KSE1500

Electrostatic Earphone System

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IMPORTANT SAFETY INSTRUCTIONS

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. ONLY USE KSE earphones with KSA amplifiers.
8. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
9. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. ONLY USE attachments/accessories specified by the manufacturer.
11. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. DO NOT expose the apparatus to dripping and splashing. DO NOT put objects filled with liquids, such as vases, on the apparatus.
13. The MAINS plug or an appliance coupler shall remain readily operable.
14. To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
15. Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.
16. Operate this product within its specified operating temperature range.
17. PROTECT the earphone cable from being pinched or cut.
18. DO NOT use this apparatus if the earphone cable, housing, or connector is damaged.

This product is intended for professional use only. This product should only be sold through professional sales channels.

⚡	This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
⚠	This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

WARNING: Voltages in this equipment are hazardous to life. No user-serviceable parts inside. Refer all servicing to qualified service personnel. The safety certifications do not apply when the operating voltage is changed from the factory setting.

Changes or modifications not expressly approved by Shure Incorporated could void your authority to operate this equipment.

WARNING FOR ALL EARPHONES!

For safe and correct use of earphones, read this manual before use. Keep the manual and safety information in a convenient place for future reference.

WARNING

LISTENING TO AUDIO AT EXCESSIVE VOLUMES CAN CAUSE PERMANENT HEARING DAMAGE. USE AS LOW A VOL-UME AS POSSIBLE. Over exposure to excessive sound levels can damage your ears resulting in permanent noise-induced hearing loss (NIHL). Please use the following guidelines established by the Occupational Safety Health Administration (OSHA) on maximum time exposure to sound pressure levels before hearing damage occurs.

90 dB SPL at 8 hours	95 dB SPL at 4 hours	100 dB SPL at 2 hours	105 dB SPL at 1 hour
110 dB SPL at ½ hour	115 dB SPL at 15 minutes	120 dB SPL Avoid or damage may occur	

WARNING

- Do not use when a failure to hear your surroundings could be dangerous, such as while driving, or when biking, walking, or jogging where traffic is present and accidents could occur.
- 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 risk of choking or strangulation.
- Set the volume level of the audio device to a minimum, and then after connecting the earphones, adjust the volume gradually. Sudden exposure to loud noises could cause hearing damage.
- Turn up the volume control only far enough to hear properly.
- Ringing in the ears may indicate that the volume level is too high. Try lowering the volume.
- If you connect these earphones to an airplane's sound system, listen at low levels so that loud messages from the pilot do not cause discomfort.
- Have your hearing checked by an audiologist on a regular basis. If you experience wax buildup, discontinue use until a medical professional has examined your ears.
- Failure to use, clean, or maintain earphone sleeves and nozzles according to manufacturer's instructions may increase the risk of sleeves detaching from the nozzle and becoming lodged in your ear.
- Prior to inserting the earphone, always recheck the sleeve to make sure it is firmly attached to the nozzle.
- If a sleeve becomes lodged in your ear, seek skilled medical assistance to remove the sleeve. Damage to the ear may be caused by non-professionals attempting to remove the sleeve.
- Do not attempt to modify this product. Doing so could result in personal injury and/or product failure.

CAUTION

- Do not immerse in water, such as while taking a bath or washing your face, otherwise sound deterioration or failures may result.
- Do not use while sleeping as accidents may result.
- Use a slow twisting motion to remove the earphones. Never pull on the earphone cord.
- Stop using the earphones immediately if they are causing great discomfort, irritation, rash, discharge, or any other uncomfortable reaction.
- If you are currently receiving ear treatment, consult your physician before using this device.

Note: Use only with the included power supply or a Shure-approved equivalent.

WARNING

- Battery packs may explode or release toxic materials. Risk of fire or burns. Do not open, crush, modify, disassemble, heat above 140°F (60°C), or incinerate.
- Follow instructions from manufacturer

- Do not short circuit; may cause burns or catch fire
- Do not charge with products other than those specified in this user guide.
- Dispose of battery packs properly. Check with local vendor for proper disposal of used battery packs.
- Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like

Note: Battery replacement to be performed only by Shure authorized service personnel.

