Freebird Mesh

Headband and Helmet mount headet
USER MANUAL

Powered by:

Freebird Mesh

OPERATED BY
NATURAL VOICE

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1.   Introduction

Thank you for choosing the Freebird Mesh Headset solution.

The Freebird Mesh Headset represents an intelligent, high-performance communication headset meticulously crafted for professional teams. It pushes the boundaries of what can be achieved in short-range, essential voice communication by seamlessly integrating Bluetooth and Dynamic Mesh Communication (DMC®) intercom technologies.

Leveraging extensive practical expertise acquired over many years in the field, the new Freebird Mesh Headset offers unparalleled group communication capabilities, setting it apart from any other solution available today.

Designed to cater to the needs of professionals, safety-conscious individuals, and industrial users, the Freebird Mesh Headset can connect anywhere from two to fifteen team members while on the move. Its persistent connectivity, combined with intuitive voice commands, compatibility with 2-way radios, built-in FM radio, seamless smartphone music streaming, and ambient sound awareness features, creates an unmatched spectrum of top-tier communication offerings.

The Freebird Mesh Headset is equipped with two advanced level-dependent microphones, providing situational awareness. These microphones allow ambient noise to pass through while intelligently reducing excessive background noise to comply with specified regulations. Simultaneously, the system enhances low-level ambient sounds, ensuring you won't need to remove the headset to hear crucial alerts, such as warning signals.

Operating independently without the need for additional infrastructure, the Freebird Mesh Headset establishes seamless multi-party intercom connectivity among mobile team members in virtually any environment. The Freebird Mesh Headset is a mature and reliable solution from day one, covering all your communication needs and enhancing them with groundbreaking features.

Like all other hearing protection devices in the Freebird series, the Freebird Mesh offers the user-friendly dual-mode solution that allows for a quick switch between the headband and helmet mount.

Important

Please read, understand, and follow the safety instructions in this User Manual prior to working with the Freebird Mesh.

2.   Before using the device

Countless employees worldwide are exposed to excessive levels of noise in their workplaces, leading to many experiencing work-related hearing impairments, tinnitus, and other related medical conditions that can permanently diminish their quality of life.

In Europe, hearing protection devices are required to adhere to Regulation (EU) 2016/425, specifically under the EN352 standards. This regulation sets the quality and safety standards for hearing protection equipment, ensuring that these products provide effective protection to workers exposed to noise hazards in various industries. Compliance with EN352 Regulation (EU) 2016/425 is essential to guarantee the safety and well-being of employees in European workplaces, as it establishes the necessary benchmarks for the design, manufacturing, and performance of hearing protection devices. This commitment to quality and safety helps safeguard the hearing health of workers throughout the European Union.

When is hearing protection needed?

In Europe, employers are required to provide hearing protection when the daily or weekly personal noise exposure exceeds 85 dB (decibels). Those working in noise levels between 80 dB (the lower action level) and 85 dB may request suitable hearing protection, which must be provided. When noise levels reach or exceed 85 dB (the upper action level), appropriate hearing protection must be supplied and worn.

It's important to note that the exposure limit is set at 87 dB, accounting for any reduction in exposure provided by hearing protection. Workers should not be exposed to noise levels exceeding 87 dB, regardless of whether they are using hearing protection or not.

The Freebird Mesh Headset has been meticulously designed to meet these certification requirements, ensuring the protection of your hearing in compliance with these regulations..

2.1   Important user information

Disclaimer: It is crucial to adhere to the following user guidelines for the optimal performance and protection of the Freebird Mesh Headset. Failure to do so may significantly compromise its functionality and protective capabilities.

- Prior to each use, thoroughly inspect the Freebird Mesh Headset.
- Ensure that the headset is correctly adjusted to fit your ears, maximizing noise reduction.
- In noisy environments, wear the headset at all times.
- Regularly examine the headset for any signs of cracking, leakage, or damage that could impact hearing protection. Do not use a damaged headset.
- Set the volume to the lowest acceptable level.
- Utilize the Level Dependent feature for Situation Awareness, which allows you to hear your surroundings while safeguarding against loud noises.
- Ensure that the headset is fully charged to maintain protection and communication capabilities throughout the day.
- When the headset is not in use, store it in a dry, cool place with temperatures not exceeding 55 degrees.

2.1.1   Warnings

2.1.1.1   General

All headsets equipped with hearing protection offer a degree of noise reduction, but it is essential that you take responsibility for choosing the right device with the suitable noise reduction capabilities for your specific work environment. Incorrect selection of the device, as well as improper use and maintenance, can potentially result in severe hearing loss. Your diligence in making the correct choice and ensuring proper handling is crucial to safeguarding your hearing.

2.1.1.2   Battery Warning

In accordance with Clause F.5, it is imperative to implement instructional safeguards to protect the battery from extreme conditions or user abuse. Some examples that must be taken into consideration include:

1. **Avoidance of Incorrect Battery Replacement**: Prevent the replacement of a battery with an incorrect battery type, as this could potentially bypass important safeguards. This is especially relevant for certain lithium battery types.

