

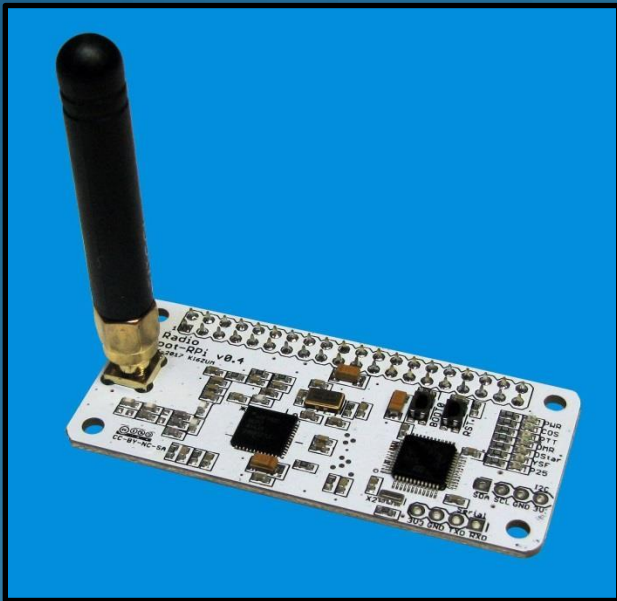
ZUMspot/PiStar

ZUMspot/Pi-Star Bring-up and initialization

Presented to PAPA SD Luncheon

David Hull, KC6N

January 20, 2018



Contents

- Part I: Preparing a Pi-Star μ SD card
- Part II: Setting up your RASPi 0/W WiFi
- Part III: Configuring your HotSpot
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- Part V: Updating Firmware

ZUMspot/PiStar

Part I

Preparing a μ SD card with a Pi-Star Image

Download the Pi-Star Image (1)

Go to the following URL:

<http://www.pistar.uk/index.php>

Click: "Downloads", Click: "Download Pi-Star"

PiStar.UK - Pi-Star Digital Voice Software

- Home
- Information
- Help
- Pi-Star Tools
- BrandMeister Tools
- DMR+ Tools
- D-Star Tools
- Downloads
- Credits
- Links

Pi-Star Downloads

Images available to Download

Pi-Star_NanoPi_Air_V3.4.8_08-Dec-2017.zip
Pi-Star_NanoPi_V3.4.8_08-Dec-2017.zip
Pi-Star_Odroid_X04_V3.4.8_08-Dec-2017.zip
Pi-Star_OrangePi_Zero_V3.4.8_08-Dec-2017.zip
Pi-Star_RPi_V3.4.8_08-Dec-2017.zip
dvmeiga-Flash-tools.zip

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 download, and then flash the image to your SD card (using your preferred image writing tool - see links below for some basic instructions), boot the Pi, wait 30-40 secs and then login to the admin portal in order to finish the setup your Pi-Star.

here: <http://pi-star/admin/>

Default Username: pi-star
Default Password: raspberry

For help getting started, see this *EXCELLENT* video by Craig (W1MSG): [Here](#)

Windows Imaging Guide: [Here](#)
Mac OS Imaging Guide: [Here](#)
Linux Imaging Guide: [Here](#)

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 - Pi-Star Digital Voice Software

Home

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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 Digital Voice on Amateur radio in a way that makes it easily accessible to anyone just starting out, but make it configurable enough to be interesting for those of us who cant help but tinker.

Pi-Star can be what ever you want it to be, from a simple single mode hotspot running simplex providing you with access to the increasing number of Digital Voice networks, up to a public duplex multimode repeater!

The world is at your fingertips, and the choices are yours!

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 system is and how it works to be as involved as they want to be!

Most importantly, have fun using Pi-Star!

Pi-Star Digital Voice Dashboard for MW0MWZ

Dashboard | Admin | Config

Mode	Enabled	Call Sign	logoff	Info	UTOT	GTOT
D-Star	OK	PISTAR B	PISTAR U	Pi-Star User Group on D-Star	30	30
V3X	OK	DMR B	DMR U	Blackwood Club Members Group	30	30

Time (GMT)	Mode	Call Sign	Target	Sig	Dur(S)	RRR
2017-05-30 16:30:19	D-Star	MM0DAVE	COQCOQ via REF001 C	Net	0.8	OK 0.26
2017-05-30 16:27:55	DMR Slot 2	MM0DAVE	TG 91	Net	0.5	OK 0.18
2017-05-30 16:25:15	DMR Slot 2	MM0DAVE	TG 91	Net	10.5	OK 0.00
2017-05-30 16:24:52	DMR Slot 2	MM0DAVE	TG 91	Net	18.1	OK 0.00
2017-05-30 16:19:35	DMR Slot 2	MM0DAVE	TG 91	Net	1.6	OK 0.00
2017-05-30 16:17:56	D-Star	MM0S180	COQCOQ via REF001 C	Net	11.8	OK 0.00
2017-05-30 16:17:23	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	1.4	OK 0.00
2017-05-30 16:16:36	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.7	OK 0.00
2017-05-30 16:11:39	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	1.9	OK 0.50
2017-05-30 16:10:44	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	7.1	OK 0.00
2017-05-30 16:10:42	D-Star	MM0DNGL	I	Net	0.7	0.00
2017-05-30 16:09:28	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	1.2	OK 0.00
2017-05-30 16:05:55	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	7.0	OK 0.00
2017-05-30 15:56:00	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.1	OK 10.38
2017-05-30 15:54:49	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	1.2	98% 0.00
2017-05-30 15:49:35	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.8	OK 0.00
2017-05-30 15:48:20	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.4	OK 0.00
2017-05-30 15:47:01	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.2	OK 0.00
2017-05-30 15:40:50	D-Star	MM0DNGL	COQCOQ via REF001 C	Net	0.4	OK 0.00
2017-05-30 16:10:42	D-Star	MM0DNGL	I	Net	0.7	0.00

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index.php last modified on 12/09/17 at 19:14 +0000

Download the Pi-Star Image (2)

1. Download the file with the name "Pi-Star_Rpi..." and save it somewhere you will remember.
2. Unzip the folder and note the "xxx.img" file (that is what you will use later)
3. Note that there are some other interesting links on this page you may want to look at as well.

The screenshot shows the Pi-Star UK website interface. The main heading is "Pi-Star UK - Pi-Star Digital Voice Software". On the left is a navigation menu with items: Home, Information, Help, Pi-Star Tools, BrandMeister Tools, DMR+ Tools, D-Star Tools, Downloads, Credits, and Links. The main content area is titled "Pi-Star Downloads" and contains two sections: "Images available to Download" and "Information".

Images available to Download

- Pi-Star_NanoPi_Air_V3.4.8_08-Dec-2017.zip
- Pi-Star_NanoPi_V3.4.8_08-Dec-2017.zip
- Pi-Star_Odroid_XU4_V3.4.8_08-Dec-2017.zip
- Pi-Star_OrangePi_Zero_V3.4.8_08-Dec-2017.zip
- Pi-Star_RPi_V3.4.8_08-Dec-2017.zip
- images_Flash-tools.zip

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 download, and then flash the image to your SD card (using your preferred image writing tool - see links below for some basic instructions), boot the Pi, wait 30-40 secs and then login to the admin portal in order to finish the setup your Pi-Star.

here: <http://pi-star/admin/>

Default Username: pi-star
Default Password: raspberry

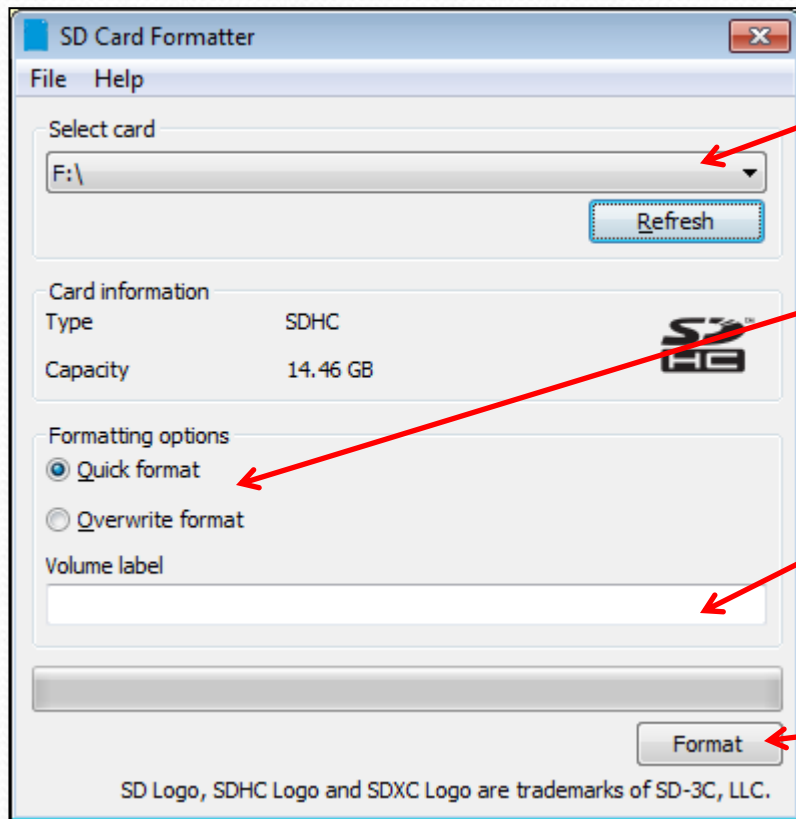
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Linux Imaging Guide: [Here](#)

For support, please join our Facebook Support Group:
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and/or make use of the Wiki: <http://wiki.pistar.uk>.