Please follow your regional recycling scheme for batteries, packaging, and electronic waste.

General Description

The Shure KSE1500 electrostatic earphones are the result of many years of research, development, and technological advancements from the Shure engineering team. The electrostatic drivers deliver premium quality, high definition audio for the first time in an in-ear design, which provides superior comfort and isolation from outside noise. The earphones are powered by the KSA1500: a compact, portable electrostatic amplifier with a built-in digital-to-analog converter for connecting to a micro-B USB source. A full set of furnished accessories includes a leather protective case, a micro-B USB cable, and interchangeable sound isolating sleeves for a comfortable, personalized fit. From critical monitoring to casual listening, the KSE1500 earphones reveal the detail and nuances to satisfy the most critical ears.

Features

Portable Electrostatic Amplifier

- Digital-to-analog conversion when connected to a computer via micro-B USB
- Supports up to 24-bit, 96 kHz digital audio
- Powered by an internal, rechargeable Lithium-ion battery
- Four band parametric equalizer, limiter, and input pad
- Factory and custom user presets

Earphones

- Low distortion characteristics
- Transparent, high-definition sound
- Excellent transient response
- Full range frequency response
- Formable wire ensuring secure cable placement

KSA1500 Amplifier

| ① Hold Switch	Locks the power button and control knob to prevent accidental adjustment
② Power / Back Button	• **Long press:** turns power on and off • **Short press:** returns to previous menu screen
③ Control Knob	Rotate to adjust volume and double-press to navigate through the menu
④ Power LED Indicator	• **Red:** The amplifier is off. Or amplifier is connected to power and the battery is charging. • **Green:** The amplifier is powered on. Or the amplifier is off; battery is connected to power and fully charged. • **Off:** The amplifier is off and not connected to power.
⑤ Line Audio Input	3.5 mm stereo input for connecting to analog audio sources
⑥ Earphone Output	LEMO output to connect Shure KSE1500 earphones
⑦ OLED Display	Displays system information
⑧ Input Source Selector	Selects line (analog) or micro-B USB (digital) audio input

⑨ **Micro-B USB port**	Connects to a computer or portable audio device to receive audio or to the micro-B USB power adapter to charge the rechargeable battery.

Controls and Navigation

- ① Control Knob
- ② Power / Previous Screen
- ③ Hold
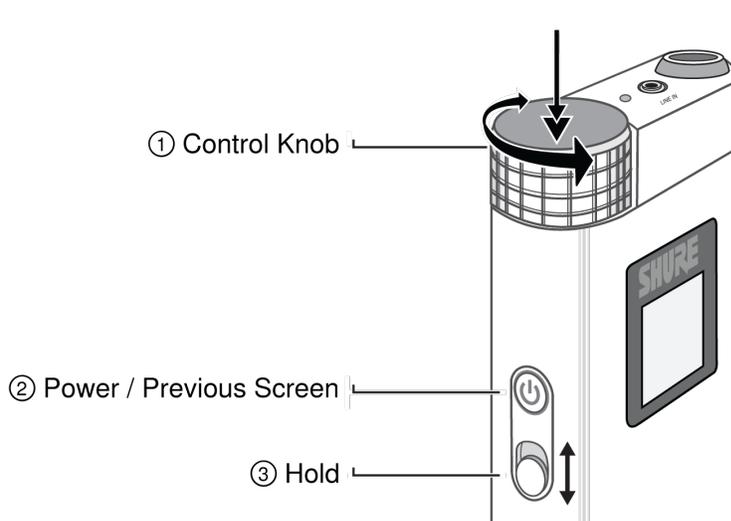
Powering on / off: Long press the power button ②

