

3DME Three dimensional music enhancement

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Puede encontrar las instrucciones en español en:www.asiaudio.com

WELCOME TO 3DME THREE DIMENSIONAL MUSIC ENHANCEMENT

3DME is a unique in-ear listening system that combines patented Active Ambient[™] audio technology from Sensaphonics[®] with a powerful smartphone app to enhance listening and promote long-term hearing health.

The system includes:

3DME Active Ambient™

Earphones - Universal-fit, dual driver in-ear monitors (IEMs) with embedded binaural microphones capture the ambient sound around you with full 3D directionality and three sizes of eartips to isolate your ears and deliver superb sound.

3DME Bodypack Mixer/Amplifier

Connects and combines your sound source with the ambient mic feed to add 3D stage mic level to your monitor mix. The bodypack also houses powerful limiter and EQ functions. (When used without a direct monitor mix, you can still hear and control your customized ambient feed with full 3D directionality.) Note: The Power switch is on the bottom.

ASI Audio Smartphone App

Program the bodypack and tailor your sound mix, levels, mic level, EQ and sound limiting, save custom presets, and performs an Audio Seal Test for proper IEM fit.

Accessories also included:

- 3 pairs of premium memory foam earphone tips (Small, Medium and Large)
- USB / micro-USB cable for bodypack charging
- Audio cable: 12-inch jumper cable, stereo mini-plugs
- Earphone cleaning tool
- Clothing clip for securing IEM cable
- Storage case

Caution: No User Serviceable Parts Inside. Opening or Tampering with this unit will VOID the warranty. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment

HARDWARE AND FEATURES

3DME Ambient Earphones

- Universal fit earphones with 3 sizes of ear tips
- Universal-fit dual-driver design
- Embedded binaural ambient microphone system
- 3DME Bodypack with lithium ion battery

3DME Accessories

- Stereo jumper cable
- USB bodypack charging cable
- Earpiece cleaning tool
- Shirt clip
- Carrying Case
- 3-pairs ear tips, S,M,L



Earphone with tip



USB bodypack charging cable

3DME Bodypack Mixer / Amplifier

1 - Ambient volume control switches (+/-) (top panel)

2 - Battery status LEDs (4 LEDs) (top panel)

3 - Dual earphone jacks (right side)

4 - Cable management/strain relief (right and left sides)

5 - Monitor input mini-jack (left panel); tip-left, ring-right

6 - Micro-USB charging port (bottom)



7 - USB power/charging status LEDs (bottom)

8 - Power switch (bottom)

9 - Monitor output mini-jack (bottom); tip-left, ring-right. The output signal directly reflects the total signal reaching your ears, including both the microphone and monitor input signals modified by the Mic Level, EQ and Limiter. This output signal is useful for monitoring your listening level and for binaural recording.



GETTING STARTED: CONNECTING YOUR 3DME AND ATTACHING EARTIPS



For rich, full sound, the earpieces must be fully inserted to achieve a full, tight seal. Three sizes of ear tips are included. NOTE: The earpiece cables are designed to run up, over and behind the ears, meeting behind the head.



Memory foam ear tips, 3 sizes

Installing Ear Tips

1. Select an ear tip, holding it firmly between thumb and forefinger.



2. Place the sound port (nozzle) into the core of the tip at a slight angle. As they join, straighten out the tip and push the tip as far back as it will go.

Inserting In-Ears

1. Before inserting into the ear canal, observe left/right marking on the earpiece.

2. Roll the tip between your fingers to compress the foam into a thin cylinder.

3. Insert the tip as deep as possible without irritating the ear, positioning the cable to run up, over and behind the ear. 4. Hold the earpiece in place for 15-30 seconds, allowing the tip to expand and conform to your ear canal. This will create a custom fit and perfect seal - providing an optimal audio experience.



Proper fi

IMPORTANT:

If the earpieces are not fully sealed, a brief feedback squeal may occur. If you have any doubts about your fit, use the Audio Seal Test.

Very rarely, an ear tip can come off and remain in the ear canal when removing your 3DME IEM. Should this occur and the ear tip cannot be removed easily, please consult or immediately visit an audiologist or medical provider.

These professionals are equipped with medical grade tweezers designed specifically for ear canal disruptions. It is also very important to have your ears checked for excessive ear wax build up or other hearing challenge issues that can cause you to use loud sound volumes not recommended for extended periods of time. Properly sealed earphones allow for safe hearing at lower volume levels.

Note: Turn the bodypack on prior to connecting your earphone cable to the bodypack.

