

# MP-20TWS

True Wireless Dual-Driver Earbuds with Active Noise Cancelling

**OWNER'S MANUAL**




## Important Safety Instructions

1. Read, follow, and keep these instructions. Heed all warnings.
2. Do not use in or near dangerous environments. This includes driving, cycling, walking, jogging and other areas where traffic is present and accidents could occur.
3. Keep this product and its accessories out of reach of children. Handling or use by children may pose a risk of death or serious injury. Contains small parts and cords that may pose a risk of choking or strangulation.
4. Set the volume level of the audio device to a minimum, and then, after connecting the earbuds, adjust the volume gradually. Sudden exposure to loud noises could cause hearing damage.
5. Keep earbuds clean. To clean the earbuds, wash outside with a mild detergent solution.
6. Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.
7. Do not immerse in water, such as while taking a shower, bath, or washing your face. Otherwise, sound deterioration or failures may result.
8. Do not use while sleeping as accidents may result.
9. Stop using the earbuds immediately if they are causing great discomfort, irritation, rash, discharge, or any other uncomfortable reaction.
10. If you are currently receiving ear treatment, consult your physician before using this device.
11. The maximum ambient temperature during use of the appliance must not exceed 0–40° C // 32–104° F.
12. This device complies with Part 15 of the FCC Rules [and contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's license-exempt RSS(s)]. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference, and
  - (2) This device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

  - (1) L'appareil ne doit pas produire de brouillage, et
  - (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
13. This equipment complies with radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The portable device is designed to meet the requirements for exposure to radio waves established. The maximum SAR value of the device reflected in the report meets the limit requirement of 1.6 W/kg.
14. **NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and the receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:** Changes or modifications to this device not expressly approved by LOUD Audio, LLC. could void the user's authority to operate the equipment under FCC rules.  
Canada ICES-003(B)/NMB-003(B)
15. RF Power: ≤8.6dBm (EIRP)  
Bluetooth frequency range: 2400 – 2483.5 MHz  
Bluetooth transmitter modulation: GFSK, π/4-DQPSK, 8-DPSK
16. Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in the following chart. According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here:

 High sound pressure. Hearing damage risk.  
Do not listen at high volume levels for long periods.


**WARNING** — The battery (battery or batteries or battery pack) shall not be exposed to excessive heat such as sunshine, fire or the like.

**CAUTION** — A battery subjected to extremely low air pressure may result in an explosion or the leakage of flammable liquid or gas.

**CAUTION** — Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

**NOTE ON STATIC ELECTRICITY**  
Static electricity accumulated in the body may cause mild tingling in your ears. To minimize the effect, wear clothes made from natural materials.

Duration, per day in hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	The dogs barking at the mailman
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

 **Correct disposal of this product:** This symbol indicates that this product should not be disposed of with your household waste, according to the WEEE directive (2012/19/EU) and your national law. This product should be handed over to an authorized collection site for recycling waste electrical and electronic equipment (EEE). Improper handling of this type of waste could have a possible negative impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE. At the same time, your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, waste authority, or your household waste disposal service.

## Contents

- Important Safety Instructions ..... 2
- Contents ..... 3
- Features ..... 3
- Introduction ..... 4
  
- MP-20TWS Features ..... 5
- First Things First ..... 5
  - 1. USB-C Power Connection ..... 5
  - 2. Case Switch and 3. Status LEDs ..... 5
  - 4. Left Earbud ..... 6
  - 5. Right Earbud ..... 6
  
- An Illustrated Guide to the Earbuds ..... 7
  
- Pairing and Connecting with Bluetooth ..... 8
- Active Noise Cancelling (ANC) ..... 8
  
- Care and Maintenance ..... 8
  
- An Illustrated Guide to the Macarena ..... 9
  
- Appendix A: Service Information ..... 10
- Appendix B: Technical Information ..... 11
- Limited Warranty ..... 12

## Features

- Hybrid dual driver utilizes Knowles® balanced armature and custom dynamic drivers**
  
- MIS™ Hybrid active noise cancelling**
  
- Bluetooth 5.2 for high-fidelity, low-latency streaming**
  
- Three Knowles SiSonic™ mics for optimal noise cancelling & call quality**
  
- IPX4 waterproof rating**
  
- Capacitive touch controls**
  
- Compatible with Siri, Google Assistant**
  
- 13+ hours of battery life**
  
- Included wireless charging case adds 40+ more hours of playtime**
  
- USB-C fast charging**
  
- Three different sizes of included eartips**

Please write the serial number(s) here for future reference (i.e., insurance claims, tech support, return authorization, make dad proud, etc.)