Format a blank μ SD Card

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



1. Set the drive letter for your μ -SD card here

2. Select a format option

3. Leave this blank.

4. Select “Format”

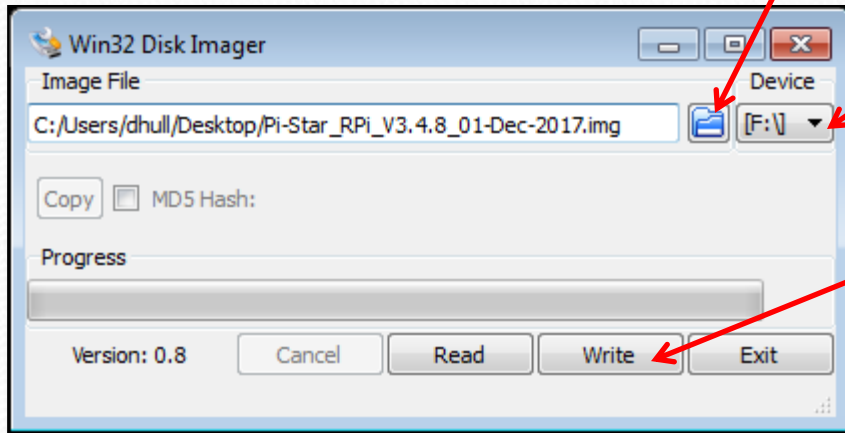
Transferring the image

- You have two options (both work well)
 - Win32 Disk Imager
 - SDIImager

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_V3.4.8_01-Dec-2017.img](#)



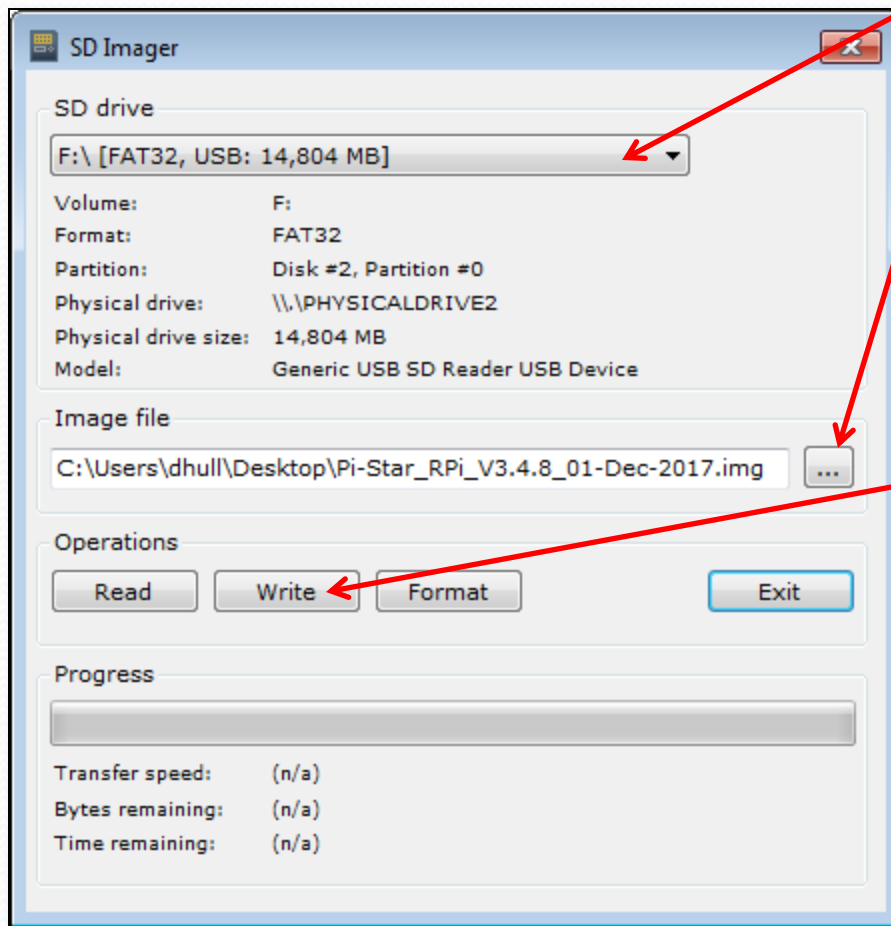
2. Set the drive letter of your μ -SD card: “F” (in this case)

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.

SDImager

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



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

2. Navigate to your image file (i.e.): [Pi-Star_RPi_V3.4.8_01-Dec-2017.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.

Websites:

- Win32DiskImager:
<https://sourceforge.net/projects/win32diskimager/>
- SDIImager:
<https://sourceforge.net/projects/sdimager/>
- SDFFormatter:
https://www.sdcard.org/downloads/formatter_4/

ZUMspot/PiStar

Part II

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

Or..., So you got your hands on a ZUMspot Kit, now what?

Gather up the following:

- Basic ZUMspot kit
 - ZUM Board (w/ Antenna)
 - Raspberry Pi ZeroW (w/ connector)
 - μ SD card (w/ Image)
 - Case (Optional)
- Windows PC with Internet access
- USB μ SD 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>

Click Pi-Star Tools, select "WiFi Builder"

PiStar.UK - Pi-Star Digital Voice Software

- Home
- Information
- Help
- Pi-Star Tools
 - WiFi Builder**
 - Pi-Star Usage Stats
- BrandMeister Tools
- DMR+ Tools
- D-Star Tools
- Downloads
- Credits
- Links

Pi-Star WiFi Builder

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 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.

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.

All you need to do then, is drop this onto the "Boot" volume of your Pi-Star SD card - this will appear as you complete writing the SD Card.

Once the Pi-Star system boots up, it will add the config file for the WiFi and reboot.

SSID:	<input type="text"/>
PSK:	<input type="text"/>
<input type="button" value="Submit Query"/>	

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wifi_builder.php last modified on 23/10/17 at 20:12 +0000

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Most importantly, have fun using Pi-Star!

Pi-Star Digital Voice Dashboard for MW0MWZ

Dashboard | Admin | Config

Col List	Logoff	Info	U/TOT	STOT
PISTAR B	PISTAR B	Pi-Star User Group on D-Star	30	30
DMR B	DMR B	Blackwood Club Members Group	30	30

Active StarNet Groups

Time (CST)	Mode	Collisgn	Target	Src	Dur(C)	Loss	BER
2017-05-30 16:30:10	D-Star	44000/DVMS	COCQ via REF001 C	Net	0.8	0%	0.2%
2017-05-30 16:27:58	DMR Slot 2	11400	TG 91	Net	0.5	0%	0.1%
2017-05-30 16:25:15	DMR Slot 2	40045	TG 91	Net	10.5	0%	0.0%
2017-05-30 16:17:50	D-Star	44000/DVMS	COCQ via REF001 C	Net	11.4	0%	0.0%
2017-05-30 16:17:23	D-Star	44000/DVMS	COCQ via REF001 C	Net	1.4	0%	0.0%
2017-05-30 16:11:30	D-Star	12617/274	COCQ via REF001 C	Net	1.9	0%	0.3%
2017-05-30 16:10:44	D-Star	44000/DVMS	COCQ via REF001 C	Net	7.1	0%	0.0%
2017-05-30 16:10:42	D-Star	44000/DVMS	I	Net	0.7	0%	0.0%
2017-05-30 16:09:28	D-Star	44000/DVMS	COCQ via REF001 C	Net	1.2	0%	0.0%
2017-05-30 16:05:55	D-Star	44000/DVMS	COCQ	Net	7.9	0%	0.0%
2017-05-30 15:53:40	D-Star	44000/DVMS	COCQ	Net	0.1	0%	100.0%
2017-05-30 15:54:49	D-Star	44000/DVMS	COCQ	Net	1.2	0%	0.0%
2017-05-30 15:49:35	D-Star	44000/DVMS	COCQ	Net	0.8	0%	0.0%
2017-05-30 15:48:20	D-Star	44000/DVMS	COCQ	Net	0.4	0%	0.0%
2017-05-30 15:47:48	D-Star	44000/DVMS	COCQ	Net	0.2	0%	0.0%
2017-05-30 15:40:50	D-Star	44000/DVMS	COCQ	Net	0.4	0%	0.0%
2017-05-30 15:36:33	D-Star	44000/DVMS	COCQ	Net	6.8	0%	0.0%

Last 20 calls heard via this Gateway

Time (CST)	Mode	Collisgn	Target	Src	Dur(C)	Loss	BER
2017-05-30 16:10:42	D-Star	44000/DVMS	I	Net	0.7	0%	0.0%

Last 20 calls that accessed this Gateway

Time (CST)	Mode	Collisgn	Target	Src	Dur(C)	Loss	BER
2017-05-30 16:10:42	D-Star	44000/DVMS	I	Net	0.7	0%	0.0%

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2016-2017.
Pi-Star Dashboard developed by Andy Taylor (MW0MWZ) 2017.
Pi-Star Dashboard powered by Andy Taylor (MW0MWZ) 2017.
Send input data here for the Reverse Caller
and your copy of Pi-Star logs here.

