G1 SCBA Radio Pairing Guide for

Harris® XL-185P | XL-200P

Harris XL-185P | XL-200P Configuration Settings

Step 1. Obtain **Radio Personality Manager 2** (RPM2) software from the Harris Technical Assistance Center (TAC): 1-800-528-7711 (Opt.3) PSPC_TAC@harris.com

Step 2. Open the Harris RPM2 Software

Step 3. Connect the programming cable to the portable radio:

(A) Hook the pin side of the connector in the radio's notch.

(B) Attach the connector with the Thumb screw.

Step 4. Insert the USB end of the cable in the computer that is running RPM2.

Step 5. Turn on the Radio using the volume knob.

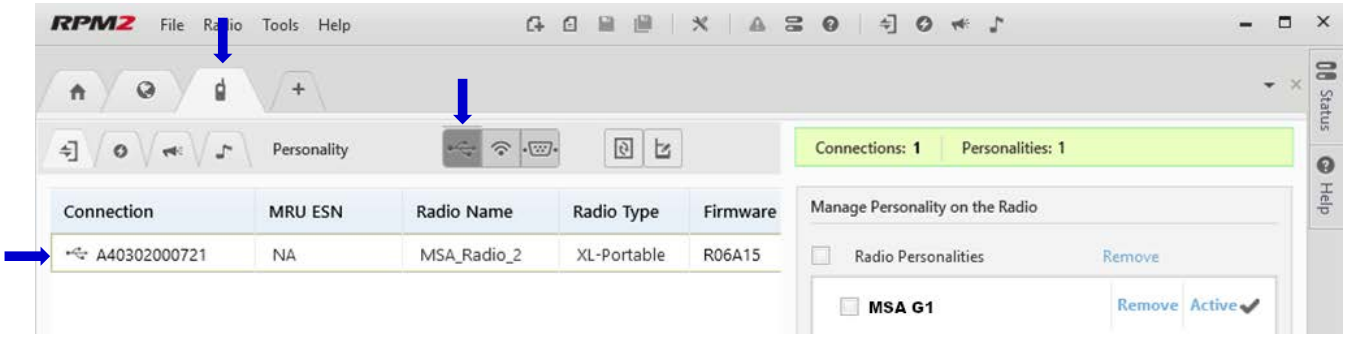
Wait a few seconds for the screen to illuminate and start-up to complete.

Step 6. Navigating to the Radio's Personality into RPM2:

(A) Navigate to the "**Radio**" tab, and "**Personality**" sub-tab.

(B) If not automatically selected, select the USB communication type.

(C) The Radio should show in the **Connection list.**

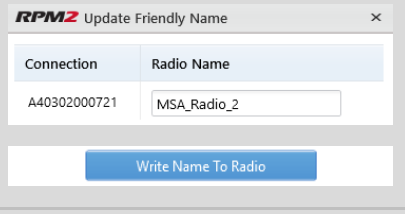


Step 7. Set a **unique** Bluetooth pairing **'friendly name'** for the **connected radio**:

(A) Select the "Radio Name" Icon

(B) Key in desired name.

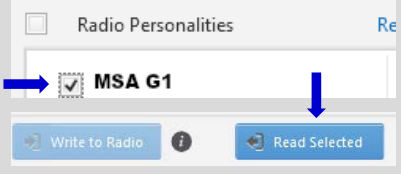
(C) Click the "**Write Name to Radio**" Button.



Step 8. Load the Radio's "**Personality**" (its configuration) into RPM2 (for editing):

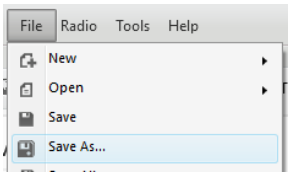
(A) Check the box for the active personality on the connected radio.

(B) Click the "**Read Selected**" Button

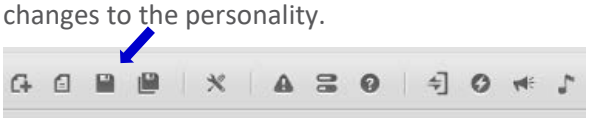


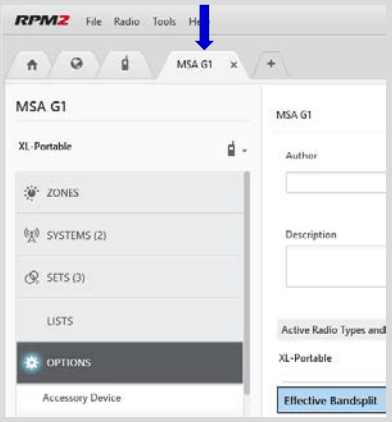
Step 9. The Personality will load into RPM2 in a new tab.

