

Tutorial for the BridgeCom SkyBridge



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Before We Get Started

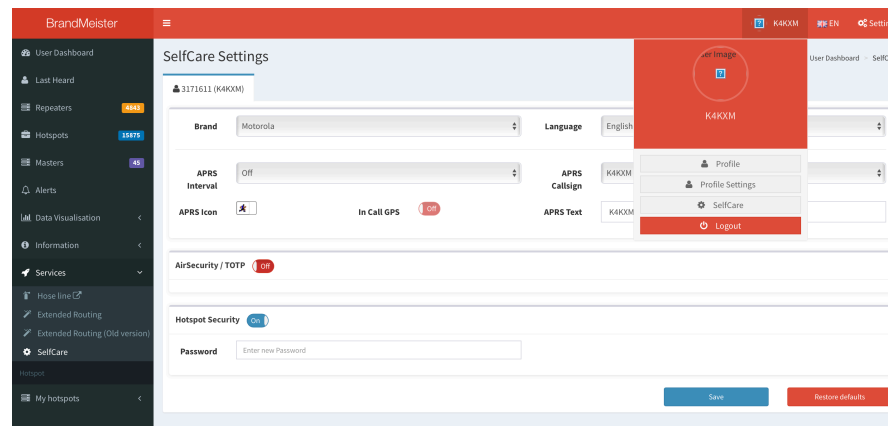
This tutorial is for current HAM's who hold at least a Technician's license, and who want to add DMR Hot Spot to their portfolio.

* You must have a PC or Tablet with Windows 10 and Chrome browser.

** This tutorial assumes you already have a DMR ID#, Talk Groups selected, and your AnyTone CPS and 878 already up and running on local digital repeaters. If you do not, please stop now and see our other tutorial on how to write a codeplug for the 878.

Step 1 | Basic BrandMeister Setup

1. Register with the BrandMeister network: <https://brandmeister.network>
2. After logging in, go to Self Care (found under your call sign)
3. Set HotSpot security to “on” position and enter a password (will be used later in your Pi-Star settings)



Step 2 | Purchase Your Device

- ❑ Purchase a SkyBridge at: <https://www.bridgecomsystems.com/collections/dmr-plug-and-play-packages/products/skybridge-dual-band-digital-hotspot>

The screenshot displays the BridgeCom Systems website interface. At the top, there is a green navigation bar with the BridgeCom logo, a search bar, and a shopping cart icon. Below the navigation bar, the breadcrumb trail reads: Home > DMR Plug and Play Packages > SkyBridge Dual Band Digital Hotspot. The main product image shows the SkyBridge Dual Band Digital Hotspot, a small electronic device with a black antenna. To the right of the image, the product name "SkyBridge Dual Band Digital Hotspot" is displayed, followed by a star rating of 5 stars and the text "No reviews". The price is listed as \$ 299.99. Below the price, the text "Free 2-3 Day UPS Ground Shipping!" is prominently displayed. Further down, the text "International Shipping Options Available" is shown in green. A link to view Klarna payments FAQ is provided. On the right side of the product image, there is a section for financing: "4 interest-free payments of \$74.99. Klarna. Learn more". Below this, there is a quantity selector set to 1 and a blue "Add to cart" button. At the bottom of the product image, there are social media sharing icons for Facebook, Twitter, Google+, and Pinterest. A vertical "Reviews" sidebar is visible on the right edge of the product image area. The footer of the page shows the product name "SkyBridge Dual Band Digital Hotspot".

Step 3 | Plug in SkyBridge, Find IP Address, Go to Pi-Star Dashboard

- ☐ Plug in your LAN connection (left port)
- ☐ Plug in your Power (right port)
- ☐ Find SkyBridge's Device IP address using Xfinity's Admin tool at: <http://10.0.0.1/index.php>
- ☐ Copy and paste SkyBridge's IP address into web browser to summon the Pi-Star Dashboard

