



# G1 SCBA Radio Pairing Guide for **Motorola APX™**

APX 4000 Series  
APX 5000 Series  
APX 6000 Series  
APX 7000 Series  
APX 8000 Series

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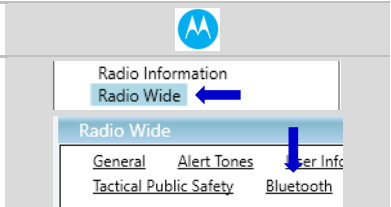
## Motorola APX Configuration Settings

### Motorola APX Radio Configuration

**Step 1.** Update Motorola Radio Firmware & Motorola Code Plug Software to Version 18.00.04 or later.

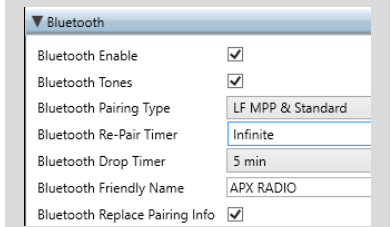
**Step 2.** Open Motorola Code Plug Software

**Step 3.** (A) Select “Radio Wide” in the Navigation Panel on the left  
 (B) Select “Bluetooth” from the Radio Wide menu in the panel to the right to jump to the Bluetooth section.

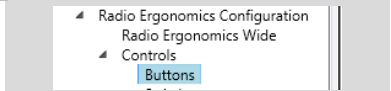


**Step 4.** In the “Bluetooth” sub-section (expand it if the section is collapsed) and set:

- Bluetooth Enable: YES
- Bluetooth Tones: YES
- Bluetooth Pairing Type: LF MPP & Standard
- Bluetooth Re-Pair Timer: Infinite
- Bluetooth Drop Timer: 5 minutes (minimum)
- Bluetooth Replace Pairing Info: YES

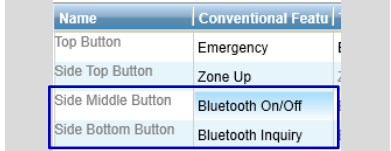


**Step 5.** (A) In the Navigation Panel, expand “Radio Ergonomics Configuration”  
 (B) Expand “Controls”, and then select “Buttons”



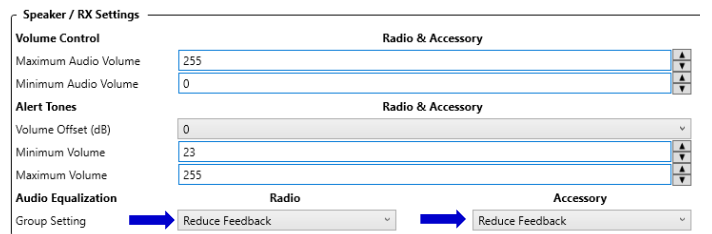
**Step 6.** Under the “Conventional Feature” column, set:

- Side Middle Button (1-dot) : Bluetooth On/Off
- Side Bottom Button (2-dot): Bluetooth Inquiry On/Off



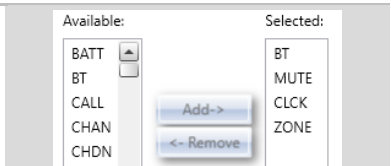
**Step 7.** To improve clarity when firefighters are in close proximity:

- (A) Under “Radio Ergonomics Configuration” and “Radio Profiles” select the desired profile
- (B) Go to “Audio Settings” → “Speaker / RX Settings” → “Audio Equalization”
- (C) set the “Group Setting” for the Radio and Accessory to “Reduce Feedback”
- (D) Repeat for each profile desired.

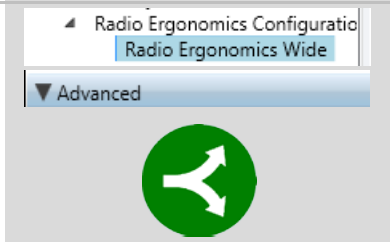


**Step 8.** **Two Display Radios ONLY:**

- (A) Under “Radio Ergonomics Configuration” → “Controls”
- (B) Select “Menu Items”
- (C) Ensure the “BT” menu item is added to the “Selected” List



**Step 9.** (A) Go to “Radio Ergonomics Configuration” → “Radio Ergonomics Wide”  
 (B) Click the “Advanced” link at the top to jump to the “Advanced” sub-section and expand it.  
 (C) Choose the settings (next page) for the desired PTT and Speaker Option  
 Proceed to “**OPTION 1**” for radios WITH a Remote Speaker Mic (RSM)  
 Proceed to “**OPTION 2**” for radios WITHOUT a Remote Speaker Mic (RSM)



## OPTION 1: RSM Large Button as PTT button and Default Incoming Audio to RSM

This option is for Motorola APX Radios WITH a Remote Speaker Mic (RSM).