- Save this Personality to the local computer (to write to other radios later) by opening the "File" menu, and choosing "Save as…"



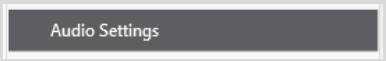
- Use the "Save" Icon (or the File menu and "Save" item) to save your changes to the personality.





Step 10. (A) Click on the Personality's "**Options**" Section to expand it.

(B) Choose the "**Audio Settings**" item.



Step 11. Under "**Audio Settings**" > "**Audio Menu Settings**" and:

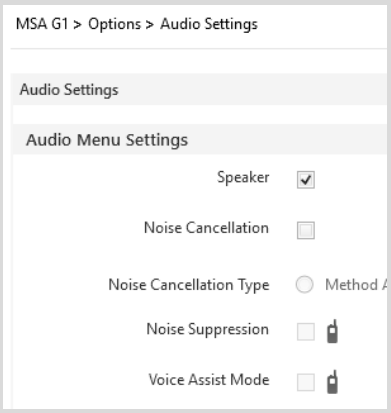
(A) Check "**Speaker**"

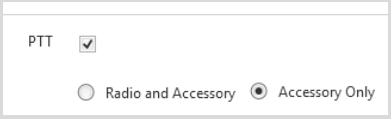
(B) "**Noise Cancellation**" OFF (unchecked)

In the "**PTT Options**" of the same "**Audio Menu Settings**" section:

(C) Check "**PTT**"

(D) Select "**Accessory Only**"





If the Harris radio is equipped with a **Harris FSM Speaker**, the Rx audio will always be **routed to BOTH the Harris FSM speaker AND the MSA G1 lapel speaker**. If desired, the firefighter can **turn off the G1 Lapel Speaker** (in order to only play audio through the FSM speaker) **by depressing the G1 Lapel Speaker's button for 3 seconds.**

If the Harris radio is **NOT equipped with a Harris FSM speaker**, the audio **will not play through the radio speaker** if the G1 Lapel Speaker is turned off; The G1 Lapel Speaker should be left ON in this situation.

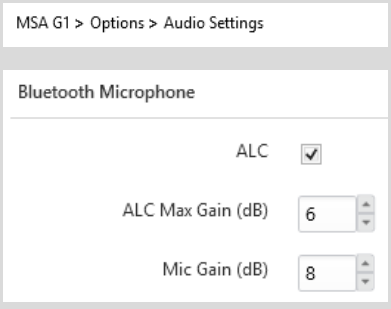
Step 12. Scroll down to "**Bluetooth Microphone**" options and:

Harris recommended settings are:

(A) Enable (check) "**ALC**"

(B) "**ALC Max Gain**" can be left at "**6**" (dB)

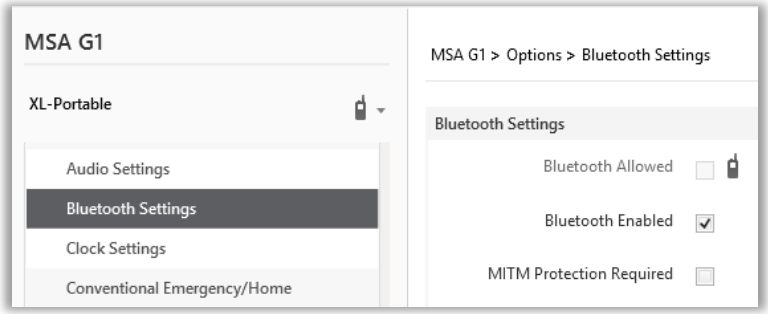
(C) Set "**Mic Gain**" to "**8**" (dB)



Consult your Harris radio technician before making adjustments to the recommended settings.