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index.php last modified on 12/09/17 at 19:14 +0000

Setting up your WiFi (Slide 2)

1. Enter your WiFi Credentials:
SSID
Password (PSK)

2. Click “Submit Query”

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

PiStar.UK - Pi-Star Digital Voice Software

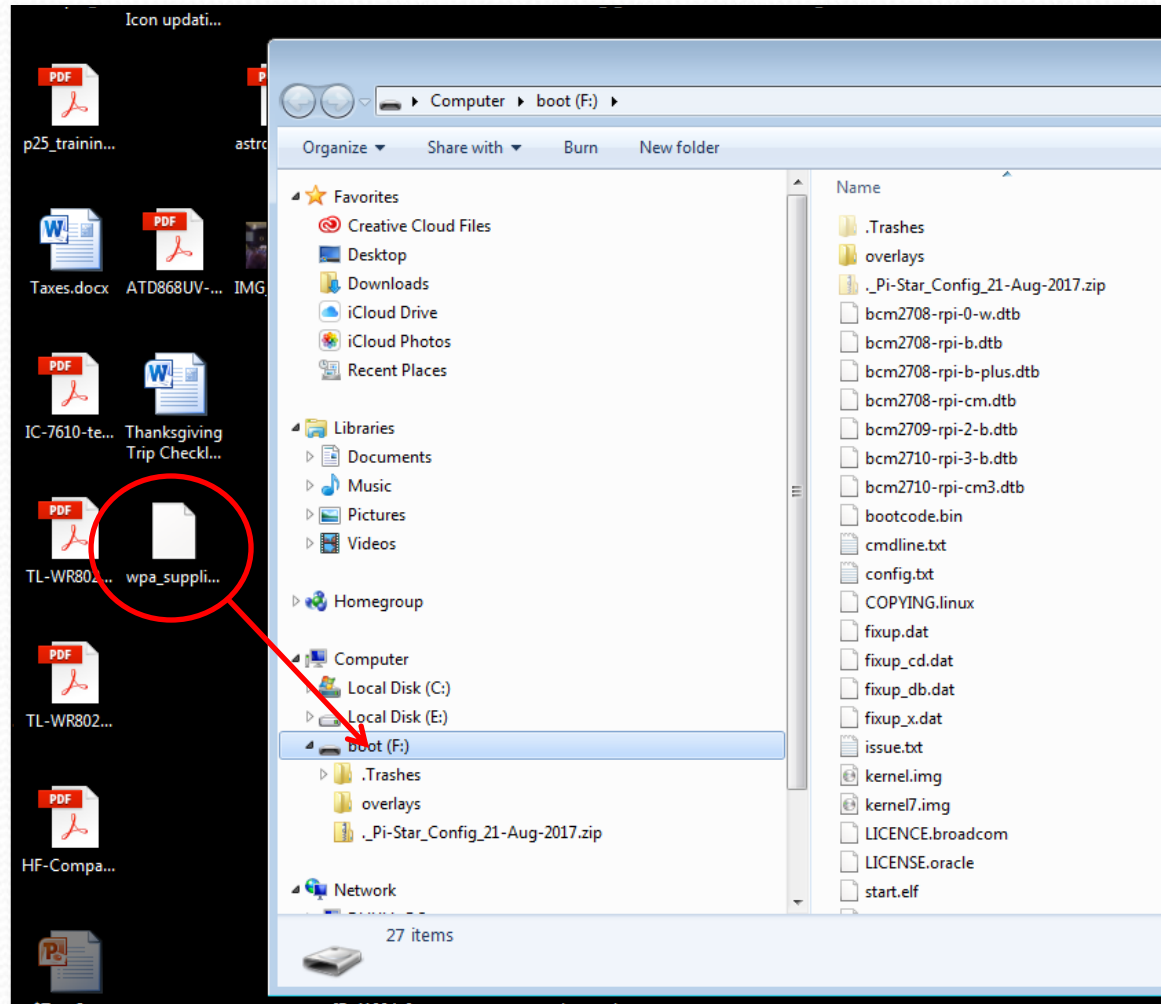
Home	Pi-Star WiFi Builder
Information	This tool is used to create your "wpa_supplicant.conf" for use with Pi-Star. All you need to do is enter your SSID (this is the name of your Wireless Network) and the matching PSK (this is the Pre-Shared Key, or Password) for this network, when you hit "Submit" the generated config file will download to your computer.
Help	
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 you 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	
Downloads	
Credits	
Links	

SSID:	<input type="text"/>
PSK:	<input type="text"/>
<input type="button" value="Submit Query"/>	

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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 μ SD card.
3. Install the μ SD card containing your image and the wpa_suplicant file into your Raspberry Pi Zero W.



ZUMspot/PiStar

Part III

Bringing up ZUMspot/Pi-Star the first time

Before you start:

- Install the ZUMspot onto the Raspberry Pi Zero/W
- Install The ZUMspot's antenna.
- Install the μ SD 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: <http://pi-star>
- 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:3.4.8 / Dashboard: 20171201

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.

Windows Security Pop-Up:

The image shows a screenshot of the Pi-Star Digital Voice Dashboard for M1ABC. The dashboard has a red header with the text "Pi-Star Digital Voice Dashboard for M1ABC" and navigation links "Dashboard | Admin | Configuration". The main content area displays "No Mode Defined..." and a message: "I don't know what mode I am in, you probaly just need to configure me." Overlaid on the dashboard is a Windows Security dialog box. The dialog box contains the following text: "The server pi-star is asking for your user name and password. The server reports that it is from Restricted." and "Warning: Your user name and password will be sent using basic authentication on a connection that isn't secure." Below the text are input fields for "User name" and "Password", and a checkbox for "Remember my credentials". At the bottom are "OK" and "Cancel" buttons. A yellow callout box on the right contains the following instructions: "1. Enter the following: User name: pi-star Password: raspberry" and "2. Click 'OK'". Red arrows point from the callout box to the input fields and the OK button.

Hostname: pi-star Pi-Star:3.4.8 / Dashboard: 20171201

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

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

Password

Remember my credentials

OK Cancel

1. Enter the following:
User name: pi-star
Password: raspberry

2. Click "OK"

Pi-Star Configuration Screen:

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star	4.9.33+	Pi Zero W Rev 1.1 (512MB)	0.08 / 0.13 / 0.11	42.0 C / 107.6 F

Control Software

Setting: Value

Controller Software: DStarRepeater MDM3Most (DY-Mega Minimum Firmware 3.07 Required)

Controller Mode: Simplex Mode Duplex Repeater (or Half-Duplex on Hotspots)

Apply Changes

General Configuration

Setting: Value

Hostname: pi-star Do not add suffixes such as .local

Node Callsign: M1ABC

Radio Frequency: 431.075.000 MHz

Latitude: 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 Auto Manual

Radio/Modem Type: **ZumSpot - Raspberry Pi Hat (GPIO)**

Node Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

Apply Changes

D-Star Configuration

Setting: Value

RPT1 Callsign: M1ABC

RPT2 Callsign: M1ABC

Remote Password: *****

Default Reflector: REF001 Startup Manual

APRS Host: uk.aprs2.net

ircDDBGateway Language: English_(UK)

Time Announcements:

Use DStar for XRF: Note: Update Required if changed

Apply Changes

Firewall Configuration

Setting: Value

Dashboard Access: Private Public

ircDDBGateway Remote: Private Public

SSH Access: Private Public

Apply Changes

Wireless Configuration

Refresh | Reset WiFi Adapter | Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name: wlan0	Connected To: dknull
Interface Status: Interface is up	AP Mac Address: 48:F8:B3:D8:A5:07
IP Address: 192.168.1.134	Bitrate: 72.2 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: b8:27:eb:55:8a:e0	Link Quality: 70/70
Received Packets: 2022	Signal Level: -32 dBm
Received Bytes: 821446 (802.1 KiB)	
Transferred Packets: 1643	
Transferred Bytes: 432677 (422.5 KiB)	

Information provided by ifconfig and iwconfig

Remote Access Password

User Name: pi-star Password:

WARNING: This changes the password for this admin page AND the "pi-star" SSH account

Pi-Star web config, © Andy Taylor (W0VWVZ) 2014-2018.
Need help? Click here for the Support Group
Get your copy of Pi-Star from here.