Warning: Listening at a high volume for a long time may damage your hearing.

THE AUDIO SEAL TEST

If you have any doubts about your fit, use the Audio Seal Test to confirm that your IEMs are fully sealed.

Seal Test 🄊 🚦

To access, tap the 'Seal Test button (ear) found in the upper right of the ASI Audio app screen

In-ear monitors require a full seal of the ear canal for full bass response. A poor seal also reduces hearing protection and can enable acoustic feedback. The Audio Seal Test was developed by Sensaphonics to help users ensure proper fit and full seal.

During the test you will hear two alternating tones, one at 50 Hz and the other at 500Hz, each played at the same volume. If the ear canals are properly sealed, both tones will be clearly audible.

If the earpiece is not properly sealed, the 50 Hz tone will be much lower in volume, or even inaudible.

Warning: Listening at a high volume for a long time may damage your hearing.



Activate the Seal Test

1. Access the Audio Seal Test through the ASI Audio app or directly on the asiaudio.com website (https:// asiaudio.com/pages/audio-seal-test).

2. Follow the instructions to complete your seal test.

3. Note the relative levels of the two tones and consult the chart on the next page.

Custom-fit option

As part of the ASI Audio and Sensaphonics partnership, we offer custom-fit ear tips for 3DME earphones. These low profile, soft silicone tips are molded to the exact shape of your ear canal to provide a consistent, secure fit with a full seal for outstanding isolation and comfort. To find an audiologist and get fitted for custom molded eartips, visit asiaudio.com/pages/gold-circleaudiologists.

What You Hear	Probable Meaning	What To Do	
Both tones, clear & at the same level	Correct insertion with proper fit & full seal	Rock on! Proceed to the mic level, limiter, and EQ screens on the ASI Audio app.	
Both tones, but the higher pitched (500 Hz) tone is much louder than the 50 Hz tone	Incomplete seal caused by poor fit of ear tip or by incom- plete insertion. This is the most common problem.	Isolate problem to left or right earpiece, then try a different size or shape of ear tip. Review the IEM in- sertion procedure, then fully re-insert the earphone and repeat the test. If a full seal cannot be achieved, try different ear tips, both size and style, and repeat the test until a full seal is achieved.	
500 Hz only; no 50 Hz bass tone at all	Very poor seal. A more severe version of the previous issue.	Review insertion procedure, fully rein sert IEMs, and test again. If a full seal cannot be achieved, try different ear tips, both size and style, and repeat the test until a full seal is achieved.	
Other results	Problem likely not related to fit or seal	Contact your audiologist or ASI Audio.	

THE ASI AUDIO APP



The ASI Audio app is the control center for Music Enhancement, with access to a suite of sound tools that let you customize the sound of your 3DME.

Download from Google Play Store or Amazon Appstore.

Supported Android versions: 7.0 and above

After installing the app, power up the 3DME bodypack and pair your smartphone or tablet to it. Open the app and connect the earphone cable to the bodypack.

Note: Turn the bodypack on prior to inserting the earpieces and connecting your earphone cable to the bodypack.

The app has 3 main sections: Mic Level & Limiter; Equalizer; and Options.

As you customize the Mic level, Limiter, and EQ to your preferences, settings are automatically saved to the bodypack and stay active until changed with the app.

Warning: Listening at a high volume for a long time may damage your hearing.

Note: A safety limiter function is engaged when the bodypack is first switched on, limiting the level of any possible feedback to the limiter's lowest threshold setting (84 dB-SPL). Pressing either the + or - switch on the top of the bodypack releases the safety limiter and restores your stored limiter threshold settings.



PAIRING THE 3DME WITH ASI AUDIO APP

- 1 Download the ASI Audio App 2 Turn on the 3DME Device
- 3 Touch the Bluetooth icon on the
- upper left corner

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4 Touch the Bluetooth device on the list you want to connect to. Location services may need to be enabled for 3DME to be discovered.

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4. Connection status will display "Connected".



5. Touch "<ASI Audio" on the upper left corner.

6. The Bluetooth icon on the upper left corner will have 2 dots on it indicating the devices are paired $\frac{1}{3}$



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THE MAIN SCREEN



Includes controls for ambient mic level and limiter threshold.

Left and right channels may be treated as a binaural (stereo) pair, or adjusted separately by tapping the Join/Separate button. Joined L/R channels is the system default.

The Join/Separate function applies to the Mic level and Limiter Threshold.