Step 13. Back under the "**Options**" Section:
Scroll down to, and:

- Select "**Bluetooth Settings**"
  - o Enable Bluetooth
  - o Disable MITM Protection



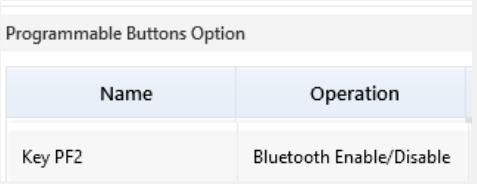
Soft Menu Option

OPTION: Program a button or softkey to turn Bluetooth ON/OFF.

In this example we'll program the front, center softkey (PF2).

Back under the Personality's "**Options**":

- Select : Portable Programmable Buttons
- Scroll down to the button named "**Key PF2**"
- Set its "Operation" to "**Bluetooth Enable/Disable**"



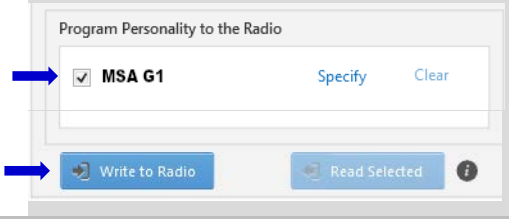
Step 14. **Save the changes** to the "**Personality**" as described in Step 9. Above.

Step 15. Return to the "**Radio Tab**".

Step 16. In the "Program Personality to the Radio" box on the Bottom right:

Check the Personality to be written to the radio.

Click the "Write to Radio" button.



G1 Bluetooth Settings Tag

Creating a G1 SCBA Configuration Tag (for Bluetooth Pair Save Preferences)

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.

Step 1. Launch the MSA A2 Software.

Step 2. Select the "G1 Tags" Tile on the A2 Dashboard (Under the "G1 Devices" column).

Step 3. Select tag type: "G1 Configurations"

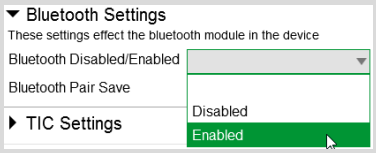
Step 4. Select the Add (+) icon (top-right hand side of A2 application) to create the configuration template, which will be used to change these 2 settings.

Note: *Tag can be written without saving the template, but the template can be saved for future use if given a name:* 

The Save Icon (top-right) is enabled when the Name is filled in.

Step 5. Enabling the G1 SCBA's Bluetooth Radio:

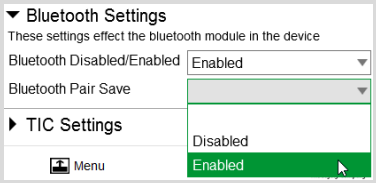
(D) Expand the "Bluetooth Settings" section.
(E) Change "Bluetooth Disabled/Enabled" setting to "Enabled".



Step 6. Preference Choice: "Bluetooth Pair Save" setting options:
(*Generally, a department's operating procedures will determine its preference*)

(A) To apply a Radio Pairing Tag every time SCBA is turned on, choose "Disabled"
(B) To retain the Radio Pairing on the SCBA until it's cleared *, choose "Enabled"

** - See "Clearing Radio Pairing Info from the G1 SCBA" page.*



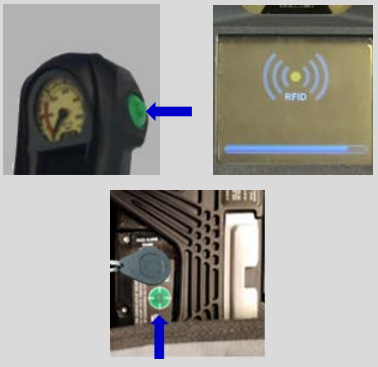
Step 7. Writing the G1 Configuration Tag:

(A) Place RFID Tag on the RFID Reader / Writer

(B) Select the Write G1 Tag icon (top-right hand side of A2 application)

Step 8. Applying the G1 Configuration Tag to the G1 SCBA(s):

(A) Power on the G1 SCBA
(B) **Press & hold** either of the **green** Control Module buttons to activate the RFID mode.
For iTIC Control modules: Press & Hold Both Green Buttons.
(C) Place Bluetooth Pairing Save Tag over G1 Power Module RFID Target.



The G1 SCBA is now configured with the settings:
- G1 Bluetooth is now enabled - G1 Bluetooth Pair Save (as chosen).

The G1 SCBA is now ready to accept a Radio Pairing tag.

Repeat this "Step 8" for each SCBA to apply these 2 settings.