Step 4A | Enter Pi-Star Configuration

Hostname: pi-star

Pi-Star:4.1.0 / Dashboard: 20200706

Pi-Star Digital Voice Dashboard for K4KXM

Dashboard | Admin | Configuration

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

Gateway Activity							
Time (EST)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER
12:38:53 Nov 9th	DMR Slot 2	3171611	TG 31665	RF	0.4	0%	0.1%
12:27:03 Nov 9th	DMR Slot 2	KD2BDU	TG 31665	Net	1.8	60%	0.0%
12:02:38 Nov 9th	DMR Slot 2	KE7BC	TG 31665	Net	1.2	0%	0.0%
11:51:21 Nov 9th	DMR Slot 2	W4DTA	TG 31665	Net	3.0	0%	0.1%
10:33:40 Nov 9th	DMR Slot 2	9990	3171611	Net	3.4	0%	0.0%
10:19:15 Nov 9th	DMR Slot 2	4000	3171611	Net	1.0	0%	0.0%
17:17:32 Nov 8th	DMR Slot 2	W4FFW	TG 31124	Net	23.8	0%	0.0%

Local RF Activity							
Time (EST)	Mode	Callsign	Target	Src	Dur(s)	BER	RSSI
12:38:53 Nov 9th	DMR Slot 2	3171611	TG 31665	RF	0.4	0.1%	S9+46dB (-47 dBm)

Radio Info	
Trx	Listening
Tx	446.525000 MHz
Rx	446.525000 MHz
FW	ZUMspot:v1.5.1b
TCXO	14.7456 MHz

DMR Repeater	
DMR ID	3171611
DMR CC	1
TS1	disabled
TS2	enabled
DMR Master	
BM United States ..	

Click Configuration

User Name: pi-star

Password: raspberry

Step 4B | Configure Pi-Star

Pi-Star:4.1.0 / Dashboard: 20200706

Pi-Star Digital Voice - Configuration

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

Gateway Hardware Information

Hostname	Kernel	Platform	CPU Load	CPU Temp
pi-star	4.19.97+	Pi Zero W Rev 1.1 (512MB)	0.25 / 0.22 / 0.2	44.4°C / 111.9°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
DMR Mode:	<input checked="" type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
D-Star Mode:	<input 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
NXDN Mode:	<input type="checkbox"/> RF Hangtime: 20 Net Hangtime: 20
YSF2DMR:	<input type="checkbox"/>
YSF2NXDN:	<input type="checkbox"/>
YSF2P25:	<input type="checkbox"/>
DMR2YSF:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
DMR2NXDN:	<input type="checkbox"/> Uses 7 prefix on DMRGateway
POCSAG:	<input type="checkbox"/> POCSAG Paging Features
MMDVM Display Type:	OLED Type 6 <input type="button" value="v"/> Port: <input type="button" value="v"/> modem <input type="button" value="v"/> Nextion Layout: <input type="button" value="v"/> ON7LDS L3 <input type="button" value="v"/>

Apply Changes

Controller Software: MMDVMHost

Controller Mode: Simplex Mode

DMR Mode: slide on

Click "Apply Changes"

Step 4C | Configure Pi-Star

General Configuration	
Setting	Value
Hostname:	pi-star <small>Do not add suffixes such as .local</small>
Node Callsign:	K4KXM
CCS7/DMR ID:	3171611
Radio Frequency:	446.525.000 MHz
Latitude:	26.1224 degrees (positive value for North, negative for South)
Longitude:	-80.1373 degrees (positive value for East, negative for West)
Town:	Fort Lauderdale, FL
Country:	USA
URL:	http://www.mw0mwz.co.uk/pi-star/ <input type="radio"/> Auto <input checked="" type="radio"/> Manual
Radio/Modem Type:	ZUMspot - Dual Band Raspberry Pi Hat (GPIO)
Node Type:	<input type="radio"/> Private <input checked="" type="radio"/> Public
APRS Host:	euro.aprs2.net
System Time Zone:	America/New_York
Dashboard Language:	english_us

Apply Changes

Node Callsign: [your callsign]

CCS7/DMR ID: [your DMR ID #]

Radio Frequency: 446.525.000

Lat and Long: [enter your coordinates from Googling your city; note that Long is always negative]

Town: [enter your city and state]

Country: USA

Radio/Modem Type: ZUMspot – Dual Band Raspberry Pi Hat (GPIO)