**Purchased at:**

**Date of purchase:**



Part No. SW1401 Rev. A 10/22  
 ©2022 LOUD Audio, LLC. Alright Alright All Rights Reserved.

## Introduction

Combining the latest true wireless stereo technology with premium, studio-grade tuning, MP-20TWS earbuds deliver breathtaking clarity and bass even in noisy environments.

Hybrid active noise cancelling utilizes three Knowles SiSonic™ microphones to make external interruptions disappear for an incredibly immersive experience.

And with a hybrid dual-driver design that features Knowles® balanced armature and custom dynamic drivers, you will hear and feel your music, movies, and games at a whole new level of detail that you didn't know was possible.

Bluetooth® 5.2, easy touch controls, virtual assistant compatibility, up to 13+ hours of battery life, and an included charging case which adds over 40+ hours of play time make MP-20TWS the ultimate true wireless earbuds for incredible sound and versatility on the go.

## How to Use This Manual:

After this introduction, a getting started guide will help you get things set up fast. The hookup diagrams show some typical use-case scenarios.



This icon marks information that is critically important or unique! For your own good, read and remember them...it is a good idea to pay special attention to these areas in the Owner's Manual marked with the "VERY IMPORTANT" hand icon.



There's an illustration of a microscope, so, of course, you're going to get more detailed information when you see this little guy. There are explanations of features and practical tips listed here.

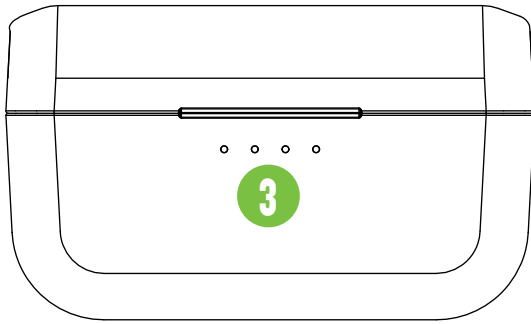


It's a good idea to pay attention to text displayed next to a note icon, as this icon draws attention to certain features and functions relating to the usage of the wireless earbuds.

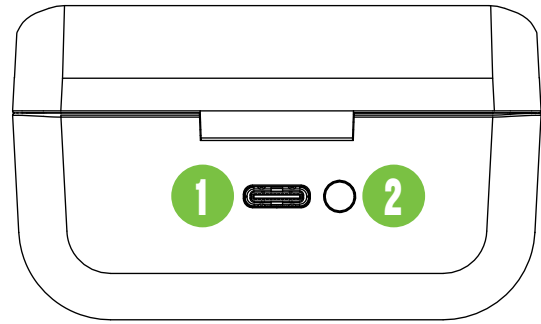
## Things to Remember:

- Never listen to loud music for prolonged periods. Please see the Safety Instructions on page 2 for information on hearing protection.
- Save the shipping boxes and packing materials! You may need them someday.
- Save your sales receipt in a safe place.

# MP-20TWS Features



**CASE FRONT**



**CASE REAR**

## First Things First

Before diving right in, let's take a quick look at three VERY IMPORTANT things to address.

First and foremost: there is a plastic tab located between the earbuds and charging case. Remove the tab and throw it away. It is no longer needed.

The MP-20TWS wireless earbuds were designed with sound and comfort in mind. That said, for the best results, there are L/R markings on the inside of the earbuds to determine each side.



**Warning:** The earbuds can be loud and could cause permanent hearing damage. Even intermediate levels may be painfully loud. **BE CAREFUL!**

Always turn the volume all the way down before putting on the earbuds. Then turn it up slowly as you listen carefully.

Thanks for listening... now back to our regularly scheduled programming!

## 1. USB-C Power Connection

The earbuds are charged via the included case. The earbuds may either be tucked away inside the case or elsewhere. Your earholes, perhaps?! Then the case is charged regardless of the location of the earbuds.