This will bring you the “Pi-Star Configuration Screen” to the right. The default setup is for 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 Callsign:	M1ABC
Radio Frequency:	431.075.000 MHz
Latitude:	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 <input type="radio"/> Auto <input type="radio"/> Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)
Node Type:	<input checked="" type="radio"/> Private <input type="radio"/> Public
System Time Zone:	Europe/London
Dashboard Language:	english_uk

Apply Changes

It might ask you to re-enter the modem type again. If so, select “ZUMspot – Raspberry Pi Hat (GPIO)” and click “Apply Changes”

Pi-Star Configuration Screen:

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (9130B)	1.48 / 0.49 / 0.22	37.0°C / 100.6°F

Control Software

Setting: StarGatester MMDVMHost (Pi-Hats Minimum Firmware 3.07 Required)

Control Mode: Simple Mode Duplex Repeater Half-Duplex on Repeater

MMDVMHost Configuration

Setting	Value	Setting	Value
DMR Mode:	<input checked="" type="checkbox"/>	RF Hangtime:	20
D-Star Mode:	<input checked="" type="checkbox"/>	Net Hangtime:	20
YSF Mode:	<input type="checkbox"/>	RF Hangtime:	20
P25 Mode:	<input type="checkbox"/>	Net Hangtime:	20

MMDVM Display Type: None Post: /dev/ttyAMA0 Maxtion Layout: G4KLX

General Configuration

Hostname: pi-star Do not add suffixes such as .local

Node Callsign: M1ABC

CC1/DMR ID: 1234567

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees (positive value for North, negative for South)

Longitude: 0.000 degrees (positive value for East, negative for West)

Town: A Town, LOCATOR

Country: UK

URL: http://www.gz.com/0B-M1ABC @ Auto Manual

Radio/Modem Type: ZUMspot - Raspberry Pi Hat (GPIO)

Mode Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

DMR Configuration

DMR Hostname: BM_United_Kingdom_2342

Brand/Manufacturer Network: Repeater Configuration: SGL Repeater (Brand/Manufacturer SelfCare)

DMR Colour Code: 1

DMR Knowledge/COOnly:

DMR DumpTData:

D-Star Configuration

APFT Callsign: M1ABC S

YSF Callsign: M1ABC S

Remote Password: *****

Default Reflector: REF001 C

APRS Port: UK.aprs2.net

LocalGateway Language: English (UK)

Time Announcements:

DM Duplex for XRF: Note: Update Required if changed

Firewall Configuration

Dashboard Access: Private Public

LocalGateway Remote: Private Public

SSH Access: Private Public

Wireless Configuration

Refresh Reset WiFi Adapter Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name: wlan0	Connected To: 08000
Interface Status: Interface is up	AP Mac Address: 48:FB:B3:DB:A5:07
IP Address: 192.168.1.134	Bitrate: 65 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: 08:27:eb:55:8a:e0	
Received Packets: 7692	Link Quality: 70/70
Received Bytes: 2882672 (2.7 MiB)	Signal Level: -33 dBm
Transferred Packets: 6551	
Transferred Bytes: 2250064 (2.1 MiB)	

Information provided by Roonfig and hcofig

The result will look something like this:

There 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	Setting	Value
DMR Mode:	<input checked="" type="checkbox"/>	RF Hangtime:	20
D-Star Mode:	<input checked="" type="checkbox"/>	Net Hangtime:	20
YSF Mode:	<input type="checkbox"/>	RF Hangtime:	20
P25 Mode:	<input type="checkbox"/>	Net Hangtime:	20

MMDVM Display Type: None Post: /dev/ttyAMA0 Maxtion Layout: G4KLX

Apply Changes

Here is where you will tell your ZUMspot/Pi-Star gizmo what you want it to do. I'll leave it as is since that is what most PAPA members will want. If you want YSF (Fusion) and/or APCO P25, turn these on. A new config block for each will appear (once you click “Apply Changes”)

Pi-Star Control SW Setup:

Pi-Star Digital Voice - Configuration
 Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (9130B)	1.08 / 0.49 / 0.22	57.8°C / 134.1°F

Control Software

Setting	Value
Controller Software:	<input type="radio"/> DStarRepeater <input checked="" type="radio"/> MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	<input checked="" type="radio"/> Simplex Mode <input type="radio"/> Duplex Repeater (or Half-Duplex on Hotspots)

Apply Changes

MMDVMHost Configuration

Setting	Value
D-Star Mode:	<input type="checkbox"/> ST RangeTime: 20 Den. RangeTime: 20
D-Star Mode:	<input type="checkbox"/> ST RangeTime: 20 Den. RangeTime: 20
D-Star Mode:	<input type="checkbox"/> ST RangeTime: 20 Den. RangeTime: 20
D-Star Mode:	<input type="checkbox"/> ST RangeTime: 20 Den. RangeTime: 20
D-Star Mode:	<input type="checkbox"/> ST RangeTime: 20 Den. RangeTime: 20
MMDVM Display Type:	None port: dev/ttyAMA0 Keypad Layout: G4RLX

Apply Changes

General Configuration

Setting	Value
System Name:	Pi-Star Do not add suffixes such as .local
Node CallSign:	M1ABC
CC1/DMR ID:	1234567
Radio Frequency:	431.075.000 kHz
Latitude:	50.000 degrees (positive value for North, negative for South)
Longitude:	0.000 degrees (positive value for East, negative for West)
Town:	A Town, LOCATOR
Country:	Country, UK
URL:	http://www.qrz.com/db/M1ABC @ Auto Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)
Mode Type:	<input checked="" type="radio"/> Private <input type="radio"/> Public
System Time Zone:	Europe/London
Dashboard Language:	english_uk

Apply Changes

DMR Configuration

Setting	Value
DMR Member:	BM_United_Kingdom_2342
BrandMaster Network:	Repeater Information: Edit Repeater (BrandMaster SelfCare)
DMR Colour Code:	1
DMR KnowledgeOnly:	<input type="checkbox"/>
DMR DumpData:	<input type="checkbox"/>

Apply Changes

D-Star Configuration

Setting	Value
APRS CallSign:	M1ABC S
D-Star CallSign:	M1ABC S
Remote Password:	*****
Default Reflector:	REF001 C Startup Manual
APRS Port:	uk.aprs.net
ircDDBGateway Language:	English (UK)
Time Announcements:	<input type="checkbox"/>
Use DPlus for XRF:	<input type="checkbox"/> Note: Update Required if changed

Apply Changes

Firewall Configuration

Setting	Value
Dashboard Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public
ircDDBGateway Remote:	<input checked="" type="radio"/> Private <input type="radio"/> Public
SSH Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public

Apply Changes

Wireless Configuration

Refresh | Reset WiFi Adapter | Configure WiFi

Interface Information	Wireless Information
Interface Name: wlan0	Connected To: dcmult
Interface Status: Interface is up	AP Mac Address: 48:FB:B3:DB:A5:07
IP Address: 192.168.1.134	Bitrate: 65 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: 08:27:eb:55:8a:e0	Link Quality: 70/70
Received Packets: 7692	Signal Level: -33 dBm
Received Bytes: 2882672 (2.7 MiB)	
Transferred Packets: 6551	
Transferred Bytes: 2250064 (2.1 MiB)	

Information provided by Roofrig and Inconfig

Setting	Value
Controller Software:	<input type="radio"/> DStarRepeater <input checked="" type="radio"/> MMDVMHost (DV-Mega Minimum Firmware 3.07 Required)
Controller Mode:	<input checked="" type="radio"/> Simplex Node <input type="radio"/> Duplex Repeater (or Half-Duplex on Hotspots)

Apply Changes

Make sure your "Control Software" Section is set up as Shown above. Click "Apply Changes" and wait for the system to reset (if it does).

