip Pi-Star Odrovid XU4 V3.4.11 06-Mar-2018.zip Pi-Star Odrovid XU4 V3.4.11 06-Mar-2018.zip	Ļ	shown here. Pick the latest one
Pi-Star Tools	Pi-Star RPi V3.4.10 24-Peb-2018.zip Pi-Star RPi V3.4.11 26-Mar-2018.zip		that starte with "Di Star DDI"
BrandMeister Tools	dvmega-riash-toois.zip		ITAL STALLS WILL FI-STAL KEL.
DMR+ Tools	Information Remember, all you need to do, is download the zipped version of the image that is read original for your D' (Stard Cervica, Device, Devic		
D-Star Tools	download, and then flash the image to your SDI a computer, only the image writing tool - see links below for some basic instructions), boot the		
Downloads	Pi, wait 30-40 secs and then login to the admin portal in order to finish the setup your Pi-Star.		
Credits	here: http://pi-star/admin/		
Links	Default Password: raspberry		
	For help getting started, see this "Inden by Craig (WIMSG): Here		

If you decide you need an update, follow the instructions in Parts I, II and III to prepare a new card. Note that if you have a backup "zip" file from a previous setup (with working WiFi credentials), you may simply copy this file into the root directory of the freshly minted card (instead of the WPA_suplicant.conf file as described in part II) and start your boot up. If you had set the "Use Dplus for XRF" switch (see appropriate appendix) you will need to do that again <u>and do the update step</u>.

ZUMspot/PiStar

Appendix F Updating the ZUMspot board firmware

Updating the ZUMspot FW

- The ZUMspot Pi Hat has it's own microcontroller with it's own firmware.
- This section will cover:
 - How to determine the installed ZUMspot FW version
 - How to determine the latest release FW version
 - How to update the ZUMspot flash memory with new FW using Pi-Star

Checking your ZUMspot FW ver

IMR Master

M United States 3103 YSF Network

Room: Alabama-Link

The ZUMspot's currently installed Firmware is shown here on the main dashboard.

You can check the current release version here: <u>https://github.com/juribeparada/MM</u>

DVM_HS/releases

If you are ready for an update, Pi-Star has a built in methodology for doing this.

Dashboard | Admin | Configuration Gateway Activity Modes Enabled 14:47:03 Mar 16th 0.0% WJ4P ALL at KE4LTT 0.8 0% YSF Net 14:46:42 Mar 16th ALL at AAOKM Net 0.1 0% 0.0% 14:46:29 Mar 16th ALL YSE C6N-DAVE 1.2 0% 44 14:46:05 Mar 16th D-Star C6N/ID51 COCOCO 2.1 0% 0.0% Network Statu 14-45-38 Mar 16th DMR_Slot_2 TG 31066 2 2 0% TG 31066 1.2 14:44:41 Mar 16th DMR Slot 2 AF6BY Net 0% 0.09 14:41:36 Mar 16th DMR Slot 2 TG 31066 Net 0.8 0% 0.0% 14:39:57 Mar 16th DMR Slot 2 7FAY TG 31066 Net 4.4 0% 0.0% 14:39:13 Mar 16th D-Star KCEN/TNEO COCOCO Net. 6.5 0% 0.0% 14:36:15 Mar 16th D-Star MIABC/INFO COCOCO Net 2.5 0% 0.09 Radio Info Listening YSF Local RF Activity 439.025000 MHz Time (PDT) Mode Src Dur(s) BER AGO MHZ 14:46:29 Mar 16th KC6N-DAVE AT.T. VSE 1.2 .4% S9+46dB ZUMspot:v1.3.3 D-Star 14:46:05 Mar 16th C6N/ID51 2.1 S9+46dB COCOCO 0.0% 14:45:38 Mar 16th DMR Slot 2 CEN TG 31066 2.2 S9+46dB D-Star Repeater KC6N в KC 6N G r Network socal.aprs2.net rr.openguad.net Linked to REF012 A (DPlus Outgoing) DMR Repeater DMR TO 3106564 DMR CO TG 31066/not linked

Pi-Star Digital Voice Dashboard for KC6N

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MWOMWZ) ; ircDDBGateway Dashboard by Hans-3. Barthen () L MMDWMDash developed by Kim Husbel (DG9WH Need help? Click here for the Support Group Get your copy of Pi-Star from here.

