

# Amateur Radio Notes V

by Toshen, KE0FHS

[CQ](#) · [Base](#) · [D-STAR](#) · [DMR](#) · [Hotspots](#) · [Pi-Star](#)

## BrandMeister dynamic, static, and auto-static talkgroups

*Revised:* Nov 2021, CC BY-SA [🔗](#)

*Most up-to-date version:* [amateurradionotes.com/auto-static.htm](https://amateurradionotes.com/auto-static.htm)

### Overview

The way these features work depends on whether you are using a BrandMeister repeater, or a duplex or simplex hotspot.

#### Quick hint for simplex hotspot users

Here are the two most important things you need to know:

1. If you key up a talkgroup, it will be activated as auto-static. As long as you don't key up a different talkgroup, the auto-static talkgroup will not time out and you'll remain linked to it until you manually disconnect from it (drop it).
2. To cleanly disconnect from an auto-static talkgroup, make a group call to TG 4000.

The rest of this article discusses the details about how all of this works:

1. [When using a BrandMeister repeater](#)
2. [When using a personal hotspot](#)
3. [The Hold Off Timer](#)
4. [How to create static talkgroups](#)
5. [How to schedule static talkgroups](#)
6. [Auto-static talkgroups in action](#)

*Note:* This article specifically addresses talkgroups, not reflectors. In late 2018, the BrandMeister U.S.A. network disallowed linking to reflectors. Linking to reflectors may still be allowed by BrandMeister in some other countries as well as by some other networks, but that's not discussed here.

*Special thanks:* To Tom, W2XQ, for all his help with this article. For lots of good amateur radio-related resources, see his website, [w2xq.com](http://w2xq.com), and especially his [Amateur Radio: DMR page](#).

[ 1 ] 2 3 4 5 6

## 1) When using a BrandMeister repeater

On a BrandMeister repeater, talkgroups can be static (permanently activated by the administrator) or dynamic (temporarily activated by a user).

The administrators determine how their repeaters are configured. Some allow only specific static talkgroups to be used on each time slot. Others allow users to activate dynamic talkgroups, in which case, the convention is:

- Users are allowed to activate dynamic wide-area talkgroups on time slot 1.
- Time slot 2 is used for static local talkgroups.

*Note:* BrandMeister administrators allow dynamic talkgroups, while some other networks can be more restrictive. To understand how a specific repeater is set up, talk to people who use it, visit its website, or contact its administrator.

### 1a) On Demand Timer (a.k.a., Dynamic Timer)

When you activate a dynamic talkgroup on a repeater's time slot by keying up, it remains activated on the repeater as long as you continue transmitting on it. When you stop transmitting, it automatically gets dropped from the repeater after a period of inactivity, typically 15 minutes.

See also [BrandMeister > United States > Timers](#).

1 [ 2 ] 3 4 5 6

## 2) When using a personal hotspot

When you link to a talkgroup via a personal hotspot, the dynamic, static, and auto-static behavior depends on whether it's a simplex or duplex hotspot.

### 2a) Duplex hotspots

When you link to a BrandMeister talkgroup via a duplex hotspot, the dynamic and static behavior works similarly to how it does when you connect via a BrandMeister repeater, with a couple significant exceptions:

- Using your BrandMeister SelfCare account, you can control which talkgroups, if any, are static. See below: [4\) How to create static talkgroups](#).
- You can even schedule talkgroups to become static for specific time periods. See below: [5\) How to schedule static talkgroups](#).

## 2b) Simplex hotspots

With simplex hotspots, a new behavior is introduced: auto-static.

When you link to a BrandMeister talkgroup via a simplex hotspot, it is activated as an "auto-static" talkgroup, which behaves like a dynamic talkgroup, except that it won't time out and drop, even if you aren't transmitting on it. This means that when using a simplex hotspot, you can continue listening to a linked talkgroup for longer than 15 minutes without having to key up to keep the activation alive.