Pi-Star MMDVM Host Setup:

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (B1308)	1.48 / 0.49 / 0.22	57.0°C / 101.3°F

Control Software

Setting: StartRepeater @ MMDVMHost (Pi-Zero Minimum Firmware 3.07 Required)
Controller Mode: Simple Mode Duplex Repeater (or Half-Duplex on Retopos)
[Apply Changes]

MMDVMHost Configuration

Setting	Value
DMR Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
D-Star Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
YSF Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
P25 Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20

MMDVM Display Type: None Post: /dev/ttyAMA0 Maxtion Layout: G4KLX
[Apply Changes]

General Configuration

Hostname: pi-star Do not add suffixes such as .local
Node Callsign: M1ABC
CC1/DMR ID: 1234567
Radio Frequency: 431.075.000 MHz
Latitude: 50.000 degrees (positive value for North, negative for South)
Longitude: 0.000 degrees (positive value for East, negative for West)
Town: A Town, LOCATOR
Country: UK
URL: http://www.qrz.com/db/M1ABC @ Auto @ Manual
Radio/Modem Type: ZUMspot - Raspberry Pi Hat (GPIO)
Mode Type: @ Private @ Public
System Time Zone: Europe/London
Dashboard Language: english_uk
[Apply Changes]

DMR Configuration

DMR Network: BM_United_Kingdom_2342
BrandMaster Network: Repeater Configuration: Edit Repeater (BrandMaster SelfCare)
DMR Colour Code: 1
DMR KnowledgeOnly:
DMR DumpTData:
[Apply Changes]

D-Star Configuration

APRS Callsign: M1ABC S
YSF Callsign: M1ABC S
Remote Password:
Default Reflector: REF001 C
APRS Port: uk.aprs2.net
InetDBGateway Language: English (UK)
Time Announcements:
Dm DPlus for XRF: Note: Update Required if changed
[Apply Changes]

Firewall Configuration

Dashboard Access: @ Private @ Public
InetDBGateway Remote: @ Private @ Public
SSH Access: @ Private @ Public
[Apply Changes]

Wireless Configuration

Refresh Reset WPIR Adapter Configure WPI

Wireless Information 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: 08:27:eb:55:bare0	Connected To: c8mull AP Mac Address: 48:FB:B3:D8:A5:07 Bitrate: 65 Mb/s Transmit Power: 31 dBm
Interface Statistics Received Packets: 7692 Received Bytes: 2882672 (2.7 MiB) Transferred Packets: 6551 Transferred Bytes: 2250064 (2.1 MiB)	Link Quality: 70/70 Signal Level: -33 dBm

Information provided by Roonfig and hwsniff

MMDVMHost Configuration

Setting	Value
DMR Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
D-Star Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
YSF Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
P25 Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20

MMDVM Display Type: None Post: /dev/ttyAMA0 Maxtion Layout: G4KLX
[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.

Pi-Star General Config. Setup:

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Revision	CPU Load	CPU Temp
pi-star	4.9.35+	Pi Zero W Rev 1.1 (0130B)	1.48 / 0.49 / 0.22	57.0°C / 132.5°F

Control Software

Setting: StarGatester MMDVMHost (Pi-Zero Minimum Firmware 3.07 Required)

Controller Mode: Simple Mode Duplex Repeater (or Half-Duplex on Repeater)

MMDVMHost Configuration

Setting	Value
DMR Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
D-Star Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
YSF Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
P25 Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
MMDVM Display Type	None Post: [dev/ttyAMA0] Section Layout: [G4RLX]

General Configuration

Setting	Value
Hostname:	pi-star Do not add suffixes such as .local
Node Callsign:	M1ABC
CCS7/DMR ID:	1234567
Radio Frequency:	431.075.000 MHz
Latitude:	50.000 degrees (positive value for North, negative for South)
Longitude:	0.000 degrees (positive value for East, negative for West)
Town:	A Town, LOCATOR
Country:	Country, UK
URL:	http://www.qrz.com/db/M1ABC <input checked="" type="radio"/> Auto <input type="radio"/> Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)
Node Type:	<input checked="" type="radio"/> Private <input type="radio"/> Public
System Time Zone:	America/Los_Angeles
Dashboard Language:	english_uk

DMR Configuration

Setting	Value
DMR Network:	DM_United_Kingdom_2342
BrandMaster Network:	Repeater Information: Edit Repeater (BrandMaster SelfCare)
DMR Colour Code:	1
DMR KnowledgeOnly:	<input type="checkbox"/>
DMR DumpTData:	<input checked="" type="checkbox"/>

D-Star Configuration

Setting	Value
APRS Callsign:	M1ABC <input type="checkbox"/> <input type="checkbox"/>
YSF Callsign:	M1ABC <input type="checkbox"/> <input type="checkbox"/>
Remote Password:	***** <input type="checkbox"/> Startup <input type="checkbox"/> Manual
Default Reflector:	REF001 <input type="checkbox"/> C <input type="checkbox"/>
APRS Port:	uk.aprs.net
ircDDBGateway Language:	English (UK)
Time Announcements:	<input checked="" type="checkbox"/>
DMR DPlus for XRF:	<input type="checkbox"/> Note: Update Required if changed

Firewall Configuration

Setting	Value
Dashboard Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public
ircDDBGateway Remote:	<input checked="" type="radio"/> Private <input type="radio"/> Public
SSH Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public

Wireless Configuration

Refresh | Reset WiFi Adapter | Configure WiFi

Wireless Information 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: 08:27:eb:55:8a:e0	Connected to: cbrnll AP Mac Address: 48:FB:B3:D8:A5:07 Bitrate: 65 Mb/s Transmit Power: 31 dBm
Interface Statistics Received Packets: 7692 Received Bytes: 2882672 (2.7 MiB) Transferred Packets: 6551 Transferred Bytes: 2250064 (2.1 MiB)	Link Quality: 70/70 Signal Level: -33 dBm

Information provided by: Roofrig and hccomfg

General Configuration	
Setting	Value
Hostname:	pi-star Do not add suffixes such as .local
Node Callsign:	KC6N
CCS7/DMR ID:	3106564
Radio Frequency:	439.025.000 MHz
Latitude:	32.717 degrees (positive value for North, negative for South)
Longitude:	-117.16 degrees (positive value for East, negative for West)
Town:	San Diego, CA
Country:	USA
URL:	http://www.qrz.com/db/KC6N <input checked="" type="radio"/> Auto <input type="radio"/> Manual
Radio/Modem Type:	ZumSpot - Raspberry Pi Hat (GPIO)
Node Type:	<input checked="" type="radio"/> Private <input type="radio"/> Public
System Time Zone:	America/Los_Angeles
Dashboard Language:	english_us

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.

Pi-Star DMR Config. Setup:

Set up the DMR specifics here. Select your DMR Master Server, set your Color Code, 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.

Pi-Star Digital Voice - Configuration
 Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Architecture	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (3130B)	1.48 / 0.49 / 0.22	57.8°C / 134.1°F

Control Software

Controller Software: StarGatester iSDMHost (DT-Mega Minimum Firmware 3.07 Required)

Controller Mode: Simple Mode Duplex Repeater Half-Duplex on Repeater

MMDVMHost Configuration

Setting	Value
DMR Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
D-Star Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
YSF Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
P25 Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
iSDM Display Type	None Part: [dev/ttyAMA0] Section Layout: [G4RLX]

General Configuration

Hostname: pi-star Do not add suffixes such as .local

Node CallSign: M1ABC

CC1/DMR ID: 1234567

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees (positive value for North, negative for South)

Longitude: 0.000 degrees (positive value for East, negative for West)

Town: A Town, LOCATOR

Country: Country, UK

URL: http://www.qrz.com/db/M1ABC @ Auto @ Manual

Radio/Modem Type: ZUMSpot - Raspberry Pi Hat (GPIO)

Mode Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

DMR Configuration

DMR Master: BM_United_Kingdom_2342

BrandMeister Network: Repeater Information | Edit Repeater (BrandMeister Selfcare)

DMR Colour Code: 1

DMR EmbeddedLCOnly:

DMR DumpTAData:

D-Star Configuration

APRS CallSign: HLABC [S]

YSF CallSign: HLABC [S]

Remote Password: *****

Default Reflector: REF001 [C] [C]

APRS Port: uk.aprs.net

ircDDBGateway Language: English (UK)

Time Announcements:

Use DPlus for XRF: Note: Update Required if changed

Firewall Configuration

Dashboard Access: Private Public

ircDDBGateway Remote: Private Public

SSH Access: Private Public

Wireless Configuration

Refresh | Reset WiFi Adapter | Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name: wlan0	Connected to: dsmult
Interface Status: Interface is up	AP Mac Address: 48:FB:B3:D8:A5:07
IP Address: 192.168.1.134	Bitrate: 65 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: 08:27:eb:55:8a:e0	Link Quality: 70/70
Interface Statistics	Signal Level: -33 dBm
Received Packets: 7692	
Received Bytes: 2882672 (2.7 MiB)	
Transferred Packets: 6551	
Transferred Bytes: 2250064 (2.1 MiB)	

Information provided by: Roonfig and hwsniff

DMR Configuration

Setting	Value
DMR Master:	BM_United_States_3103
BrandMeister Network:	Repeater Information Edit Repeater (BrandMeister Selfcare)
DMR Color Code:	1
DMR EmbeddedLCOnly:	<input type="checkbox"/>
DMR DumpTAData:	<input checked="" type="checkbox"/>

Apply Changes

Pi-Star DSTAR Config. Setup:

Pi-Star Digital Voice - Configuration
 Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (9130B)	1.48 / 0.49 / 0.22	57.9°C / 134.1°F

Control Software

Controller Software: StarGatester iSDMHost (D-Star Minimum Firmware 3.07 Required)

Controller Mode: Simple Mode Duplex Repeater (or Half-Duplex on Repeater)

