

Hotspot1 to Hotspot2 Private Call on Brandmeister

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Introduction

This document will explain how to configure two DMR Radios and Hotspots to connect a Private Call between the Hotspots using the Brandmeister DMR Gateway Network. This example will be for Pi-Star hotspots but should also work of other hotspots like the Open Spot. Any two DMR radios need to have their Codeplugs programmed with the “remote user’s” DMR ID and a Channel needs to be set up on the radios to connect to their respective Hotspot Frequency (typically Simplex), Color Code, Time Slot, and Access Permission. In addition, the Pi-Star Hotspots should also use the same DMR ID of their respective DMR Radio with their respective Brandmeister Password.

The document will be a step-by-step description on how to create a Hotspot on Brandmeister for users who have not already done so. Advanced users may want to skip the following section if they have already established a Hotspot on Brandmeister. The sections that follow will show how to configure the radio’s Codeplug for the Private Channels and the Pi-Star Hotspot.

Creating a Brandmeister Hotspot

This step is rather simple. It is assumed that the user has already got a DMR ID from RadioID Net. If not go to this link: [RadioID Net](#), register and get a DMR ID. You will only need a single DMR ID as the DMR Radio, your Hotspot, and Brandmeister all use the same DMR ID.

Now either create or login to your Brandmeister Account. Once you have login’ed, click on your ID in the upper right corner of the Brandmeister Webpage and select the SelfCare. Go down to the Hotspot Security section and enter your “Hotspot Security Password”. You may want to use the same password you use for your Brandmeister Login Password or create a different one if you wish. Just remember this password as you will need to enter it into the Pi-Star Hotspot Security section later. This Hotspot Password is required on Brandmeister to enable your Hotspot, otherwise your Hotspot will not work.

At this point, Brandmeister will wait until you have updated your Hotspot (see below) with this password and saved it in your Hotspot. Once you have reconnected to Brandmeister, your Hotspot should be displayed with a **green** Icon under My Hotspots in the left-side bottom menu on the Brandmeister User Dashboard. If it is **red**, then recheck or reenter your password on Brandmeister and/or your Hotspot. Be sure to save them too.

Configure the Pi-Star Hotspot

Now login to your Pi-Star Hotspot. If this is the first time you are logging into your Pi-Star, follow the example below, otherwise skip ahead to the next paragraph:

Most Pi-Star Hotspots have a built-in AP Access Point. On your PC, click on your Wifi Icon and connect to the “Pi-star” AP. Open your Internet Browser and enter:

<http://pi-star> or <http://pi-star.local>

Then enter the User Name: **pi-star** and the default password: **raspberry**.

If either of these links don’t work, go to this Website: [Amateur Radio Notes](#).

This document will assume you have connected to your **Pi-Star Dashboard**. If so, click on **Configuration**. Now go to the following YouTube link and configure your Pi-Star (click below):

[YouTube How to configure a Pi-Star Hotspot](#)

Configure your Pi-Star Hotspot for modes (be sure to enable DMR) you desire as described in the YouTube video. This document will only explain the changes needed for setting up Hotspot-Hotspot Private Calls for DMR.

Setup the Private Call on Pi-Star

In the Pi-Star **General Configuration** Section you should have already setup your Node Call Sign, DMR ID, and Frequency. It is wise to use different Frequencies if you have more than one Hotspot. Doing so, will avoid making Private Calls which will loop. In addition, you should use the same DMR ID that is assigned into your DMR Radio (see later). This will only allow your radio to connect to your Hotspot and no other “near-by” DMR radios. **BE SURE TO SET THE RADIO NODE TYPE TO PRIVATE.** Once this is done, your DMR radio and Hotspot DMR ID’s must be the same or the Private Call will not work. Now click on **Apply Changes**. Wait until the Pi-Star Configuration screen re-appears before performing the next step.

Now in the Pi-Star **DMR Configuration** section select your BrandMeister Master, if not already done so and enter the **same Hotspot Security Password** you entered into BrandMeister in the **BM Hotspot Security** textbox. Check to be sure the **BrandMeister Network ESSID** is the same DMR ID entered in the previous paragraph (normally this done automatically when you enter and Apply the DMR ID in Pi-Star General Configuration). If you have more than one Hotspot, be sure to add to it the **ESSID ext** by selecting the appropriate extension from the drop-down box (for example: xxxxxxxx.01).

Be sure to enable the **BrandMeister Network Enable**. All other settings should be OK. Click on **Apply Changes** to save the changes. Once these changes are made and saved to your Pi-Star Hotspot, BrandMeister should enable your Hotspot . You can check on your BrandMeister Dashboard. Be patient as this may take a few minutes. Normally, it won’t be too long once the Icon turns from **red** to **green**. You are now done setting up your Hotspot and next you need to setup your DMR Radio. If you will be using different Hotspots, just be sure to use different Frequencies.

Setting up your DMR Radio

This section will describe how to set up your DMR Radio for a Private Call to another DMR ID user via your Hotspot to the other user’s Hotspot using the BrandMeister Network. This will depend on your specific manufacturer’s radio, so the following example will be for a Radioddity GD-77 and an AnyTone D686UV. The methodology should be the same or similar on other DMR radios.