2. **Safe Battery Disposal**: Discourage users from disposing of batteries in fire, hot ovens, or subjecting them to mechanical crushing or cutting, as these actions can lead to explosions or other hazardous outcomes.

3. **Temperature Regulation**: Advise users against leaving batteries in environments with extremely high temperatures, as this can result in explosions or the leakage of flammable liquids or gases.

4. **Pressure Control**: Caution users against subjecting batteries to extremely low air pressure conditions, as this may also lead to explosions or the leakage of flammable liquids or gases.

It's essential to note that battery performance may degrade over time with usage. Therefore, it's important to inform users about the typical period of continuous use that can be expected from the earmuff battery. This information will help users gauge when to replace or recharge the battery for optimal functionality and safety.

2.1.1.3   Material Warning

The Freebird Mesh Headset comprises disposable components like the cushion and microphone shield, which may deteriorate or become damaged over time. It is advisable to replace these parts promptly if they show any signs of damage.

Additionally, please be aware that the product could potentially be negatively impacted by specific chemical substances. For more detailed information regarding the compatibility of the product with such substances, kindly refer to the manufacturer for comprehensive guidance and clarification.

2.1.1.4 Audio Warning

The Freebird   The Freebird Mesh Headset comes equipped with level-dependent attenuation. Before use, it is crucial for the user to verify its correct operation. If any distortion or failure is detected, we recommend referring to the manufacturer's guidance for maintenance.

Furthermore, the Freebird Mesh Headset features safety-related audio input. It is essential to ensure proper functioning before use. In the event of distortion or failure, it is advisable to consult the manufacturer's recommendations for maintenance.

Please be aware that the audio signal output of this hearing protector may surpass the exposure limit level. The Freebird Mesh Headset is designed to limit the sound pressure level of the audio signal, effectively maintaining it at 82 dB (A) at the ear.

Keep in mind that while using the entertainment facility, the audibility of warning signals in a specific workplace may be compromised.

Additionally, attaching hygiene covers to the cushions may influence the acoustic performance of the earmuffs, and this should be taken into consideration.

2.1.1.5 Limitation of Liability.

Guardio shall not be held liable for any incidental, special, indirect, punitive, exemplary, or consequential damages. These damages may arise from the use, misuse, or inability to use this device, as well as from any defects in the device. Furthermore, Guardio shall not be responsible for any damages whatsoever resulting from the use of the device.

2.1.2 Technical Data

2.1.2.1 Headband Version

- Material of headband: Steel, textile, and polyurethane
- Material of ear cushion: PVC and polyurethane
- Material of cups: ABS
- Weight: 420 grams
- Lifetime - the maximum lifetime is 3 years , the headset should be tested periodically to conform meet technical requirements
- Expected work time（Talk）- 19hours

2.1.2.2 Helmet Mount Version

- Material of headband: Steel
- Material of ear cushion: PVC and polyurethane
- Material of cups: ABS
- Weight: 440 grams
- Lifetime – the maximum lifetime is 3 years , the Helmet Mount version should be tested periodically to conform meet technical requirements
- Expected work time (Talk) - 19 hours

3. PPE safety statement

3.1   PPE Statement

The headset was tested according to PPE Regulation (EU) 2016/425

Testing were performed according to EN352-1:2020, EN352-3:2020, EN352-4:2020, EN352-6:2020 and EN352-8:2020

EN352-1:2020

Headband - Tested according to EN352-1:2020

Attenuation data

Frequencies (Hz)	63	125	250	500	1000	2000	4000	8000
MEANS (dB)	26.3	20.4	27.0	31.6	35.0	32.1	37.6	38.2

Frequencies (Hz)	63	125	250	500	1000	2000	4000	8000
Standard deviation (dB)	2.7	2.8	2.8	2.7	2.8	2.9	3.1	2.7
MEAN-SD (dB	23.6	17.6	24.2	28.8	32.2	29.2	34.4	35.5

Size Range: Small/Medium/Large

	H	M	L	SNR
Mean Attenuation - Hm, Mm, Lm, SNRm (dB)	34	32.4	27.6	33.9
Standard deviation - Hs, Ms, Ls, SNRs (dB)	2.5	1.7	2.2	1.8
	32	31	25	32

Attenuation data summary

SNR=32 dB	H=32 dB	M=31 dB	L=25 dB

Size Range: Small/Medium/Large. Headband Force: Small = 10.N / Medium = 11.9N / Large = 11.4N

EN352-3:2020

Helmet Mount - Tested according to EN352-3:2020

Attenuation data

Frequencies (Hz)	63	125	250	500	1000	2000	4000	8000
MEANS (dB)	22.1	17.7	22.5	27.8	33.4	30.6	37.1	36.5
Standard deviation (dB)	3.6	3.8	4.2	3.7	2.9	2.0	2.6	2.6
MEAN-SD (dB	18.4	13.9	18.3	24.1	30.5	28.6	34.5	33.9

Size Range: Small/Medium/Large

	H	M	L	SNR
Mean Attenuation - Hm, Mm, Lm, SNRm (dB)	32.8	29.7	24.2	31.4
Standard deviation – Hs, Ms, Ls, SNRs (dB)	1.6	2.8	3.7	2.4
	31	27	20	29