Adjusting volume: Turn the control knob ①

Accessing the menu: Double-click the control knob ①

Scroll through the menu: Turn the control knob ①
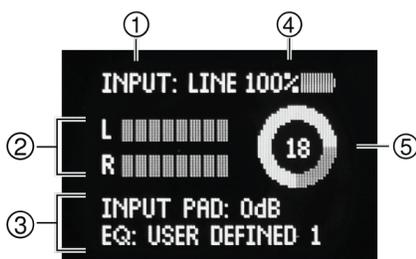
Select an item: Press the control knob button ①

Return to previous screen: Press the power button ②

Lock / unlock the controls: Slide the hold switch ③ to lock and unlock the power button and control knob. When switch displays red background, hold is enabled.

Home Screen

|	
① **Audio Input Source**	• LINE: Analog audio (3.5 mm input)

	• USB: Digital audio
② **Audio Input Meter**	Indicates the input level of the audio signal
③ **Audio Settings**	Displays settings for the input pad and equalizer
④ **Battery Meter**	Displays remaining battery life
⑤ **Volume**	Indicates the output level

Setup

Step 1: Connect the earphones to the amplifier

Plug into the amplifier with the amplifier powered off.

Note: Align the earphone cable connector with the red dot towards the front of the amplifier.
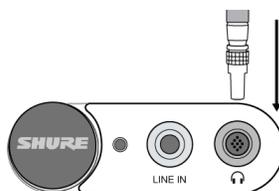
Step 2: Connect a sound source to the amplifier.

Set the INPUT switch to LINE for analog 3.5 mm sources or USB for digital sources.

3.5 mm input (analog au-dio)	Plug the audio device into the LINE IN input and set the INPUT switch to LINE. To charge the battery while using an analog source, connect the amplifier to a computer or external battery *Connecting to an Analog Source*
USB (digital audio and power)	Use the USB cable when listening to music from a computer or other USB-equipped device and set the INPUT switch to USB. When connected to a computer, USB simultaneously streams digital audio and charges the amplifier battery.

Note: You have the option to disable automatic charging in the Utilities menu.
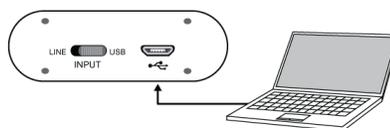
Connecting to a USB Source

Step 3: Power on the amplifier

The driver automatically installs when the amplifier is first plugged into a device. The KSE1500 should take over as the default audio device.

Note: Volume controls are disabled on Windows, Mac, and iOS. Volume should be adjusted only by using the amp volume knob for best performance. Ensure that volume is maximized in iTunes or the Windows Media Player.

Menu Navigation

EQUALIZER

Displays equalizer settings. Use the control wheel to adjust values

FLAT/BYPASS:

The equalizer is bypassed

PRESET 1 - 4:

Four adjustable 4-band equalizer presets: low boost, vocal boost, loudness, and de-ess

USER DEFINED 1 - 4:

Four adjustable 4-band parametric equalizer that you can customize to your listening preferences

AUDIO

LIMITER:

Turn limiter on for ear protection from unexpected volume spikes

INPUT PAD:

Choice of 0, -10 dB or -20 dB pads (available in line input mode.)

SAMPLE RATE:

Available in USB input mode.

UTILITIES

Control the device parameters

DISPLAY:

Adjust screen brightness, timeout length, and flip screen

BATTERY INFO:

Displays battery status

FACTORY RESET:

Restores all settings to the factory default

FIRMWARE:

Displays software version information and allows for updates

HARDWARE:

Contains device information for reference and service

DISABLE CHARGING:

Turn automatic charging on or off

Equalizer

The 4-band parametric equalizer is used to adjust the volume of independent, adjustable frequency ranges, to precisely shape the frequency response. Four user-defined presets can be saved in addition to four factory defined presets. The equalizer can be bypassed for a flat frequency response.