Mic Level (Mic level Gain) and Limiter

The slider on the left sets the base level for the mic level in your monitor mix from the embedded microphones.

Warning: Listening at a high volume for a long time may damage your hearing.

Note: The 3DME's mic level feature can also be used by itself (without a separate IEM feed) for acoustic ensembles – essentially operating as a custom-tuned high idelity earplugs with volume control.

Warning: Listening at a high volume for a long time may damage your hearing.

Limiter Control

The limiter on the right side of the home screen is key to hearing health. Select the level where limiting begins, between 84 and 105 dB-SPL in 3 dB increments.

-Use the slider to set the threshold for limiter engagement.

-The Limiter Left and Right Thresholds are joined or separated by the Join/Separate button. -Maximum volume reduction is 20 dB.

-Limiter function can be turned off (not recommended!).



Notes on limiting

• The 3DME limiter is designed for music with adaptive attack, average responding, frequency selective operation.

 The Limiter Action Link/Unlink button determines if limiting action applies to both channels together (linked), or independently (unlinked).

Linking Action is independent of the Join/Separate function (used for setting the Mic level Level, Limiter threshold, and EQ).

Feedback/Safety Limiter:

If the earpieces are inserted with the bodypack already switched on, a feedback squeal could occur until the earpieces are sealed.

A safety limiter is engaged when the bodypack is first turned on to limit the level of any feedback.

Press the + or - switch on the top of the bodypack to disengage the safety limiter and go to your stored limiter settings.

THE EQUALIZER SCREEN



The 3DME lets you customize personal equalization via a 7-band EQ.

-Each band is adjustable from +12 to -12 dB.

-If using separate channels, select left or right channel (above EQ sliders) to make desired settings.

-To reset, switch to Flat below the sliders to return all values to 0.

-The Join/Separate function applies to the EQ adjustment.

Warning: Listening at a high volume for a long time may damage your hearing.

THE OPTIONS SCREEN

3DME Bodypack Switches

This option allows you to program the (+/-) rocker switches on the bodypack top panel as a toggle switch.

Step Mode is the default setting. The + and - buttons on the bodypack change the volume of ambient sound one step at a time (+12 dB to -24 dB, plus Off).

Preset Mode converts the +/- bodypack buttons into an A/B toggle switch between 2 ambience mic settings - one can be used while performing, while the other for conversation between songs.

Press the "SET + BUTTON" or "SET - BUTTON" button to use the current mic level as the preset for the + or - button on the bodypack.



The system will save these to the 3DME bodypack automatically.

Notes

- In Preset Mode, the + button will always have the higher of the 2 ambience mic settings.
- Preset Mode disables stepwise ambience adjustment. To return the buttons to normal operation, simply select Step Mode in the app. Switches remain in their most recent mode between 3DME sessions.
- In either switch mode, Left and Right behave according to your Join/Separate setting on the Main screen.

CROS Connection

Uniquely, 3DME offers Crosslateral Routing Of Signal. Most users will never need this feature, designed specifically for musicians with unilateral hearing loss.

In CROS mode, the bodypack routes the ambient audio from the non-hearing ear to the earpiece on the hearing side. This literally brings the missing half of the stage back into hearing for those with severe hearing loss on one side.

CROS functionality is activated via the app by simply tapping either left-to-right or right-to-left routing as appropriate.

THE POP-UP MENU - PRESETS AND HELP

Tap the three dots in the upper right corner to load and save a preset, and open help.





Save a Preset

While the 3DME automatically saves current settings for your next session, you can also save multiple presets for different situations.

- Tap the 3 dots to open the pop-up menu.
- From the pop-up list, tap Save and enter a name for your preset.
- Tap OK.



The preset name will be displayed next to the Bluetooth icon. If a preset name is already loaded, it will also be renamed.

Update a Preset

- Tap the 3 dots to open the pop-up menu.
- Tap Update to update the saved preset that is currently loaded.



Choose a Preset

- Tap the 3 dots to open the popup menu.
- From the pop-up menu (Load, Save, Help), tap Load.
- Scroll the list and select a preset.

Load a Preset to the Bodypack

This downloads the selected Preset to the 3DME bodypack and replaces all current settings.

- Tap the "down-arrow" icon to send that Preset to the bodypack
- Tap DONE

The preset name will be displayed next to the Bluetooth icon.



Rename a Preset

- Scroll My Presets to find the desired preset
- Tap the "pencil" icon. and type a new name
- Tap the "disk" icon, then DONE to return to the previous app screen

If the preset name is loaded, it will also be renamed.

