

# Broadcasting Audio Messages with *Group Paging and Push-to-Talk*

Group Paging enables you to broadcast one-way audio announcements to users who are subscribed to a specific page *group*.

Push-to-Talk (PTT) is a collaborative tool typically used with wireless handset phones, enabling you to exchange broadcasts with users subscribed to a PTT *channel*, much like a walkie-talkie. You can transmit pages and PTT broadcasts using your handset, headset, or speakerphone and you can reject them, place them on hold, and end them at any time.

Both Group Paging and PTT are available on all phones that use UC Software 4.0.0 or later. Both have potential to significantly improve the efficiency of your communications by instantly transmitting messages to any number of subscribers. For example, nurses working at a hospital can use the group paging feature to page a doctor; employees can inform co-workers of meetings or visitors.

You can enable one of these features or you can operate both simultaneously. Paging and PTT each have 25 groups/channels you can subscribe to.

- **PTT Mode** PTT mode is intended primarily for Wi-Fi phones such as the Polycom® SpectraLink® 8400 Series Wireless Handsets. In PTT mode, the phone behaves like a walkie-talkie; you can broadcast audio to a PTT channel and recipients subscribed to that channel can respond to your message.
- **Paging Mode** Paging mode is intended primarily for desktop phones. In Paging mode, you can send a one-to-many announcement to a page group. Pages play only through the receiving phone's speakerphone; pages cannot play through a headset or handset.

Administrators must enable Paging and PTT before users can subscribe to a page group or PTT channel.

For a quick summary of compatible phone models, primary users, licenses, and available documentation, see [Table 1: Push-to-Talk and Group Paging at a Glance](#).

**Table 1: Push-to-Talk and Group Paging at a Glance**

Released:	<b>September 2011</b>	Interoperability issues:	<b>None</b>
Applies to models:	<b>All models</b>	Dependencies:	<b>Pages use groups; PTT uses channels</b>
Applicable Polycom UC Software version (s):	<b>UC Software 4.0.0 or later</b>	Limitations:	<b>Maximum of 25 groups/channels per mode; audio is only paged through the speakerphone</b>
Main business size:	<b>Small to medium businesses</b>	Maintenance:	<b>One time set up</b>



Primary users:	<b>Employees and administrators</b>	Available documentation:	<b>Polycom UC Software Administrators' Guide</b>
Licenses required:	<b>None</b>	Resources required:	<b>None</b>

Polycom recommends using the paging feature when you want to broadcast an announcement to a group of recipients. Incoming pages display as a call appearance on the recipient's phone, indicating the page sender and paging group. When you send a page or a PTT broadcast, the phone sends a Preamble — a repetitive set of alert messages that ensure receiving phones are ready to receive the broadcast.

A paging announcement continues until the sender terminates the page by pressing the **End Page** soft key, by pressing a line key, or by picking up the handset. The page receiver can terminate an incoming page by pressing the **End Page** soft key. If the receiver wants to make a call during an incoming page announcement, simply begin dialing.

If you receive an incoming page during an active call, by default, the page will automatically be placed on hold and its status will change to *Pending*, which means that the page is temporarily on hold. When you end your call and the page is still incoming, the page will continue. You can also configure the phone to accept pages during active calls.

If two users simultaneously start a page on the same paging group, the phone with the lower serial number will continue to transmit while the other phone will enter the receiving state.

Each paging group may be set to one of three priority levels: Normal, Priority, and Emergency, and you can only set one Priority group and one Emergency group. By default, groups 1 through 23 are set to Normal, group 24 is set to Priority, and group 25 is set to Emergency. You cannot unsubscribe from a Priority and Emergency group. A Priority page will interrupt Normal pages or active calls. An Emergency page will interrupt Normal pages, Priority pages, and active calls and plays out at near maximum volume even if Do Not Disturb (DND) is turned on.

The volume level for the Emergency page or PTT can only be changed by a system administrator. If you change the volume on your phone, it will only affect Normal and Priority pages or PTT broadcasts.