*Note: Allows Speaker Volume control.*

And will operate with: (A) the RSM's large button as PTT button, and  
(B) Default Incoming Audio to the RSM.



**Step 1.** Under "Radio Ergonomics Configuration" → "Radio Ergonomics Wide" → "Advanced"

(A) For the "Active Mic for Radio PTT" setting:  
Select "Wireless Mic" from the drop-down

(B) For the "Active Mic for RSM PTT" setting:  
Select "Wireless Mic" from the drop-down.

Active Mic for Radio PTT	Wireless Mic
Active Mic for RSM PTT	Wireless Mic

**Step 2.** For the "Bluetooth Receive Audio" setting:  
Select "RSM/Internal Speaker" from the drop-down.

Bluetooth Receive Audio	RSM/Internal Speaker
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## OPTION 2: Radio's Large Button as PTT button with Incoming Audio to the G1 Lapel Mic

This option is for Motorola APX Radios WITHOUT a Remote Speaker Mic (RSM).

And will operate with: (A) the Radio's large button as PTT button, and  
(B) Default Incoming Audio to the G1 Lapel Speaker



**Step 1.** Under "Radio Ergonomics Configuration" → "Radio Ergonomics Wide" → "Advanced"

For the "Active Mic for Radio PTT" setting:  
Select "Wireless Mic" from the drop-down.




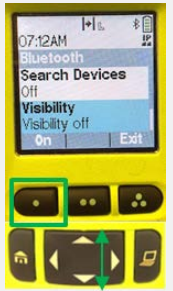
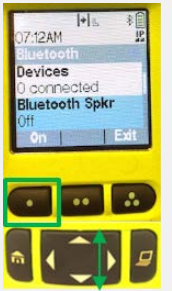
Active Mic for Radio PTT	Wireless Mic
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**Step 2.** For the "Bluetooth Receive Audio" setting:  
Select "Bluetooth Speaker" from the drop-down.

Bluetooth Receive Audio	Bluetooth Speaker
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## Motorola APX Screen Navigation

### Navigating: Motorola APX Radio Screens

Scroll to Next Menu	Selecting BT Menu	Turn BT (Status) On	Turn Visibility On	Speaker Setting
 <p><b>Step 1:</b> Turn on the radio on with the volume knob. Then, Press the Right Arrow button to get to the "BT" choice as shown in the next figure.</p>	 <p><b>Step 2:</b> Press the button under "BT" to enter the Bluetooth settings menu page.</p>	 <p><b>Step 3:</b> Navigate to "Status" using arrow keys. Then, Press the button under "On" to change the status to "On"</p>	 <p><b>Step 4:</b> Navigate to "Visibility" using arrow keys. Then, Press the button under "On" to change the status to "Visibility All"</p>	 <p><b>Optional:</b> Navigate to "Bluetooth Spkr" using arrow keys. "Off" = incoming audio through Radio/RSM. "On" = incoming audio through G1 Lapel Speaker.</p>

**Notes:**

- Dual Screen Radio menus depicted herein.
- Menu availability may be customized, as referenced in the previous page, and if some menus are currently not visible on the radio, re-programming may be required for those menus to be visible.
- For radio models not depicted, please consult the product documentation for information on the appropriate procedures.

**G1 Bluetooth Settings Tag** **Creating a G1 SCBA Configuration Tag (G1 Bluetooth Settings)**

The purpose of this section is to: (1) enable the Bluetooth radio on the G1 SCBA and (2) to set Bluetooth Pair Save behavior based on the department's preference.