Here's how: connect the USB-C side of the detachable power cord (included in the packaging) to the case and plug the other end of the power cord into a standard USB-A connector.

A fully charged set of MP-20TWS earbuds can last for up to 13+ hours of continuous usage... and it takes only 1-2 hours for a completely dead set to become fully charged once again! Furthermore, the case adds an additional 40+ hours of playtime... and who doesn't like more playtime?!



Please note that the earbuds should not be used while charging. If that seems implausible, one could argue that one earbud could be charging while the other is used for listening. Again, please do not do this.

## 2. Case Switch and 3. Status LEDs

The momentary case switch is pushed in order to view battery level, place the earbuds into pairing mode and reset the earbuds back to factory default. The LEDs indicate the status of the earbuds, including power, battery level and more.

- **Battery Status:** Pushing the case switch will display the status of the batteries:

**1 Push** – Displays the earbuds battery status. The earbuds' battery levels are displayed by the LEDs:

- LED 1 slowly flashing – Left earbud is charging.
- LED 1 solid green – Left earbud is fully charged.
- LED 4 slowly flashing – Right earbud is charging.
- LED 4 solid green – Right earbud is fully charged.

The earbuds inside the case will illuminate solid red to indicate that they are being charged... for crimes they did not commit! They're also having their batteries (re)charged.

**2 Pushes** – Displays the case battery status. The case's battery level is displayed by the four LEDs:

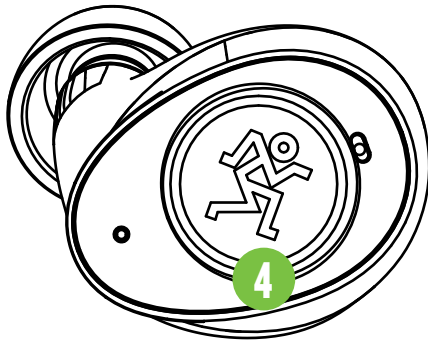
- 1 LED – 0-25% charge
- 2 LEDs – 26-50% charge
- 3 LEDs – 51-75% charge
- 4 LEDs – 76-100% charge

If the case is at, say, 40% charged, then two of the case LEDs will illuminate green and the other two will flash green to indicate charging. When fully charged, all four LEDs will illuminate green.

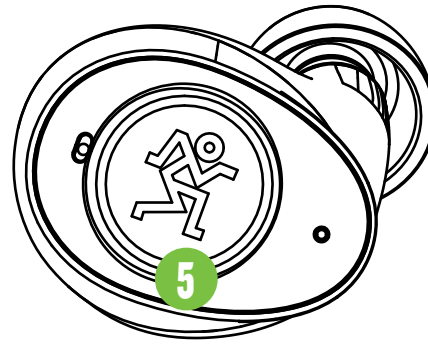
**3 Pushes** – Turns the LEDs off. They will also turn off automatically after three seconds of inactivity.

- **Bluetooth Pairing Mode:** With the case open, press and hold the case button down for three seconds (with the earbuds in the case). All four LEDs will flash quickly, then the earbuds will enter pairing mode.

## MP-20TWS Features continued...



LEFT



RIGHT

- **Factory Reset:** With the case open, press and hold the case button down for ten seconds – with the earbuds in the case – to factory reset them. LEDs 1 and 3 will illuminate and flash quickly to indicate success.
- **BT Pairing Mode:** Earbud LEDs flash blue and red.
- **BT Connected:** Earbud LEDs are off.

#### 4. Left Earbud

The inside of the left earbud is for listening, but the outside opens a world of possibilities. Here you are able to tap and/or hold the left earbud to power ambient mode on/off, go to the previous track, turn the volume down and more.

There are illustrations on the following page, but the features are listed below, as well:

- **1x Taps:** Tapping the left side of the earbud once quickly will turn ambient mode on or off.
- **2x Taps:** Tapping the left side of the earbud twice quickly will play the previous track.
- **3x Taps:** Tapping the left side of the earbud thrice will cycle through the noise cancelling modes – ANC On, Wind Reduction Mode, and ANC Off.
- **Hold:** Tapping (and holding) the left side of the earbud down will lower the volume.
- **10 Second Hold:** Tapping (and holding) the left side of the earbud down for 10 seconds will reset the left earbud.
- **Macarena:** Once you have memorized the MP-20TWS commands, it's time to learn (and dance) the Macarena. Illustrations on page 9.