The point is to use the same DMR ID assigned to the DMR radio and the Pi-Star Hotspot with the Hotspot Node configured as Private. This will only allow the user’s DMR radio to “pass-through” the Hotspot to BrandMeister which has the same DMR ID as the user’s Hotspot. The target for the initiated DMR Call is the “other user’s” DMR ID which is also the same DMR ID on his/her Hotspot. Thus, the two Hotspots can enter a Private Call across the BrandMeister Network.

Let's assume we have two Ham users, Alex and Bob. Each user has a DMR ID and Hotspot enabled on BrandMeister. Alex will set up a Private Call pointing in his radio's Codeplug to Bob's DMR ID and likewise Bob will point his Private Call to Alex's DMR ID in his own Codeplug. In addition, assume Alex has a Radioddity GD-77 radio and Bob has an AnyTone D686UV radio which he has set up two **Call Signs** for himself and his wife Connie (more on this AnyTone feature later).

In the first example we will setup Bob's Radioddity GD-77. This radio, like most, is set up for a "single" DMR ID unlike the AnyTone D686UV (or D868UV) which can have multiple DMR IDs installed. The first step on all DMR Radios is to add the remote Ham's DMR ID as a Private Call (not a Group Call). On the GD-77 this is done in the "Digital Contacts" section. For testing purposes, you should also add BrandMeister's **Parrot (DMR ID 9990)** as a Private Call. Thus, Alex enters Bob's DMR ID and Parrot's DMR ID as Private Call Contacts.

Next Alex creates two "Channels" for Bob's and Parrot's Contacts. The TX-RX Frequencies should be the same Simplex value for Alex's Hotspot. Alex sets his Hotspot for Color Code 1 and Time Slot 2 (the Pi-Star defaults). Since this is a Private Call there is no need for a "RX Group List", so Alex sets it to "None" (default). Lastly, Alex sets the "Contact Name" to the Bob's Channel and the Admit Criteria to "Always".

Similarly, Alex does the same for the Parrot Contact, but uses the 9990 Parrot Private DMR ID. As the final step, Alex adds these two Contacts into a Zone of his choice. You may want to create a new Zone for all your Private Calls, but that is up to you. Now, you can select and make a Call to the Parrot. Push the PTT and make a short voice call (i.e. "[Your Call Sign] This is test on Parrot"). If you receive back your test voice, everything is working. If not, then recheck the previous steps. If your Hotspot display "lights up" but you don't hear your voice test, recheck your BrandMeister's Password and the status of your Hotspot on BrandMeister.

In the same fashion, Bob performs the same steps above but uses Alex's Digital Contact DMR ID. Bob enters his parameters on his Hotspot. If you are using 2 or more Hotspots which may be within RF range of each other, be sure to use different Simplex Frequencies so you won't cause a TX-RX Loop. Since Bob's radio is the AnyTone D686UV the "Channel" screen also has a field to assign the Channel to a specific user's Call Sign. Normally this is assigned to Bob's Call Sign, but he can select another Ham's Call Sign if he has already entered it into the **Radio ID** List on his radio. He can do this by selecting the **Radio ID** drop down box on the "Channel" screen.

Now Alex and Bob can make Private Calls to each other. But Bob has another option and that is to set up Connie's Private Call parameters since they both share the same AnyTone D686UV radio. Bob just creates another "Channel" for Connie and sets it to her Radio ID Call Sign. Of course he must also enter her DMR ID in the "Contact List", her Call Sign in the Radio ID List and add the channel to the proper Zone. So when Connie wants to use the "shared" AnyTone D686UV to make a Private Call, she needs to change the Radio ID to her Call Sign using the Radio's Menu button. She then goes to the "**Settings\Chan Set\Radio ID**" screen and selects her Call Sign from the list. Since the Hotspot is setup for "Private" only, her **Radio ID Call Sign** and her **Channel Radio ID** must match or her Private Call will pass-through to BrandMeister. When Bob wants to use the shared radio, he needs to select his own **Radio ID Call Sign** in the reverse manner as described above using the radio's Menu.

Summery

This completes the basic setup for Private Call between Hotspots via BrandMeister. These same steps need to be repeated to make Private Calls to other Remote Ham users. You can setup as many such Channels as you wish for each Target User's DMR ID. Just be sure to use different Hotspot Frequencies if you have more than one so you won't cause Looping. And remember, your Call Sign must match on your Radio, Hotspot and BrandMeister.

This procedure has been tested only for a Private Call. But you may want to see if it can work for a Group Call between multiple Hotspots and Ham users. I'm not sure how to do this as it may require a special Group ID for all the users in the Group and the Pi-Star Hotspot may need to be Public so any near-by radios can Pass-Through to the Hotspot. I think this is how it works on a DMR Repeater since it has its own DMR ID (6 digits). But how it may work on a Hotspot DMR ID using 7-digits with a potential ISSID 2-digit extension is unknown. With a little experimentation, maybe someone can figure this out.

Have fun! And 73!