ZUM board FW update Process

- Log onto the Pi-Star admin expert page:
 - http://pi-star/admin/expert/

Pi-Star:3.4.11 / Dashboard:20180310

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backup/Restore | Configuration

Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGateway | P25. Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Cron | RSSI Dat Cools: SSH Access |

Expert Editors

WARNING

Pi-Star Expert editors have been created to make editing some of the extra settings in the config files more simple, allowing you to update some areas of the config files without the need to login to your Pi over SSH.

Please keep in mind when making your edits here, that these config files can be updated by the dashboard, and that your edits can be over-written. It is assumed that you already know what you are doing editing the files by hand, and that you understand what parts of the files are maintained by the dashboard.

With that warning in mind, you are free to make any changes you like, for help come to the Facebook group (link at the bottom of the page) and ask for help if / when you need it. 73 and enjoy your Pi-Star experiance. Pi-Star UK Team.

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Click "**Tools:** SSH Access" To bring up the built in SSH Editor. If you don't see it, try a different browser.

Log into the SSH editor:

PI-Star: 3.4.11 / Dashboard: 20 Log into the SSH Editor: **Pi-Star Digital Voice - Expert Editors** User "pi-star" <enter> Dashboard | Admin | Update | Backup/Restore | Configuration Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGatew Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Creating Base Date To Tools: SSH Acces Password: "raspberry" <enter> - Pi-Sta pi-star login: pi-star Password: PI-Star: 3.4.11 / Dashboard: 2018031 **Pi-Star Digital Voice - Expert Editors** Dashboard | Admin | Update | Backup/Restore | Configuration Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Cron | RSSI Dat Tools: SSH Access SSH - Pi-Star pi-star login: pi-star The Pi-Star SSH editor Password: Linux pi-star 4.9.35+ #1014 Fri Jun 30 14:34:49 BST 2017 armv61 will open up as shown Here, with the command prompt: From your Windows Computer: pi-star@pi-star(ro):=\$ < Pi-Star Dashboard: http://pi-star/ From your Apple iPhone, iPad, Macbook, iMac etc. Pi-Star Dashboard: http://pi-star.local/ pi-star@pi-star(ro):~\$ < Click here for fullscreen SSH client ed help? Click here for the Support Grou Get your copy of Pi-Star from here.

Enter the flash command:



Wait for flash complete:

PI-Star: 3.4.11 / Dashboard: 2018031

Pi-Star Digital Voice - Expert Editors Dashboard | Admin | Update | Backup/Restore | Configuration Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Cron | RSSI Dat Tools: SSH Acces SSH - Pi-Star remote: Total 163 (delta 0), reused 0 (delta 0), pack-reused 163 Receiving objects: 100% (163/163), 3.16 MiB | 818.00 KiB/s, done. Resolving deltas: 100% (55/55), done. Checking connectivity... done. Raspberry Pi 2 or Pi Zero W detected stm32flash Arduino STM32 0.9 http://github.com/rogerclarkmelbourne/arduino_stm32 Using Parser : Raw BINARY Interface serial posix: 57600 8E1 Version : 0x22 Option 1 : 0x00 Option 2 : 0x00 Device ID : 0x0410 (Medium-density) RAM : 20KiB (512b reserved by bootloader) Flash : 128KiB (sector size: 4x1024) Option RAM : 16b System RAM : 2KiB Write to memory Erasing memory Wrote and verified address 0x0800a47c (100.00%) Done. Starting execution at address 0x08000000... done Flashing your rpi modem complete, press any key to reboot your Pi-Star System. Click here for fullscree Pi-Star web config, © Andy Taylor (MW0MWZ) 2014-2018. Need help? Click here for the Support Group Get your copy of Pi-Star from here.

Let the flash process run to completion, follow any instructions presented. It will likely ask you to hit a key to begin a reboot. As usual, give the reboot about 3 minutes.

Verify new ZUMspot FW ver.

Once the boot cycle completes you can verify the ZUMspot's new FW version on the main dashboard.

That's it, all done.