<p><b>Step 1.</b> Launch the MSA A2 Software</p>	
<p><b>Step 2.</b> Select the "G1 Tags" Tile on the A2 Dashboard (Under the "G1 Devices" column)</p>	
<p><b>Step 3.</b> Select tag type: "G1 Configurations"</p>	
<p><b>Step 4.</b> Select the <u>Add (+)</u> icon (top-right) to create the configuration template, which will be used to change these 2 settings.</p>	
<p><i>Note:</i> This tag can be written without saving a template, but a template can be saved using the <u>Save Icon</u> (top-right) if a template Name is filled in.</p>	
<p><b>Step 5.</b> Enabling the G1 SCBA's Bluetooth Radio:          (A) Expand the "Bluetooth Settings" section.          (B) Change "Bluetooth Disabled/Enabled" setting to "Enabled".</p>	
<p><b>Step 6.</b> <u>Preference Choice:</u> "Bluetooth Pair Save" setting options:          (A) Require Radio Pairing Tag in every SCBA is turned on, choose "Disabled"          (B) To retain the Radio Pairing on the SCBA until "clearing the pair" *, choose "Enabled"          * - defined on the "Removing Radio Pairing Info from the G1 SCBA" page.</p>	
<p><b>Step 7.</b> Writing the G1 Configuration Tag:          (A) Place RFID Tag on the RFID Reader / Writer          (B) Select the <u>Write G1 Tag</u> icon (top-right side of A2 application)</p>	
<p><b>Step 8.</b> Applying the G1 Configuration Tag to the G1 SCBA(s):          (A) Power on the G1 SCBA          (B) <b>Press &amp; hold</b> either of the <b>green</b> Control Module buttons to activate the RFID mode. <i>For iTic Control modules: Press &amp; Hold Both Green Buttons.</i>          (C) Place Bluetooth Pairing Save Tag over G1 Power Module RFID Target.</p> <p><b>The G1 SCBA is now configured with the settings:</b>          - G1 Bluetooth is now enabled - G1 Bluetooth Pair Save (as chosen).  <b>The G1 SCBA is now ready to accept a Radio Pairing tag.</b></p> <p><i>Repeat this "Step 8" for each SCBA to apply these 2 settings.</i></p>	

## Radio ID Pair Tag

## Creating a G1 SCBA Motorola APX Radio Pairing Tag

To pair the radio to the G1 SCBA, a “Bluetooth Audio Pairing Tag” needs to be created in the A2 Software. Once the Pairing Tag is created, it can be applied to the SCBA, which “programs” the SCBA to connect to that specific radio.



<p><b>Step 1.</b> Launch the MSA A2 Software</p>	
<p><b>Step 2.</b> Select the “G1 Tags” Tile on the A2 Dashboard (Under the “G1 Devices” column)</p>	
<p><b>Step 3.</b> Select tag type: “Bluetooth Audio Pairing Tags”</p>	
<p><b>Step 4.</b> Ensure that your PC's Bluetooth adapter is on, and selected for use in A2, and that your RFID Reader/Writer is connected and ready.</p> <ul style="list-style-type: none"> <li>Both modules appear in lower left of A2 display. Generally they will appear as the computer's name, or as "localhost".</li> <li>If either is not visible, and also not selectable under "Select Other device": disconnect and reconnect the hardware;</li> <li>Restart the A2 service if necessary.</li> </ul>	
<p><b>Step 5.</b> Turn on the Motorola APX Radio using the volume knob.</p>	
<p><b>Step 6.</b> Making the Motorola APX Radio Discoverable, &amp; Discovering it in A2:</p> <p>(A) For <u>Single Display Radios</u>:</p> <ol style="list-style-type: none"> <li>Press &amp; Hold the middle (1-dot) button for approx. 30 seconds.</li> <li>While continuing to hold radio button down, select “Discover Devices” in A2.</li> </ol> <p>For <u>Dual Display Radios</u>:</p> <ol style="list-style-type: none"> <li>Turn on “Visibility” via the Radio Bluetooth menu ← See “<i>Motorola APX - Two-Screen Navigation</i>” page for details.</li> <li>Select “Discover Devices” in A2.</li> </ol> <p>(B) Click the <u>discovered Motorola APX Radio</u> in A2 to select it.</p>	

## Step 7. Writing the Bluetooth Audio Pairing Tag:

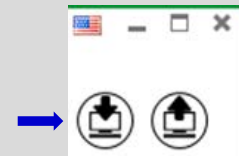
- (A) Place RFID Tag on the RFID Reader / Writer.
- (B) Select the Write G1 Tag icon (top-right side of A2).
- (C) Click “OK” on the “Tag was successfully written” dialog.



*Note: Hovering over the icons will also show “Write Tag” or “Read Tag”.*

## Step 8. Verifying the Information Written to the Tag:

- (A) Place RFID Tag on the RFID Reader / Writer
- (B) Select the Read G1 Tag icon (top-right side of A2 application)
- (C) The “Found Tag” screen will appear.
- (D) Confirm the tag’s Bluetooth Address matches the Radio.