If DND is turned on, Normal pages and Priority pages are blocked and the phone screen is cleared of all page-related items. Incoming page status will become pending.

When the group paging feature is enabled, a **Paging** soft key displays on the phone's idle screen, as shown next. For SpectraLink handsets, you will need to first click the **Features** soft key to display the **Paging** soft key.



The SpectraLink 8440 (left) and the SoundPoint IP 650 (right), display a **Paging** soft key.

The group paging feature is ideal in locations where you need to broadcast information to a group of people. The group paging feature offers you great flexibility in determining the purpose and naming of the page group, the number of groups, the individuals subscribed to each group, and the priority level of each page group.

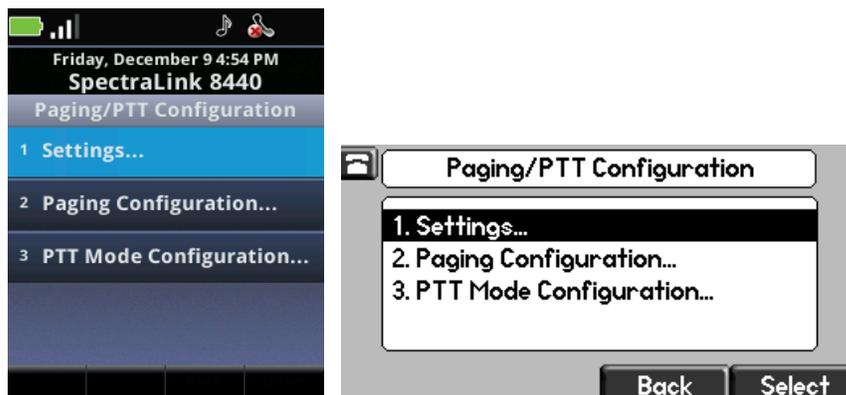
## Group Paging and PTT for Administrators

You can enable and specify settings for the Paging feature using configuration files, the Web Configuration Utility, or through the phone's user interface. The group paging feature does not require further SIP server management by administrators, as users multicast the audio directly from phone to phone.

**To enable Paging or PTT mode using the phone's user interface:**

- 1 Using your phone's interface, navigate to the *Paging/PTT Configuration* menu by pressing **Menu > Settings > Advanced > Admin Settings > Paging/PTT Configuration**.

The *Paging/PTT Configuration* screen is displayed, as shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.



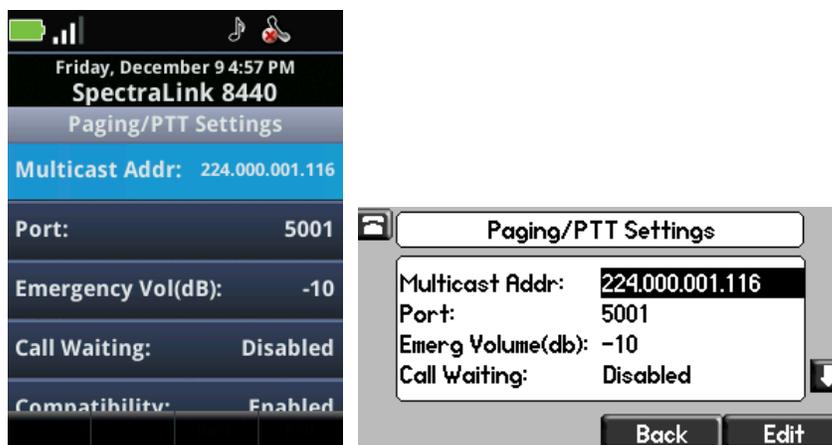
- 2 Choose your mode.
  - For Paging mode, choose **Paging Configuration**.
  - For PTT mode, choose **PTT Mode Configuration**.
- 3 Ensure the mode is enabled.
  - For Paging mode, set *Group Paging* to **Enabled**.
  - For PTT mode, set *PTT Mode* to **Enabled**.