					Dashb	board	Admin	Config	uratior
Modes Enabled			Gateway A	tivity					
D-Star DMR	Time (PDT)	Mode	Callsign	Target		Sre	Dur(s)	Loss	BER
YSE P25	14:47:03 Mar 16th	YSF	WJ4P	ALL at KE4LT	т	Net	0.8	0%	0.0%
YSF2DMR NXDN	14:46:42 Mar 16th	YSF	AAOKM	ALL at AAOKN	1	Net	0.1	0%	0.0%
	14:46:29 Mar 16th	YSF	KC6N-DAVE	ALL		RF	1.2	0%	0.4%
Network Status	14:46:05 Mar 16th	D-Star	KC6N/ID51	COCOCO		RF	2.1	0 %	0.0%
D-Star Net DMR Net	14:45:38 Mar 16th	DMR Slot 2	KC 6N	TG 31066		RF	2.2	0%	0.2%
YSF Net P25 Net	14:44:41 Mar 16th	DMR Slot 2	AF6BY	TG 31066		Net	1.2	0%	0.0%
SF2DMR Net NXDN Net	14:41:36 Mar 16th	DMR Slot 2	VA3RLP	TG 31066		Net	0.8	0%	0.0%
Internet	14:39:57 Mar 16th	DMR Slot 2	K7FAY	TG 31066		Net	4.4	0%	0.0%
	14:39:13 Mar 16th	D-Star	KC6N/INFO	COCOCO		Net	6.5	0%	0.0%
Radio Info	14:36:15 Mar 16th	D-Star	M1ABC/INFO	COCOCO		Net	2.5	0%	0.0%
rx Listening YSF				+:					
× 439.025000 MHz	Time (DDT)	Mode	Callaim	Target	Sec	Dur (e	BFD	0	29T
405.02000 NI	14:46:29 Mar 16th	VSF	KC6N-DAVE	ALL.	DF	1 2	0 48	994	46dB
W ZUMspot:v1.3.3	14:46:05 Mar 16th	D-Star	KC6N/TD51	000000	DF	2 1	0.05	59+	46dB
	14:45:38 Mar 16th	DMR_Slot_2	KC6N	TG 31066	RF	2.2	0.28	S9+	46dB
D-Star Repeater									
F1 KC6N B									
T2 KC6N G									
D-Star Network									
RS socal.aprs2.net									
RC rr.openquad.net									
inked to REF012 A									
(Deius Outgoing)									
Diff. Demosters									
DMR TD 3106564									
IMR CC 1									
TS1 disabled									
TS2 enabled									
TG 31066/not linked									
DMR Master									
M United States 3103									
YSF Network									
Room: Alabama-Link									
	Pi-Star / Pi-S	tar Dashboard, © Andy Geteway Dashboard by	r Taylor (MW0MWZ) Hans-1, Barthes (Di	2014-2018.					
	IICODB	dutendy busiledard by	St. Burthen (D						
	MM	DVMDash developed by leed help? Click here to	Kim Huebel (DG9V)	1),					

ZUMspot/PiStar

Appendix G Alternative bring up methodology

This works if you have 4.3.11 (or later). If you don't know what you have, I recommend the WPA_supplicant.conf method outlined in part II.

Alternative bring up method

- If you have Pi-Star v3.4.11 (or later):
 - Configure a µ-SD card as in Part I.
 - Power your HotSpot and search for the WiFi network "Pi-Star-Setup" and join it.
 - Point a browser session to <u>http://pi-star</u> (PC) or <u>http://pi-star.local</u> (MAC/IOS)
 - Log into Pi-Star setup and proceed as in part III.
 - Make sure you set up at least one WiFi

ZUMspot/PiStar

Appendix H

Using your Yaesu System Fusion radio on DMR (YSF2DMR)

Setting up YSF2DMR operation

- One of the features offered in the latest versions of Pi-Star is the ability to operate DMR on Brandmeister using a YSF radio.
- At present, it does not appear that you can go the other way (but I am sure that is coming).
- This appendix will show how to set this up.

Enable YSF, DMR and YSF2DMR

• You will first need to make sure that YSF, DMR and YSF2DMR modes are enabled

	MMDVMHost Configuration							
	Sotting Value							
	DMR Mode:		RF Hangtime	: 20	Net Hangtime:	20		
	D-Star Mode:		RF Hangtime	: 20	Net Hangtime:	20		
<	YSF Mode:		RF Hangtime	: 20	Net Hangtime:	20		
	P25 Mode:		RF Hangtime	: 20	Net Hangtime:	20		
	NXDN Mode:		RF Hangtime	: 20	Net Hangtime:	20		
	YSF2DMR:							
	MMDVM Display Type. OLED V Port: /dev/ttyAMAO V Nextion Layout: G4KLX V							
	Apply Changes							
					_			
	Don't forget to "Apply							
	Changes" and wait for							
	the share reacted water of							
	the changes to update.							

Enabling YSF and YSF2DMR

In the Yaesu System Fusion Configuration block, select "00002 – YSF2DMR – YSF2DMR Gateway" as shown.

	Yaesu System Fusion Configuration						
	Setting	Value					
\langle	YSF Startup Host:	00002 - YSF2DMR - YSF2DMR Gateway					
	APRS Host:	socal.aprs2.net →					
	Apply Changes						

Click "Apply Changes" and wait for the reset to complete. Once it does, there will be a few more items to fill in as shown below. Fill these in and "Apply Changes" again.