To view or edit an equalizer setting, select:

MENU > EQUALIZER

Custom Equalizer Settings

The equalizer consists of two filter types:

- **Peaking filters** target a specific frequency range for making gain adjustments (applies to the two middle frequency bands).
- **Shelving filters** adjust the gain of all frequencies above or below the selected cutoff point. In the low-shelf filter, adjustments affect all frequencies below the selected cutoff point. In the high-shelf filter, adjustments affect all frequencies above the cutoff point.
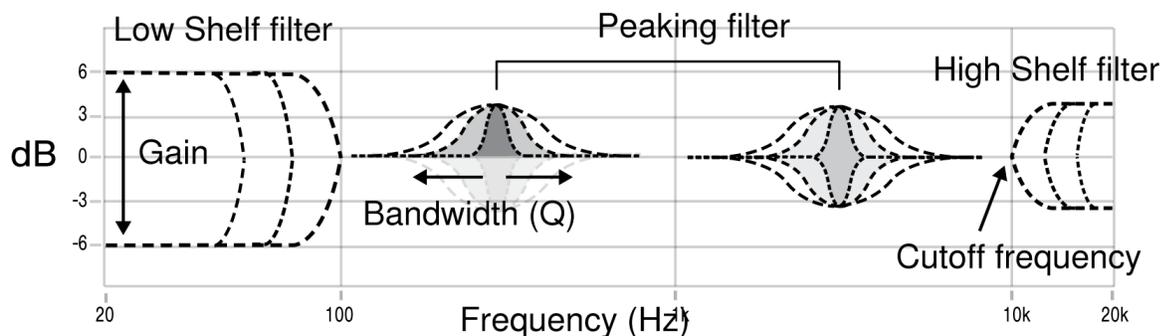
Equalizer Filter Properties

The following parameters are adjustable when creating an equalizer setting:

| ① Frequency Point or Range	Four independent frequency points used to select specific frequency ranges.
② Frequency (Hz)	The numeric value of the selected frequency.
③ Gain / Cut	Adjusts the volume (±6 dB) of the selected frequency band.
④ Bandwidth / Q	Adjusts the width of the frequency band affected by gain settings • **Middle bands:** Adjusts the width of the peaking filters • **High and low bands:** Adjusts the cutoff frequency of the shelving filters
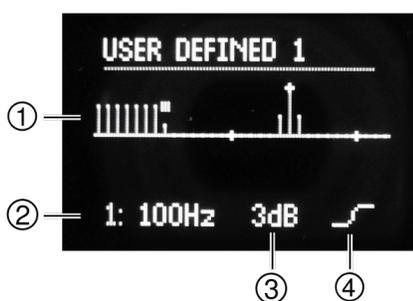
Flat (Bypass)

In this mode the equalizer is bypassed for an unchanged frequency response. When using an analog input source, bypassing the equalizer maintains a 100% analog signal path. For digital audio sources, the equalization section of the digital signal processor is simply disabled.

Audio

Limiter

MENU > AUDIO > LIMITER

The limiter protects your ears from unexpected volume spikes at the earphone output.

Input Pad

MENU > AUDIO > INPUT PAD

The input pad feature is available when the amplifier is receiving analog audio in line input mode. The pad attenuates the analog input signal to prevent clipping from high output audio sources. Enable the pad when the audio meter indicates clipping.

- Begin with the -10 dB pad. If clipping persists, use the -20 dB pad.
- Attenuate the source volume if the signal continues to clip with the -20 dB pad engaged.

Sample Rate

MENU > AUDIO > SAMPLE RATE

Sample rate information is displayed here.

Utilities

MENU > UTILITIES

Display	Adjust screen brightness and timeout length. Flip the display up or down for visibility in either direction
Battery Info	Provides battery status: percentage charge, cycle count, temperature
Factory Reset	Restores all settings to the factory default
Firmware	Displays software version information and allows for updates
Hardware	Contains device data for reference and service
Enable / Disable Charging	When connected to a USB source, the amplifier automatically recharges the battery. Utilize the disable charging feature when you don't want to drain your laptop or USB source. The next time you turn on the amplifier, it will default to enable charging.