Attenuation data summary

SNR=29 dB	H=31 dB	M=27 dB	L=20 dB

Size Range: Small/Medium/Large   Headband Force: Small = 8.7N / Medium = 11.5N / Large = 12.4N

EN352-4:2020

	H Criterion Level	**M** Criterion Level	**L** Criterion Level
Headband	114.2 dBA	111.5 dBA	99.8 dBA
Helmet Mount	114.9 dBA	111.4 dBA	98.8 dBA

EN352-4:2020 states that the minimum criterion levels (H, M and L) must be greater than 85 dBA if the device is to be used in impulsive noise environments. For use in continuous noise environments, EN352-4:2020 states that the minimum-L-criterion level shall be greater than 94 dBA, the minimum M-criterion level shall be greater than 96 dBA, and the minimum criterion level shall be greater than 97 dB. The Freebird Mesh Headset passes both criteria.

In both headband and Helmet mount

EN352-6:2020

Headband – Tested according to EN352-6:2020

Signal		Diffuse Field equivalent level at Ear (dBA)	
mV	dBV	Mean	Standard Deviation
281.8	-11	44.8	3.6
501.2	-6	68.1	1.2
891.3	-1	73.3	1.2
1584.9	4	77.0	1.2
2818.4	9	79.0	1.2
5011.9	14	80.7	1.2

Helmet – Tested according to EN352-6:2020

Signal		Diffuse Field equivalent level at Ear (dBA)	
mV	dBV	Mean	Standard Deviation
281.8	-11	44.7	4.2
501.2	-6	67.9	1.2
891.3	-1	73.1	1.2
1584.9	4	76.5	1.2
2818.4	9	78.8	1.2
5011.9	14	80.5	1.2

The relationship between sound output level and input signal in 5dB steps from a sound output level of 70dB(A) up to the maximum input signal. The sound output level for maximum input signal

EN352-8:2020

Measuring Bluetooth output levels in dBA should be below 82dBA

Headband - Tested according to EN352-8:2020

Mean (dBA)	76.1 dBA
Standard Deviation (dBA)	1.0 dBA
MEAN-SD	75.1 dBA

Helmet Mount - Tested according to EN352-8:2020

Mean (dBA)	76.9 dBA
Standard Deviation (dBA)	0.9 dBA
MEAN-SD	76.0 dBA

Notified Body Details

CE 2777	SATRA Technology Europe Limited, Bracetown Business park, Clonee, D15 YN2P, Ireland EU Approved Notified body number 2777
UKCA 0321	SATRA Technology Centre, Wyndham Way, Telford Way, Kettering, Northamptonshire, NN16 8SD, United Kingdom UK Approved Body number 0321

4. Statements Notices

4.1 European CE Notice

Your Guardio Freebird Mesh product (referred to as the "Product") conforms to the essential requirements outlined in Council Directive 2014/53/EU, specifically Articles 3.1a, 3.1.b, and 3.2. The manufacturing of the Product aligns with the provisions detailed in Annex II of the aforementioned directive.

For the complete EU Declaration of Conformity, please refer to the Guardio website at www.guardiosafety.com.

Operating Temperature: The Product is designed to function effectively within a temperature range of -20°C to 55°C (-4°F to 131°F). Charging Temperature: The limits for battery charging temperature are set at 0°C to 40°C (32°F to 104°F).

AC/DC Adapters: When charging the Product from a wall outlet, ensure that the plug-in AC/DC adapter meets the following criteria: Input: 100-240 V, 50/60 Hz, with a maximum current of 0.2 A. Output: 5 V DC, with a maximum current of 1 A.

The equipment must be powered by an external, specific limited power source, classified as PS1 according to IEC 62368-1.

OEM integrators can incorporate the CE Declaration of Conformity (DOC) of the PRO1 module as part of their end product declaration, provided that the PRO-1 is the sole Radio unit in the end product.

Declaration of Conformity (DOC)

The Product complies with and adopts Bluetooth® Specification 4.2, having successfully passed all interoperability tests specified in the Bluetooth® specification. However, please note that interoperability between the device and other Bluetooth®-enabled products is not guaranteed.

Copyright

WARNING:

Please be advised that your complete and undivided attention is absolutely essential when utilizing a communication device, referred to here as the "Product." Failing to exercise caution in potentially hazardous situations could lead to accidents resulting in severe injury or even loss of life.

Guardio strongly urges you to take all necessary precautions and maintain a high level of alertness within your work environment. All our publications are intended solely to address technical capabilities and should never be interpreted as endorsing the use of Guardio's Products in any manner that is either unsafe or prohibited by the law.

Exercise utmost care while using this Product and adhere to all relevant workplace regulations. Always employ the Product in a responsible and safe manner, avoiding distractions while working. Cease operating the Product immediately if it becomes unsafe to do so.

During the operation of the equipment, ensure that no part of your body makes contact with the antenna. Limit the use of the Product to safe areas and avoid its usage in locations like gas stations, fuel depots, or areas with explosives. If you intend to use the Product with hearing aids or medical devices, it is imperative to consult with a physician or specialist beforehand. Lastly, make certain that you install and mount the Product securely and stably.