You have successfully enabled Group Paging or PTT mode.

#### To specify the Paging feature settings:

- 1 On the phone's user interface, navigate to the *Paging/PTT Settings* menu by pressing **Menu > Settings > Advanced > Admin Settings > Paging/PTT Configuration > Settings**.

The *Settings* screen with default settings is displayed, as shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.



- 2 You can change the following settings from this screen by highlighting a setting and pressing the **Edit** soft key:
  - Multicast paging IP address (location of where audio is sent and received) and port.
  - Page volume for the Emergency paging group.

Once you have made changes, press **Ok**.
- 3 Press **Back** to save your changes.

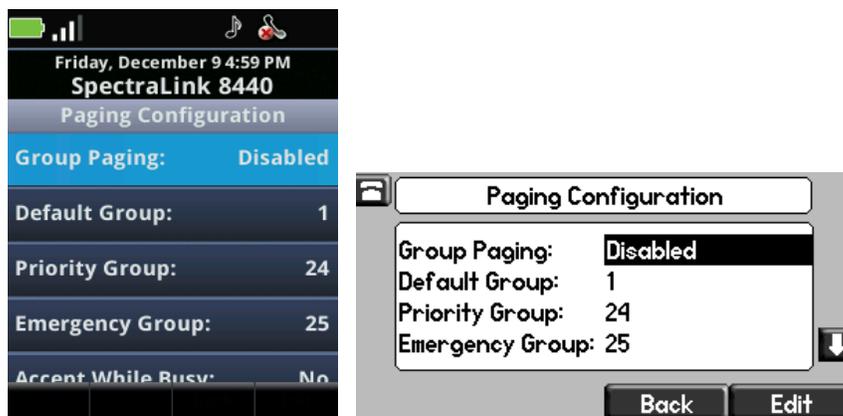
A *Save Config* message displays. Press the **Select** soft key.

You have successfully saved your settings changes.

### To change the default Paging configuration:

- 1 On your phone's user interface, navigate to the *Paging Configuration* menu by pressing **Menu** > **Settings** > **Advanced** > **Admin Settings** > **Paging/PTT Configuration** > **Paging Configuration**.

The *Paging Configuration* screen with default values is shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.



- 2 Make your changes to the paging configuration by highlighting a setting and pressing the **Edit** soft key.

You can make the following changes to the group paging configuration from this screen:

- Enable the Group paging feature
- Specify the default paging group
- Change the Priority and Emergency paging groups
- Accept or reject pages while busy in an active call
- The audio codec used when sending and receiving pages

- 3 Press **Back** to save your changes.

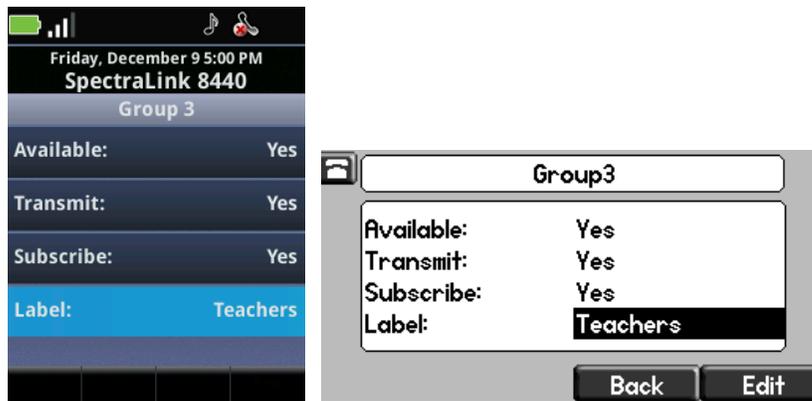
A *Save Config* message displays. Press the **Select** soft key.

You have successfully saved you configuration changes.

### To set up a Paging group:

- 1 On your phone's user interface, navigate to the *Paging Configuration* menu by pressing **Menu** > **Settings** > **Advanced** > **Admin Settings** > **Paging/PTT Configuration** > **Paging Configuration**.
- 2 Scroll down to a page group you want to set up—for example Group 3—and press the **Select** soft key.