Node Type: Private

System Time Zone: [your time zone]

Dashboard Language: English_US

Click “Apply Changes”

Step 4D | Configure Pi-Star

DMR Configuration	
Setting	Value
DMR Master:	BM_United_States_3101 
Hotspot Security:	<input type="text"/>
BrandMeister Network:	Repeater Information Edit Repeater (BrandMeister Selfcare)
DMR ESSID:	3171611 <input type="text"/> None 
DMR Color Code:	1 
DMR EmbeddedLCOnly:	<input type="checkbox"/>
DMR DumpTADData:	<input checked="" type="checkbox"/>

[Apply Changes](#)

DMR Master: BM_United States_3101 (East Coast) | 3102 (Central) | 3103 (West Coast)

Hotspot Security: Enter your BrandMeister password

DMR ESSID: None

DMR Color Code: 1

Click "Apply Changes"

Click "Dashboard" (on top tool bar)

Step 4E | Confirm Pi-Star on Dashboard

Hostname: pi-star Pi-Star:4.1.0 / Dashboard: 20200706

Pi-Star Digital Voice Dashboard for K4KXM

Dashboard | Admin | Configuration

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

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

Radio Info	
Trx	Listening
Tx	446.525000 MHz
Rx	446.525000 MHz
FW	ZUMspot:v1.5.1b
TCXO	14.7456 MHz

DMR Repeater	
DMR ID	3171611
DMR CC	1
TS1	disabled
TS2	enabled

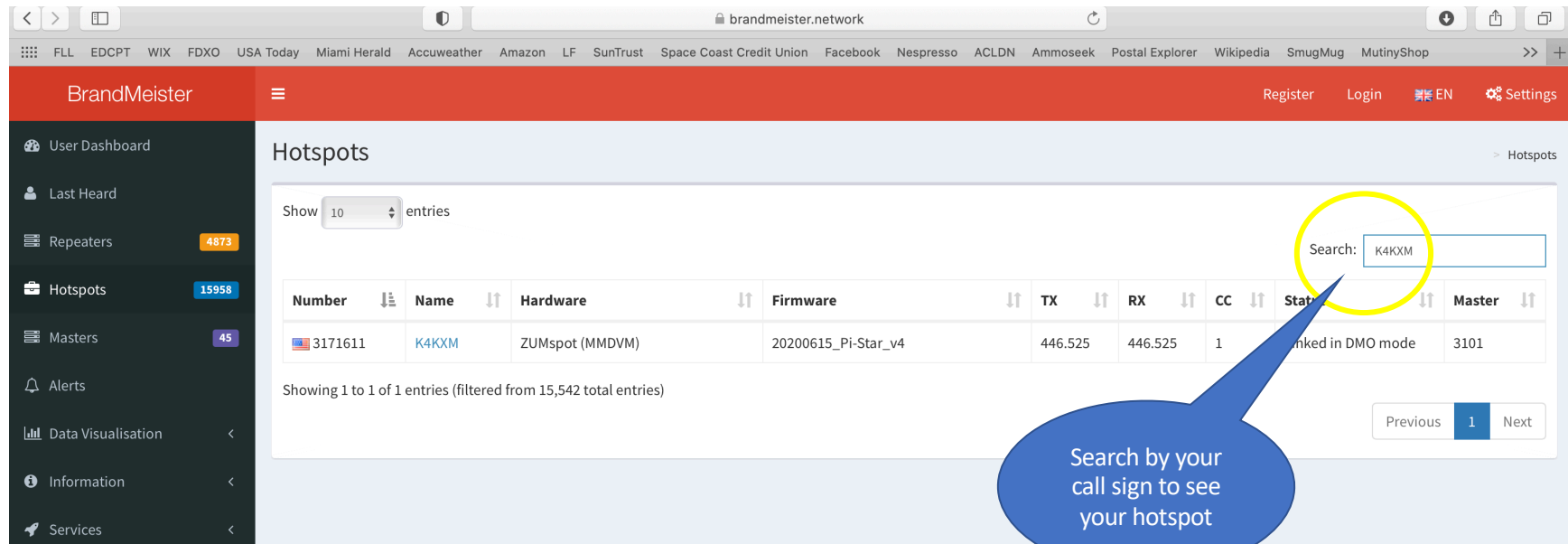
DMR Master	
BM United States ...	