Delete a Preset

- Tap the "x-trashcan" icon to initiate deletion
- Confirm that you wish to delete the Preset and tap Done

If the preset name is loaded, it will also be deleted.



Help

Tap Help to find:

- User Guide
- FAQ
- Support Information
- Firmware updates
- About ASI Audio App Version, 3DME Bodypack Serial Number, 3DME Firmware Version, Warranty Registration, etc.

Note: A notification will appear in the ASI Audio App when a Firmware Update is available and ready to install.



Installing Firmware Updates

• Turn the 3DME bodypack on and connect to your device. Open the ASI

Audio App.

- Open the pop-up menu (3 dots) and tap Help
- Select Update Firmware
- Follow the on-screen prompts to locate and download the latest firmware
- Wait until the "Installing Firmware" status is complete
- Follow the on-screen instructions to disconnect, power down, then turn on and re-connect the 3DME to complete the firmware update





Several app functions require an internet connection. This includes ASI Audio email, website links, and firmware update.

CHARGING THE BATTERY

The 3DME bodypack is powered by a rechargeable Li-lon (lithium ion) battery. The system is shipped with a partial charge, but you should fully charge the battery before your first gig.

Use the supplied cable to connect the bodypack's micro-USB connector (located on the bottom of the pack) to a stable power source such as the supplied USB charger or other USB power source.



Bodypack bottom

Charging status

There are 2 LEDs next to the micro-USB port on the bodypack. The green LED lights to show USB power is present; the red lights to show active charging. When the red LED turns off, charging is finished.

Battery Level

Status is shown by four small LEDs located at the top of the bodypack.

Note: When battery life is very low, the last LED will blink.

The status of the battery on the bodypack is also indicated by the icon at the bottom right of the main screen of the ASI Audio App when the bodypack is connected.

CLEANING & MAINTENANCE

Keep the sound ports and ambient mics of your IEMs free of debris. Clogged sound ports can result in reduced levels and a muddy, muffled sound. Also keep the ambient microphone grilles clear of debris build-up.



Daily Cleaning - Before or after each use, inspect and clean your earphones using the supplied cleaning tool with the wire loop to remove earwax and other debris that can build up inside the sound ports. Use the brush to sweep the sound ports and the microphone grilles. To clean the earpieces and tips, use a lint-free cloth or an alcohol-free cleaning cloth such as Audio Wipes. For maximum life of your 3DME system:

- Do not expose to temperature extremes.
- Avoid drops and strong impacts.
- Do not submerge or immerse in water.
- Keep away from dirt and debris.
- Do not use at excessive volume levels.
- Do not yank the cables when unplugging from the earpieces, bodypack or mobile device.
- Clean your Comply™ Foam Tips by gently wiping them with a clean, damp cloth. Use water only. Do not clean tips with alcoholbased cleaning solutions. Let the tips dry completely before next use.
- We recommend replacing Comply™ Foam Tips every three months or as needed for optimal fit and isolation.

ABOUT SAFE SOUND LEVELS AND HEARING PROTECTION

Music induced hearing loss (MIHL) is a function of average noise level, exposure time, and the peak level of very loud sounds. Statistically, long exposure to average levels over 85 dB puts the ears at risk of long-term injury. Whether working acoustically, using floor wedges, or in-ear monitors (IEMs), virtually all musicians are at risk.

The following table shows recommended daily noise exposure limits on the OSHA and more conservative NIOSH scales. Under optimistic OSHA exposure limits, 2 hours at 100 dBA is the safe limit without protection – and this assumes no levels over 85 dB the rest of the day. For your safety, we strongly recommend using the NIOSH guideline.

The chart shows level effects for the "average" person, but some people are more susceptible to hearing loss than others. Statistically, OSHA guidelines (developed for industrial workers) prevent long-term hearing injury in about 76% of people, while NIOSH guidelines protect a robust 93%.

With its isolating earphones, powerful processing, and Active Ambient microphone system, 3DME can help swing the odds in your favor.

SAFE EXPOSURE TIME

Level, dba	85	88	90	91	94	95	97	100	105	110	115
NIOSH	8 hr	4 hr		2 hr	1 hr		0:30	0:15			
OSHA	16 hr		8 hr			4 hr	3 hr	2 hr	1 hr	0:30	0:15

Isolating Earphones

Properly fitted IEMs enable safer monitoring by reducing unwanted sound so users hear more clearly at lower volume levels. However, studies show conclusively that, without guidance, IEM users tend to monitor at the same volume they use for floor wedges. But with a little discipline and practice, you can get full, rich in-ear sound at amazingly modest volume levels. We urge you to make a conscious effort to turn it down.