There is nothing to touch, tap or hold if the battery is running out of juice. You will be told, "battery is low, please charge" over and over again until, well, you charge them.

#### 5. Right Earbud

The inside of the right earbud is for listening, but the outside opens a world of possibilities. Here you are able to tap and/or hold the right earbud to play/pause, answer the phone, go to the next track, end/ignore phone calls, turn the volume up and more.

There are illustrations on the following page, but the features are listed below, as well:

- **1x Taps:** Tapping the right side of the earbud once quickly will result in the music pausing/playing. This is also the way to answer phone calls.
- **2x Taps:** Tapping the right side of the earbud twice quickly will play the next track. This is also the way to end (and ignore) phone calls.
- **3x Taps:** Tapping the right side of the earbud thrice quickly will result in the voice assistant making an appearance. MP-20TWS earbuds are compatible with both Siri and Google Assistant.
- **Hold:** Tapping (and holding) the right side of the earbud down will raise the volume.
- **10 Second Hold:** Tapping (and holding) the right side of the earbud down for 10 seconds will reset the right earbud.
- **Macarena:** Once you have memorized the MP-20TWS commands, it's time to learn (and dance) the Macarena. Illustrations on page 9.



There is nothing to touch, tap or hold if the battery is running out of juice. You will be told, "battery is low, please charge" over and over again until, well, you charge them.

# An Illustrated Guide to the Earbud Features

L



**1× TAP**

**Ambient Mode On/Off**

R



**1× TAP**

**Pause/Play/Answer Calls**



**2× TAPS**

**Previous Track**



**2× TAPS**

**Next Track/End/Ignore Phone Calls**



**3× TAPS**

**ANC/Wind Reduction/Off**



**3× TAPS**

**Voice Assistant**



**HOLD**

**Volume Down**



**HOLD**

**Volume Up**



**10 SECOND HOLD**  
**Reset Earbud**



**10 SECOND HOLD**  
**Reset Earbud**

## MP-20TWS Features continued...

### Pairing and Connecting with Bluetooth

Voice prompts will indicate the power on /off status, as well as the connecting / paired status.

Upon powering up the wireless earbuds, the Bluetooth function is either:

(1) In sleep mode. See 'Pairing and connecting for the first time' (below) or...

(2) ...Paired and connected. See 'Previously paired and connected devices' (also below).

#### Pairing and connecting for the first time:

On the first power-up, a voice prompt will state, "power on" followed by, "ready to pair".

While the earbuds are in pairing mode, simultaneously scan for Bluetooth devices on the computer or device. You should see 'MP-20TWS' appear in the list of "available devices". Select it by tapping it. From there, your Bluetooth device should indicate that it is successfully connected ("pairing complete").

If this does not work, start the pairing process again, and make sure that the earbuds and computer / device are both in pairing mode at the same time.

#### Previously paired and connected devices:

The Bluetooth connection will disconnect if it's out of range. Previously paired and connected devices will automatically reconnect upon subsequent power-ups; no need to re-pair devices each time! In this case, a voice prompt will state, "power on" followed by, "connected".

If you would prefer to manually place the earbuds into Bluetooth pairing mode while they're in the case, press and hold down the case button for 3 seconds.



The Bluetooth connection may disconnect when affected by electrostatic discharge (ESD) or electrical fast transients (EFT).

If this occurs, manually reconnect the Bluetooth connection.

### Active Noise Cancelling (ANC)

Active Noise Cancelling (ANC) is often thought of as "Active Noise Control." It is a way to remove (or "cancel") any unwanted sound, by essentially "creating" an inverted sine wave, throwing the signal out-of-phase. This is all automatic and there is nothing you need to do other than decide if you want ANC on or not. Try it with, then without, to see which you prefer!

As mentioned previously, tapping the left side of the earbud thrice quickly will cycle through the noise cancelling modes – ANC On, Wind Reduction

Mode, and ANC Off. A "noise cancelling on", "noise cancelling off", or "wind noise reduction" voice prompt will confirm the choice.



