

Butler Regional Interoperable Communications System

Training Guide: Medical Helicopters

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Applies to: BRICS Fire and EMS Users
Landing Zone Coordinators
BRICS Communications Centers

Topic Summary

Communication between field units on the ground and medical helicopters happens on national mutual aid channels established by the Federal Communications Commission (FCC).

These channels are separate from our radio system and are not “talkgroups”. They are used in the “direct” mode with helicopters (transmitting from radio to radio, and not through any tower or repeater). They are often referred to by a variety of names in our region, which results in confusion.

This document should help understand the various names and frequencies of the national mutual aid channels. It will demonstrate the process dispatchers use to request medical helicopters in Butler County.

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More Information

Visit butlersheriff.org/radio for more information in the “Guides” section.

National 800MHz Mutual Aid Channels

The Federal Communications Commission, which controls the use and assignment of radio frequencies, designated five channels in the 800MHz band to be available across the nation for emergency communication between public safety users.

These channels allow any public safety user with an 800MHz radio to interoperate with other responders that normally use a different system. These channels can also be used when public safety users respond to emergencies outside the coverage of the radio system they use normally.

The five channels were designated for specific uses. One was set aside as the calling or hailing channel to reach other field users and communication centers. The other four were designated as tactical or operational channels, to be used for user to user communication.

The History of the Confusing Names

Initially, the FCC did not establish a common naming system for these mutual aid channels. Agencies across the nation began programming them into their radios and all named the channels differently.

One county may have named them as "CALL" and "TAC 1" through "TAC 4" to match the use specified by the FCC. An adjacent county may have named them "MA 1" through "MA 5." The end result was, depending on who you tried to communicate with, the same channel had multiple names. One county's TAC 2 matched up to another county's MA 3.

Some helicopter services renamed the third channel "Air Med 1" and the fifth channel as "Air Med 2". With this, one particular frequency was named 1, 2 or 3 depending on whose radio you looked at.

Eventually, a national standard emerged providing a common name for these channels. The calling channel was named "8i CALL" and the four tactical channels were named "8i TAC 1" through "8i TAC 4".

Many agencies adopted the national standard. Others decided to leave the channels in their radios with the old, local names, resulting in more confusion.

Rebanding

The FCC initially distributed the 800MHz band of frequencies to public safety and commercial users, like Nextel, without keeping them in separate contiguous blocks. Commercial users regularly caused interference on public safety channels.

In the 1990s, with complaints rising, the FCC recognized there was a problem and began to work on a solution. Finally, they issued an order directing the “rebanding” of the 800MHz spectrum. As a result, public safety frequencies would be relocated into a contiguous block and commercial services would end up in their own contiguous block.

The process of moving public safety users began in 2005. In some cases, it involved replacing entire radio systems. At a minimum, every subscriber radio had to be reprogrammed for systems affected by rebanding. It has been cumbersome and time consuming for all involved.

Fortunately, timing allowed the Butler County system to come online with rebanded frequencies and, therefore, we were able to avoid significant disruption.

What makes this relevant: the national mutual aid channels are also affected by rebanding. They are replaced with a new set of frequencies. Potentially, an agency that has gone through rebanding could have a different set of national mutual aid channels than an agency that is still waiting to reband.

Since Butler County was the first county in our area to be rebanded, we have included the “old” or “pre-rebanded” national mutual aid channels in the Zone Y of all our radios. The “new” or “rebanded” national mutual aid channels are located in Zones C and E. When the entire region has rebanded, Zone Y will be removed.

National Naming Standard

In 2007, the National Public Safety Telecommunications Council released the new national standard for all national interoperability channels across all frequency bands. Such a standard was mandated by the National Emergency Communications Plan.

The standard addressed how the national channels in 800MHz should be named before and after rebanding. Pre-rebanded channels will use the previous standard with “8i” names. This includes:

- 8i CALL
- 8i TAC 1 (or, for direct mode, 8i TAC 1 D)
- 8i TAC 2 (or, for direct mode, 8i TAC 2 D)
- 8i TAC 3 (or, for direct mode, 8i TAC 3 D)
- 8i TAC 4 (or, for direct mode, 8i TAC 4 D)

The rebanded 800MHz mutual aid channels are named:

- 8 CALL 90
- 8 TAC 91 (or, for direct mode, 8 TAC 91 D)
- 8 TAC 92 (or, for direct mode, 8 TAC 92 D)
- 8 TAC 93 (or, for direct mode, 8 TAC 93 D)
- 8 TAC 94 (or, for direct mode, 8 TAC 94 D)

NPSPAC 800MHz National Mutual Aid Channels – Name Chart

Rebanded Frequencies			Before Rebanding			Some Helicopters	Some Counties	Some Counties
Receive	Transmit	Name	Receive	Transmit	Old Name			
851.0125	806.0125	8 CALL 90	866.0125	821.0125	8i CALL		MUTUAL AID 1	NPSPAC 1
	SIMPLEX	8 CALL 90 D		SIMPLEX	8i CALL D			
851.5125	806.5125	8 TAC 91	866.5125	821.5125	8i TAC 1		MUTUAL AID 2	NPSPAC 2
	SIMPLEX	8 TAC 91 D		SIMPLEX	8i TAC 1 D			
852.0125	807.0125	8 TAC 92	867.0125	822.0125	8i TAC 2	AIRMED 1	MUTUAL AID 3	NPSPAC 3
	SIMPLEX	8 TAC 92 D		SIMPLEX	8i TAC 2 D			
852.5125	807.5125	8 TAC 93	867.5125	822.5125	8i TAC 3		MUTUAL AID 4	NPSPAC 4
	SIMPLEX	8 TAC 93 D		SIMPLEX	8i TAC 3 D			
853.0125	808.0125	8 TAC 94	868.0125	823.0125	8i TAC 4	AIRMED 2	MUTUAL AID 5	NPSPAC 5
	SIMPLEX	8 TAC 94 D		SIMPLEX	8i TAC 4 D			

As you can see from the chart above, 867.0125 might be referred to as 1, 2 or 3 depending on who you talk to. The proper name is 8i TAC 2 (with D for Direct) but the frequency will always stay constant.