If you have activated an auto-static talkgroup, and then you link to a different talkgroup, the new one becomes auto-static, while the original one becomes dynamic. If you don't transmit again on the original one, it behaves like a regular dynamic talkgroup: after 15 minutes, it will time out and drop.

The auto-static feature makes operating a simplex hotspot even simpler, since you don't need to access BrandMeister SelfCare in order to manage static activations as much as you might do so with a duplex hotspot.

However, even though the the auto-static feature makes it unnecessary to use static talkgroups with simplex hotspots in many cases, you do still have the option to use BrandMeister SelfCare for your simplex hotspot in order to set up static talkgroups as well as to schedule talkgroups to become static.

[1](#) [2](#) [\[ 3 \]](#) [4](#) [5](#) [6](#)

## 3) The Hold Off Timer (a.k.a., Hand Off Timer)

If you have more than one BrandMeister talkgroup activated, whether they are static, auto-static, or dynamic, the Hold Off Timer comes into play. A hold -off enables you to carry on a QSO on a talkgroup you keyed up without interference from any other activated talkgroups.

If you key up one of the activated talkgroups, the hold off applies to the others, which means you won't receive their transmissions for a period of time, even though they remain activated.

This applies even if you have an auto-static talkgroup, then key up a new talkgroup so that it becomes auto-static and the original one becomes dynamic: a hold off immediately applies to the original one.

For BrandMeister U.S.A., the hold off time for Master Servers 3101, 3102, and 3103 is 5 minutes. For other Master Servers in other countries, the hold off times may vary, and in some cases, may be considerably shorter.

See also [BrandMeister > United States > Timers](#) .

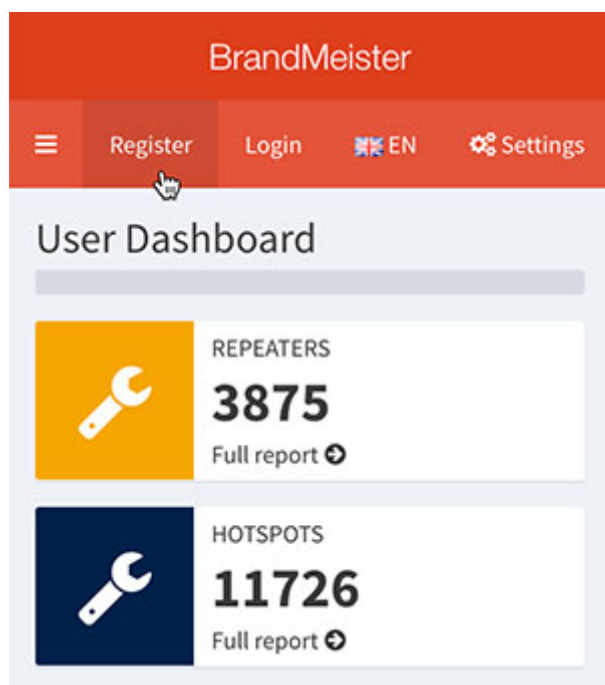
[1](#) [2](#) [3](#) [\[ 4 \]](#) [5](#) [6](#)

## 4) How to create static talkgroups

You can use your BrandMeister SelfCare account to create one or more static talkgroups for use with your duplex or simplex hotspots:

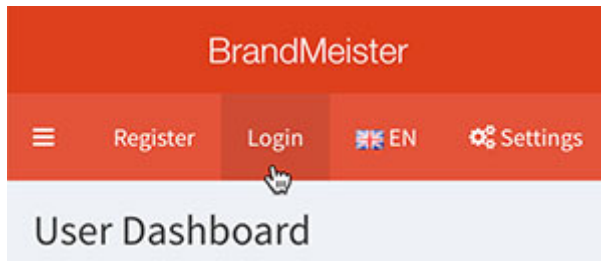
1. If you haven't already, register for your BrandMeister SelfCare account:

<https://brandmeister.network/> 

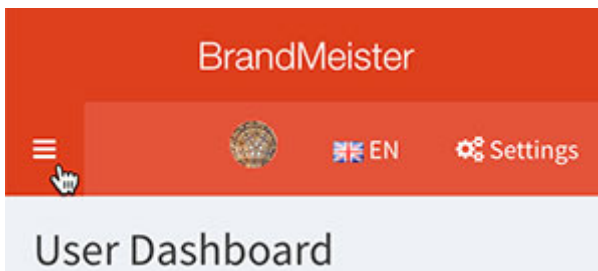


2. Make sure your hotspot is turned on, and that the DMR mode is enabled and connected to a BrandMeister Master Server.

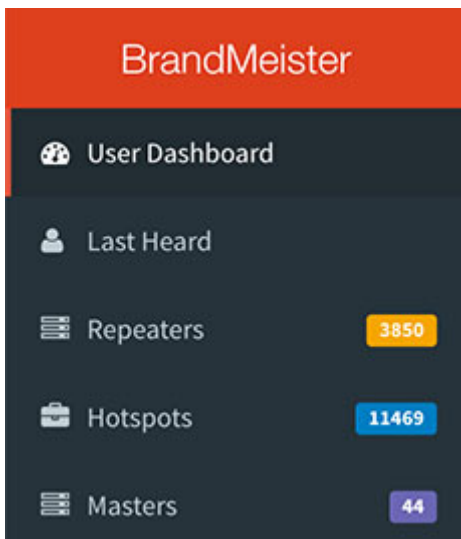
- Log into your [BrandMeister SelfCare account](#) 



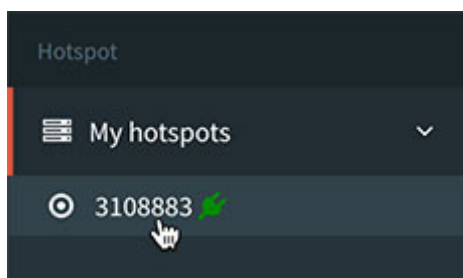
- In the BrandMeister menu panel, find the My hotspots option:
  - On a mobile device or in a narrower browser window, you can open the menu panel by clicking the top left Menu button.



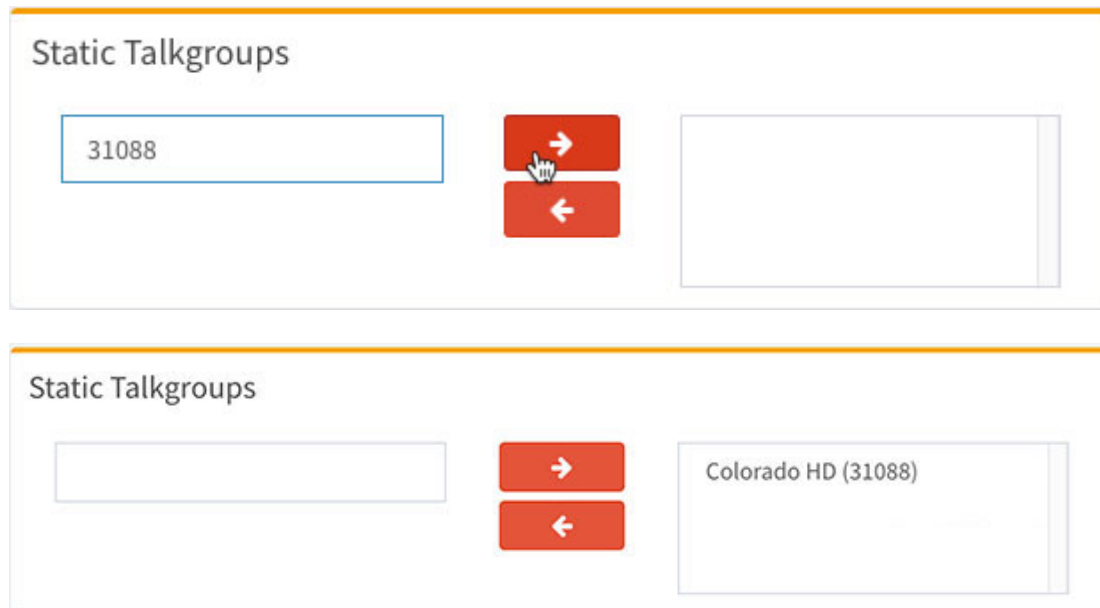
- In a wide browser window, the panel will be open already on the left.