The MP-20TWS earbuds also have ambient mode. A quick single-tap on the left earbud will add/remove "ambient sound". A voice prompt will confirm the choice.

## Care and Maintenance

Your wireless earbuds will provide many years of reliable service if you follow these simple guidelines:

- Avoid exposing them to moisture. If they will be used outdoors, be sure they are under cover if rain is expected.
- Use a dry cloth to clean the earbuds. Avoid getting moisture into any of the openings of the earbuds, particularly where the drivers are located.

Now that we feel confident in your ability to take care of the MP-20TWS earbuds and maintain them for years to come, we are here to inform you that they have a waterproof rating of IPX4! Oh, cool!

But, wait... what does that mean exactly? The IP Code – aka ingress protection code – determines the amount of protection a device has from water, dust and other particles.

Safety first! Here is what is OK to do:

- **IPX1:** Protection from dripping water and sweat. Exercising, for example.
- **IPX2:** Protection from vertically dripping water. It's not hot and sunny everywhere. It rains in some places. You will be protected from a light drizzle.
- **IPX3:** Protection from sprayed water. Is your wife watering the plants with a water bottle when she "accidentally" sprays you seven or eight times? This is A-ok, too!
- **IPX4:** Protection from splashed water. Perhaps you're poolside catching rays while sipping on umbrella drinks on an all-expenses paid vacation. Of course the kids love swimming and playing pool games. Typically this results in you – not anyone else, of course, just you – catching their splashed pool water. Here, you and the MP-20TWS earbuds are safe, too!

Now that you know what is OK to do, here is what NOT to do. Attempting any of the following will void your warranty: holding them under a running faucet, spraying a hose directly on them, taking a shower with them, submerging them under water and anything of the like.



# An Illustrated Guide to the Macarena



Extend right arm straight out, palm down.



Extend left arm straight out, palm down.  
Turn right hand over.  
Turn left hand over.



Bring right hand to left shoulder.  
Bring left hand to right shoulder.



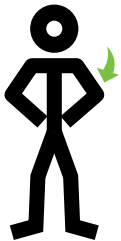
Move left hand to the back side of your head.



Move right hand to the back side of your head.



Place right hand on left hip.



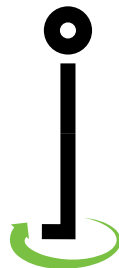
Place left hand on right hip, crossing arms.



Move right hand to right hip.



Move left hand to left hip.  
Wiggle hips to the music.



On the last count of the phrase, jump straight up in the air and do a quarter turn to the right. Repeat the steps three more times to complete a full 360° circle!

## Appendix A: Service Information

If you think your earbuds have a problem, please check out the following troubleshooting tips and do your best to confirm the problem. Visit the Support section of our website ([www.mackie.com/support](http://www.mackie.com/support)) where you will find lots of useful information such as FAQs and other documentation. You may find the answer to the problem without having to part with your earbuds.

### Troubleshooting

#### No power

- Is it charged? There is an amazing amount of usage time, but they do need to be recharged occasionally!
- Is it the year 2112? If so, their better days are behind them now.

#### No sound

- Is the level for the input source turned all the way down or muted? How about the levels on the earbuds? Verify that all the volume controls in the system are properly adjusted.
- Is the signal source working? Try with speakers first. If it's good there, try with hardwired headphones next. If it's good there, it might be that the Bluetooth hasn't been connected or something else.

#### Poor sound / Noise

- Is it loud and distorted? Make sure that you're not overdriving a stage in the signal chain. Verify that all level controls are set properly.

#### The Macawhat?

- Don't give up! Just like anything else, perfecting the Macarena dance requires time, patience and... practice!

#### Bluetooth or Other Issues

- Please email or call Technical Support if you are having any other issue not listed here:
  - o [mackie.com/support-contact](http://mackie.com/support-contact)
  - o 1-800-898-3211

### Repair

For warranty service, refer to the warranty information on page 12.

Non-warranty service is available at a factory-authorized service center. To locate the nearest service center, visit [www.mackie.com/support/service-locator](http://www.mackie.com/support/service-locator). Service for Mackie earbuds living outside the United States may be obtained through local dealers or distributors.

If you do not have access to our website, please call our Tech Support department at 1-800-898-3211 (normal business hours, Pacific Time), to explain the problem. They will tell you where the nearest factory-authorized service center is located in your area.