Helicopters, During Rebanding

The medical helicopters serving our area, including Care Flight and Air Care, do not yet have the rebanded mutual aid frequencies in their radios.

To bridge the gap, we will use the pre-rebanded frequencies (in Zone Y) to communicate with them.

First choice to be assigned:

Name: **8 i TAC 2 D**
 Location: **Zone Y, Position 14 (in all BC radios)**
 Frequency: **867.0125 MHz**
 Referred to by some counties as Air Med 1

Second choice:

Name: **8 i TAC 4 D**
 Location: **Zone Y, Position 12 (in all BC radios)**
 Frequency: **868.0125 MHz**
 Referred to by some counties as Air Med 2

Helicopters, After Rebanding

Once the helicopters have been through rebanding, we will begin using the rebanded channels in Zone C to communicate with them. We will notify our user agencies when this change occurs.

First choice, after they are rebanded:

8 TAC 92 D (in Zone C, Position 14) 852.0125 MHz
 Does not correspond to any other names.

Second choice, after they are rebanded:

8 TAC 94 D (in Zone C, Position 12) 853.0125 MHz
 Does not correspond to any other names.

It is very important to refer to these channels with their proper, nationally standardized name to avoid confusion. If someone is unclear on which channel is assigned, provide the frequency number.

Guide for Dispatchers

Medical Helicopter Requests from Communications Centers in Butler County

This procedural guide was distributed to the communications centers of Butler County in December 2009. While it explains the process and situation from the dispatcher's perspective, it should also provide insight to field personnel.

General Information

- In 800MHz, field personnel use national mutual aid channels to communicate with medical helicopters.
 - These channels are not part of our radio system.
 - They are direct / simplex channels (talking from radio to radio and not through any towers).
- The helicopter will communicate directly with field personnel. At the communications center, you will likely not be able to communicate with the helicopter by radio due to range issues.
- Field personnel will need you to provide the radio channel they will use to contact the helicopter. You will work this out with the helicopter dispatcher by following the steps in this document.

Requesting a Helicopter

1. You receive a request for a medical helicopter from Fire / EMS.

Typically, when EMS requests a helicopter, they will either designate a Landing Zone Coordinator from personnel already on the scene, or they will request you send additional fire companies.

The Landing Zone Coordinator (LZC) is the point of contact for the helicopter. The LZC will set up a landing zone, switch to the radio channel you provide, and wait for the helicopter's arrival to guide it to the ground safely.

2. You need to know, at the time of request:

- a. Where is the helicopter going?

While some fire departments will provide a latitude and longitude from GPS, the helicopters only need an address or intersection. They have their own mapping systems that will guide them to that location. They can accept the lat / lon if you have it.

6. Tell the Landing Zone Coordinator

- a. What helicopter is coming
- b. Who they'll be contacting
- c. What radio channel to switch to
- d. What is their ETA

Example:

“Care Flight 1 will be contacting Battalion 30 on
8 i TAC 2 D. Their ETA is 15 minutes, current time 15:30.”

NOTE: Make sure you use the precise radio channel name shown above, as other channels have very similar names (*8 i TAC 2* is different from *8 i TAC 2 D*, for example).

In addition to the channel name, you can provide the location in the radio (i.e. the zone and channel number). This is the same for all Butler County radios:

8 i TAC 2 D is in Zone Y, Channel Number 14

8 i TAC 4 D is in Zone Y, Channel Number 12

While the Landing Zone Coordinator is switched over to the channel you provided, he will not be in contact on the FD MAIN or BC Fireground talkgroups. His radio can not hear or scan those talkgroups while operating on the helicopter channel. If you try to call with an update, you may not receive an answer unless he is monitoring a second radio.

Chart for Incident Commanders and Landing Zone Coordinators

It may be helpful to cut out and laminate this chart for your IC or LZC.

National Mutual Aid Channels (Pre-Rebanded, in Zone Y)

<u>Name</u>	<u>Frequency</u>	<u>Location in Radio</u>	<u>Also Known As</u>	<u>Helicopters</u>
8 i CALL	866.0125	Zone Y, Position 16	MA 1 (not BC MA 1)	
8 i TAC 1 D	866.5125	Zone Y, Position 15	MA 2 (not BC MA 2)	
8 i TAC 2 D	867.0125	Zone Y, Position 14	Air Med 1 / MA 3	Use 1 st
8 i TAC 3 D	867.5125	Zone Y, Position 13	MA 4 (not BC MA 4)	
8 i TAC 4 D	868.0125	Zone Y, Position 12	Air Med 2 / MA 5	Use 2 nd

National Mutual Aid Channels (Post-Rebanded, in Zone C)

<u>Name</u>	<u>Frequency</u>	<u>Location in Radio</u>	<u>Helicopters</u>
8 CALL 90	851.0125	Zone C, Position 16	
8 TAC 91 D	851.5125	Zone C, Position 15	
8 TAC 92 D	852.0125	Zone C, Position 14	Use 1 st
8 TAC 93 D	852.5125	Zone C, Position 13	
8 TAC 94 D	853.0125	Zone C, Position 12	Use 2 nd

MUST USE DIRECT (D) TO TALK TO HELICOPTERS.

WHEN ANOTHER COUNTY USES A "MUTUAL AID" NAME, IT DOES NOT CORRESPOND TO BC MUTUAL AID TALKGROUPS IN ZONE B.