Health Warnings:

Hearing Loss Caution: Audio devices have the potential to cause hearing loss. Please exercise caution and refrain from exposing yourself to excessive volume levels that could harm or impair your hearing, potentially leading to permanent hearing loss if used at high volumes for extended durations.

RF Signal Consideration: While most electronic equipment is shielded against RF signals, it's worth noting that certain devices may not be adequately shielded from the RF signals emitted by your wireless equipment

Pacemakers:

The Health Industry Manufacturers Association recommends that a minimum separation of about six inches (or 16 cm) to be maintained between a mobile phone, or wireless device, and a pacemaker to avoid potential interference with the pacemaker. Be sure not to interfere with the functionality of personal medical devices.

Hearing Aids: Some devices may interfere with certain hearing aids. In the event of such interference, you should consult your hearing aid manufacturer to discuss alternatives.
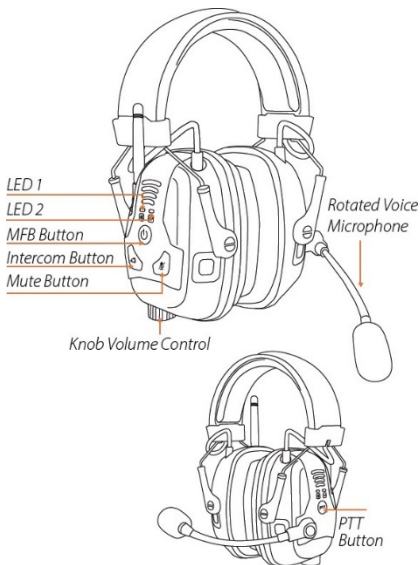
Other Medical Devices: If you use any other personal medical device, consult the manufacturer of your device and/or your physician to determine if it is adequately shielded from interference caused by external RF energy. Your physician may be able to assist you in obtaining this information.

5. Getting Started

5.1 Getting to Know Your Freebird Mesh Headset

The buttons on your Freebird Mesh Headset control the following functionalities:

MFB (Multi-Function or MF button):
- Power On/Off
- Main Voice Menu
  - Music Control
  - FM Control
- Bluetooth Pairing

INT (Intercom):
- Intercom Grouping
- Voice Menu
  - Bridge
  - Private Call
- Emergency Call
- Ambient Noise Control

PTT (Push-to-Talk)
Mute
Volume knob (up/down)

LED 1
LED 2
MFB Button
Intercom Button
Mute Button
Knob Volume Control
Rotated Voice Microphone
PTT Button

The Freebird Mesh Headset is equipped with two distinct connection interfaces. The USB-C port is designated for the purpose of recharging the headset, while the PTT (Push-to-Talk) connector serves as the interface for seamless integration with a 2-way radio communication device..
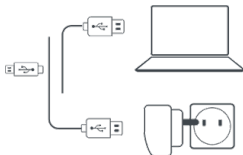

USB-C Charging

PTT Connector
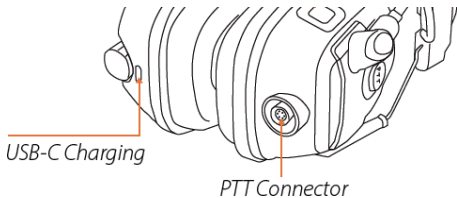
5.2   Charging the Freebird Mesh Headset

Make sure that your Freebird Mesh Headset battery is charged for at least 3 hours before initial use.

To charge the unit:

• Using the USB-C cable, connect your computer or wall charger to the USB port on your Freebird Mesh Headset.

▪ Charging with the wall charger is faster than via a computer USB port.
▪ Charging your unit switches it off automatically. To utilize the unit during the charging process, simply switch it back on. Use your unit while it is being charged, switch it back on.

While charging, the LED indicates the charging status as follows:

• Red LED on — charging
• Green LED on — charging complete

TIP: You can check the battery charge at any time by saying "Hey Guardio, battery status."

5.3   Wearing Instructions

5.3.1   Wearing Instructions for Freebird Mesh headset Headband Style

To place the headset in the appropriate manner, make sure that you:

• Position the cups over your ears in a way that they fully enclose the ears
• Seal the cushions tightly against your head
• Adjust the height of the cups by sliding them up or down

Note: The headband should sit straight on top of your head.

5.3.2   Wearing Instructions for Freebird Mesh Headset Helmet Mount

The Freebird Mesh Headsets also includes a Helmet Mount version.

The Freebird Mesh Helmet Mount version shall be fitted to, and tested with the following safety helmets:

- Guardio ARMET – Series

- 3M G3000

- KASK Plasma

- Kask Zenit

- Petzl Vertex

- 3M 5000-series

To install the headset on your helmet and fit it on your head:

1. Insert the slot adapters into the slots on the sides of the helmet.
2. Press them all the way down until you hear a snap.
3. Rotate the headset to vertical position.
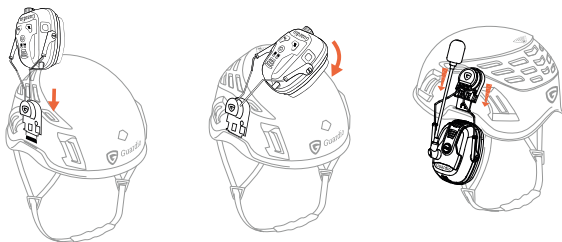
To properly position the headset with the headset on your head, please follow these steps:

1. Firmly secure the headset to ensure that it exerts gentle pressure on your ears. Continue to tighten it until a discernible
2. Position the earmuffs on your ears in a way that completely enclose your ears, creating a secure seal.
3. You can adjust the earmuffs' height up or down for optimal fit.