- Click My hotspots to open the list of your hotspots, identified by CCS7 ID (green plug icon = active), and then click the one you want to configure.



- In the hotspot Settings window that opens, scroll down to the Static Talkgroups section. In the first field, type the number of the talkgroup that you want to make static, and then click the Right-Arrow button to move it to the other field and make it static. (For duplex hotspots, there are two Static Talkgroups sections, one for each of the time slots.)



*Note:* TAC channels shouldn't be used as primary calling channels. TAC channels (U.S.: 310 - 319; worldwide: 901 - 903) can't be added as static talkgroups, and also won't become auto-static. If you want a primary calling channel, try one like U.S. Wide talkgroup 3100 or worldwide talkgroups 91 - 95. For more info, see the [BrandMeister U.S. Wiki](#).

1 2 3 4 [ 5 ] 6

## 5) How to schedule static talkgroups

- In the hotspot Settings window, scroll down to the Scheduled Static section, and then click the Add Scheduled Static button.
- In the Add a Scheduled Static dialog box, type a talkgroup number, select a day of the week, move the slider to pick a 3-hour time period (note that both UTC and local times are shown), and pick a start and stop date.

Add a Scheduled Static to KE0FHS
✕

**Talkgroup Number:**

**Day of the week:**

**Start-Stop**

◀▶

**Start:** Wednesday 02:00:00 (UTC)

**Start:** Tuesday 19:00:00 (local)

**Stop:** Wednesday 05:00:00 (UTC)

**Stop:** Tuesday 22:00:00 (local)

**Start date:**

**Stop date:**

*Note:* Once you pick a start date, when you then click the stop date field, you'll find that the date one year in the future is already pre-selected.

3. Click Add Talkgroup. The talkgroup is then listed in Active Timed Statics.

Scheduled static
+ Add Scheduled Static

**Active Timed Statics:**

TG: 31088: Tuesday 19:00 - 22:00

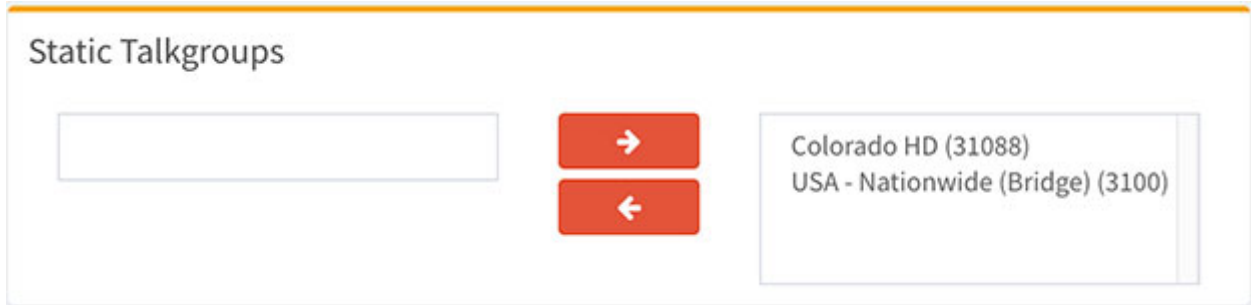
1 2 3 4 5 [ 6 ]

## 6) Auto-static talkgroups in action

You can view the behavior of auto-static talkgroups via BrandMeister's SelfCare Settings page, as well as Pi-Star's Active BrandMeister Connections module.

