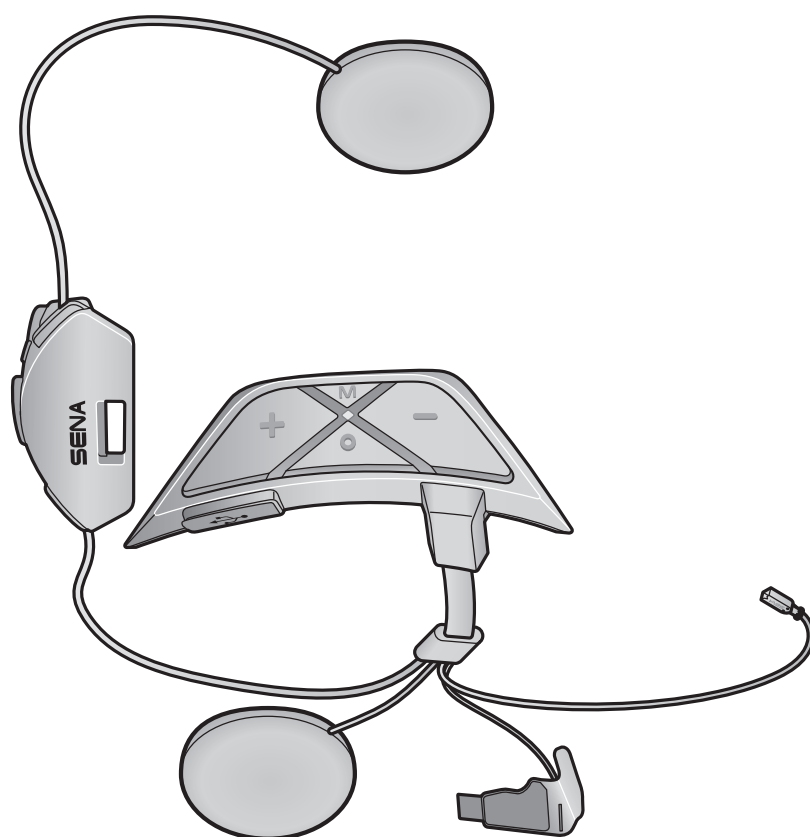


SENA



ABC

MOTORCYCLE MESH COMMUNICATION SYSTEM
FOR AVA ARROW HELMETS

HD SPEAKERS

USER'S GUIDE

Version 1.0.0

ENGLISH

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1. ABOUT THE ABC

1.1 Product Features



Bluetooth® 5.2



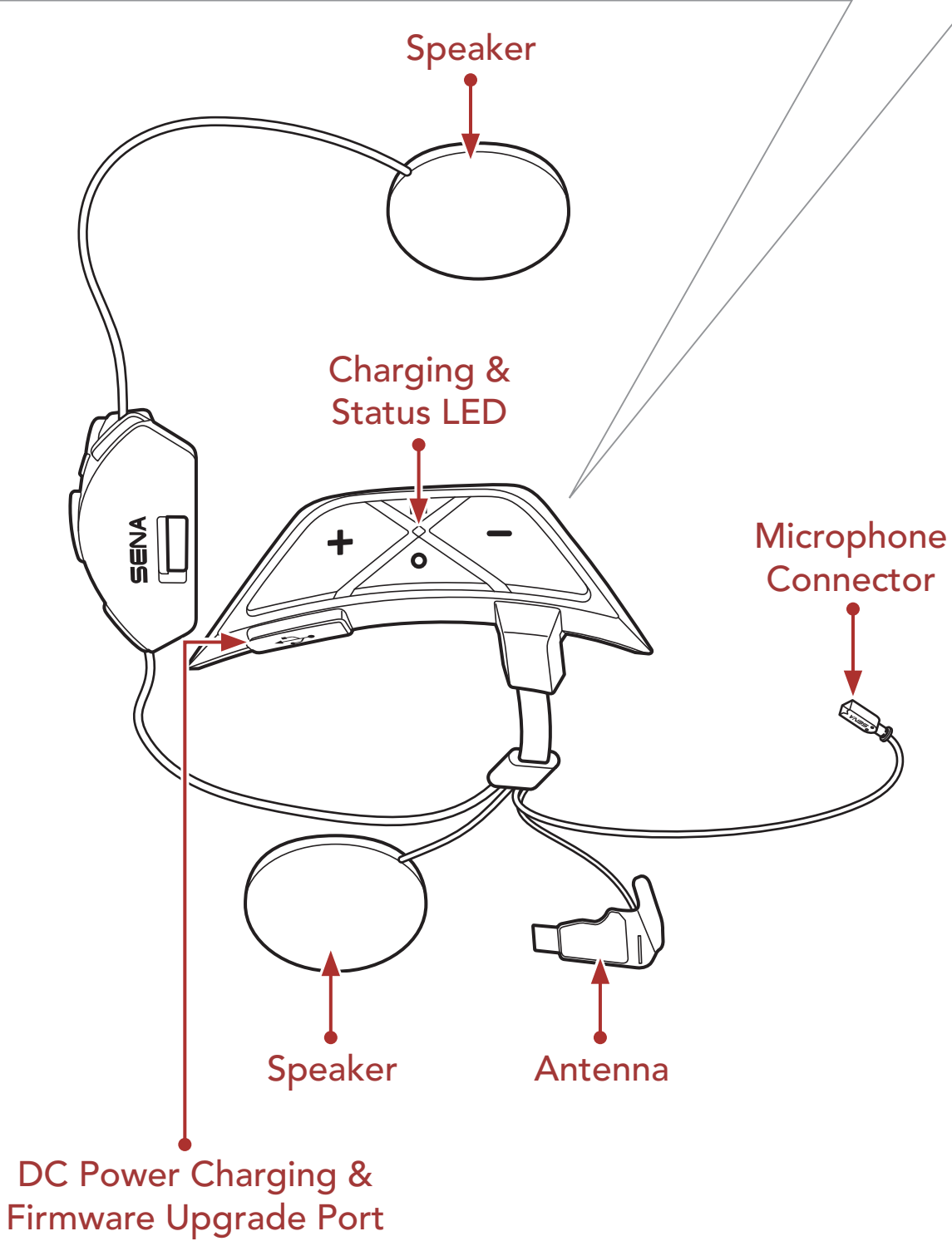
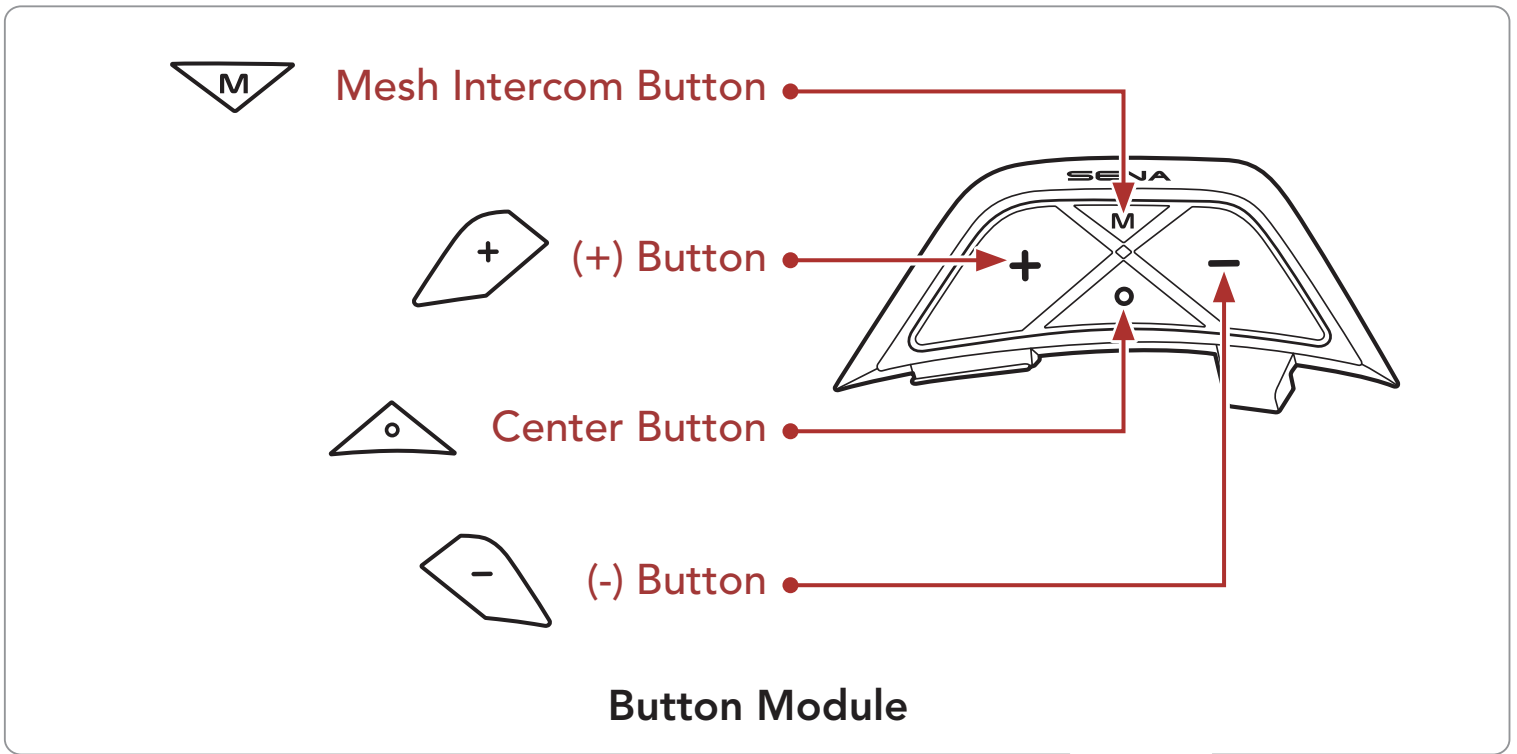
Mesh Intercom™ up to 2 km (1.2 mi)*