MMDMHost Configuration

DMR Mode: ST RangeTime: 20 Max RangeTime: 20

D-Star Mode: ST RangeTime: 20 Max RangeTime: 20

YSF Mode: ST RangeTime: 20 Max RangeTime: 20

P25 Mode: ST RangeTime: 20 Max RangeTime: 20

iSDM Display Type: None Port: /dev/ttyAMA0 Station Layout: G4RLX

General Configuration

Hostname: pi-star Do not add suffixes such as .local

Node Callsign: M1ABC

CCP/DMR ID: 1234567

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees (positive value for North, negative for South)

Longitude: 0.000 degrees (positive value for East, negative for West)

Town: A Town, LOC4TOR

Country: UK

URL: http://www.qrz.com/db/M1ABC @ Auto @ Manual

Radio/Modem Type: ZumiSpot - Raspberry Pi Hat (GPIO)

Mode Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

DMR Configuration

DMR Network: BM_United_Kingdom_2342

Brand/Repeater Network: Repeater Configuration: SGL Repeater (BrandMaster SelfCare)

DMR Colour Code: 1

DMR KnowledgeOnly:

DMR DumpTData:

D-Star Configuration

RPT1 Callsign: M1ABC B

RPT2 Callsign: M1ABC G

Remote Password: *****

Default Reflector: REF012 A Startup Manual

APRS Host: social.aprs2.net

ircDDBGateway Language: English_(US)

Time Announcements:

Use DPlus for XRF: Note: Update Required if changed

Firewall Configuration

Dashboard Access: Private Public

ircDDBGateway Remote: Private Public

SSH Access: Private Public

Wireless Configuration

Refresh Reset WiFi Adapter Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name: wlan0	Connected to: dsmult
Interface Status: Interface is up	AP Mac Address: 48:FB:B3:DB:A5:07
IP Address: 192.168.1.134	Bitrate: 65 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: 08:27:eb:55:8a:e0	Link Quality: 70/70
Received Packets: 7692	Signal Level: -33 dBm
Received Bytes: 2882672 (2.7 MiB)	
Transferred Packets: 6551	
Transferred Bytes: 2250064 (2.1 MiB)	

Information provided by: Roofrig and Inconfig

Set up the DSTAR specifics here. Enter your RPT1 Callsign (RPT2 will be generated for you). **DO NOT change the Remote Password.** Set a default reflector (this is where your DSTAR configuration will land on startup). Pic an APRS Host and language. Turn on Time Announcements (optional). Leave "Use DPlus for XRF" off for now (see section V). Click "Apply Changes" when done.



D-Star Configuration

Setting	Value
RPT1 Callsign:	KC6N B
RPT2 Callsign:	KC6N G
Remote Password:	*****
Default Reflector:	REF012 A <input checked="" type="radio"/> Startup <input type="radio"/> Manual
APRS Host:	social.aprs2.net
ircDDBGateway Language:	English_(US)
Time Announcements:	<input checked="" type="checkbox"/>
Use DPlus for XRF:	<input type="checkbox"/> Note: Update Required if changed

Apply Changes

Pi-Star Firewall Config. Setup:

Pi-Star Digital Voice - Configuration

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

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.23+	Pi Zero W Rev 1.1 (B1308)	1.08 / 0.49 / 0.22	57.0°C / 101.3°F

Control Software

Setting: StarRepeater MMDVMHost (Pi-Range Minimum Firmware 3.07 Required)

Control Mode: Simple Mode Duplex Repeater Half-Duplex on Repeater

MMDVMHost Configuration

DMR Mode: ST RangeTime: 20 Flex RangeTime: 20

D-Star Mode: ST RangeTime: 20 Flex RangeTime: 20

YSF Mode: ST RangeTime: 20 Flex RangeTime: 20

P25 Mode: ST RangeTime: 20 Flex RangeTime: 20

MMDVM Display Type: None Post: [dev/ttyAMA0] Keypad Layout: [G4RLX]

General Configuration

Hostname: pi-star Do not add suffixes such as .local

Node CallSign: M1ABC

CC17/DMR ID: 1234567

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees (positive value for North, negative for South)

Longitude: 0.000 degrees (positive value for East, negative for West)

Town: A Town, LOC4TOR

Country: UK

URL: http://www.qrz.com/db/M1ABC Auto Manual

Radio/Modem Type: ZUMSpot - Raspberry Pi Hat (GPIO)

Mode Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

DMR Configuration

DMR Network: BM_United_Kingdom_2342

BrandMaster Network: Repeater Configuration: Edit Repeater (BrandMaster SelfCare)

DMR Colour Code: 1

DMR KnowledgeOnly:

DMR DumpTData:

D-Star Configuration

APRS CallSign: HLABC S

DPS CallSign: HLABC S

Remote Password: *****

Default Reflector: REF001 C V Startup Manual

APRS Port: uk.aprs2.net

ircDDGGateway Language: English (UK)

Time Announcements:

Use DPlus for XRF: Note: Update Required if changed

Firewall Configuration

Dashboard Access: Private Public

ircDDGGateway Remote: Private Public

SSH Access: Private Public

Wireless Configuration

Interface Information

Interface Name: wlan0

Interface Status: Interface is up

IP Address: 192.168.1.134

Subnet Mask: 255.255.255.0

Mac Address: 08:27:eb:55:8a:e0

Wireless Information

Connected To: cdmult

AP Mac Address: 48:FB:B3:DB:A5:07

Bitrate: 65 Mb/s

Transmit Power: 31 dBm

Link Quality: 70/70

Signal Level: -33 dBm

Interface Statistics

Received Packets: 7692

Received Bytes: 2882672 (2.7 MiB)

Transferred Packets: 6551

Transferred Bytes: 2250064 (2.1 MiB)

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.



Setting	Value
Dashboard Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public
ircDDGGateway Remote:	<input checked="" type="radio"/> Private <input type="radio"/> Public
SSH Access:	<input checked="" type="radio"/> Private <input type="radio"/> Public

Apply Changes

Pi-Star Wireless Setup:

This area shows you what your WiFi is doing. You will have already configured this with the “wpa_supplicant” 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.

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

System	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (B1308)	1.48 / 0.49 / 0.22	57.4°C / 135.3°F

Control Software

Controller Software: StartRepeat MMDVMHost (Pi-Regs Minimum Firmware 3.07 Required)

Controller Mode: Simple Mode Duplex Repeater Half-Duplex on Hotspots

MMDVMHost Configuration

Setting	Value
DMR Mode	<input checked="" type="radio"/> ST RangeTime: 20 Det RangeTime: 20
D-Star Mode	<input checked="" type="radio"/> ST RangeTime: 20 Det RangeTime: 20
X2F Mode	<input checked="" type="radio"/> ST RangeTime: 20 Det RangeTime: 20
P25 Mode	<input checked="" type="radio"/> ST RangeTime: 20 Det RangeTime: 20
MMDVM Display Type	None
Port	dev/ttyAMA0
Packet Layout	G4RLX

General Configuration

Hostname: Pi-Star Do not add suffixes such as .local

Node Callsign: M1ABC

CC1/DMR ID: 1234567

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees (positive value for North, negative for South)

Longitude: 0.000 degrees (positive value for East, negative for West)

Town: A Town, LOC4TOR

Country: Country, UK

URL: http://www.qrz.com/db/M1ABC @Auto @Manual

Radio/Modem Type: ZUMSpot - Raspberry Pi Hat (GPIO)

Mode Type: Private Public

System Time Zone: Europe/London

Dashboard Language: english_uk

DMR Configuration

DMR Network: BM_United_Kingdom_2342

BrandMaster Network: Repeater Information: Edit Repeater (BrandMaster SelfCare)

DMR Colour Code: 1

DMR KnowledgeOnly:

DMR DumpTData:

D-Star Configuration

APRS Callsign: M1ABC

APRS Callsign: M1ABC

Remote Password: *****

Default Reflector: REF001

APRS Port: uk.aprs.net

ircDDBGateway Language: English (UK)

Time Announcements: Note: Update Required if changed

Use DPlus for XRF:

Firewall Configuration

Dashboard Access: Private Public

ircDDBGateway Remote: Private Public

SSH Access: Private Public

Wireless Configuration

Refresh Reset WiFi Adapter Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name : wlan0	Connected To : dkhull
Interface Status : Interface is up	AP Mac Address : 48:F8:B3:D8:A5:07
IP Address : 192.168.1.134	Bitrate : 65 Mb/s
Subnet Mask : 255.255.255.0	Transmit Power : 31 dBm
Mac Address : b8:27:eb:55:8a:e0	Link Quality : 70/70
Received Packets : 75681	Signal Level : -33 dBm
Received Bytes : 7226054 (6.8 MiB)	
Transferred Packets : 19430	
Transferred Bytes : 6062376 (5.7 MiB)	

Information provided by ifconfig and iwconfig

Wireless Configuration

Refresh Reset WiFi Adapter Configure WiFi

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name : wlan0	Connected To : dkhull
Interface Status : Interface is up	AP Mac Address : 48:F8:B3:D8:A5:07
IP Address : 192.168.1.134	Bitrate : 65 Mb/s
Subnet Mask : 255.255.255.0	Transmit Power : 31 dBm
Mac Address : b8:27:eb:55:8a:e0	Link Quality : 70/70
Received Packets : 75681	Signal Level : -33 dBm
Received Bytes : 7226054 (6.8 MiB)	
Transferred Packets : 19430	
Transferred Bytes : 6062376 (5.7 MiB)	

Information provided by ifconfig and iwconfig

Pi-Star adding additional WiFi:

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.