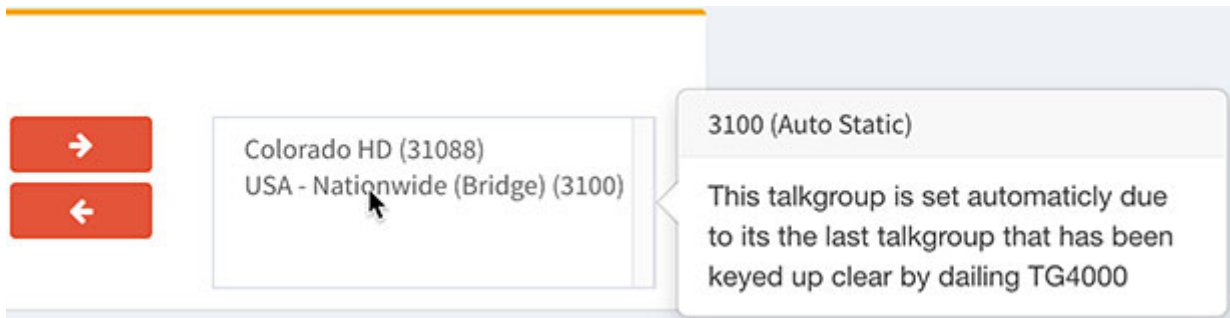
*Note:* Remember, the auto-static feature applies only to simplex hotspots.

1. In the BrandMeister SelfCare Settings window for the hotspot, scroll down to the Static Talkgroups section to see static and auto-static talkgroups.



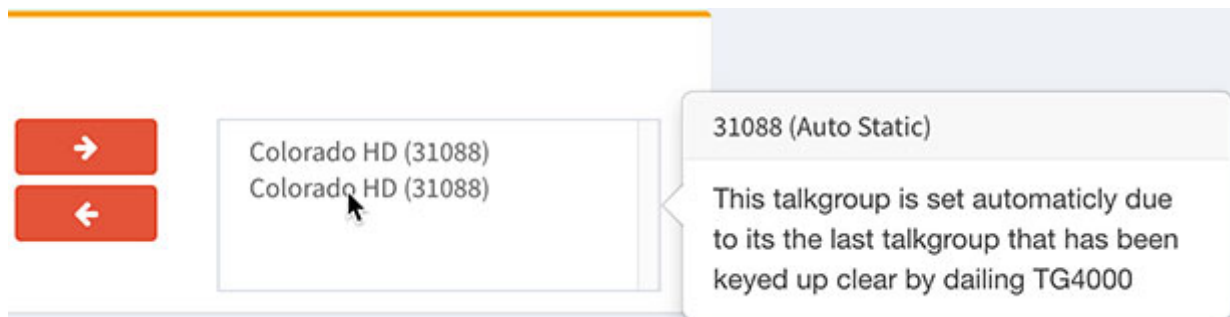
*Note:* It can take a while for an auto-static talkgroup to show up in the Static Talkgroups list, and sometimes you must refresh to see the change.

2. If you are using a desktop browser that displays tooltips and point your mouse cursor at a static talkgroup in the list, no tooltip is shown, but if you point at an auto-static talkgroup, you'll see an "Auto Static" tooltip.



Per my testing, the tooltip should actually say: "This talkgroup was set automatically as auto-static due to it being the last talkgroup keyed up."

If you key up an auto-static talkgroup that you previously made a static talkgroup, it will be listed twice, first as static (no tooltip), and second as auto-static ("Auto Static" tooltip). This has no effect on its behavior.



3. In the Pi-Star Active BrandMeister Connections module, which can be enabled via Pi-Star Expert Editor > BrandMeister API, an auto-static talkgroup is listed in the Dynamic TGs list.



**Active BrandMeister Connections**

BrandMeister Master	Default Ref	Timeout(s)	Active Ref	Static TGs	Dynamic TGs
BM United States 3103	REF0	0(s)	None	TG31088	TG3100

After 15 minutes of inactivity, it will drop off the list, though per my testing, it remains activated and won't time out as long as it remains auto-static.