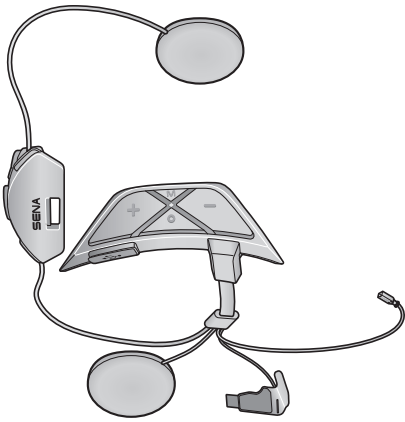
Audio Multitasking™

* in open terrain

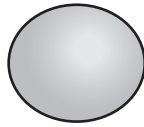
1.2 Product Details



1.3 Package Contents



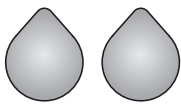
ABC



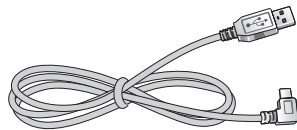
Hook and Loop Fastener
for Wired Microphone



Wired Microphone



Hook and Loop Fasteners
for Speakers



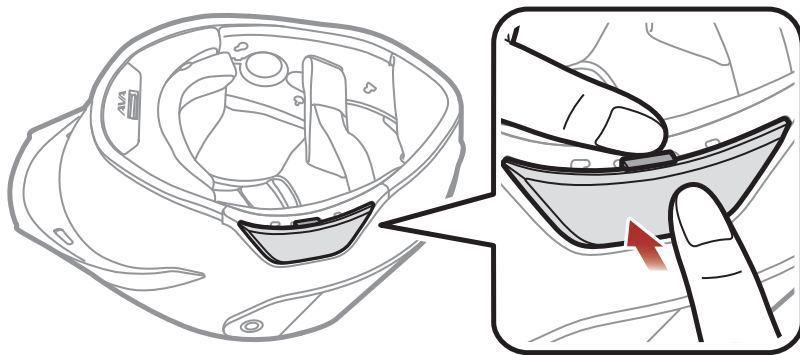
USB Power & Data Cable
(USB-C)

2. INSTALLING THE HEADSET ON YOUR HELMET

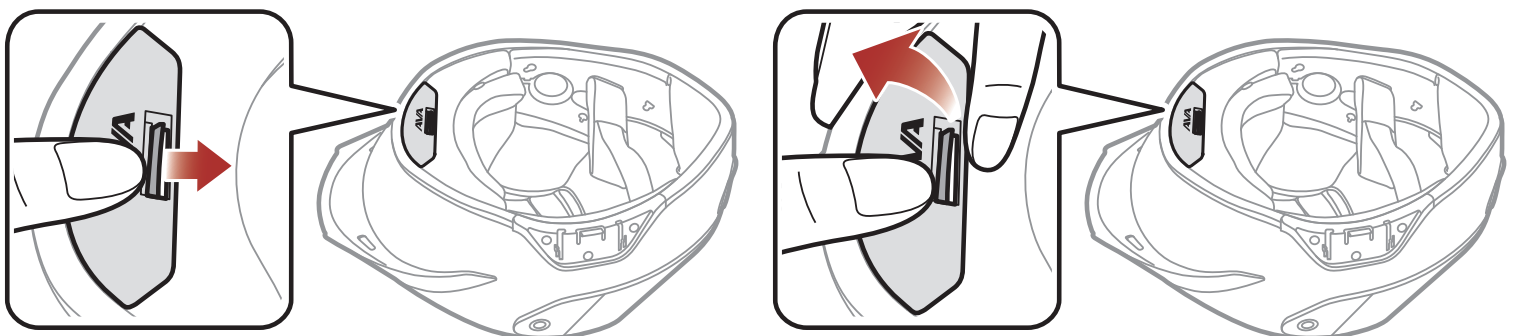
To securely install the **ABC** on your helmet, please follow this procedure.

2.1 Preparing the Helmet for Installation

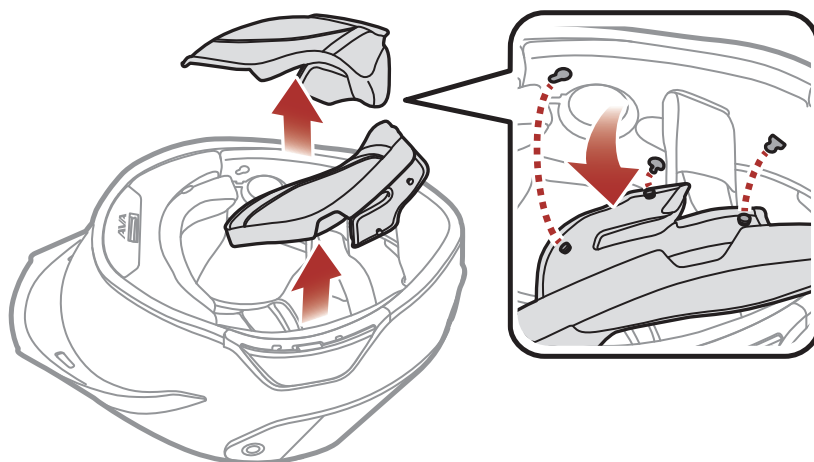
1. While pushing the tab on the Button Module cover, push it upward to remove it.



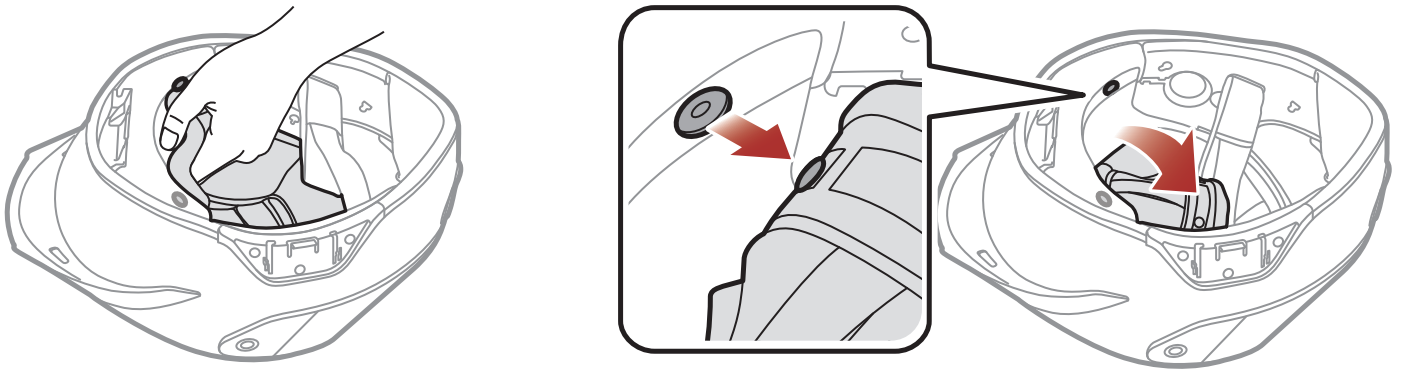
2. While pushing the tab on the rear cover, remove the rear cover with your thumbs.