The page group settings display, shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.



- 3 Make your changes to the page group by highlighting a setting and pressing the **Edit** soft key.

You can change the following settings from this screen:

- Whether a paging group is available
- Whether a user can broadcast on a paging group
- Whether a user can subscribe to a paging group
- A paging group's label or display name (maximum of 39 characters)

- 4 Press **Back** to save your changes.

A *Save Config* message displays. Press the **Select** soft key.

You have successfully saved you configuration changes.

## Group Paging and PTT for Users

If group paging and PTT is configured on your phone, you will be able to:

- Subscribe to a paging group
- Change the default paging group used for sending and receiving pages
- Configure whether pages are played during active calls
- Send a page to a group
- Send a PTT broadcast

You cannot disable your subscriptions to Priority Groups 24 and Emergency Groups 25.

### To subscribe to a paging group:

- 1 On your phone's user interface, navigate to the *Group Subscriptions* menu by pressing **Menu > Settings > Basic > Preferences > Paging/PTT Configuration > Group Paging Configuration > Group Subscriptions**.



- 2 Scroll to the group you want to subscribe to—for example Group 3—as shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.

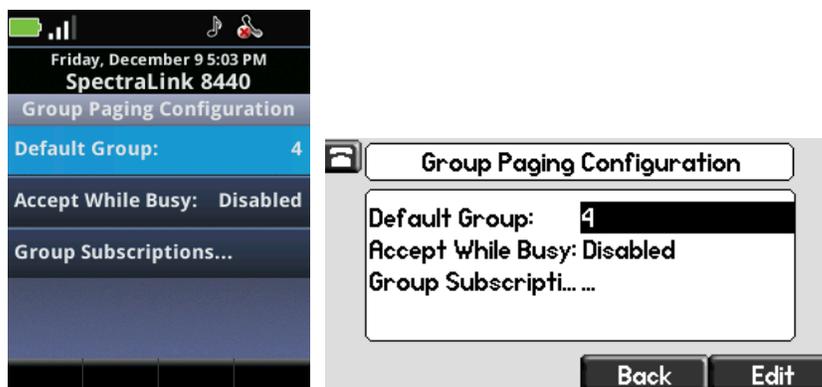


- 3 Press **Edit** and use the left or right arrow key to enable or disable the subscription.
  - 4 Press **Ok** to save your choice.
  - 5 Press **Back** twice to save your changes.
- You have successfully subscribed to a paging group.

#### To change the default paging group:

- 1 Using your phone's interface, navigate to the *Group Paging Configuration* menu by pressing **Menu** > **Settings** > **Basic** > **Preferences** > **Paging/PTT Configuration** > **Group Paging Configuration**.

The *Group Paging Configuration* screen is shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.



- 2 Scroll to the *Default Group* field and press the **Edit** soft key.
- 3 Use the up and down arrow keys or number keys to set the default group.
- 4 Press **Ok** then **Back** to save your changes.

You have successfully made changes to the group paging configuration.

### To configure whether pages are played during an active call:

- 1 Using your phone's interface, navigate to the *Group Paging Configuration* menu by pressing **Menu** > **Settings** > **Basic** > **Preferences** > **Paging/PTT Configuration** > **Group Paging Configuration**.
- 2 Scroll to the *Accept While Busy* field.
  - a If you would like to accept pages while in an active call, set the field to **Enabled**.
  - b If you don't want to accept pages while in an active call and want to have them parked until you're finished, set the field to **Disabled**.
- 3 Press **Ok** then **Back** to save your changes.