Pi-Star Digital Voice - Configuration
Dashboard | Admin | Power | Update | Backup/Restore | Factory Reset

Gateway Hardware Information

Hardware	Kernel	Platform	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (B1308)	1.48 / 0.49 / 0.22	57.4°C / 101.3°F

Control Software

Controller Software: StartRepeater @ MMDVMHost (Pi-Hats Minimum Firmware 3.07 Required)
Controller Mode: Simple Mode Duplex Repeater Half-Duplex on Repeater

MMDVMHost Configuration

Setting	Value
DMR Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
D-Star Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
YSF Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20
P25 Mode	<input checked="" type="checkbox"/> ST RangeTime: 20 Den RangeTime: 20

General Configuration

Hostname: pi-star Do not add suffixes such as .local
Mode CallSign: M1ABC
CC17/DMR ID: 1234567
Radio Frequency: 431.075.000 MHz
Latitude: 50.000 degrees (positive value for North, negative for South)
Longitude: 0.000 degrees (positive value for East, negative for West)
Town: A Town, LOCATOR
Country: Country, UK
URL: http://www.qrz.com/db/M1ABC Auto Manual
Radio/Modem Type: ZumoSpot - Raspberry Pi Hat (GPIO)
Mode Type: Private Public
System Time Zone: Europe/London
Dashboard Language: english_uk

DMR Configuration

DMR Member: BM_United_Kingdom_2342
Brand/Miniter Network: Repeater Configuration: Edit Repeater (Brand/Miniter SelfCare)
DMR Colour Code: 1
DMR KnowledgeOnly:
DMR DumpTadata:

D-Star Configuration

APRS CallSign: HLABC B
APRS CallSign: HLABC S
Remote Password: ######
Default Reflector: REF001 | C Startup Manual
APRS Port: uk.aprs2.net
InetDBGateway Language: English (UK)
Time Announcements:
Use DPlus for XRF: Note: Update Required if changed

Firewall Configuration

Dashboard Access: Private Public
InetDBGateway Remote: Private Public
SSH Access: Private Public

Wireless Configuration

Refresh | Reset WiFi Adapter | **Configure WiFi**

Wireless Information and Statistics

Interface Information	Wireless Information
Interface Name: wlan0	Connected To: dkhull
Interface Status: Interface is up	AP Mac Address: 48:FB:B3:D8:A5:07
IP Address: 192.168.1.134	Bitrate: 65 Mb/s
Subnet Mask: 255.255.255.0	Transmit Power: 31 dBm
Mac Address: 08:27:eb:55:8a:e0	Link Quality: 70/70
Received Packets: 7692	Signal Level: -33 dBm
Received Bytes: 2882672 (2.7 MiB)	
Transferred Packets: 6551	
Transferred Bytes: 2250064 (2.1 MiB)	

Information provided by Roofrig and Incomig

Wireless Configuration

WiFi Info

Network 0

SSID: dkhull

PSK: ●●●●●●●●

Wireless Configuration

PSK: ●●●●●●●●

Network 1

SSID: _____

PSK: _____

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

Information provided by Roofrig and Inconfig

WARNING: This changes the password for this admin page
AND the "pi-star" SSH account

This is located at the very bottom

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 (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.

Pi-Star3.4.8 / Dashboard: 20180110

Pi-Star Digital Voice - Backup/Restore

Dashboard | Admin | Power | Update | Configuration

Backup/Restore

Download Configuration

Restore Configuration

Browse...

WARNING:
Editing the files outside of Pi-Star *could* have un-desireable side effects.
This backup and restore tool, will backup your config files to a Zip file, and allow you to restore them later either to this Pi-Star or another one.
System Passwords / Dashboard passwords are NOT backed up / restored.
Wireless Configuration IS backed up and restored.

Pi-Star web config, © Andy Taylor (MW0MW2) 2014-2018.
Need help? Click here for the Support Group
Get your copy of Pi-Star from here.

Note: if you have a configuration file stored, you can skip everything in this section and just load the configuration zip file. This is handy for future image builds.

Pi-Star Admin 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 <http://pi-star> from your browser.

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

There is no “Log-In” needed for this page.

Hostname: pi-star
Pi-Star-3.4.8 / Dashboard: 20180110

Pi-Star Digital Voice Dashboard for KC6N

Dashboard | Admin | Configuration

Modes Enabled	
D-Star	DMR
YSF	P25

Network Status	
D-Star Net	DMR Net
YSF Net	P25 Net
Internet	

Radio Info	
Trx	Idle/Waiting
Tx	439.025000 MHz
Rx	439.025000 MHz
PW	ZUMspot:v1.0.2

D-Star Repeater	
RPT1	KC6N B
RPT2	KC6N G

D-Star Network	
APRS	socal.aprs2.net
IRC	rr.openquad.net

Linked to REF012 A (DPlus Outgoing)

DMR Repeater	
DMR ID	3106564
DMR CC	1
TS1	disabled
TS2	enabled
TG	31066/not linked
DMR Master	
BM	United States 3103

YSF Network	
Room	Alabama-Link

Gateway Activity									
Time (PST)	Mode	Callsign	Target	Src	Dur (s)	Loss	BER		
10:08:50	Jan 13th	YSF	VY2XU	ALL at VY2XU	Net	2.9	0%	0.0%	
10:07:18	Jan 13th	DMR Slot 2	KB6CIO	TG 31066	Net	6.2	0%	0.0%	
10:07:09	Jan 13th	DMR Slot 2	KD6NKS	TG 31066	Net	7.3	0%	0.0%	
10:04:34	Jan 13th	DMR Slot 2	K7ZAA	TG 3106	Net	2.3	0%	0.0%	
10:04:15	Jan 13th	DMR Slot 2	K6PKL	TG 3106	Net	16.7	0%	0.0%	
10:00:00	Jan 13th	D-Star	KC6N/TIME	CQCCQC via REF012 A	Net	3.7	0%	0.0%	
09:59:17	Jan 13th	YSF	IU2JZR	ALL at IR2UD	Net	8.3	0%	0.0%	
09:55:56	Jan 13th	DMR Slot 2	W7GO	TG 31066	Net	0.5	0%	0.0%	
09:55:07	Jan 13th	YSF	N9RYT	ALL at N9RYT	Net	9.0	0%	0.5%	
09:46:57	Jan 13th	DMR Slot 2	KJGGS	TG 31066	Net	21.7	0%	0.0%	
09:46:38	Jan 13th	DMR Slot 2	K6RMR	TG 31066	Net	16.3	0%	0.0%	
09:38:59	Jan 13th	YSF	3129590	ALL at KCOHJG	Net	1.7	0%	0.0%	
09:38:00	Jan 13th	DMR Slot 2	N6NLX	TG 31066	Net	0.5	0%	0.0%	
09:36:29	Jan 13th	D-Star	KM6AVU/JOHN	CQCCQC via REF012 A	Net	0.5	0%	0.0%	
09:34:36	Jan 13th	YSF	K4DMD	ALL at K4DMD	Net	1.0	0%	0.0%	
09:34:13	Jan 13th	YSF	KF5YOT	ALL at BM-Bridge	Net	0.9	0%	0.0%	
09:33:29	Jan 13th	D-Star	W6AAX/AMBE	CQCCQC via REF012 A	Net	9.4	0%	0.0%	
09:32:26	Jan 13th	D-Star	KC0W/DVAP	CQCCQC via REF012 A	Net	60.8	0%	0.0%	
09:23:38	Jan 13th	DMR Slot 2	WA6SDB	TG 31066	Net	0.5	0%	0.0%	
09:18:45	Jan 13th	DMR Slot 2	W6AAX	TG 31066	Net	13.3	4%	0.0%	

Local RF Activity							
Time (PST)	Mode	Callsign	Target	Src	Dur (s)	BER	

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2018.
ircDDBGateway Dashboard by Hans-J. Barthen (DL5DI).
MMDVMDash developed by Kim Huebel (OG9VH).
Need help? Click here for the Support Group
Get your copy of Pi-Star from here.