3. Detach the cheek pads' snap fasteners and remove the cheek pads from the helmet.

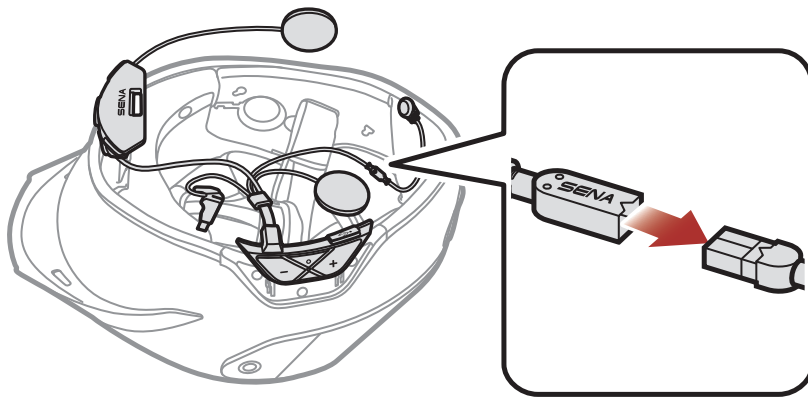


4. Detach the center pad's snap fasteners and take the center pad off.

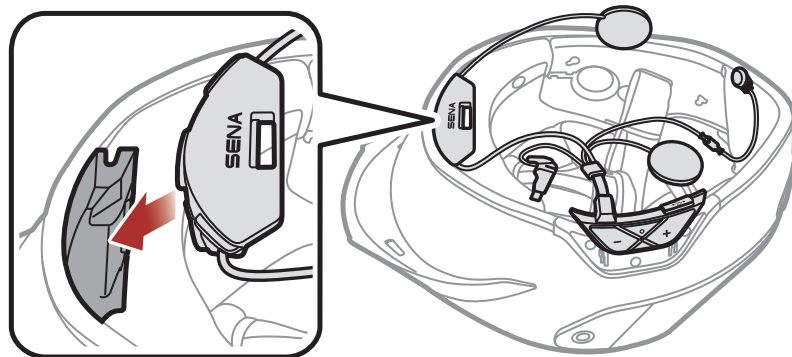


2.2 Installing the Headset

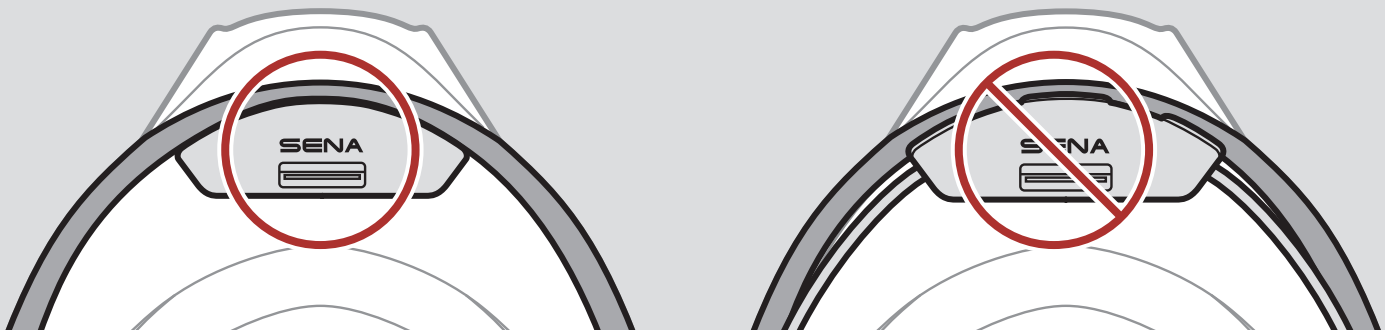
1. Align the arrows on the microphone cable with the microphone connector. Then, insert the cable into the connector.



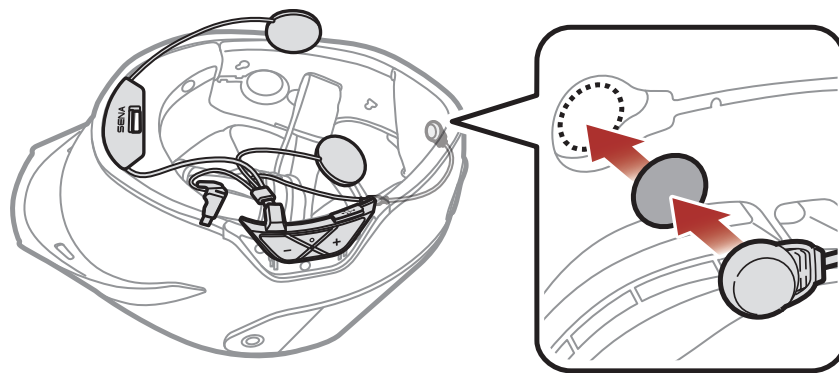
2. Push the Battery Module into the corresponding slot until you hear a click.



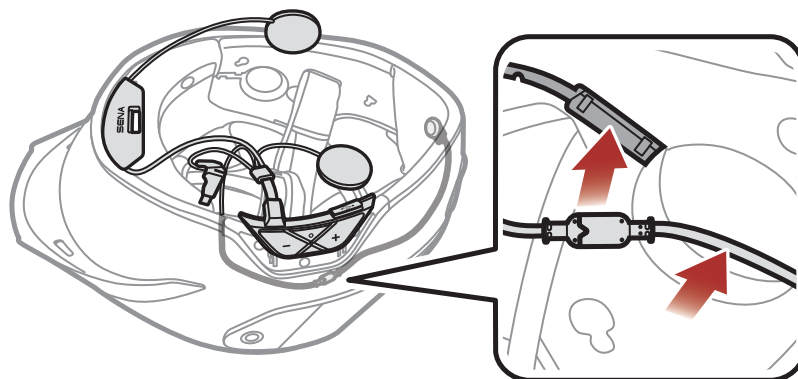
Note: Make sure the helmet's rubber guard is not jammed between the Battery Module and its slot.



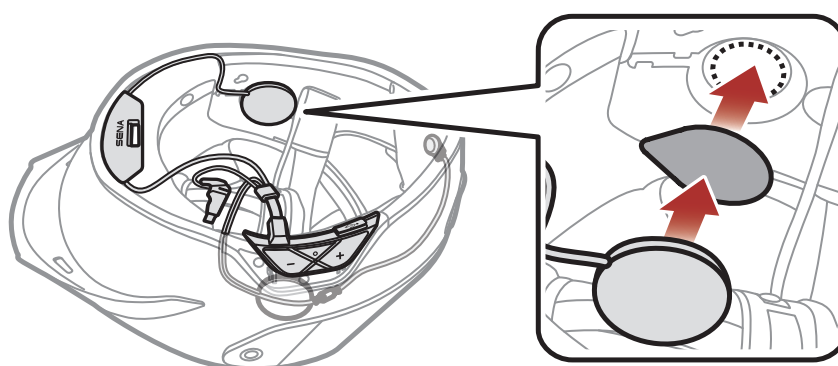
3. Peel off the cover of the hook and loop fastener's adhesive tape for the microphone and attach it to the groove in the inner shell of the helmet. Then, attach the microphone to the hook and loop fastener.



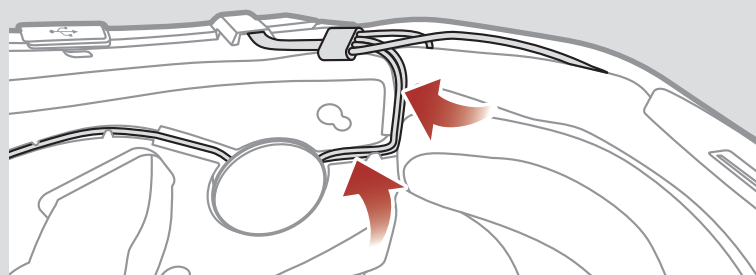
4. Insert the microphone connector into the groove in the inner shell. Place the remaining portion of the microphone's cable in the left speaker pocket for installing the left speaker unit as shown in the illustration.



5. Peel off the cover of the hook and loop fastener's adhesive tape for the left speaker and attach it to the groove in the inner shell of the helmet. Then, attach the left speaker to the hook and loop fastener.

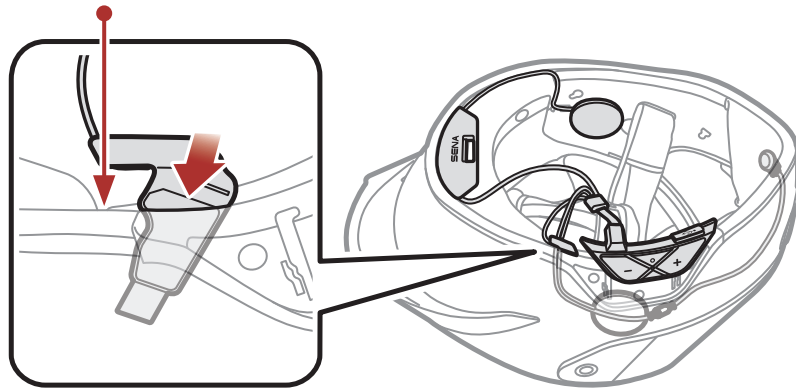


Note: To prevent them from interfering with the installation pads, tuck the remaining portion of the cable into the grooves and crevices in the inner shell.

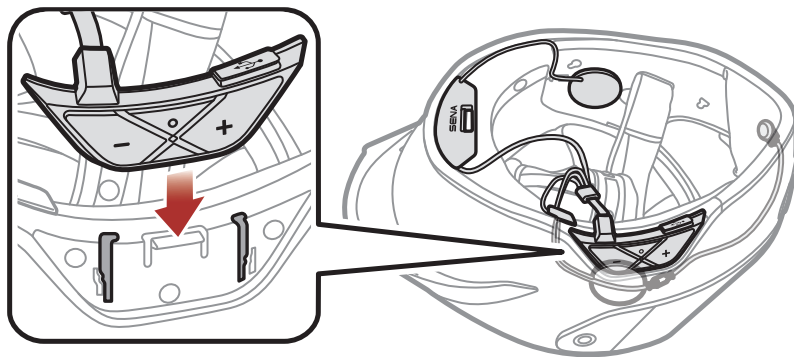


6. Repeat step 5 on the other side.
7. Insert the antenna between the inner and external shells. Make sure the end of the antenna is next to the line.