Firmware

Firmware is embedded software in each component that controls functionality. Periodically, new versions of firmware are developed to incorporate additional features and enhancements. To take advantage of design improvements, new versions of the firmware can be downloaded and installed using the Shure Update Utility tool. Software is available for download from http://www.shure.com/americas/products/software/utilities/shure-update-utility.

Updating the Firmware

CAUTION! Ensure that amplifier power remains on during a firmware update. Do not turn off the amplifier until the update is complete.

The Shure Update Utility will find the latest versions of firmware. You can download the updates to your computer. Once the download is complete, the amplifier automatically begins the firmware update, which overwrites the existing firmware.

1. From Shure Update Utility software, click the Updates Available button.
2. To download firmware to your computer (but not to devices), check the box next to the updates you want and select Download.
3. Connect the amplifier to your computer with the USB cable.
4. From the amplifier menu, select UTILITIES > FIRMWARE > ENABLE FW UPDATE

    Note: ENABLE FW UPDATE *must be enabled in order for the firmware update to work.*

5. Confirm that you want to download the latest firmware to the amplifier.

Note: The battery should be charged before updating firmware. Do not attempt to update firmware if battery percentage is less than 10%.

Lithium-ion Rechargeable Batteries

Storing Batteries

To avoid degrading battery health, keep the storage temperature range between 10°C to 25°C (50°F to 77°F).

Battery Repair and Replacement

Lithium-ion batteries have no "memory effect", and instead experience a more linear reduction in capacity. Contact Shure Service and Repair to replace the battery if you experience any issues.

Using Earphones

Safely Connect and Disconnect Earphones

Connect to the amplifier: Align the red dot on the earphone cable connector with the red dot on the amplifier earphone output.

Disconnect from the amplifier: Pull the knurled connector collar up to safely release the lock on the earphone cable.
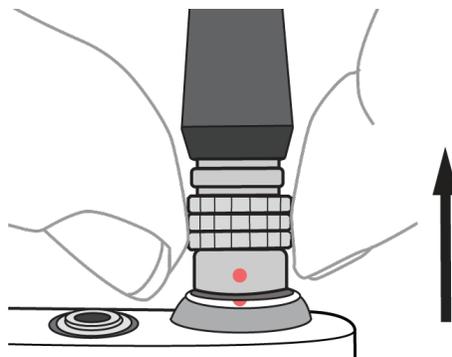
Choosing a Sleeve

Select an earphone sleeve that provides the best fit and sound isolation. It should be easy to insert, fit comfortably, and easy to remove.

	Soft Flex Sleeves: In small, medium, and large sizes. Made from pliable rubber.
	Soft Foam Sleeves: Compress the foam sleeve between your fingers and insert into the ear canal. Hold in place for about ten seconds while the foam expands.
	Triple-Flange Sleeves: If desired, use scissors to trim the stem on the sleeve.

Wearing the Earphones

1. Carefully insert the earphone into the ear like an earplug, so that a tight seal is formed.

   Important: If there is a lack of low frequency response (bass), the earphone sleeve may not be forming a proper seal. Gently push the earphone deeper into the ear canal or try using a a different sleeve.

   Warning: Do not push the earphone sleeve beyond the ear canal opening.

2. Wear earphone cables over the back of the ear to keep them in place during physical activity. Guide the cable down either the front or back of the body, and use the cable cinch to tighten up the remaining slack.

The fit of the earphone can greatly affect sound quality.