4. When you are not in a noisy environment, you have the option to rotate the headset over the helmet for convenience.
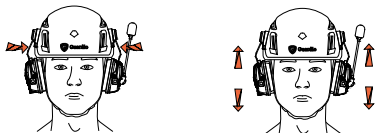
5.4   Switching Your Unit ON/OFF

To switch your Freebird Mesh Headset on:

- Press both the **Intercom** and the **Multi-Function** (MF) buttons for 1 second.

The speaker emits an ascending tone, accompanied by a welcoming voice message. The LED indicator confirms that your Freebird Mesh Headset is powered on.

- Normal and low battery — LED flashes blue three times, then green.
- Charging — LED flashes red and purple three times.

To switch your Freebird Mesh Headset off:

- Press both the **Intercom** and **MF** buttons for 1 second.
  The LED flashes red three times, confirming that your unit is switching off. The speaker emits a descending tone and a voice message, "Goodbye."

5.5   Using Your Freebird Mesh Headset

You can operate the various features of your Freebird Mesh Headset in the following ways:

- Press a button, or a combination of buttons, on the unit. The Freebird Mesh Headset has an intuitive voice menu. Just listen to the commands and choose the right one.
- Use automatic voice recognition by saying a command (for example, "Hey Guardio, Radio On").

5.6   Pairing Your Unit to Bluetooth Devices

Your Freebird Mesh Headset has two Bluetooth channels for connection to Bluetooth devices such as mobile phones and 2-way radio deices.

To connect your unit to a Bluetooth device, you must first pair the two. Once paired, they automatically recognize each other whenever they are within range.

To pair the Freebird Mesh Headset to a mobile phone:

1. Enable Bluetooth on your mobile phone.
2. While the Freebird Mesh Headset is in standby mode, press the **MF** button for 5 seconds. The LED flashes red and blue.
3. On your mobile phone, search for Bluetooth devices.
4. Once your Freebird Mesh Headset appears in the list of available devices, select it. If prompted for a PIN or Passkey, enter 0000 (four zeros).
   Your phone will confirm that pairing has succeeded and the LED flashes purple for 2 seconds.

To pair the Freebird Mesh Headset with a 2-way radio Bluetooth device:

1. Enable Bluetooth on the 2-way radio device.
2. While the Freebird Mesh Headset is in standby mode, press the **MF** button for 5 seconds. The LED flashes red and blue.
3. Tap the **MF** button once. The LED flashes red and green.
4. On the device you are pairing, search for Bluetooth devices.
5. Once your Freebird Mesh Headset appears in the list of available devices, select it. If prompted for a PIN or Passkey, enter 0000 (four zeros).

The device confirms that pairing has succeeded and the LED flashes purple for 2 seconds.

- If pairing is not completed within 2 minutes, the unit automatically returns to standby.
- Not all Bluetooth mobile phones broadcast Bluetooth Stereo music (A2DP) even if the phone has an MP3 player function. Consult your mobile phone's user manual for more information.
- Not all Bluetooth 2-way radio devices allow connection to Bluetooth audio devices. Consult your 2-way radio user manual for more information.

To cancel the pairing process:

- Press the **MF** button for 2 seconds. The LED stops flashing red and blue/green.

6. Operation

The Freebird Mesh Headset makes it easy for you to receive phone calls and listen to music in a convenient and safe manner.

6.1 Basic Audio Functions

The basic audio functions are the same whether you are listening to music, speaking on the intercom, or having a phone conversation.

To turn the volume up:

- Turn the **Volume** knob to the right (clockwise).
  A tone is played on the speaker until you reach the maximum volume, as indicated by the maximum volume tone. The tone in the high volume levels is different than the low volume ones to indicate that you are using high volume. Be sure to always protect your hearing.

To turn the volume down:

- Turn the V**olume** knob to the left (counterclockwise).
  A tone is played on the speaker until you reach the minimum volume, as indicated by the minimum volume tone.

Mute Microphone

To mute the microphone completely, but keep speaker volume (to keep hearing communication):

- Press and hold the **Mute** button

To unmute the microphone: Release the **Mute** button

Mute Audio

To mute the microphone completely and lower the speaker volume to the minimal level:

- Using voice command – "Hey Guardio Mute Audio"

To unmute the microphone and raise the speaker volume to its previous level:

- Using voice command – "Hey Guardio unmute Audio"
- Or just tap any button

6.2 Making AND Receiving Phone Calls

You can use your mobile phone to make and receive phone calls while paired to your Freebird Mesh Headset.

You can call hands-free using your mobile phone's voice dial option, the Guardio speed dial, or redial last call options.