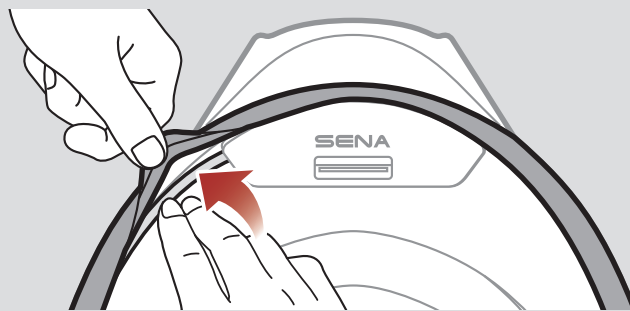
Next to the line



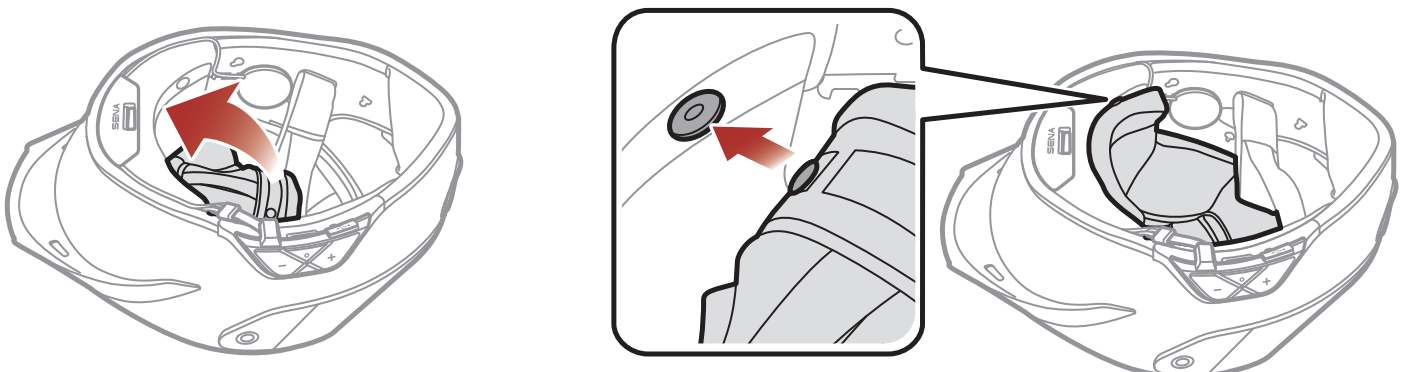
8. Slide the Button Module into the corresponding place. Make sure that the grooves on the back of the Button Module fit the corresponding grooves.



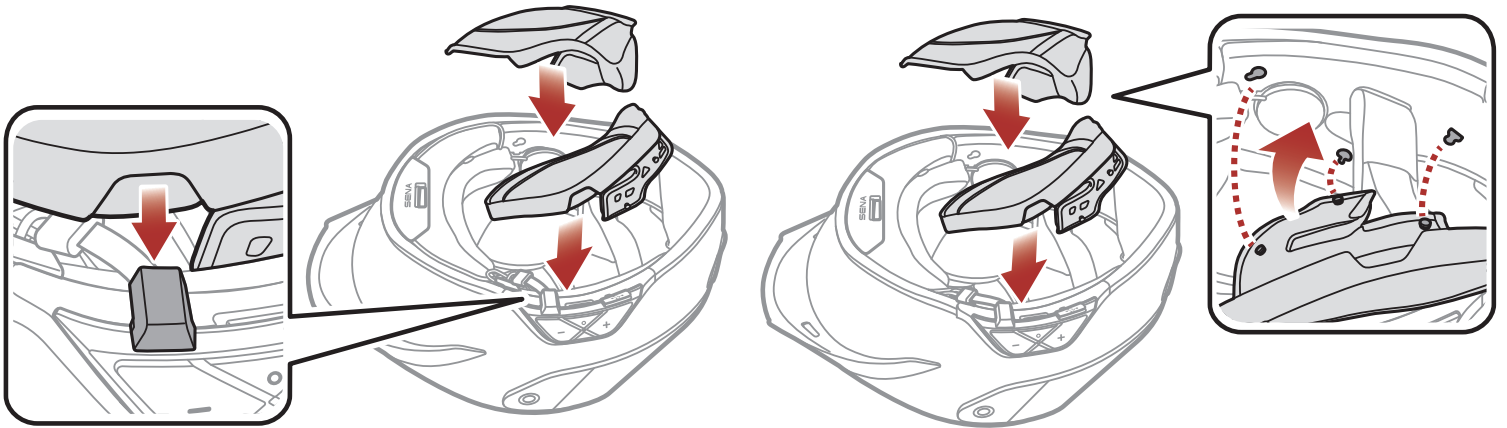
Note: To prevent them from interfering with the installation pads, put the remaining portion of the cable into the gap under the helmet's rubber guard.



9. Reattach the center pad and snap the snap fasteners.



10. Align the cheek pad's cutout with the Button Module's cable. Then, slide cheek pads between the inner and external shells, and reattach the cheek pads' snap fasteners.



3. GETTING STARTED

3.1 Downloadable Software

3.1.1 Sena Motorcycles App

By simply pairing your phone with your headset, you can use the **Sena Motorcycles App** for quicker, easier set up and management.



- Download the **Sena Motorcycles App** on **Huawei App Gallery**, **Tencent MyApp**, or **App Store**.

3.1.2 Sena Device Manager

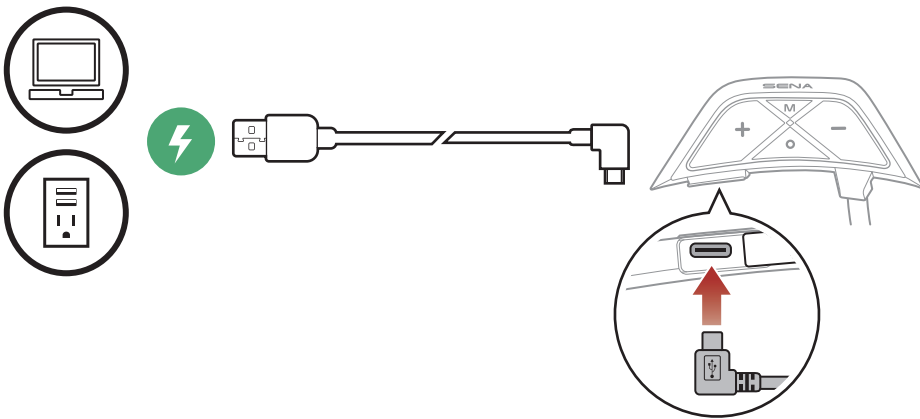
The **Sena Device Manager** allows you to upgrade firmware and configure settings directly from your PC.



- Download the **Sena Device Manager** at oem.sena.com/ava.

3.2 Charging

Charging the Headset



Depending upon the charging method, the headset will be fully charged in about 2.5 hours.

Note:

- Please make sure to take off your **ABC**-installed helmet while charging. The headset automatically turns off during charging.
- The headset includes a **Fast Charging** feature which allows it to charge quickly over a short period of time. For example, a user can get up to 2.0 hours of Mesh communication after charging the headset for 20 minutes.
- Any 3rd party USB charger can be used with **ABC** if the charger is approved by either the FCC, CE, IC, or other locally approved agencies.
- Use of a non-approved charger may cause fire, explosion, leakage, and other hazards which may also reduce the life time or performance of the battery.
- The **ABC** is compatible with 5 V input USB-charged devices only.

3.3 Legend



Tap button the specified number of times



Press and Hold button for the specified amount of time

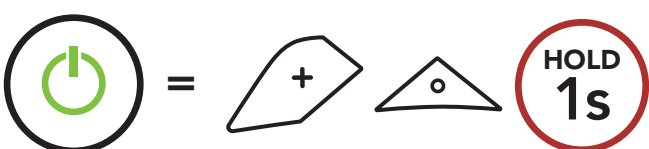


"Hello"

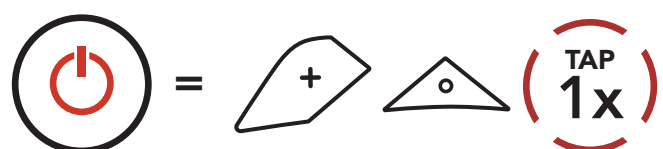
Audible prompt

3.4 Powering On and Off

Powering On



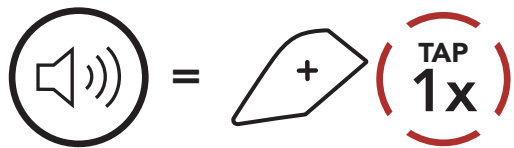
Powering Off



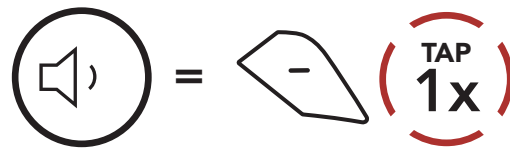
3.5 Volume Adjustment

You can raise or lower the volume by tapping the **(+) Button** or the **(-) Button**. Volume is set and maintained independently at different levels for each audio source (i.e., phone, intercom), even when the headset is rebooted.

Volume Up



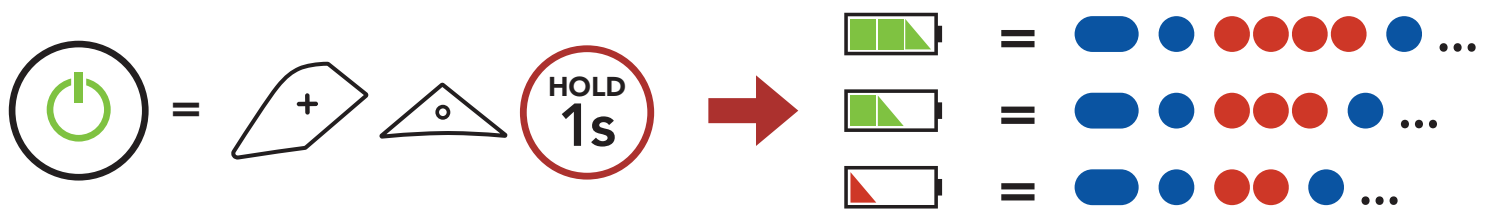
Volume Down



3.6 Checking the Battery Level

Instructions are for when powering the headset on.