ASI Audio App

The 3DME App helps you to keep levels under control in several ways. First, the Mic Level control lets you reduce the level of your on-stage sound, while still hearing your ensemble clearly and naturally. Second, the EQ function lets you customize your sound by emphasizing (or reducing) specific frequency ranges, minimizing the need to turn up the overall level. Finally, the Limiter reduces excessive volume peaks above a dB threshold that you set.

Your hearing is your livelihood.

With its embedded binaural microphone system, the 3DME adds a controlled amount of stage mic level to the monitor mix with natural 3D directionality, which is especially effective for acoustic musicians. When used without a monitor mix, 3DME still acts as customized high-fidelity hearing device, with the ambient stage sound EQ tuned the way you like it at levels you control.

The 3DME was designed for use in controlled stage environments. Please exercise extreme caution when operating a motorized vehicle or heavy machinery, while bicycling or jogging near traffic, or in any potentially hazardous situation. We strongly urge all musicians and engineers to have annual hearing checks from a certified audiologist. By tracking your hearing over time, you can spot any changes and deal with them before serious damage occurs.

3DME is a powerful tool, but no product will prevent hearing injury if you don't stay within established exposure guidelines. Again, we can't stress this enough: **See your audiologist regularly!**

TECHNICAL SPECIFICATIONS

20 Hz- 20 kHz Frequency Response Microphone Input Overload 135 dB-SPL Maximum Output, 500 Hz 122 dB-SPL Microphone Equivalent Input Noise 27 dBA-SPI Monitor Equivalent Input Noise -104 dBV(A) (EQ disengaged), -101 dBV(A) (EQ engaged) 20 dBA-SPL (EQ disengaged), Output Noise 23 dBA-SPL (EQ engaged) Acoustic Insertion gain Off, -24 dB to +12 dB in 16 steps Monitor Sensitivity, 500 Hz 102 dB-SPL for -20 dBV (100 mVrms) input Monitor Input Impedance 10 kOhm Limiter Type Adaptive attack, average responding, frequency selective Limiter Threshold 84 dB-SPL to 105 dB-SPL in 8 steps and Off 20 dB Maximum Limiter Gain Reduction Multiband EQ +/-12 dB at 60, 140, 330, 770, 1800, 4300, 10000 Hz Latency 0 (EQ disengaged), 350 µsec (EQ engaged) Operating Time (from full charge) >7 hours Charge Time (fully depleted battery) ~4 hours Battery State-of-Charge Indication Four LEDs, with flashing low battery warning

SUPPORT

We are grateful you have decided to be proactive about hearing health. Talk to us: ASI Audio Customer Service Toll Free: 833.274.2244 Local Customers: 216.970.7873 Email: customerservice@asiaudio.com Web: www.asiaudio.com

NOTE: This equipment has been tested and found to comply within 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 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 47 CFR Part 15, Subpart B

Limited 1-year Warranty

ASI Audio warrants the 3DMF IEM and 3DME Bodypack against defects in material, design and workmanship for a period of one year from the date of original purchase from ASI Audio or an authorized ASI reseller or distributor. ASI will repair or replace the defective product at its option if returned, within the warranty period, to our service facility in Beachwood, OH. This warranty is in lieu of other warranties, expressed or implied, including, but not limited to, any implied warranty or merchantability of fitness for a particular purpose.

Requesting a Repair

If your product is not functioning properly, please review our Frequently Asked Questions page at www.asiaudio.com to help identify and address the problem. If it is necessary to return your product for warranty or postwarranty service, please use the Return Form and Instructions found on our website. Warranty repairs require proof of the date of purchase. Address repair emails to: customerservice@ asiaudio.com.

Register Your Product

Register your 3DME through the ASI Audio app Help menu or visiting asiaudio.com.

About ASI Audio

ASI Audio, Inc. is the result of a partnership between Sensaphonics, Inc. and Think-A-Move, Ltd. By combining the patented Active Ambient[™] technology developed by Sensaphonics with Think-A-Move's expertise in product/app design and manufacturing, we have created 3DME, a next-generation IEM product that takes you beyond mere monitoring to music enhancement.



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FCC Statement

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. 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.

If the distance from the product to the human body is greater than 20cm, the following warning is required (this requirement is not required for micro-power SRD devices).

This equipment complies with FCC/IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.



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