Yaesu System Fusion Configuration					
Setting	Value				
YSF Startup Host:	00002 - YSF2DMR - YSF2DMR Bridge				
APRS Host:	socal.aprs2.net				
CCS7/DMR ID:	3106564				
DMR Master:	BM_United_States_3103 V				
DMR TG:	31066				
	Apply Changes				

90

YSF2DMR operation is set up

- With this configuration you can use a Yaesu System Fusion radio to talk on the talk group you selected in the YSF2DMR dialog.
- To return to normal YSF, simply change the YSF Startup Host back to the one you want. Don't forget to "Apply Changes".

Yaesu System Fusion Configuration						
Setting	Value					
YSF Startup Host:	02034 - Alabama-Link - Alabama-Link					
APRS Host:	socal.aprs2.net V					
CCS7/DMR ID:	3106564					
DMR Master:	BM_United_States_3103 V					
DMR TG:	31066					
Apply Changes						

ZUMspot/PiStar

Appendix I Controlling Pi-Star from your radio

Pi-Star Remote Control

- Pi-Star includes features which allow your hotspot to be controlled remotely over the air.
- Codes for Reboot, Power Down, etc. are available in each mode.
- These can be accessed from the admin/expert pages by pointing the browser to:
- http://pi-star/admin/expert/

Pi-Star remote control modes

- Log onto the Pi-Star admin expert page:
 - http://pi-star/admin/expert/

D1. Disc. 7, 4, 3, 3	/ Dealshamed 20100210
PIPERAL S. P. LL	/ Dashboard.20160310

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backup/Restore | Configuration

Quick Editors: DStarRepeater | ircDDDGutaway | TimeServer | MinDVMHost | DMRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WX config | BM API Key | System Cron | RSSI Dat Tools: SSH Access

Expert Editors

WARNING

Pi-Star Expert editors have been created to make editing some of the extra settings in the config files more simple, allowing you to update some areas of the config files without the need to login to your Pi over SSH.

Please keep in mind when making your edits here, that these config files can be updated by the dashboard, and that your edits can be over-written. It is assumed that you already know what you are doing editing the files by hand, and that you understand what parts of the files are maintained by the dashboard.

With that warning in mind, you are free to make any changes you like, for help come to the Facebook group (link at the bottom of the page) and ask for help if / when you need it. 73 and enjoy your Pi-Star experiance. Pi-Star UK Team.

> Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2018. ircDDBGateway Dashboard by Hans-J. Barthen (DLSDI), MMDVMDash developed by Kim Huebel (DG9VH), Need help? Click here for the Support Group Get your copy of Pi-Star from here.

Click "**PiStar Remote**" To bring up the remote control code page.

Pi-Star remote control modes



Here is where you will find all of the "mode compatible" commands needed to operate your hotspot remotely via your radio.

Make sure that "Keeper" is enabled here, make sure that your callsign is set as the "Keeper"

For DSTAR: you need to make these commands available in the "UR Call" field of your radio.

For DMR: you need to these talk group commands and create channels for these in your zone.

Fusion uses "room codes" of course

Pi-Star remote control DSTAR

e View COMPort Clone Option H	elp		
- ID-51	Your Ca	all Sign (Remain 23 memories)	
	No.	Name	Call Sign
🗄 🛅 Program Scan Link	169	link to REF056A	REF056AL
BL Hadio Memory DTMF Memory	170	link to REF056B	REF056BL
	171	link to REF056C	REF056CL
Your Call Sign	172	link to REF056D	REF056DL
	173	Link to XRF012A	XRF012AL
Transmitted Call Record	174	Link to XRF210D	- -XRF210DL
Received Call Record	175	PiStar Reboot	REBOOTPI
En english county in the second seco	176	PiStar Shutdown	SHUTDOWN
Common Setting	177	CMDR Rebeet	REBOOT
A/B Band Setting	New		

Add the commands to the "UR Call" (or Your Call) memory of your DSTAR radio so that they are accessable in DR mode. The commands REBOOTPI and SHUTDOWN are shown here. You may have these for other devices as well as shown.