To make a phone call:

- To dial using your mobile phone's voice dial option, say "Hey Siri" (if you are using an iOS device) or "OK Google" (if you are using an Android device), then make your call as per the instructions for your mobile device.
- To redial the last number called on your mobile device, tap the **MF** button, wait until you hear "Redial number" and tap again, or say "Hey Guardio, redial number."
- To dial your preset speed dial number, tap the **MF** button, wait until you hear "Speed dial" and tap again, or say "Hey Guardio, speed dial."

To answer a call:

- Tap the **MF** button or say "Answer."

To reject a call:

- Press the **MF** button for 2 seconds.

To ignore a call:

- Say "Ignore."

To end a call:

- Tap the **MF** button.

6.3 Streaming Music

You can stream music from your paired device to your Freebird Mesh Headset. To control music streaming from your paired device:

To start music streaming:

- Tap the **MF** button, wait until you hear "Music on" and tap again, or say "Hey Guardio, music on."

To stop music streaming:

- Tap the **MF** button, wait until you hear "Music off" and tap again, or say "Hey Guardio, music off."

To skip to the next track (while streaming):

- Tap the **MF** button, wait until you hear "Next track" and tap again, or say "Hey Guardio, next track."

To skip back to the previous track (while streaming):

- Tap the **MF** button, wait until you hear "Previous track" and tap again, or say "Hey Guardio, previous track."

6.4   Listening to FM Radio

The Freebird Mesh Headset is equipped with a built-in FM radio.

To turn on the FM radio:

- Tap the **MF** button, wait until you hear " " and tap again or say "Hey Guardio, radio on."

When you switch on your FM radio, the station that was playing when you last switched off resumes playing.

To turn the FM radio off:

- Tap the **MF** button, wait until you hear "Radio off" and tap again, or say "Hey Guardio, radio off."

To skip to the next station:

- Tap the **MF** button, wait until you hear "Next station" and tap again, or say "Hey Guardio, next station."

To skip back to the previous station:

- Tap the **MF** button, wait until you hear "Previous station" and tap again, or say "Hey Guardio, previous station."

To perform auto-scan (search for the next 6 stations):

- Tap the **MF** button, wait until you hear "Auto scan" and tap again.

6.5   Level Dependent/ Listen Through

Using your hearing protection earmuff isolates you from your surroundings. This can be dangerous in some cases where you need to be aware of close hazards.

The Freebird Mesh Headset features a pair of Level Dependent microphones, with one positioned on each earmuff, designed to allow a controlled level of ambient noise to be perceptible. In situations where ambient noise surpasses a certain threshold, the Level Dependent microphone functionality is automatically deactivated, ensuring that you return to an isolated audio environment.

You can control the ambient noise volume level from the Freebird Mesh Headset.

To enable/disable the level-dependent feature:

- Tap the **Intercom** button, wait until you hear "Level Dependent enable/disable," and then tap again.

To change the level-dependent volume:

- Tap the **Intercom** button, wait until you hear "Level Dependent volume control," and then use the volume buttons to change the level-dependent volume.

6.6   Self-hearing Sidetone

When you are using the Freebird Mesh Headset in very noisy environment, it is sometimes difficult to hear yourself and to know whether you can be heard over the Intercom.

When the self-hearing feature is enabled, you can hear yourself in your own speakers while talking, making sure your crew members can hear you as well.

You can control the self-hearing volume level from the Freebird Mesh Headset.

To enable/disable self-hearing:

- Tap the **Intercom** button, wait until you hear "Self-hearing enable/disable," and then tap again.

To change the self-hearing volume:

- Tap the **Intercom** button, wait until you hear "Self-hearing volume control," and then use the volume buttons to change the self-hearing volume.

6.7 Working with 2-way Radio

The Freebird Mesh Headset supports working with 2-way radio devices. It can be connected to the 2-way radio device via cable or Bluetooth.

The Freebird Mesh Headset has a special four pole audio connector for wired connection. A special connector produced by your partner should be attached to it when working with 2-way radio.

To start an outgoing 2-way radio session:

- Press and hold the **Push-to-Talk** (PTT) button while speaking. Releasing the button releases the transmission.

To start an incoming 2-way radio session:

There is nothing to do here. While you are connected to the 2-way radio device, any transmission in the network is

> Compatibility with different brands and types (wired and wireless) require dedicated testing according to the chosen device.
> Some 2-way radio devices require to be in high volume, in your 2-way radio device, in order to hear it in the Freebird Mesh Headset speakers.

automatically heard in the Freebird Mesh Headset speakers.

6.8 2-way Radio Audio Mixing and Sharing

You can choose to hear the incoming 2-way radio audio in parallel with the intercom group audio.

To enable/disable 2-way radio audio mixing:

- Tap the **Intercom** button, wait until you hear "Enable/disable 2-way radio audio mixing," and then tap again.

You can also share your incoming and outgoing 2-way radio audio with your crew members.

To enable/disable 2-way radio audio sharing:

- Tap the **Intercom** button, wait until you hear "Enable/disable 2-way radio audio sharing," and then tap again.