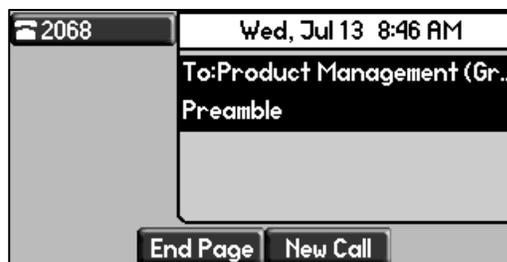
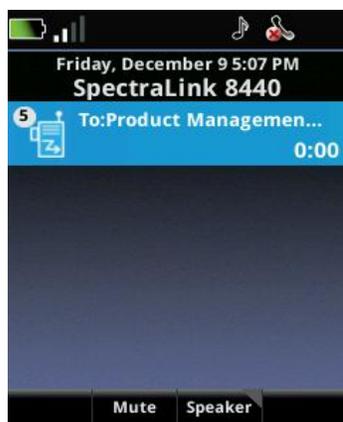
#### Note: Administrators can override this setting

An administrator can also configure whether a page is accepted during an active call. If this setting is configured by an administrator, it will override your setting.

### To page a group:

- 1 On the phone's idle screen, press **Paging**.
- 2 Scroll to the group you wish to page.
- 3 Press **Page** and wait a few seconds.

Your phone will send a Preamble as shown next on the SpectraLink 8440 (left) and the SoundPoint IP 650.

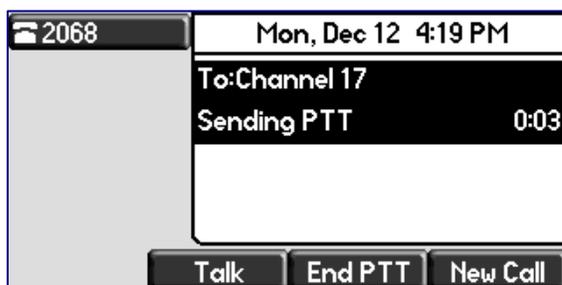


- 4 Begin speaking.
- 5 Press **End Page** when you have finished your message.

### To send a PTT broadcast:

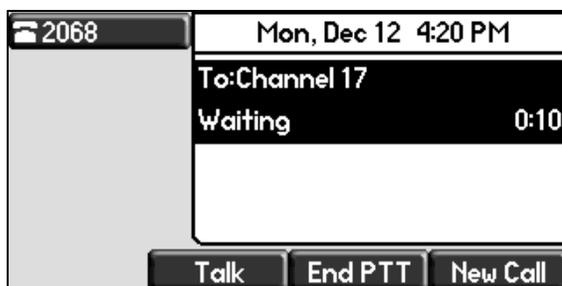
- 1 Lift your handset off the phone.
- 2 Press the **Talk** soft key.
- 3 Scroll to the channel you wish to send a broadcast to.
- 4 Press and hold the **Talk** soft key before speaking.

The channel status will change to *Sending PTT* to indicate you are transmitting.



- 5 Release the **Talk** soft key when you have finished speaking.

You should press the **Talk** soft key only when the channel status indicates *Waiting*. Otherwise, you may interrupt another person's message.



- 6 When you're finished your conversation, press the **End PTT** soft key.

## Group Paging and PTT Configuration Parameters

System administrators can configure the Paging and PTT features using configuration files, the Web Configuration Utility, or the phone's user interface. When configuring this feature using configuration files, use the following tables as a guide to understand the parameters. [Table 2: Push-to-Talk and Group Paging Parameters](#) can be used to configure both the Push-to-Talk and Group Paging features. [Table 3: Push-to-Talk Parameters](#) can be used for the PTT feature, and [Table 4: Group Paging Parameters](#) can be used for the Paging feature. You can locate all of these parameters in the **features.cfg** and **site.cfg** configuration files. For information on setting these parameters, see the [Polycom UC Software Administrators' Guide](#).

The parameters in the following table apply to PTT mode and Paging mode.