# Appendix B: Technical Information

## Specifications: MP-20TWS

**Frequency Response** 10 Hz – 20 kHz

**Maximum SPL Peak** 106 dB @ 1 kHz/1 mW

**Sensitivity** 103 ±3 dB @ 1 kHz 1mW/IEC711

**Drive Type** 10 mm dynamic woofer  
+ Knowles balanced armature tweeter

**Charge Time** 1 Hour (Earbuds)  
1.5-2 Hours (Case)

**Use Time** 13 hours (music)  
10 hours (music and ANC on)  
8 hours (phone)

**Bluetooth** 5.2

**Bluetooth Range** ≥33 feet / 10 meters

**Compatible Bluetooth Profiles** HSP, HFP, A2DP, AVRCP

**Supported Codec** AAC, SBC

**ANC Type** Mackie MIS™ Wide-band Hybrid (FF+FB)

**Input** 5V --- 400 mA

**Output** 5V --- 100 mA

**Battery Technology** Polymer Lithium Battery:  
85mAh (Earbuds, Quick Charge)  
500mAh (Case)

**System Requirements** All PC and Mac,  
Android and iOS devices  
that have Bluetooth  
are supported

**Physical Properties**

**Case Size (H x W x D):** 2.7 x 1.1 x 1.7 in  
69 x 29 x 42 mm

**Weight:** 0.04 lb • 0.2 kg (Earbuds)  
0.1 lb • 0.5 kg (Case)

**Disclaimer**

Since we are always striving to make our products better by incorporating new and improved materials, components, and manufacturing methods, we reserve the right to change these specifications at any time without notice.

The “Running Man” figure is a registered trademark of LOUD Audio, LLC.

All other brand names mentioned are trademarks or registered trademarks of their respective holders, and are hereby acknowledged.

©2022 LOUD Audio, LLC. All Rights Reserved.

## Limited Warranty

### **Please keep your sales receipt in a safe place.**

This Limited Product Warranty (“Product Warranty”) is provided by LOUD Audio, LLC (“LOUD”) and is applicable to products purchased in the United States or Canada through a LOUD-authorized reseller or dealer. The Product Warranty will not extend to anyone other than the original purchaser of the product (hereinafter, “Customer,” “you” or “your”).

For products purchased outside the U.S. or Canada, please visit [www.mackie.com](http://www.mackie.com) to find contact information for your local distributor, and information on any warranty coverage provided by the distributor in your local market.

LOUD warrants to Customer that the product will be free from defects in materials and workmanship under normal use during the Warranty Period. If the product fails to conform to the warranty then LOUD or its authorized service representative will at its option, either repair or replace any such nonconforming product, provided that Customer gives notice of the noncompliance within the Warranty Period to the Company at: [www.mackie.com](http://www.mackie.com) or by calling LOUD technical support at 1.800.898.3211 (toll-free in the U.S. and Canada) during normal business hours Pacific Time, excluding weekends or LOUD holidays. Please retain the original dated sales receipt as evidence of the date of purchase. You will need it to obtain any warranty service.

For full terms and conditions, as well as the specific duration of the Warranty for this product, please visit [www.mackie.com](http://www.mackie.com).

The Product Warranty, together with your invoice or receipt, and the terms and conditions located at [www.mackie.com](http://www.mackie.com) constitutes the entire agreement, and supersedes any and all prior agreements between LOUD and Customer related to the subject matter hereof. No amendment, modification or waiver of any of the provisions of this Product Warranty will be valid unless set forth in a written instrument signed by the party to be bound thereby.

### **Need help with the earbuds?**

- Visit [www.mackie.com/support](http://www.mackie.com/support) to find: FAQs, manuals, addendums, and other documents.
- Email us at: [www.mackie.com/support-contact](mailto:www.mackie.com/support-contact)
- Telephone 1-800-898-3211 to speak with one of our splendid technical support chaps (Monday through Friday, normal business hours, Pacific Time).



---

**19820 North Creek Parkway #201**  
**Bothell, WA 98011 • USA**  
**Phone: 425.487.4333**  
**Toll-free: 800.898.3211**  
**Fax: 425.487.4337**  
**[www.mackie.com](http://www.mackie.com)**

---