Changing Sleeves

- Twist and pull to remove the sleeve from the nozzle.
- Slide on a new sleeve so that it completely covers the barb and the nozzle.
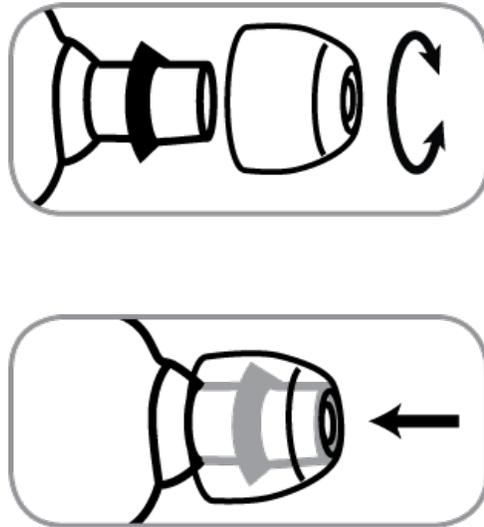
Caution: If the barb or any of the nozzle is exposed, the sleeve is not properly installed. Replace sleeves if they do not tightly grip the nozzle. To ensure proper fit and performance, use only sleeves supplied by Shure (unless using custom molded sleeves).

Removing the Earphones

Grasp the body of earphone and gently twist to remove.

Note: Do not pull on cable to remove earphone.

Maintenance and Cleaning

Careful maintenance ensures a tight seal between the sleeve and nozzle, improving sound quality and product safety.

- Keep the earphones and sleeves as clean and dry as possible.

- To clean sleeves, remove them from earphones, gently rinse in warm water and air dry. Foam sleeves require a longer drying time. Inspect for damage and replace if necessary. Ear sleeves must be completely dry before reusing.
- Wipe the earphones and sleeves with mild antiseptic to avoid infections. Do not use alcohol-based disinfectants.
- Do not expose earphones to extreme temperatures.
- Replace sleeves if they do not fit properly.
- Do not attempt to modify this product. Doing so will void the warranty and could result in personal injury and/or product failure.

Cleaning the Earphone Nozzle

If you notice a change in sound quality, remove the sleeve and check the nozzle of your earphone. If nozzle is blocked, clear obstruction by using wire loop end of cleaning tool.

If no obstruction is found or if sound quality does not improve, replace the sleeve with a new sleeve.
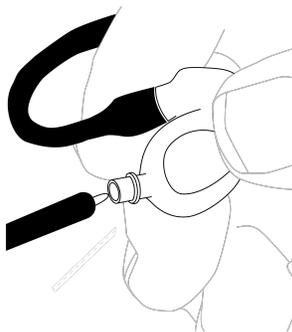
Caution: When cleaning, do not force any object through the earphone nozzle! This will damage the earphone sound filter.

Warning: The cleaning tool is only to be used to clean the earphones. Any other use, such as using the tool to clean ears or foam sleeve, could result in injury.

The cable connectors to the earphones may collect debris or other deposits that can affect audio quality. If this happens, disconnect the cables and clean them using a dry cotton swab.

Troubleshooting

Issue	Solution
The device appears to be working but no sound is audible	Check that cable connections are secure Ensure that input switch is set to the correct input source
Audio is distorted	Confirm the audio from the source is not distorted before entering the amplifier Check that cable connections are secure Check the amplifier input meter to make sure the amplifier input is not overloading
Amplifier does not power on	The battery may require recharging If the amplifier is plugged in, try a different micro-B USB port (or AC outlet if plugged into the power adapter)

Issue	Solution
Earphones sound dull or muffled	Follow the instructions on cleaning the earphone nozzles with the supplied cleaning tool
Battery no longer holds charge	Check that Disable Charging is not selected Contact Shure Service and Repair to arrange to have the battery replaced. There are no user-serviceable parts.

Device Reset

In the event that the amplifier malfunctions, reboot it by pressing the control knob button and the power button simultaneously for approximately 10 seconds until the device powers down.

System Requirements and Compatibility

Windows	Windows XP and higher
Macintosh	Mac OS X 10.4 and higher

Specifications

Kit Specifications

Bias Voltage
200 V DC

Output Voltage
±200 V, max.