Gateway Activity									
Time (EST)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER		
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Local RF Activity							
Time (EST)	Mode	Callsign	Target	Src	Dur(s)	BER	RSSI
12:38:53 Nov 9th	DMR Slot 2	3171611	TG 31665	RF	0.4	0.1%	S9+46dB (-47 dBm)

Step 4F | Confirm Pi-Star on BrandMeister

Navigate on your browser to: <https://brandmeister.network/?page=hotspots>



The screenshot shows the BrandMeister website's 'Hotspots' page. The browser address bar displays 'brandmeister.network'. The page has a red header with 'BrandMeister' and navigation links like 'Register', 'Login', 'EN', and 'Settings'. A dark sidebar on the left contains menu items: 'User Dashboard', 'Last Heard', 'Repeaters' (4873), 'Hotspots' (15958), 'Masters' (45), 'Alerts', 'Data Visualisation', 'Information', and 'Services'. The main content area is titled 'Hotspots' and includes a search bar with '10' entries shown. A search input field contains 'K4KXM' and is circled in yellow. Below the search bar is a table with one entry for 'K4KXM'.

Number	Name	Hardware	Firmware	TX	RX	CC	Status	Master
3171611	K4KXM	ZUMspot (MMDVM)	20200615_Pi-Star_v4	446.525	446.525	1	linked in DMO mode	3101

Showing 1 to 1 of 1 entries (filtered from 15,542 total entries)

Navigation: Previous 1 Next

Search by your call sign to see your hotspot

Step 5A | Add SkyBridge Channels to Existing Code Plug

1. Connect radio to PC via USB cable, and turn on.
2. Right click CPS desktop shortcut, and Run as Administrator

Step 5B | Add SkyBridge Channels to Existing Code Plug

1. Under the Public node click Channel List.
2. Double click on one of the empty boxes in the next empty row to open the dialogue box.
3. On the left side:
 - > Enter the channel name. **I recommend “SB followed by the name; for example “SB Parrot”.**
 - > Enter the same receive and transmit frequencies in their respective boxes: **446.525.000**
 - > Set Channel Type to D-Digital
 - Set Transmit Power to Low
4. On the right side:
 - > Enter Simplex in the DMR MODE box
 - > Click the Contact button to select a Talk Group from your previously created Talk Group list
 - > Select Color Code 1, Time Slot 2, and click OK.
5. Repeat for each SkyBridge Talk Group combo.

Step 5C | Add SkyBridge Channels to Existing Code Plug

1. Under the Public node, click Zone (FYI: a Zone organizes Talk Groups into groups).
2. Double click on one of the boxes in the first row to open the dialogue box.
3. In the Zone Name box, enter "SkyBridge DMR".
4. Under the Available Channel box, highlight the Talk Groups you want to add to the Zone and click the double arrows to add to the Zone Channel Member box.
 - > Inside the Zone Channel Member box, you can also order the Talk Groups by using the Up and Down buttons.
 - > Once satisfied click OK.
5. Repeat to create a "SkyBridge Contacts" zone.

Step 6 | Using CPS Software to Update Radio

1. Select Set from the top toolbar
 - > select Set COM
 - > select your USB COM port (typically COM3), click OK
 - > select Program from the top toolbar
 - > select Write to Radio and proceed
 - > when prompted, select Other Data; do **NOT** select Digital Contact List
2. Disconnect radio from USB and test using Parrot, then Disconnect channels.

Step 7 | Advanced Pi-Star Settings

1. Log into the BrandMeister network: <https://brandmeister.network>
2. Go to Profile Settings under your call sign > API Keys > Add > “SkyBridge” > Copy API key > OK
3. Return to Pi-Star > Configuration > Expert > BM API > Paste API key > Apply Changes
4. Under Admin, you will now see a BrandMeister section that allows you to drop active QSO’s and Dynamic Groups (handy if Disconnect does not work because the users won’t stop talking)