Powering On

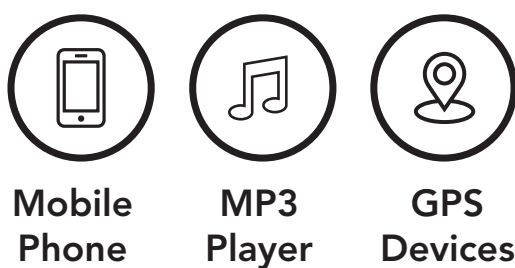


Note: When the battery is low while in use, you will hear a voice prompt saying **“Low battery.”**

4. PAIRING THE HEADSET WITH OTHER BLUETOOTH DEVICES

When using the headset with other Bluetooth devices for the first time, they will need to be “paired.” This enables them to recognize and communicate with one another whenever they are within range.

The headset can pair with multiple Bluetooth devices such as a mobile phone, GPS, or MP3 player via **Mobile Phone Pairing, Second Mobile Phone Pairing and GPS Pairing.**



4.1 Phone Pairing

There are three ways to pair the phone.

4.1.1 Initially Pairing the ABC

The headset will automatically enter the phone pairing mode when you initially turn on the headset or in the following situation:

- Rebooting after executing **Factory Reset**; or
- Rebooting after executing **Delete All Pairings.**

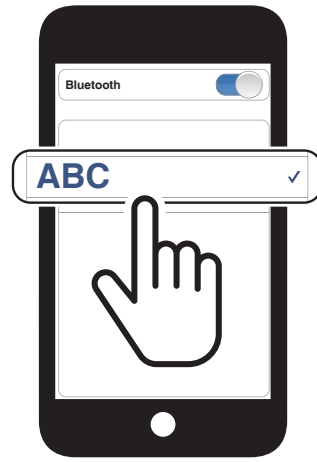
1. Press and hold the **Center Button** and the **(+) Button** for **1 second.**



Note:

- The phone pairing mode lasts for **3 minutes.**
- To cancel phone pairing, tap the **Center Button.**

2. Select **ABC** in the list of Bluetooth devices detected. If your mobile phone asks for a PIN, enter 0000.

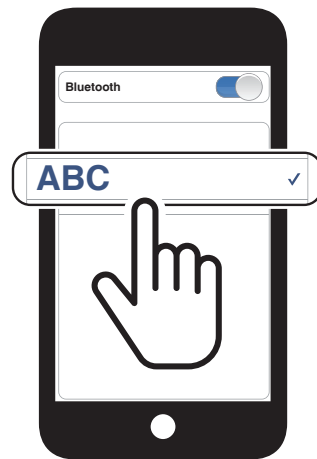


4.1.2 Pairing When the ABC is Turned Off

1. While the headset is off, press and hold the **Center Button** and the **(+) Button** until the LED flashes red and blue alternately and you hear a voice prompt, **"Phone pairing."**



2. Select **ABC** in the list of Bluetooth devices detected. If your mobile phone asks for a PIN, enter 0000.

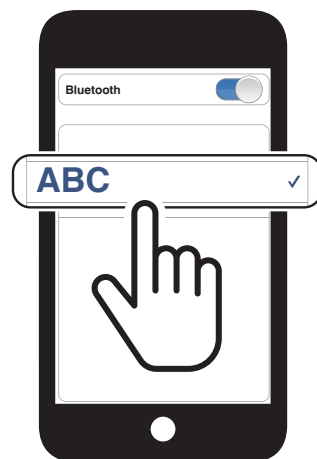


4.1.3 Pairing When the ABC is Turned On

1. While the headset is on, press and hold the **Center Button** for **5 seconds**.

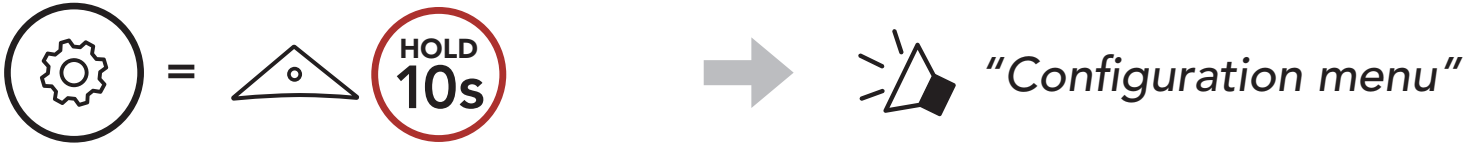


2. Select **ABC** in the list of Bluetooth devices detected. If your mobile phone asks for a PIN, enter 0000.



4.2 Second Mobile Phone Pairing - Second Mobile Phone and GPS

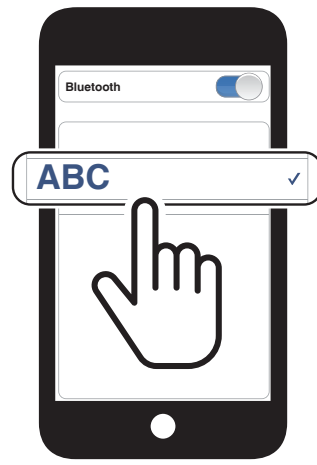
1. Press and hold the **Center Button** for **10 seconds**.



2. Tap the **(+) Button**.

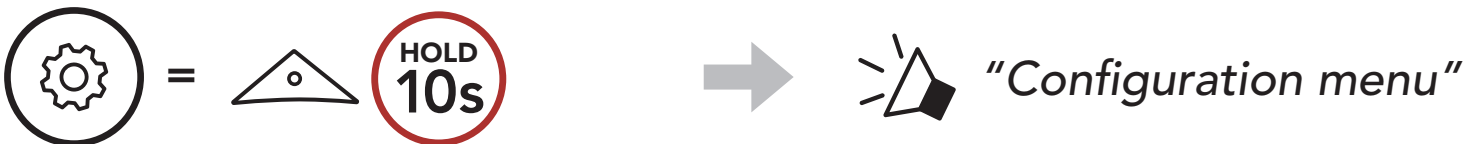


3. Select **ABC** in the list of Bluetooth devices detected. If your Bluetooth device asks for a PIN, enter 0000.



4.3 GPS Pairing

1. Press and hold the **Center Button** for **10 seconds**.



2. Double tap the **(+) Button**.



3. Select **ABC** in the list of devices detected. If your Bluetooth device asks for a PIN, enter 0000.

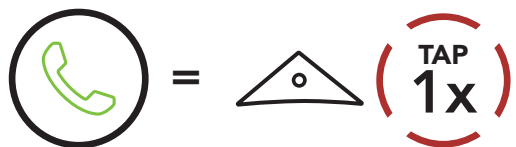


Note: If you pair your GPS device via GPS Pairing, its instruction will interrupt your Mesh Intercom conversations.

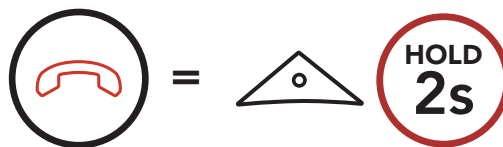
5. MOBILE PHONE USAGE

5.1 Making and Answering Calls

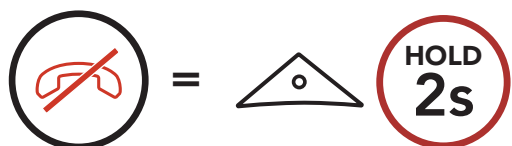
Answer a Call



End a Call



Reject a Call



Call a Voice Assistant



in stand by mode

Note: If you have a GPS device connected, you will not hear its voice navigations during a phone call.

5.2 Speed Dialing

5.2.1 Assigning Speed Dial Presets

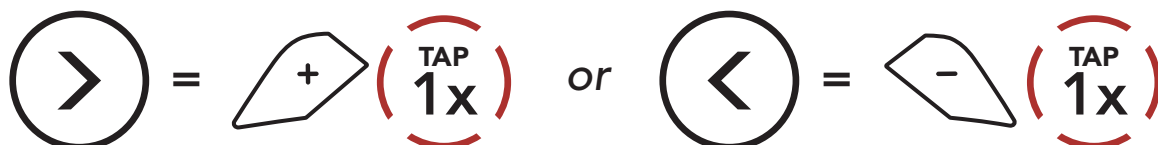
Speed Dial Presets could be assigned through the **Sena Device Manager** or the **Sena Motorcycles App**.

5.2.2 Using Speed Dial Presets

1. Enter into the **Speed Dial** menu.



2. Navigate forward or backward through **Speed Dial Preset** numbers.

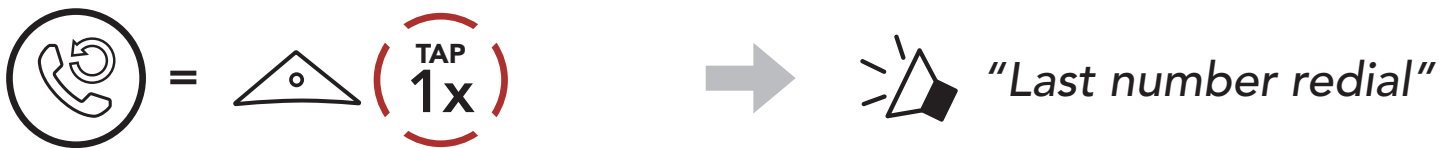


3. Call one of your **Speed Dial Presets** numbers.



4. Redial the last number called.

Redial Last Number



5.3 HD Voice (Always On)

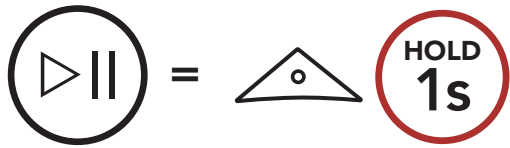
HD Voice allows you to communicate in high-definition during phone calls. This feature increases the quality so that the audio will be crisp and clear during phone call conversations.