*Note:* If you have a talkgroup set up as static in BrandMeister SelfCare, when you first start up Pi-Star, it will be listed in the Static TGs list, but it won't be shown as linked in Pi-Star's DMR Repeater module (you'll see "No TG/No Ref"). However, as soon as there is any activity on the talkgroup, you'll receive it, and then it will be shown as linked in the DMR Repeater module.

DMR Repeater	
DMR ID	3108883
DMR CC	1
TS1	disabled
TS2	enabled
No TG/No Ref	
DMR Master	
BM United States ..	

## 6a) Disconnecting from an auto-static talkgroup

There are a couple different ways to disconnect from an auto-static talkgroup:

1. **Key up a group call to talkgroup 4000** – This is the cleanest way. It causes all your current dynamic and auto-static talkgroups to be immediately dropped, without waiting for the full 15 minutes of inactivity.

**Active BrandMeister Connections**

BrandMeister Master	Default Ref	Timeout(s)	Active Ref	Static TGs	Dynamic TGs
BM United States 3103	REF0	0(s)	None	TG31088	None

*Note:* Although TG 4000 will be displayed in the Pi-Star DMR Repeater module, it will not become auto-static.

*Hint:* If you add a TG 4000 (group call) channel to each zone in your radio that contains BrandMeister talkgroups you link to, you can quickly drop a talkgroup by dialing up that channel in the zone, and then pressing PTT. This can make it easier to disconnect from a busy talkgroup.

2. **Key up a different talkgroup** – This will cause the new talkgroup to become auto-static, while the previous one will become dynamic for 15 minutes and then, if you don't key it up again, will drop. While the previous talkgroup is dynamic, you'll continue to receive transmissions from it, unless the hold off timer is active. Keep in mind that if the dynamic talkgroup is a busy one, it might overwhelm the new auto-static talkgroup. If the people using the dynamic talkgroup aren't leaving adequate gaps between their transmissions, it might even be challenging for you to make a call on the new auto-static talkgroup.

### *Some odd behaviors*

There are a few odd behaviors that occur when you key up and activate a talkgroup as auto-static on a simplex hotspot or dynamic on a duplex hotspot.

- *As expected:* The dynamic talkgroup gets listed in Pi-Star's Active BrandMeister Connections module under Dynamic TGs.
- *First odd behavior:* The auto-static talkgroup also gets listed under Dynamic TGs. I guess this is either because it's behaving like a permanent dynamic talkgroup or that there isn't room for a separate "Auto-Static TGs" field.
- *As expected:* In both cases, the talkgroups also are displayed in Pi-Star's DMR Repeater module.
- *As expected:* After 15 minutes of inactivity, a dynamic talkgroup drops and is removed from the Dynamic TGs list.
- *Second odd behavior:* The dropped dynamic talkgroup isn't removed from the DMR Repeater module, even though you won't receive any subsequent transmissions on that talkgroup.
- *Third odd behavior:* After 15 minutes of inactivity, an auto-static talkgroup also is removed from the Dynamic TGs list, though not from the DMR Repeater module, and even though it remains listed in the BrandMeister SelfCare Static Talkgroups list as auto-static and you'll continue to receive any subsequent transmissions on that talkgroup.

### *Advanced BrandMeister API use*

In Pi-Star, the BrandMeister API controls the Active BrandMeister Connections module. For additional information about advanced use of the BrandMeister API, see the article [Using the BrandMeister API by Vladimir, AC2F](#) 

Amateur radio notes by Toshen, KE0FHS:

[CQ](#) · [Base](#) · [D-STAR](#) · [DMR](#) · [Hotspots](#) · [Pi-Star](#)

Questions or comments?

Please [let me know](#) 



This work by [KE0FHS](#) 

is licensed under a

[Creative Commons Attribution-  
ShareAlike 4.0 International License](#) 