**Table 2: Push-to-Talk and Group Paging Parameters**

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
<b>ptt.address</b>	<b>multicast IP address</b>	<b>224.0.1.116</b>
The multicast IP address to send page audio to and receive page audio from.		
<b>ptt.callWaiting.enable</b>	<b>0 or 1</b>	<b>0</b>
If 0, incoming PTT sessions do not produce standard call waiting. If 1, incoming PTT sessions produce standard call waiting behavior on the active audio channel.		
<b>ptt.compatibilityMode</b>	<b>0 or 1</b>	<b>1</b>
If 0, the PTT protocol behavior is not compatible with SpectraLink handset models 8020/8030 or older. If 1, all PTT protocol behavior is compatible with the older SpectraLink handsets, even if some configuration parameters are incompatible. For example, if this parameter is enabled and <i>ptt.codec</i> is set to G.722, the G.726QI codec will be used for outgoing PTT audio to maintain compatibility.		
<b>ptt.emergencyChannel.volume</b>	<b>-32768 to 32767</b>	<b>-10</b>
The volume of emergency pages and PTT broadcasts relative to the maximum speakerphone volume of the handset. Positive values are louder than the maximum and negative values are quieter. <i>Note:</i> To enter a negative number, press the * key first.		
<b>ptt.port</b>	<b>0 to 65535</b>	<b>5001</b>
The port to send audio to and receive audio from.		

The parameters in the following table apply to PTT mode push-to-talk only.

**Table 3: Push-to-Talk Parameters**

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
<b>ptt.allowOffHookPages</b>	<b>0 or 1</b>	<b>0</b>
If 0, PTT broadcasts will not play out on the handset during an active call — except for Priority and Emergency pages. If 1, PTT broadcasts will play out on the handset during an active call.		



<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
<b>ptt.channel.x.available</b> Make the channel available to the user	<b>0 or 1</b>	<b>1</b>
<b>ptt.channel.x.allowTransmit</b> Allow outgoing broadcasts on the channel	<b>0 or 1</b>	<b>1</b>
<b>ptt.channel.x.label</b> The label to identify the channel	<b>string</b>	<b>ch1: All, ch24: Priority, ch25: Emergency, others: Null</b>
<b>ptt.channel.x.subscribed</b> Subscribe the phone to the channel	<b>0 or 1</b>	<b>ch1, 24, 25: 1, others: 0</b>
<p>A push-to-talk channel <i>x</i>, where <i>x</i>= 1 to 25. The <i>label</i> is the name used to identify the channel during broadcasts. If <i>available</i> is disabled (0), the user cannot access the channel or subscribe and the other channel parameters will be ignored. If enabled, the user can access the channel and choose to subscribe.</p> <p>If <i>allowTransmit</i> is disabled (0), the user cannot sent PTT broadcasts on the channel. If enabled, the user may choose to send PTT broadcasts on the channel.</p> <p>If <i>subscribed</i> is disabled, the phone will not be subscribed to the channel. If enabled, the phone will subscribe to the channel.</p>		
<b>ptt.codec</b>	<b>G.711mu, G.726QI, G.722</b>	<b>G.722</b>
<p>The audio codec to use for outgoing PTT broadcasts. Incoming PTT audio will be decoded according to the codec specified in the incoming message.</p>		
<b>ptt.defaultChannel</b>	<b>1 to 25</b>	<b>1</b>
<p>The PTT channel used to transmit an outgoing page if the user does not explicitly specify a channel.</p>		
<b>ptt.displayName</b>	<b>string</b>	<b>Null</b>
<p>This display name is shown in the caller ID field of outgoing pages. If Null, the value from <i>reg.1.displayName</i> will be used. If the <i>reg.1</i> display name is also Null, the handset's MAC address will be used.</p>		
<b>ptt.emergencyChannel</b>	<b>1 to 25</b>	<b>25</b>
<p>The channel assigned for emergency pages.</p>		
<b>ptt.payloadSize</b>	<b>10 to 80</b>	<b>20</b>
<p>The audio payload size in milliseconds.</p>		
<b>ptt.priorityChannel</b>	<b>1 to 25</b>	<b>24</b>
<p>The channel assigned for priority pages.</p>		
<b>ptt.pttMode.enable</b>	<b>0 or 1</b>	<b>0</b>
<p>If 0, push-to-talk is disabled. If 1, push-to-talk is enabled.</p>		

The parameters in the following table apply to page mode group paging only.