Radio ID Pair Tag

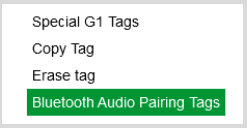
Creating a Harris XL-185P | XL-200P Radio Pairing Tag

To pair the radio to the G1 SCBA, a "Bluetooth Audio Pairing Tag" needs 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.

Step 1. Launch the MSA A2 Software

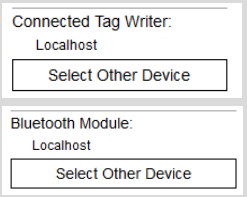
Step 2. Select the "G1 Tags" Tile on the A2 Dashboard (Under the "G1 Devices" column)

Step 3. Select tag type: "Bluetooth Audio Pairing Tags"



Step 4. 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.

- Both modules appear in lower left of A2 display. Generally they will appear as the computer's name, or as "localhost".
- If either is not visible there or under "Select Other device": disconnect and reconnect the hardware;
- Restart the A2 service if necessary.



Step 5. Turn on the Harris Radio using the volume knob.

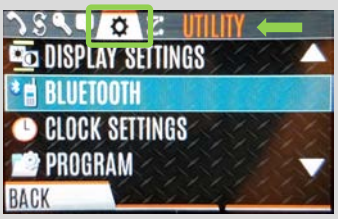
Step 6. Ensure **Bluetooth is "ON"** (BT Icon is visible).
The Radio should start with Bluetooth enabled, **but if has been turned off**:

(A) If Soft Button (front Display) is configured for Bluetooth on/off:

Press "Bluetooth". The Bluetooth Icon should appear on the upper display bar.

(B) Use the Settings menu:

a. Press the button in the Center of the arrow pad to radio's settings menu sets.
b. Use the Left or Right arrow until the "**Utility**" menu (**Gear Icon**) is highlighted on the little tabs at the top of the screen.
c. Up or Down arrow until "**Bluetooth**" menu is highlighted
d. Press the button in the Center of the arrow pad to open it.
e. Up or Down arrow until [Bluetooth] "**Enabled**" is highlighted
f. Press the menu button in the Center of the arrow pad to change "Enabled" to "**YES**".



Step 7. Make the Radio **Bluetooth Discoverable**:

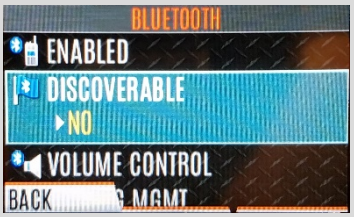
Note: Every time you power on the Harris XL-185P | XL-200P, it starts up with Discoverability set to OFF. Follow this procedure to turn it ON.

If you left the Bluetooth Utility Menu, navigate back to it using the procedure found on Page 6, Step 6. method (B) steps "a." through "d.", and then:

(A) Up or Down arrow until "Discoverable" is highlighted

(B) Press the menu button in the Center of the arrow pad to change to "YES"

(C) **** STAY ON THIS SCREEN **** Leaving the Bluetooth menu will turn discoverability OFF again. To remain "discoverable" you must stay on this screen.

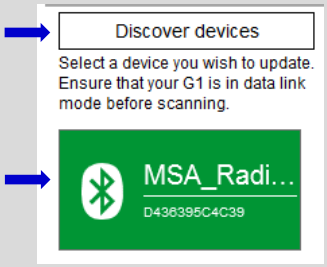


**** STAY ON THIS SCREEN ****

Step 8. Discovering the Radio in A2:

(A) Click "Discover Devices"
You may have to scan twice if the Friendly name doesn't appear.

(B) Select the tile for the discovered Radio in A2 to select it.
The discovered device info will load on the screen:



Discovered Bluetooth Device	
Id	c1c0438c-9bde-4da3-9afc-86ad6c671aa8
Display Name	MSA_Radio_1
Bluetooth Address	D436395C4C39

Step 9. Writing the Bluetooth Audio Pairing Tag:

(A) Place RFID Tag on the RFID Reader / Writer

(B) Select the Write G1 Tag icon
(top-right hand side of A2 application)

(C) Click "OK" on the "Tag was successfully written" dialog.

Note: Hovering over the icons will also show "Write Tag" or "Read Tag".