6.9 Voice Commands

Voice commands provide a hands-free method for controlling specific features of the Freebird Mesh Headset through voice recognition technology. By clearly articulating a command, the headset will execute the requested action. The Freebird Mesh Headset is equipped with the following predefined voice commands.

To ...	Say ...
Turn on the radio	"Hey Guardio, radio on"
Turn off the radio	"Hey Guardio, radio off"
Turn on music	"Hey Guardio, music on"
Turn off music	"Hey Guardio, music off"
Play the next music track	"Hey Guardio, next track"
Play the previous music track	"Hey Guardio, previous track"
Raise volume	"Hey Guardio, volume up"
Lower volume	"Hey Guardio, volume down"

Mute audio	"Hey Guardio, mute audio"
Unmute audio	"Hey Guardio, unmute audio"
Redial the last number	"Hey Guardio, redial number"
Answer an incoming call	"Answer"
Ignore an incoming call	"Ignore"
Access Siri (when connected to an iOS device)	"Hey Siri"
Access Google (when connected to an Android device)	"OK Google"
Check the battery status	"Hey Guardio, battery status"
Initiate private chat	"Hey Guardio, private chat on"
Terminate private chat	"Hey Guardio, private chat off"
Current channel number	"Hey Guardio, what is my channel?"

7.   Talking with Others

Your Freebird Mesh Headset intercom communication functionality uses Guardio's Dynamic Mesh Communications (DMC) technology.

DMC is the best way to communicate in a group. In DMC mode, you can instantly create, or join, a dynamically fluid network of up to 15 members to communicate in full conference mode. DMC allows anyone in the group to roam freely, overtake each other, or even leave the group altogether, without affecting the ongoing conversations of the remaining group members. You can also use the DMC intercom to communicate privately with another crew member.

7.1   How Does DMC Work?

Anyone can start a new DMC intercom group.

Crew members can join, leave, and rejoin existing intercom groups without affecting the ongoing conversation among the other group members. If a crew member goes out of range, the remaining crew members are automatically re-connected, within split seconds, to a closer crew member, bypassing the absent or remote crew member. This way, all active crew members remain connected to each other.

7.2   Intercom Operation

You can use the intercom to speak with other crew members in your intercom group. For more information on creating DMC intercom groups, see Creating Intercom Groups on page 18.

Using the DMC intercom, all crew members in a group speak hands-free. A crew member in a group performs no additional operation to speak to, or hear, other crew members in the group.

Using the intercom, you can also:

- Chat privately with another crew member in your DMC group, see Chatting Privately on page 19 .
- Bridge a non-Freebird Mesh Headset member, see Using the Intercom on page 19.
- Mute/unmute intercom groups, see Muting/Unmuting DMC Intercom Groups on page 19.
- Delete intercom groups, see Deleting Intercom Groups on page 19.
- Listen to music while in DMC intercom groups, see Mixing the Intercom Audio with Music Streaming.

7.2.1   Setting Up and Using DMC Intercom Groups

You can manage DMC intercom groups to suit your work requirements. This includes creating groups, joining groups, leaving and re-joining groups, or changing your active group.

Intercom groups are created and deleted by a group creator. Each group can have up to 15 crew members: one group creator/admin and a maximum of 14 group members.

When creating a group, all members should be within 3 meters (10 feet) of the creator. The group continues functioning

even if the creator is no longer available.

If a crew member's connection is lost, they will hear a "Group disconnected" announcement. The crew member remains part of the group and reconnects automatically once in range.

7.2.2   Creating Intercom Groups

When creating an intercom group, you must coordinate with the other crew member who will be the group creator.

To create an intercom group:

1. The group creator and all group members: Press the **Intercom** button for 5 seconds. The LED flashes green quickly.
2. **Only** the group creator: Tap the **Intercom** button. The LED flashes red and green quickly.
3. Other members can join the group within 2 minutes.
4. After each member joins successfully, the LEDs of the joined unit and the creator's unit flash purple. After grouping is completed, the intercom conference starts automatically.
5. To stop the grouping process, press the **Intercom** button for 2 seconds.

7.2.3   Joining Intercom Groups

You can join or rejoin to an intercom group created by another crew member.

If your intercom group connection is lost, you remain part of the group. Once in range of any other group member, you automatically reconnect.

If your intercom group splits with some group members remaining in range of each other, but not in range of all group members, you can continue speaking with the members that are still in range. Once in range of any other group member, you automatically reconnect.

If you join a new intercom group, you automatically leave your existing DMC group.

To join an existing intercom group:

1) Both you and the group creator: Press the **Intercom** button for 5 seconds. The LED flashes green quickly.
2) Only the group creator: Tap on the **Intercom** button. The LED flashes red and green quickly.

The color of the flashing LED indicates whether you have been added to the group:

- o   Purple: You have successfully joined the group.
- o   Yellow: You cannot join the group because it has already reached the maximum number of crew members.
- o   Red: Failed to join.

7.2.4   Deleting Intercom Groups

If you delete a DMC intercom group, you must rejoin it if you want to connect to it again in the future.

To delete an intercom group:

1. Press the **Intercom** button for 5 seconds. The LED flashes green quickly.
2. Press the **Volume Down** button for 2 seconds. The LED flashes purple 5 times slowly, confirming that group has been deleted.