**Table 4: Group Paging Parameters**

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
<b>ptt.pageMode.allowOffHookPages</b>	<b>0 or 1</b>	<b>0</b>
The parameter related to the Accept While Busy setting. If 0, group pages will not play out on the handset during an active call — except for Priority and Emergency pages. If 1, group pages will play out on the handset during an active call.		
<b>ptt.pageMode.codec</b>	<b>G.711Mu, G.726QI, or G.722</b>	<b>G.722</b>
The audio codec to use for outgoing group pages. Incoming pages will be decoded according to the codec specified in the incoming message.		
<b>ptt.pageMode.defaultGroup</b>	<b>1 to 25</b>	<b>1</b>
The paging group used to transmit an outgoing page if the user does not explicitly specify a group.		
<b>ptt.pageMode.displayName</b>	<b>up to 64 octet UTF-8 string</b>	<b>PTT</b>
This display name is shown in the caller ID field of outgoing group pages. If Null, the value from <i>reg.1.displayName</i> will be used. If the <i>reg.1</i> display name is also Null, the handset's MAC address will be used.		
<b>ptt.pageMode.emergencyGroup</b>	<b>1 to 25</b>	<b>25</b>
The paging group to use for emergency pages.		
<b>ptt.pageMode.enable</b>	<b>0 or 1</b>	<b>0</b>
If 0, group paging is disabled. If 1, group paging is enabled.		
<b>ptt.pageMode.group.x.available</b>	<b>0 or 1</b>	<b>1</b>
<b>Make the group available to the user</b>		
<b>ptt.pageMode.group.x.allowTransmit</b>	<b>0 or 1</b>	<b>1</b>
<b>Allow outgoing announcements to the group</b>		
<b>ptt.pageMode.group.x.label</b>	<b>string</b>	<b>ch24: Priority, ch25: Emergency, others: Null</b>
<b>The label to identify the group</b>		
<b>ptt.pageMode.group.x.subscribed</b>	<b>0 or 1</b>	<b>ch1, 24, 25: 1, others: 0</b>
<b>Subscribe the phone to the group</b>		
A page mode group <i>x</i> , where <i>x</i> = 1 to 25. The <i>label</i> is the name used to identify the group during pages.		
If <i>available</i> is disabled (0), the user cannot access the group or subscribe and the other page mode group parameters will be ignored. If enabled, the user can access the group and choose to subscribe.		
If <i>allowTransmit</i> is disabled (0), the user cannot send outgoing pages to the group. If enabled, the user may send outgoing pages.		
If <i>subscribed</i> is disabled, the phone will not be subscribed to the group. If enabled, the phone will subscribe to the group.		

<i>Parameter</i>	<i>Permitted Values</i>	<i>Default</i>
<b>ptt.pageMode.payloadSize</b>	<b>10, 20, ..., 80 milliseconds</b>	<b>20</b>
The page mode audio payload size.		
<b>ptt.pageMode.priorityGroup</b>	<b>1 to 25</b>	<b>24</b>
The paging group to use for priority pages.		
<b>ptt.pageMode.transmit.timeout.continuation</b>	<b>0 to 65535</b>	<b>60</b>
The time (in seconds) to add to the initial timeout ( <i>ptt.pageMode.transmit.timeout.initial</i> ) for terminating page announcements. If this value is non-zero, an <b>Extend</b> soft key will display on the phone. Pressing the <b>Extend</b> soft key continues the initial timeout for the time specified by this parameter. If 0, announcements cannot be extended.		
<b>ptt.pageMode.transmit.timeout.initial</b>	<b>0 to 65535</b>	<b>0</b>
The number of seconds to wait before automatically terminating an outgoing page announcement. If 0, page announcements will not automatically terminate and will continue until they are manually ended.		



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