Found Tag	
UUID	1112
Display Name	MOTOROLA BT140
Bluetooth Address	C8:3E:99:92:51:89

**The Radio Pairing tag is now created & can be used to pair this radio with a G1 SCBA.**

## Pairing G1 & Radio

### Pairing a G1 SCBA and Motorola APX Radio

Ensure the radio is programmed correctly to connect with the G1 SCBA. Necessary and recommended settings are listed in the “Motorola APX Configuration Settings” Section. Consult with your Radio Technician as necessary.

<p><b>Step 1.</b> Turn on the Motorola APX Radio using volume knob.</p>	
<p><b>Step 2.</b> Verify Bluetooth icon is visible on radio display. (That Bluetooth capability is enabled) <i>If not visible, enable the radio's Bluetooth OR reconfigure radio.</i></p>	
<p><b>Step 3.</b> Power on the G1 SCBA.</p>	
<p><b>Step 4.</b> <b>Press &amp; hold</b> either of the <b>green</b> Control Module buttons to activate the RFID mode.  <i>For iTic Control modules: Press &amp; Hold Both Green Buttons.</i></p>	
<p><b>Step 5.</b> Register the Radio to the G1 SCBA:  Place the RFID the Motorola APX Radio's Pairing Tag over the G1 Power Module RFID Target.</p>	
<p><b>Step 6.</b> Pair the Radio:</p> <p>For <u>Single Display Radios</u>:</p> <ul style="list-style-type: none"> <li>- Press &amp; Hold middle (1-dot) button on the radio (approx. 30 seconds).</li> <li>- The radio will give an audible indication when pairing is complete.</li> </ul> <p>For a <u>Dual Display Radios</u>:</p> <ul style="list-style-type: none"> <li>- A pairing request will appear on the radio display, accept the pairing request using the radio menu button. The radio will give an audible indication when pairing is complete.</li> </ul>	<p>Single Display Radios:</p> <p>Dual Display Radios:</p>
<p><b>The G1 SCBA &amp; Motorola Radio is now paired and ready for use.</b></p> <ul style="list-style-type: none"> <li>• <i>After a successful pairing, if the regulator is shut off, the G1 SCBA will not remain connected to the radio, and the radio is available for non-Bluetooth use.</i></li> <li>• <i>The G1 SCBA will automatically reconnect to the radio when the end user turns on the G1 regulator &amp; breathes.</i></li> </ul>	



## Using Paired G1 & Radio

### Using the G1 SCBA and Motorola APX Radio

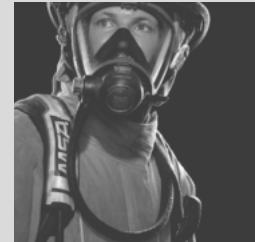
Confirm that the Motorola APX Radio Pairing Tag is applied to the G1 SCBA. (Or was applied previously and pair is saved)

**Step 1.** Turn on the Motorola APX Radio using volume knob.



**Step 2.** Don the G1 SCBA and securely attach the G1 Facepiece to your face.

*A poor facepiece seal can cause improper microphone performance, such as intermittent audio.*



**Step 3.** Turn on the G1 SCBA via pressurization.

- The G1 SCBA will try to establish a Bluetooth connection to the **currently paired radio** for up to 8 minutes.
- When found, it will quickly connect and disconnect, (and is now ready to automatically activate when breathing.)

*If the connection is not established, repeat the pairing process described in the previous section.*



**Step 4.** Begin breathing (with the regulator attached).  
The radio and SCBA will connect automatically (approx. 20 seconds).



**All SCBA voice communication will now go from the SCBA through the portable radio.**

#### Use Notes & Tips:

- Turn on the radio before you turn on the G1 SCBA.
- If the regulator is shut off, The G1 SCBA will not remain connected to the radio. The radio can be used by itself (no Bluetooth connection) when the regulator is shut off. The G1 SCBA will automatically reconnect to the Kenwood radio when breathing on the G1 regulator resumes.
- Verify both the incoming and outgoing audio functionality after you have established the Bluetooth wireless connection.

**Best practice** is to: Clear the pairing information **from both devices**—the radio & the G1 SCBA. This prevents the G1 SCBA from connecting to a previously-paired Bluetooth radio during the next start-up.

## Clearing G1 SCBA Pair

### Clearing Radio Pairing Info from the G1 SCBA

There are 3 methods for removing stored Radio pairing information from the G1 SCBA.

- All three methods are effective on G1 SCBAs configured with “Bluetooth Pair Save” being “Disabled”
- The “**Battery Removal Method**” is a popular method, however, note that this method is **NOT effective when the G1 SCBA is configured with the “Bluetooth Pair Save” setting set to “Enabled”**.