Pi-Star 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

Hostname: pi-star
Pi-Star:3.4.8 / Dashboard: 20180110

Pi-Star Digital Voice Dashboard for KC6N

Dashboard | Admin | Live Logs | Power | Update | Configuration

Gateway Hardware Information				
Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star	4.9.35+	Pi Zero W Rev 1.1 (512MB)	5.05 / 3.59 / 1.78	40.6°C / 105.1°F

Service Status					
MMDVMHost	DMRGateway	YSFGateway	YSFParrot	P2SGateway	P2SParrot
DStarRepeater	ircDDBGateway	TimeServer	PiStar-Watchdog	PiStar-Remote	PiStar-Keeper

D-Star Link Information							
Radio	Default	Auto	Timer	Link	Linked to	Last Change (PST)	
KC6N	B	REF012	A	Auto	Never	Up	03:39:36 Jan 13th

D-Star Link Manager				
Radio Module	Reflector	Link / Un-Link	Action	
KC6N B	REF012	A	<input checked="" type="radio"/> Link <input type="radio"/> UnLink	Request Change

Active BrandMeister Connections					
BrandMeister Master	Default Ref	Timeout(s)	Active Ref	Static TGs	Dynamic TGs
BM United States 3103	REF0	0(s)	None	TG3106 TG31066	None

Gateway Activity						
Time (PST)	Mode	Callsign	Target	Src	Dur (s)	BER
10:18:32 Jan 13th	DMR Slot 2	K06AVH	TG 31066	Net	2.6	2%
10:18:20 Jan 13th	DMR Slot 2	W08CIK	TG 31066	Net	5.2	0%
10:16:09 Jan 13th	D-Star	K16TPX/IRA	CQCCQC via REF012 A	Net	5.1	0%
10:14:46 Jan 13th	YSF	KK62TV	ALL at KK62TV	Net	1.0	0%
10:12:59 Jan 13th	DMR Slot 2	N61ET	TG 31066	Net	6.2	0%
10:08:50 Jan 13th	YSF	VY2XU	ALL at VY2XU	Net	2.9	0%
10:07:18 Jan 13th	DMR Slot 2	KB6CIO	TG 31066	Net	6.2	0%
10:07:09 Jan 13th	DMR Slot 2	KD6NKS	TG 31066	Net	7.3	0%
10:04:34 Jan 13th	DMR Slot 2	K72AA	TG 3106	Net	2.3	0%
10:04:15 Jan 13th	DMR Slot 2	K6PKL	TG 3106	Net	16.7	0%
10:00:00 Jan 13th	D-Star	KC6N/TIME	CQCCQC via REF012 A	Net	3.7	0%
09:59:17 Jan 13th	YSF	IU2JZR	ALL at IR2UD	Net	8.3	0%
09:55:56 Jan 13th	DMR Slot 2	W7GO	TG 31066	Net	0.5	0%
09:55:07 Jan 13th	YSF	N9RYT	ALL at N9RYT	Net	9.0	0.9%
09:46:57 Jan 13th	DMR Slot 2	K1GGS	TG 31066	Net	21.7	0%
09:46:38 Jan 13th	DMR Slot 2	K6RMR	TG 31066	Net	16.3	0%
09:38:59 Jan 13th	YSF	3129590	ALL at KCOHJG	Net	1.7	0%
09:38:00 Jan 13th	DMR Slot 2	N6NLX	TG 31066	Net	0.5	0%
09:36:29 Jan 13th	D-Star	K06AVU/JOHN	CQCCQC via REF012 A	Net	0.5	0%
09:34:36 Jan 13th	YSF	K4DMD	ALL at K4DMD	Net	1.0	0%

Local RF Activity						
Time (PST)	Mode	Callsign	Target	Src	Dur (s)	BER

Pi-Star / Pi-Star Dashboard, © Andy Taylor (MW0MWZ) 2014-2018.
 ircDDBGateway Dashboard by Hans-J. Barthan (DL5DI).
 MMDVMdash developed by Kim Habel (DG9AH).
 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)													
No.	Type	Name	Sub Name	Call Sign		Frequency				Tone		USE (FROM)	Posit
				Repeater Call Sign	Gateway Call Sign	Operating Freq	DUP	Offset Freq	Mode	Tone	Repeater Tone		
0	DV Repeater	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													

Note that I also have an OpenSpot and a DVAP each of which can be set as a simple simplex channel as shown. The ZUMspot/Pi-Star requires a duplex setup.

DMR:

- Duplicate a PAPA 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 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 need an OpenSpot which will do both.
- None of the HotSpots do Wires-X

APCO Project 25 (P25):

- Left as an Exercise for the reader 😊

ZUMspot/PiStar

Part V

Setting up to use the “X” Reflector (i.e. XRF012A)

Setting the “Use DPlus for XRF” switch and updating

Pi-Star DSTAR XRF012A Setup:

To make sure that you can work the “X” reflector 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 and do an “update”.

“Update” can be found at the top of the configuration page (note that it will run for a while – get some coffee).

Pi-Star Digital Voice - Configuration

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

Gateway Hardware Information

System	Kernel	Architecture	CPU Load	CPU Temp
Pi-Star	4.9.35+	Pi Zero W Rev 1.1 (B1308)	1.48 / 0.49 / 0.22	57.4°C / 135.3°F

Control Software

Controller Software: StarGatestar MMDVMHost (Pi-Zero Minimum Firmware 3.07 Required)

Controller Mode: Simple Mode Duplex Repeater Half-Duplex on Retopos

MMDVMHost Configuration

Setting	Value
DMR Mode	<input checked="" type="radio"/> Yes <input type="radio"/> No
D-Star Mode	<input checked="" type="radio"/> Yes <input type="radio"/> No
YSF Mode	<input checked="" type="radio"/> Yes <input type="radio"/> No
P25 Mode	<input checked="" type="radio"/> Yes <input type="radio"/> No

General Configuration

Username: Pi-Star

Node Callsign: M1ABC

Radio Frequency: 431.075.000 MHz

Latitude: 50.000 degrees

Longitude: 0.000 degrees

Country: UK

DMR Configuration

DMR Member: BM_United_Kingdom_2342

D-Star Configuration

RPT1 Callsign: M1ABC

RPT2 Callsign: M1ABC

Remote Password: *****

Default Reflector: REF012

APRS Host: socal.aprs2.net

Firewall Configuration

Dashboard Access: Private Public

Wireless Configuration

Interface Name: wlan0

Interface Status: Interface is up

IP Address: 192.168.1.134

Subnet Mask: 255.255.255.0

Mac Address: 08:27:eb:55:8a:e0

Connected to: OpenUL

AP Mac Address: 48:FB:B3:DB:A5:07

Bitrate: 65 Mb/s

Transmit Power: 31 dBm

Link Quality: 70/70

Signal Level: -33 dBm

Received Packets: 7692

Received Bytes: 2882672 (2.7 MiB)

Transferred Packets: 6551

Transferred Bytes: 2250064 (2.1 MiB)

D-Star Configuration

Setting	Value
RPT1 Callsign:	KC6N B
RPT2 Callsign:	KC6N G
Remote Password:	*****
Default Reflector:	REF012 A <input checked="" type="radio"/> Startup <input type="radio"/> Manual
APRS Host:	socal.aprs2.net
ircDDBGateway Language:	English_(US)
Time Announcements:	<input checked="" type="checkbox"/>
Use DPlus for XRF:	<input checked="" type="checkbox"/> Note: Update Required if changed

Apply Changes

Set “Use DPlus for XRF” to “ON”

Do an Update

Pi-Star Update:

Click “Update” at the top of the configuration page:

Pi-Star 3.4.8 / Dashboard: 20180110

Pi-Star Digital Voice - Configuration

Dashboard | Admin | Power | **Update** | Backup/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)	0.42 / 0.47 / 0.3	40.1°C / 104.2°F

Control Software	
Setting	Value

The update window will open and it will run for a while, depending on how long it has been since the image was built. Let it run until it says:

“Starting Services”
“Finished”.

Pi-Star:3.4.8 / Dashboard:20180110

Pi-Star - Digital Voice Dashboard - Update

Dashboard | Admin | Power | Backup/Restore | Configuration

Update Running

```
Hit http://archive.raspberrypi.org jessie InRelease
Hit http://mirrordirector.raspbian.org jessie/main armhf Packages
Hit http://archive.raspberrypi.org jessie/main armhf Packages
Hit http://mirrordirector.raspbian.org jessie/contrib armhf Packages
Hit http://archive.raspberrypi.org jessie/ui armhf Packages
Hit http://mirrordirector.raspbian.org jessie/non-free armhf Packages
Hit http://mirrordirector.raspbian.org jessie/rpi armhf Packages
Ign http://archive.raspberrypi.org jessie/main Translation-en
Ign http://archive.raspberrypi.org jessie/ui Translation-en
Ign http://mirrordirector.raspbian.org jessie/contrib Translation-en
Ign http://mirrordirector.raspbian.org jessie/main Translation-en
Ign http://mirrordirector.raspbian.org jessie/non-free Translation-en
Ign http://mirrordirector.raspbian.org jessie/rpi Translation-en
Done
Checking nginx config
Stopping Services...
Done
Updating DV Binaries...
Already up-to-date.
Done
Updating Pi-Star Binaries...
Already up-to-date.
Done
Updating Hostfiles...
Done
Updating Dashboard...
Already up-to-date.
Done
Updating Firewall...
Done
Starting Services...
Finished
```

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.

That's it !

Thanks and back to Net Control.

Dave Hull, KC6N
dhull1@san.rr.com