Pi-Star Remote Control DMR (2)

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backup/Restore | Configuration

Quick Editors: DStarRepeater | ircDDBGateway | TimeServer | MMDVMHost | DMRGateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Config | BM API Key | System Cron | RSSI Dat Tools: SSH Access

[banner] # Pi-Star Remote config file # This config file is desiged for the Pi-Star Keeper remote control # The remote control system is designed to give repeater keepers an # RF KillSwitch for their repeaters. [enable] # Is the Keeper Enabled? (true|false) enabled = true [keeper] # Keepers Information callsign=KC6N [d-star] # UR fields svckill=SVCKILL svcrestart=SVCRSTRT reboot=REBOOTPI shutdown=SHUTDOWN [dmr] # TG commands svckill=8999999 svcrestart=8999998 reboot=8999997

[ysf] # ROOM Ccommands svckill=99999 svcrestart=99998 reboot=99997 shutdown=99996

shutdown=8999996

Apply Changes

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MWDWZ) 2014-201 ircDD8Gateway Dashboard by Hans-J. Barthen (DUSD)), MMDVMDash developed by Kim Huebel (DG9VH), Need help? Click here for the Support Group Get your copy of Pi-Star from here. The default commands for DMR begin with "9" as shown earlier. You will need to change these to avoid conflicts with some commands that Brandmeister uses internally. So, for example, edit svckill to "8999999" (from "9999999"), etc. ... as shown here. There may be other options as well (thanks to Michael Rickey, AF6FB for this one).

It would appear that you can edit any of these to be anything you want as long as it doesn't create a conflict somewhere. As always don't forget to "Apply Changes" when done.

Do a back up so these are saved.

Pi-Star Remote Control DMR

- You will need to add 2 Private Call ID's
 - PiStar Reboot, PCID=8999997
 - PiStar Shutdown, PCID=8999996
- Access these in whatever way works best for you.
 - I create a couple PC ID's as shown above
 - You can add these to a zone or just search for them in your contact list. You can also "Manual Dial" the numbers if you remember them.

Pi-Star Remote Control FUSION

- Similarly to DMR, You will make a manual call to the appropriate "room number"
 - Reboot PiStar, TGID=99997
 - Shutdown PiStar, TGID=99996
- To run this:
 - Connect to your HotSpot in YSF mode
 - Key in the code using DTMF mode.

ZUMspot/PiStar

Appendix J Solving BER issues using offset adjustments

Pi-Star Offset adjustments

- Pi-Star includes a facility to adjust for the frequency offset of the modem relative to the radio.
- This issue manifests itself as excessive bit error rate (BER) on receive or sometimes an inability to lock to incoming signals.
- These can be accessed from the admin/expert pages by pointing the browser to: <u>http://pi-star/admin/expert/</u>

Pi-Star Offset adjustments

- Log onto the Pi-Star admin expert page:
 - http://pi-star/admin/expert/

PI-Star:3.4.11 / Dashboard:20180310

Pi-Star Digital Voice - Expert Editors

Dashboard | Admin | Update | Backgrip Restore | Configuration

Quick Editors: DStarRepeater | ircDDBGateway | TimeSe ver | MMDVMHost | DK Gateway | YSFGateway | P25Gateway Full Editors: DMRGateway | PiStar-Remote | WiFi Config | 6M API Key | System Cron | RSSI Dat Tools: SSH Access

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Click **"MMDVM Host**" To bring up the MMDVM Host page.

Pi-Star Offset adjustments

	Ма	odem	
Port	/dev/ttyAMA0		In the "Modem" section you
TXInvert	1		will probably soo:
RXInvert	0		will probably see.
PTTInvert	0		RXOffset = 0
TXDelay	100		
RXOffset	0		$I X O \Pi S E I = 0$
TXOffset	0		As shown here
DMRDelay	100		AS SHOWN HERE.
RXLevel	50		
TXLevel	100		Van aan maya thaga nagitiya
CWIdTXLevel	50		You can move these positive
D-StarTXLevel	50		or negative to optimize the
DMRTXLevel	50		
YSFTXLevel	50		BER issue as shown below.
P25TXLevel	50		
RSSIMappingFile	/usr/local/etc/RSSI.dat		
Trace	0		Be careful with this and
Debug	0		
RFLevel	100		don't change anything else.
RXDCOffset	0		
TXDCOffset	0		
NXDNTXLevel	50		Apply changes and update
	Apply	Changes	
	г	IMP	убиг баскир.



That's it !

For now anyway, Thanks. Please contact me at the address below with questions and comments.

> Dave Hull, KC6N dhull1@san.rr.com

Revision List:

- 01/20/2018: Original Release presented at the PAPA San Diego Luncheon Sat Jan 20 2018
- 03/27/2018: Extensive rework incorporating suggestions received since original release
- 04/03/2018: Added Appendix J, a page on Etcher, and this revision list.