7.2.5   Using the Intercom

7.2.6   Chatting Privately

You can chat privately with a specific member of your intercom group.

- •   On both Freebird Mesh Headset devices, press and hold the **Intercom** and **Volume Down** buttons for 5 seconds.

To start a private chat:

Tap the **Intercom** button, wait until you hear "Private chat on" and tap again, or say "Hey Guardio, Private chat on."
●

To stop a private chat:

- Tap the **Intercom** button, wait until you hear "Private chat off" and tap again, or say "Hey Guardio, Private chat off."

- When a user from the private chat moves out of range/Shut down/Mobile call/No one is talking – there is timeout of 30 seconds and then the private chat ends. You hear the announcement "Private Chat off." After that, you return to the intercom group session.

7.2.7 Adding a NON-Freebird Mesh Headset Member to the Intercom Group Conversation (Bridge)

You can use your connected mobile phone to connect a third party into the intercom group.

To add (bridge) a phone call member to the group:

- Tap the **Intercom** button while connected to a group and in an ongoing mobile phone call.

To close the bridge and disconnect the phone call member from the group:

- Tap the **Intercom** button while bridging is active.

7.2.7.1 Muting/Unmuting DMC Intercom Groups

Muting the intercom mutes your microphone and speaker from the group. Unmuting the intercom restores sound to your microphone and speaker.

To mute/unmute the DMC group:

- Tap the Intercom button, wait until you hear "Mute group" and tap again.

7.2.7.2 Mixing the Intercom Audio with Music Streaming

The Freebird Mesh Headset can use parallel audio streaming to stream audio from two connected sources simultaneously so that you can listen to your music, while holding an intercom conversation.

The Freebird Mesh Headset automatically manages your music volume while using intercom.

Changing the volume while the intercom is active and Music are in the background, changes the intercom volume.

To increase/decrease the Music volume while connected to an intercom group, use the Volume buttons while   no audio is heard on the intercom group.

8. Troubleshooting

8.1 Soft Reset

If your Freebird Mesh Headset stops responding, reset it in one of these ways:

- Turning it off and then on again.
- Using a USB cable, connect your unit to the computer, or wall charger, for 30 seconds.

9. Appendix A. Freebird Mesh Headset LED Indications

The Freebird Mesh Headset is designed to function in various modes, each comprising a specific set of available features. For instance, when you use your Freebird Mesh Headset to play music, it enters the music-playing mode, activating features relevant to music playback, such as track skipping.

Events are recognized as occurrences each time you engage a feature and receive a response from your Freebird Mesh Headset. For instance, the act of initiating music playback is considered an event.

The current operational mode of your Freebird Mesh Headset is conveyed through the LED indicators on the unit. Additionally, you will receive voice announcements on your device to inform you of mode transitions and events. The table below provides a summary of LED indications for modes and events, taking into account the prevailing battery status.

LED	Flashing	Battery State	Mode or Event
Green	Fast (3 times)	Normal Low Battery Charging	Power on
Green	Slow (repeated at 3-second intervals)	Normal	Standby
Green	Slow twice (repeated at 3-second intervals)	Normal	Incoming/outgoing call (intercom or mobile) Audio active (intercom, A2DP)
Red and blue	Slow (5 times)	Normal Low Battery	Factory reset
Red and green/Red	Red and green twice slowly, then red	Charging	Incoming/outgoing call (intercom or mobile) Audio active (intercom, A2DP)
Red and green /Red	Slow Red and green and red (repeating)	Charging	Standby
Red/Blue	Alternating fast	Normal Low Battery Charging	Pairing Mobile
Red and blue	For 2 seconds	Normal Low Battery Charging	Mobile pairing successful Mobile connected
Green	Fast (repeating)	Normal or Low Battery	Grouping intercom
Red/Green	Alternating fast	Normal Low Battery Charging	Intercom Grouping as a group creator Bluetooth paring with 2-Way Radio
Red	Twice slowly (repeated at 3-second intervals)	Low Battery	Incoming/outgoing call (intercom or mobile) Audio active (intercom, A2DP)
Red and green	For 2 seconds	Normal Low Battery Charging	Intercom grouping successful
Red	For 2 seconds	Normal or Low Battery	Intercom grouping failed
Red	Slow (repeated at 3-second intervals)	Low Battery	Standby
Red	Fast (3 times)	Normal Low Battery Charging	Power off
Red	Remains on	Charging	Off

10. Glossary

Term/Abbreviation	Description
A2DP	Advanced Audio Distribution Profile (for music). A protocol for playing music over Bluetooth.
Level Dependent / Listen through	Transferring the ambient noise into the earmuffs in a controlled way to protect your hearing.
Self-Hearing / Sidetone	Enables you to hear yourself while talking to verify that others can also hear you.
DMC	Dynamic Mesh Communications.
Language	Voice announcements and voice commands language.
Voice Control	Voice activation (by saying a word or phrase) of certain features for hands-free operation.
Voice Control Sensitivity	Adjusts your microphone sensitivity for voice activation while you are using the device

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