Output Current
≤ 1 mA

Sound Isolation
≤ 37 dB

Operating Temperature Range
-18 to 57 °C (0 to 135 °F)

Earphone Specifications

Transducer Type
Electrostatic

Connector Type
   Lemo Connector

Frequency Response
   10 Hz to 50 kHz

Maximum SPL
1 kHz at 3% THD
   113 dB SPL

Net Weight
   44.0 g (1.55 oz.)

KSA1500 Amplifier Specifications

Bit Depth
   16-bit / 24-bit

Sampling Rate
   44.1 / 48 / 88.2 / 96 kHz

Signal-to-Noise Ratio
   up to 107 dB A-weighted

Adjustable Gain Range
   -40 dB to +60 dB

Limiter
   Selectable Analog RMS Limiter

Equalizer
   4-band Parametric

USB Input
   USB Micro-B Receptacle

Line-In Input
   3.5 mm (1/8")

Charging Requirements
   USB-powered: 5 V/0.5 A to 1 A

Housing
   Black Anodized Aluminum

Net Weight
   182.0 g (6.42oz.)

Dimensions
    111 x 59 x 21 mm H x W x D

Battery Specifications

Battery Type
    Rechargeable Li-Ion

Nominal Voltage
    3.6 V DC

Battery Life

Analog in (BYPASS EQ mode)	up to 10 hours
USB Input (EQ mode)	up to 7 hours

Battery Charging Temperature Range
    0 to 45 °C (32 to 113 °F)

Accessories

Furnished Accessories

Furnished Accessories

· Square zipper pouch
· Leather amplifier case
· Fit Kit with assorted sleeves
· USB cable, Micro-B "On The Go"
· USB cable, Type A to Micro-B
· USB cable, Micro-B to Lightning
· 6-inch male to male 3.5mm cable
· 36-inch male to male 3.5mm cable
· ¼-inch (6.3mm) to ⅛-inch (3.2mm) stereo adapter
· Airline adapter
· Inline volume control
· Rubber amp security bands

Optional Accessories

- USB cable, Micro-B to 30-pin

Certifications

Information to the user

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

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 to 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.

Industry Canada ICES-003 Compliance Label: CAN ICES-3 (B)/NMB-3(B)

Note: Testing is based on the use of supplied and recommended cable types. The use of other than shielded (screened) cable types may degrade EMC performance.

This product meets the Essential Requirements of all relevant European directives and is eligible for CE marking.

The CE Declaration of Conformity can be obtained from: www.shure.com/europe/compliance

Authorized European representative:
Shure Europe GmbH
Headquarters Europe, Middle East & Africa
Department: EMEA Approval
Jakob-Dieffenbacher-Str. 12
75031 Eppingen, Germany
Phone: +49-7262-92 49 0
Fax: +49-7262-92 49 11 4
Email: info@shure.de

Patent Notice

U.S. patent number

- 9,210,497

Android Compatibility

The Portable Listening Amplifier is compatible with Android devices that support USB Audio Class 2.0 and Micro-B OTG (On-The-Go) connectivity. Not all Android devices are compatible. Android is a trademark of Google Inc.

Made for
 iPhone | iPad | iPod

Use of the Made for Apple badge means that an accessory has been designed to connect specifically to the Apple product(s) identified in the badge and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

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設備名稱：隨身聽音樂擴音器，型號（型式）：KSA1500 Equipment name / Type designation (Type)					
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols				
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
電路板	—	○	○	○	○	○
金屬外殼	○	○	○	○	○	○
塑膠件	○	○	○	○	○	○
零件（光管、螺絲等）	—	○	○	○	○	○
配件（耳機，纜線，電源供應器等）	—	○	○	○	○	○

備考1. 〝超出0.1 wt %〞及〝超出0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。

Note 1 : "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. 〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2 : "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. 〝—〞係指該項限用物質為排除項目。

Note 3 : The "—" indicates that the restricted substance corresponds to the exemption.