Note: Refer to the manufacturer of your Bluetooth device that will be connected to the headset to see if it supports **HD Voice**.

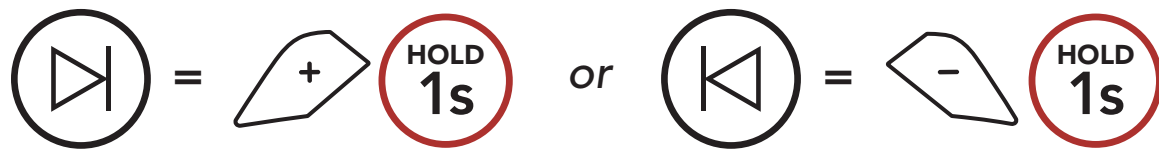
6. STEREO MUSIC

6.1 Playing Music with Bluetooth Devices

Play/Pause Music



Track Forward/Backward



7. MESH INTERCOM

7.1 What is Mesh Intercom?

Mesh Intercom allows riders to connect and communicate with nearby users without the need to pair each headset together.

The working distance between each **ABC** in **Mesh Intercom** can be up to 2 km (1.2 miles) in open terrain. In open terrain, the **Mesh** can be extended up to 8 km (5 miles) between a minimum of six users. Within the same channel in **Open Mesh™** or the same private group in **Group Mesh™**, six users can talk at the same time and enjoy the optimal quality for their conversation.

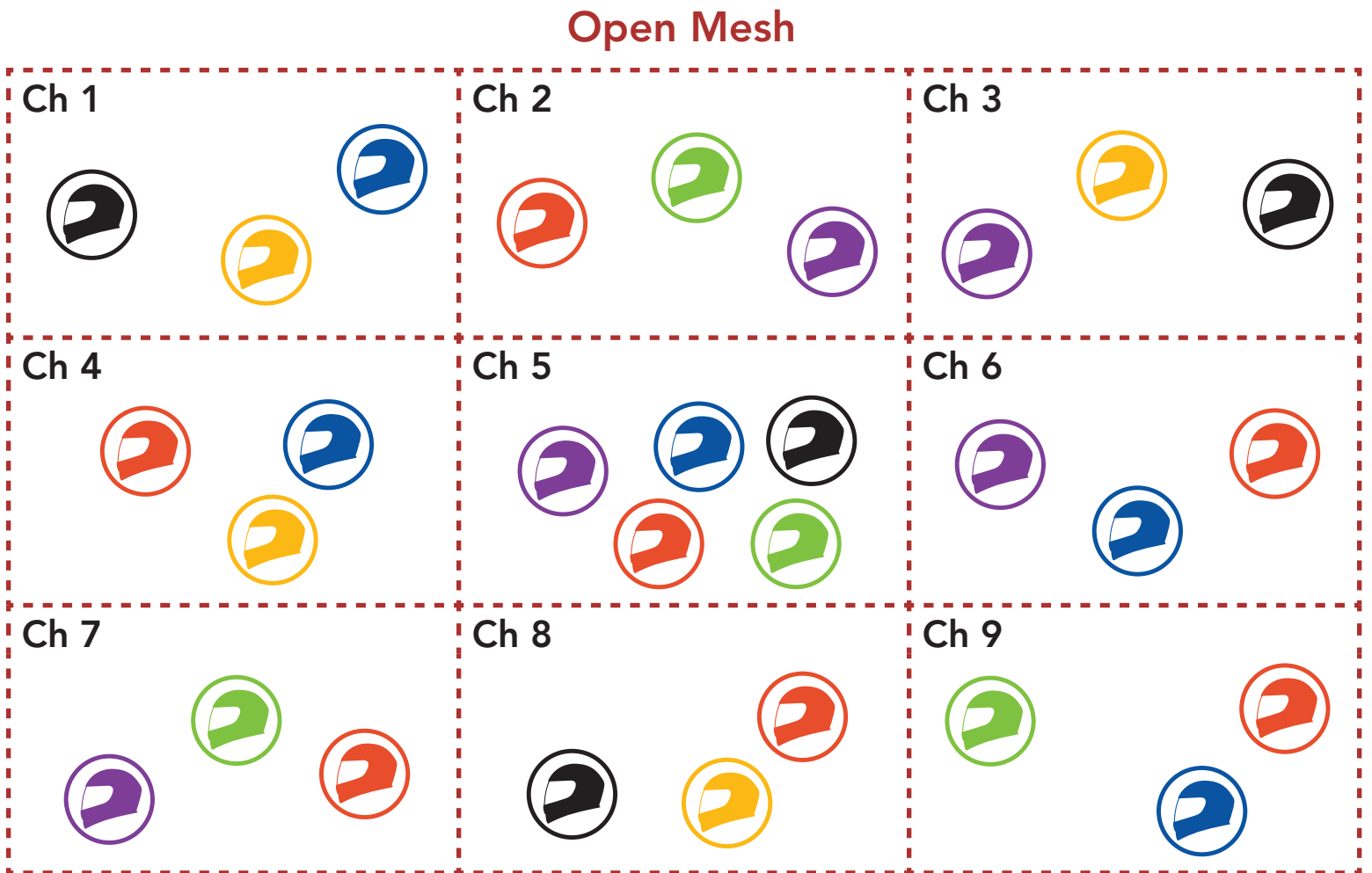
Mesh Intercom



7.1.1 Open Mesh

Open Mesh is an open group intercom function. Users can freely communicate with each other in the same **Open Mesh** channel and select which channel (1-9) to use through the headset.

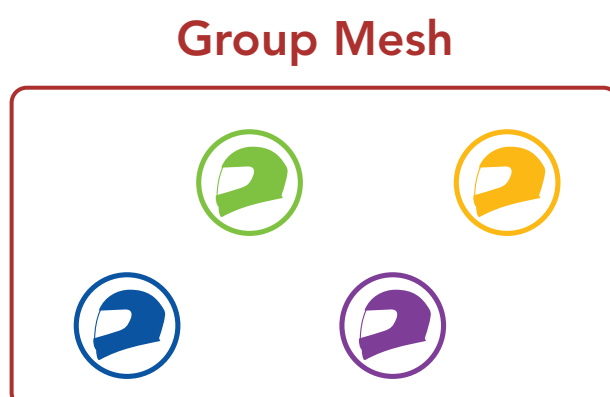
It can connect with a virtually unlimited number of users in each channel.



7.1.2 Group Mesh

Group Mesh is a closed group intercom function that allows users to join, leave, or rejoin a group intercom conversation without pairing each headset. Users can freely communicate with each other in the same private group in **Group Mesh**.

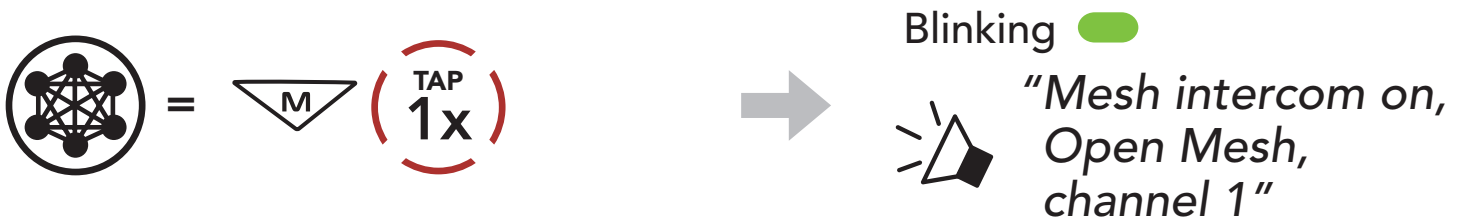
For closed intercom conversations using **Mesh Intercom**, a **Group Mesh** needs to be created by the users. When users create a private group in **Group Mesh** by **Mesh Grouping**, the headset automatically switches from **Open Mesh** to **Group Mesh**. Up to 24 users can all be connected in each private group.



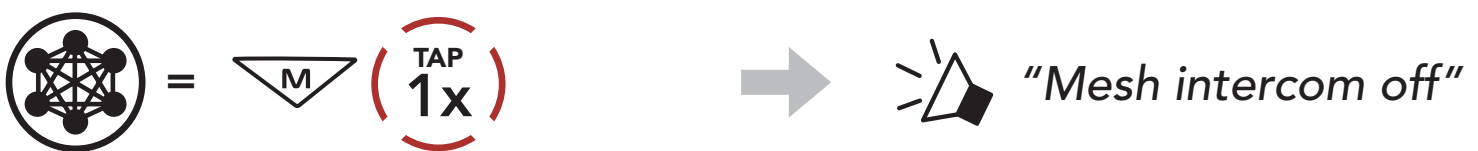
7.2 Starting Mesh Intercom

When **Mesh Intercom** is enabled, the **ABC** will automatically connect to nearby **ABC** users and allow them to talk to each other by pressing the **Mesh Intercom Button**.