#### Method 1 – Battery Removal *(Only effective when the G1 “Bluetooth Pair Save” setting is “Disabled”)*

**Step 1.** Remove G1 SCBA Battery

**Bluetooth audio pair info is cleared from the G1 SCBA.**

*Next → “Clearing Radio Pairing Info from the Motorola APX Radio” in the next section.*

#### Method 2 – Pair New Radio

**Step 1.** Pair a different Bluetooth Motorola APX Radio with the G1 SCBA using the new radio’s Bluetooth Audio Pairing Tag, as described in the “Pairing a G1 SCBA and Motorola APX Radio” section.

**Bluetooth audio pair info on the G1 SCBA is changed to the pair info for the new radio.**

*Next → “Clearing Radio Pairing Info from the Motorola APX Radio” in the next section.*

#### Method 3 – Use a “Reset Bluetooth Pairing” Tag

*If not yet created, create a “Reset Bluetooth Pairing” Tag in the A2 software, under “G1 Tags” tile → “Special G1 Tags” → Expand “Reset Tags” list → Select “Reset Bluetooth Pairing”*

**Step 1.** **Press & hold** either of the **green** Control Module buttons to access the RFID mode display.

**Step 2.** Place the “Reset Bluetooth Pairing” Tag over the G1 Power Module RFID Target.

**Bluetooth audio pair info is cleared from the G1 SCBA.**

*Next → “Clearing Radio Pairing Info from the Motorola APX Radio” in the next section.*

## Clearing APX Radio Pair

### Clearing Radio Pairing Info from the Motorola APX Radio

**Step 1.** Single & Dual Display Radios: Press & Hold Bluetooth on/off button (2-dot side bottom button).

The radio will give an audible indication when pairing is removed.

*- Dual display radios can also be cleared using their Bluetooth Menu Screens instead.*

**Bluetooth audio pair info is cleared from the Motorola APX Radio.**

*If not done already: Clear the pairing info from the previously connected G1 SCBA’s pair history using the process described in in the previous section: “Clearing Radio Pairing Info from the G1 SCBA”.*

## Troubleshooting

### G1 SCBA & Motorola Radio Troubleshooting

Topic	Problem/Issue	Diagnosis	Possible Solution	Expected Result
<b>Audio</b>	Intermittent Audio	Facepiece may not be properly sealed	Adjust the facepiece until a proper seal is formed	Outgoing audio will function as expected
	Incoming and/or outgoing audio from G1 is not working	Bluetooth icon is visible on the Radio	Power the portable radio on and off to reset the auto connect.	Radio will automatically connect to G1 and emit an audible indication for success.
			If power cycling the radio does not result in a successful connect, clear the G1 & Radio pairing history and repair the G1 & Radio.	G1 & Radio will now connect and audio will function as expected
Poor audio quality from G1 to Radio	G1 has Firmware SW 2.003 or prior SW version	Update G1 to Firmware SW 3.0 via A2 Software	Improved G1 outgoing audio quality	
<b>Pairing</b>	Bluetooth pairing information lost from G1	Pairing information is cleared when the battery G1 battery is removed. (When G1 "Bluetooth Pair Save" is not set to enabled.)	G1 with SW 3.0 or higher is configurable to retain pairing information across battery removals. Review instructions for "G1 SCBA Configuration Tag" and Bluetooth Paring Save settings.	Bluetooth pairing information will no longer be cleared on every battery removal.
	Radio will not pair with G1	Bluetooth icon is NOT visible on the radio	Turn on Radio Bluetooth via a 2-dot radio button press	Bluetooth icon is visible on Radio and pairing is now successful.
			Power the portable radio on and off to reset the auto connect.	
			If power cycling the radio does not result in a successful connect, clear the G1 & Radio pairing history. Repair the G1 & Radio.	
	Radio is paired to an incorrect G1	G1 is not Bluetooth enabled, icon on control module is gray	Enable Bluetooth on the G1 using a G1 Configuration tag that enables Bluetooth.	Bluetooth icon on the G1 control module will be: <i>Red</i> = enabled/unpaired OR enabled/paired, not connected <i>Green</i> = enabled/connected
		Radio is a non-Motorola APX Series Bluetooth Radio	G1 is compatible with Bluetooth Motorola APX Series Radios.	To use G1 Bluetooth audio, pair with 4000, 5000, 6000, 7000, or 8000 Motorola APX Radios.
Radio is paired to an incorrect G1	Radio and/or G1 was previously paired to a different radio or G1	Clear the pairing information on both the G1 & Radio. Pair desired G1 & Radio	Desired G1 and Radio will be paired together	