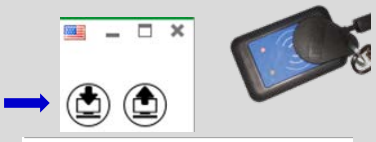
Step 10. Verifying the Information Written to the Tag:

(A) Place RFID Tag on the RFID Reader / Writer

(B) Select the Read G1 Tag icon
(top-right hand 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	MSA_Radio_1
Bluetooth Address	D4:36:39:5C:4C:39
Pairing	SSPJustWorks
Pin	
Service	AudioGateway

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

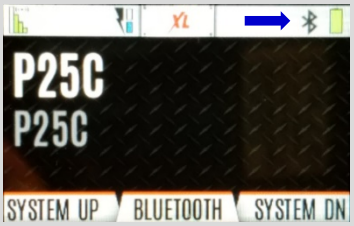
Pairing G1 & Radio

Pairing a G1 SCBA and Harris XL-185P | XL-200P Radio

Ensure the Harris Radio is programmed correctly to connect with the G1 SCBA. Necessary and recommended settings are listed in the "Harris Configuration Settings" page. Consult with your Radio Technician.

Step 1. Turn on the Harris Radio using the volume knob.

Step 2. Verify that Bluetooth is "ON" the radio Bluetooth icon is visible on radio display. *If not visible, enable the radio's Bluetooth (See Page 6, Step 6, for details) OR reconfigure radio.*



Step 3. Make the Radio **Bluetooth Discoverable**:

Note: Every time you power on the Harris XL-185P | XL-200P, it starts up with Discoverability set to OFF. Follow this procedure to turn it ON.

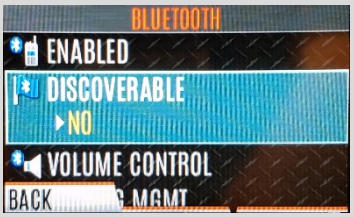
If you left the Bluetooth Utility Menu, navigate back to it using the procedure found on Page 6, Step 6. method (B) steps "a." through "d.", and then:

(D) Up or Down arrow until "Discoverable" is highlighted

(E) Press the menu button in the Center of the arrow pad to change to "YES"

**** STAY ON THIS SCREEN **** Leaving the Bluetooth menu will turn discoverability OFF again, and pairing will fail.

To keep "Discoverable = YES" you must stay on this screen.



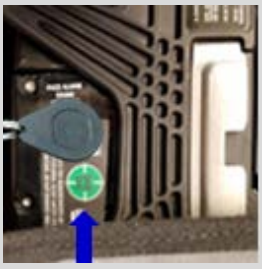
**** STAY ON THIS SCREEN ****

Step 4. **Press & hold** either of the **green** Control Module buttons to activate the RFID mode.

For iTic Control modules: Press & Hold Both Green Buttons.

Step 5. **Register the Radio to the SCBA:** Place the Harris Radio **Pairing Tag** over the G1 Power Module **RFID Target**.

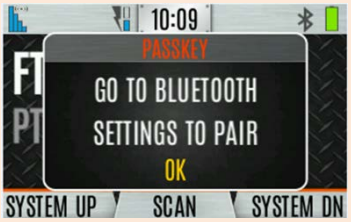
After the pairing tag is successfully read, a Bluetooth enabled G1 SCBA will search for a pairing partner for 8 minutes. The pairing process should be repeated if 8 minutes is exceeded.



If you left the Bluetooth Settings screen (described in Step 3), Discovery is turned OFF, and you will see a message popup like this.

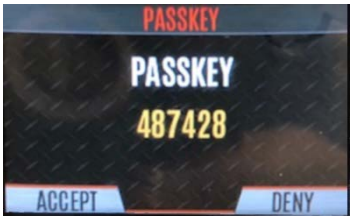
Accepting the paring request sent from the SCBA will not be successful.

a) Repeat step 3, 4, and 5.



Step 6. When the Passkey Is presented on the radio:
Press the softkey for "ACCEPT".

The Pairing Complete message will appear:
Press the softkey for "OK".



The G1 SCBA & Harris Radio is now paired and ready for use.