Mesh Intercom On



Mesh Intercom Off



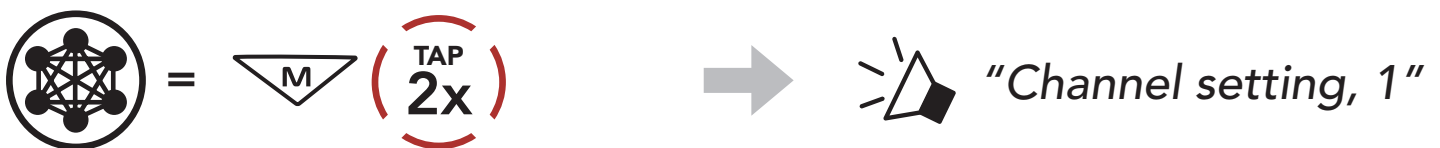
7.3 Using the Mesh in Open Mesh

When **Mesh Intercom** is enabled, the headset will be in **Open Mesh (default: channel 1)** initially.

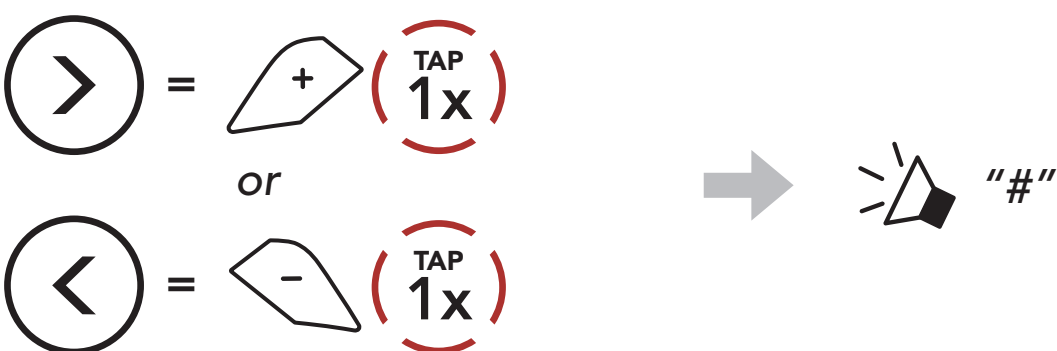
7.3.1 Channel Setting (Default: channel 1)

If the **Open Mesh** communication experiences interference because other groups are also using **channel 1 (default)**, change the channel. You can select from channels 1 to 9.

1. Double tap the **Mesh Intercom Button**.



2. Navigate between channels.
(1 → 2 → ●●● → 8 → 9 → Exit → 1 → ●●●)



3. Save the channel.



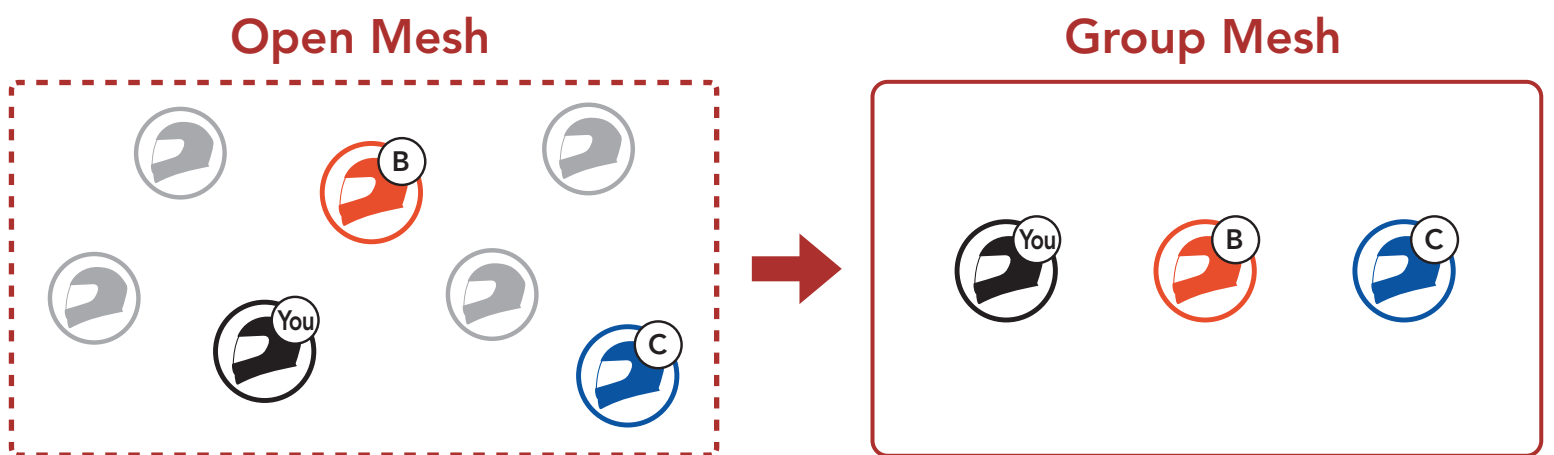
Note:

- **Channel Setting** always starts with channel 1.
- If you do not press any button for approximately **10 seconds** in a specific channel, the channel is automatically saved.
- The channel will be remembered even if you turn off the **ABC**.
- You can use the **Sena Motorcycles App** to change the channel.

7.4 Using Mesh in Group Mesh

7.4.1 Creating a Group Mesh

Creating a **Group Mesh** requires **two or more Open Mesh users**.



1. To enter **Mesh Grouping** to create a **Group Mesh**, press and hold the **Mesh Intercom Button** for **5 seconds** on the **users (You, B, and C)** headsets.



2. When **Mesh Grouping** is completed, the **users (You, B and C)** will hear a voice prompt on their headset as **Open Mesh** switches to **Group Mesh**.

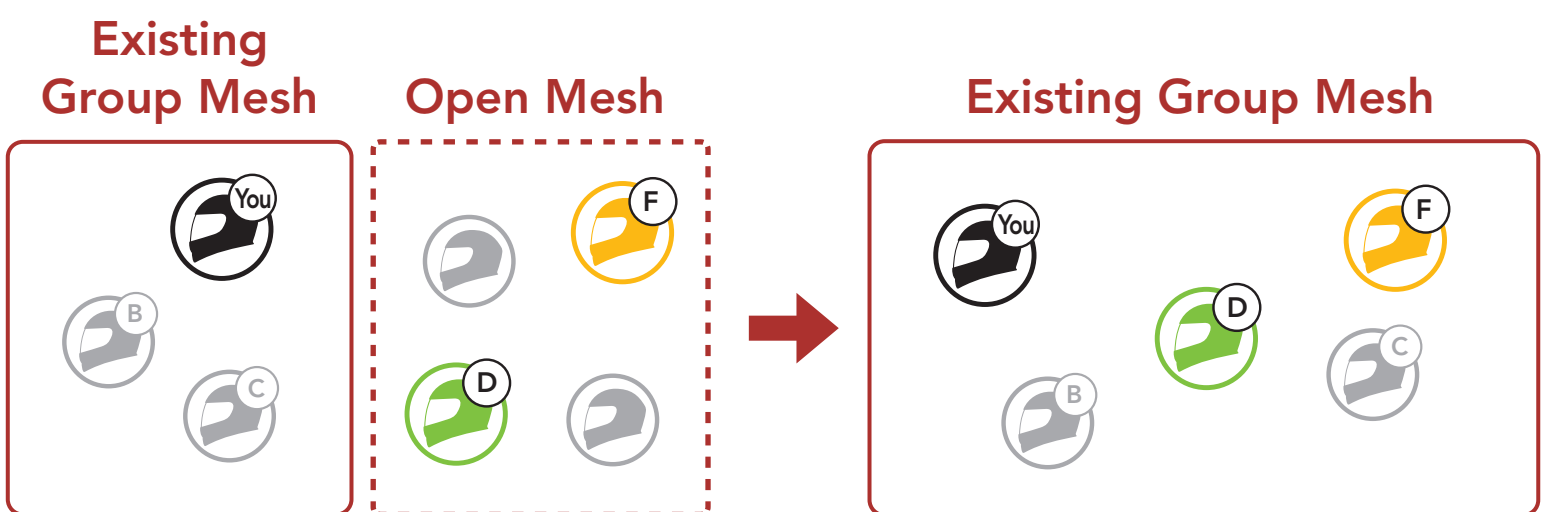


Note:

- If the **Mesh Grouping** is not completed within **30 seconds**, users will hear a voice prompt, **"Grouping failed."**
- If you want to cancel during the **Mesh Grouping**, tap the **Mesh Intercom Button**.

7.4.2 Joining an Existing Group Mesh

One of the **current users** in an **Existing Group Mesh** can allow **new users (one or more)** in **Open Mesh** to join the **Existing Group Mesh**.



1. To enter **Mesh Grouping** to join the **Existing Group Mesh**, press and hold the **Mesh Intercom Button** for **5 seconds** on the headsets of **one (You) of the current users** in the **Existing Group Mesh** and the **new users (D and F)** in **Open Mesh**.



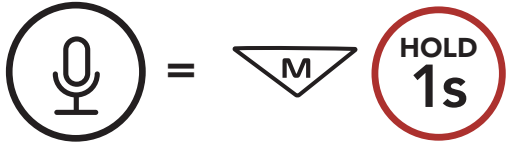
2. When **Mesh Grouping** is completed, the **new users (D and F)** will hear a voice prompt on their headsets as **Open Mesh** switches to **Group Mesh**.



Note: If the **Mesh Grouping** is not completed within **30 seconds**, the current user (You) will hear a low tone double beep and the new users (D and F) will hear a voice prompt, **"Grouping failed."**

7.5 Enable/Disable Mic (Default: Enable)

Users can enable/disable the microphone when communicating in a **Mesh Intercom**.

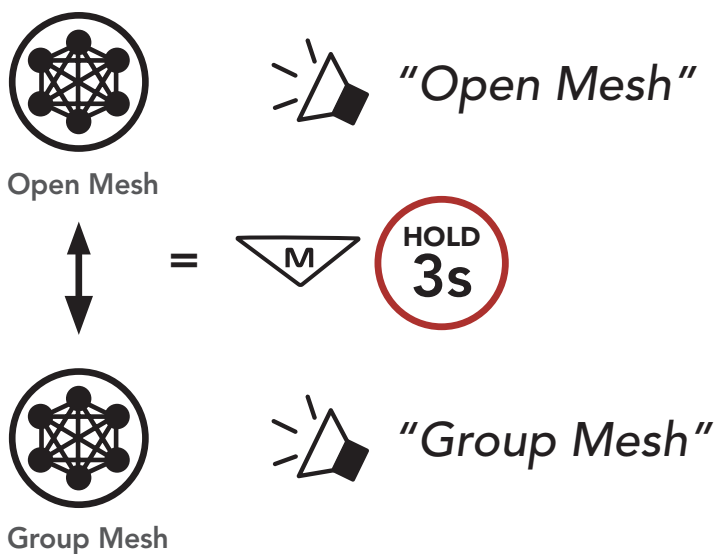


7.6 Toggling Open Mesh/Group Mesh

Users are able to toggle between **Open Mesh** and **Group Mesh** without resetting the **Mesh**. This allows users to keep the **Group Mesh Network** connection information while in **Open Mesh**.

Users can toggle to **Group Mesh** to communicate with participants from the stored **Group Mesh Network** connection information.

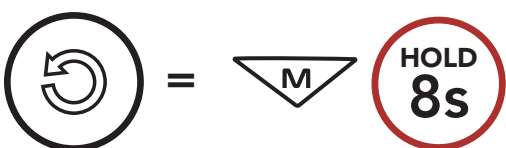
Toggle Between Open Mesh and Group Mesh



Note: If you have never participated in **Group Mesh**, you cannot toggle between **Open Mesh** and **Group Mesh**. You will hear a voice prompt, **“No Group Available.”**

7.7 Reset Mesh

If the headset in an **Open Mesh** or **Group Mesh** resets the **Mesh**, it will automatically return to **Open Mesh (default: channel 1)**.



8. MESH AUDIO MULTITASKING (ALWAYS ON)

Audio Multitasking allows you to have an intercom conversation while simultaneously listening to music.

The overlaid audio is played in the background with reduced volume whenever there is an intercom conversation and will return to normal volume once the conversation is finished.

The **Audio Multitasking** can be configured through the **Intercom-Audio Overlay Sensitivity** and the **Audio Overlay Volume Management settings**.

The **Intercom-Audio Overlay Sensitivity** and the **Audio Overlay Volume Management settings** can be found in the **Software Configuration Setting**, accessible through the **Sena Device Manager** or the **Sena Motorcycles App**.

9. FUNCTION PRIORITY AND FIRMWARE UPGRADES

9.1 Function Priority

The headset prioritizes connected devices in the following order:

- (highest)** Mobile phone
- Mesh Intercom
- (lowest)** Bluetooth stereo music

A lower-priority function gets interrupted by a higher-priority function. For example, stereo music will be interrupted by an incoming mobile phone call.

9.2 Firmware Upgrades

You can upgrade firmware using the **Sena Device Manager**.

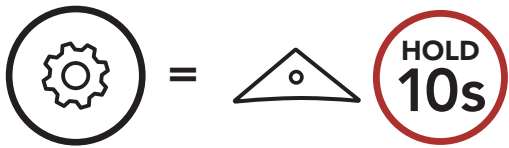
The **USB Power & Data Cable (USB-C)** must be connected to your PC to upgrade firmware using the **Sena Device Manager**.

Download the **Sena Device Manager** at oem.sena.com/ava.

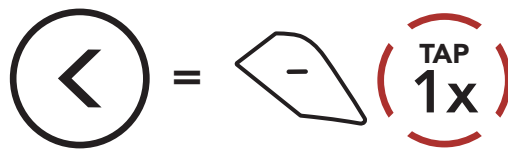
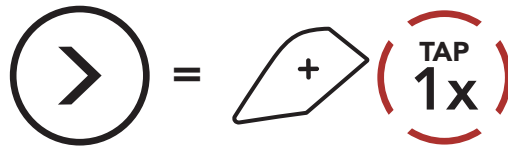
10. CONFIGURATION SETTING

10.1 Headset Configuration Menu

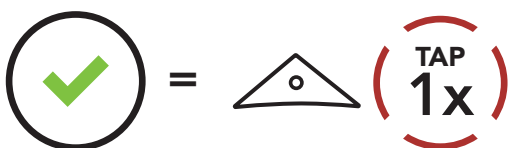
Access the Configuration Menu



Navigate Between Menu Options



Execute Menu Options



Headset Configuration Menu

Voice Configuration Menu	Tap the Center Button
Second Mobile Phone Pairing	None
GPS Pairing	None
Remote Control Pairing	None
Factory Reset	Execute
Exit	Execute

10.1.1 Remote Control Pairing

You can remotely control the headset using **Sena Remote Control devices** (sold separately).

1. Turn on the headset and the Remote Control device.
2. Enter **Remote Control Pairing** mode.
3. Enter pairing mode in the Remote Control device. The headset will automatically connect with the Remote Control device in pairing mode.

10.2 Software Configuration Setting

You can change the settings of the headset through the **Sena Motorcycles App** or the **Sena Device Manager**.



10.2.1 Headset Language

You can select the device language. The selected language is maintained even when the headset is rebooted.

10.2.2 Audio Equalizer (Default: Off)

Increase or decrease the decibel level of different frequency ranges of audio.

- **Balance** will adjust all of the frequency ranges to be the same volume level (0 dB).
- **Bass Boost** will increase the bass range of audio (20 Hz - 250 Hz).
- **Mid Boost** will increase the mid range of audio (250 Hz - 4 kHz).
- **Treble Boost** will increase the high range of audio (4 kHz - 20 kHz).

10.2.3 VOX Phone (Default: Enable)

If this feature is enabled, you can answer incoming calls by voice. When you hear a ringtone for an incoming call, you can answer the phone by saying a word such as "**Hello**" loudly or by blowing air into the microphone. **VOX Phone** is temporarily disabled if you are connected to intercom. If this feature is disabled, you have to tap the **Center Button** to answer an incoming call.

10.2.4 VOX Sensitivity (Default: 3)

VOX Sensitivity can be adjusted depending on your riding environment. **Level 5** is the highest sensitivity setting and **level 1** is the lowest.

10.2.5 Intercom-Audio Overlay Sensitivity (Default: 3)

The music will be lowered to play in the background if you talk over the intercom while the overlaid audio is playing. You can adjust the intercom sensitivity to activate this background audio mode. **Level 1** has the lowest sensitivity and **level 5** has the highest sensitivity.

Note: If your voice is not louder than the sensitivity of the selected level, the overlaid audio will not be lowered.

10.2.6 Audio Overlay Volume Management (Default: Disable)

The music overlaid audio reduces in volume whenever there is an ongoing intercom conversation. If **Audio Overlay Volume Management** is enabled, the volume level of the overlaid audio will not be reduced during an intercom conversation.

10.2.7 Voice Prompt (Default: Enable)

You can disable **Voice Prompts** by software configuration settings, but the following voice prompts are always on.

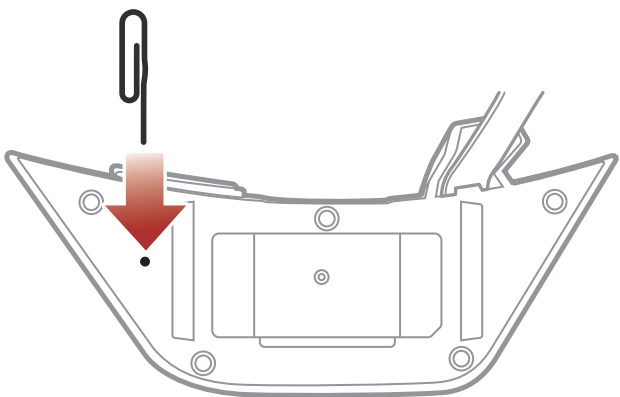
- Headset configuration settings menu, battery level indicator, speed dial

11. TROUBLESHOOTING

11.1 Fault Reset

When the headset is not working properly, you can easily reset the unit:













1. Locate the **Pinhole Fault Reset Button** at the back of the Button Module.
2. Gently insert a paper clip into the hole and press the **Pinhole Fault Reset Button** with light pressure. The headset will shut down.



Note: Fault Reset will not restore the headset to factory default settings.

11.2 Factory Reset

To erase all of your settings and start fresh, the headset can be restored to factory default settings using the **Factory Reset** feature.

1.  =   →  "Configuration menu"
2.  =   →  "Factory reset"
3.  =   →  "Headset reset, good-bye"