- *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.*
- *The G1 SCBA will automatically re-connect to the radio when the end user turns on the G1 regulator & breathes.*

If you encouter difficulty pairing the radio:

- *Clear the pair information stored on the radio, as described in the "Clearing SCBA Pairing Info from the Harris XL-185P | XL-200P Radio" section in the pages hereafter.*
- *For good measure clear the pairing information on the SCBA, as described in the "Clearing Radio Pair Info from the G1 SCBA" section in the pages hereafter.*
- *Repeat the "Pairing a G1 SCBA and Harris XL-185P | XL-200P Radio" procedure above.*

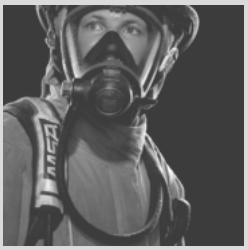
Using Paired G1 & Radio

Using the G1 SCBA and Harris XL-185P | XL-200P Radio

Confirm that the G1 SCBA, and Radio, are paired together: Radio Tag has been applied (or applied previously and pair is saved)

Step 1. Turn on the Harris Radio using volume knob.

Step 2. Don the G1 SCBA and G1 Facepiece.

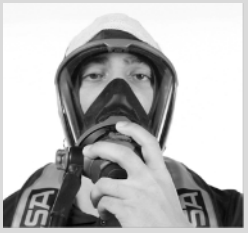


Step 3. Turn on the G1 SCBA via pressurization.

- 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, the pairing process described in the previous section should be repeated.

Step 4. Begin breathing (with the regulator attached) and 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 Harris radio prior to the G1 SCBA.
- 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. The G1 SCBA will automatically re-connect to the Harris radio when breathing on the G1 regulator.
- Verify both the incoming and outgoing audio functionality after the Bluetooth wireless connection is established.

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 Pair 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".**

G1 Pairing Removal 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 SCBA Pairing Info from the HARRIS XL-185P| XL-200P Radio" section, hereafter.

G1 Pairing Removal Method 2 – Pair New Radio

Step 1. Pair a different Bluetooth Harris Radio with the G1 SCBA using the new radio's Bluetooth Audio Pairing Tag, as described in the "Pairing a G1 SCBA and Harris XL-185P | XL-200P Radio" section.

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

Next → "Clearing SCBA Pairing Info from the HARRIS XL-185P | XL-200P Radio" section, hereafter.

G1 Pairing Removal 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 SCBA Pairing Info from the HARRIS XL-185P | XL-200P Radio" section, hereafter.

Clearing Radio Pair

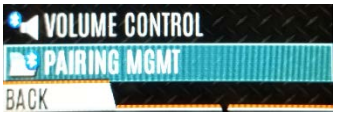
Clearing SCBA Pairing Info from the Harris XL-185P | XL-200P Radio

Step 1. Press the button in the Center of the arrow pad to enter the radio's settings menu sets.

Step 2. Use the Left or Right arrow until the "Utility" menu (Gear Icon) is highlighted on the little tabs at the top of the screen.

Step 3. Press Down arrow until "Bluetooth" menu is highlighted, and press the button in the Center of the arrow pad to enter it.

Step 4. Press Down arrow until "Pairing Mgmt." is highlighted, and press the button in the Center of the arrow pad to enter it.



Step 5. Select a device to be unpaired and press the soft key for the "**OPTIONS**" action.

Select "**Delete All**" to clear all SCBA pairs.

Select "**Yes**" to delete All pairs.

Bluetooth audio pair info is cleared from the Harris Radio.

If not done already: Clear the pairing info from the previously connected G1 SCBA's pair history using the process described in the "Clearing Radio Pair Info from the G1 SCBA" section, above.

Troubleshooting

Topic	Problem/Issue	Diagnosis	Possible Solution	Expected Result
Audio	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 re-pair 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
Pairing	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 Bluetooth on, on the Radio.	Bluetooth icon is visible on Radio and pairing is now successful.
			If turning on Bluetooth on the radio does not work: clear the G1 & Radio pairing history. Re-pair the G1 & Radio.	
		Bluetooth Discoverable is set to "NO"	Go to Radio Bluetooth Settings and Set Discoverable to "YES" and **STAY ON THIS SCREEN DURING PAIRING.** Re-apply the Pairing Tag to the G1.	Paring will successfully complete.
		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: *Red* = enabled/unpaired OR enabled/paired, not connected *Green* = enabled/connected
		Radio is a not a Harris XL-185P | XL-200P Bluetooth Radio	G1 is compatible with Harris XL-185P | XL-200P Bluetooth Radios.	To use G1 Bluetooth audio, pair with a Harris XL-185P | XL-200P
	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