

BEANTM

Quiet Sound Amplifier[®]



User Manual

Introduction

QSA[®] stands for Quiet Sound Amplifier. The QSA is a personal sound amplifier that automatically enhances soft sounds. Loud sounds pass through as though nothing is in the ears.

The QSA device provides the highest fidelity sound amplification available at any cost. The sound quality of QSA devices is superior to that of all known custom-fitted devices, and is available without medical referral or prescription.

The circuitry in QSA devices incorporates a patented new ultra-low-distortion output amplifier, along with all of the important features and benefits of the original K-AMP[®] circuit first described over 30 years ago by Mead Killion, Ph.D., Sc.D.(hon), a well known engineer and professor of audiology. No circuitry, including digital technology, has proven superior to the sound quality of K-AMP circuitry – the engine of QSA devices.

Intended Use

Etymotic's QSA devices have high-frequency emphasis for soft sounds, so the faint sounds of speech can be heard more easily – especially if the speaker is farther away than desirable or speaks very softly. The most common example is someone asking a question from another room. Soft speech can also be heard in a house of worship, classroom, courtroom, lecture hall, theatre, or TV dialog. For many users, QSA devices are like reading glasses: they are used only part of the time.

Adjusting to QSA Devices

- Most QSA users find the eartips comfortable to wear for many hours right away. Others do not.
- Take your time.
- You may want to wear QSA devices for short periods until you can wear them for as long as you wish.
- If the eartips that come on QSA devices are not comfortable or do not seal well in the ear, try other eartip styles supplied to determine which size is right for you.

Identification



2-Position Switch



Ear tip



Battery Door



Protective Case



Tool and Extra Filters



#10 Batteries

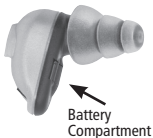


Cleaning Tool

Battery Insertion

The battery must be inserted correctly or the QSA will not work.

1. The battery compartment is located on the underside of the QSA.
2. Open the battery door.
3. Remove the yellow tab from the battery.
4. Insert the battery with the flat side facing up.
5. Do not force the battery into the door.



Note: The door will not close if the battery is not inserted correctly.

Batteries (continued)

Zinc-Air Batteries

QSAs use commonly-available #10 zinc-air hearing aid batteries. They are easy to find in pharmacies, online and other retail locations, including Radio Shack.

- Zinc-air batteries have a long shelf life, but once the tab is removed, battery life is about 9 days for continuous operation.
- Battery life is about 2 weeks if the devices are turned off after each use.
- Once the tab is removed, zinc-air batteries may self-discharge in about 4 weeks whether used or not.
- The discharge rate varies with temperature and humidity.
- It is sometimes possible to prolong the life of a battery by replacing the tab over the air holes, but results vary.

Low-Battery Warning

Low-Battery Warning

A feature called LOBAT™ alerts you when the battery is at the end of its life.

- A slow, quiet ticking sound gradually becomes faster and louder, like the sound of a motorboat.
- After the warning sound first becomes audible, it may be a few hours before the battery goes dead.
- QSA performance will not change while LOBAT is sounding.

Batteries: Estimated Battery Life:

9 days continuous operation

2 weeks (approx) if turned off when not in use

- Each QSA uses one #10 zinc-air battery.
- Zinc-air batteries do not have to be recycled.
- Zinc-air batteries can be disposed in the trash.
- Zinc-air batteries are not rechargeable.

Selecting an Eartip

ACCU•Fit™ Eartips



Selecting an eartip:

No two ears are exactly alike. The eartip that is most comfortable is the best choice, but it must seal well to prevent feedback (whistling).

When changing eartips make sure the eartip fits securely on the stem of the device.



correct

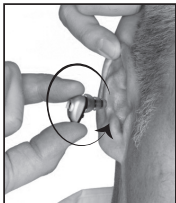


incorrect

Insertion & Removal

Insertion

- Make sure the eartip is clean.
- Pull the ear up and out while inserting.
- Twist and push gently until the eartip seals in the ear canal.
- When using 3-flange eartips, moistening may ease insertion.
- When using foam eartips: Roll down or compress the foam eartip before inserting. Hold the eartip in place for about 5 seconds while foam expands to create a tight seal in the ear canal.
- When using glider eartips no compression is needed; simply push it into your ear.



Removal

- Remove QSAs with a slow *twisting* motion.
- After removal, place your device(s) in a protective case.

Importance of a Deep Seal

Note: QSA devices come with a large selection of eartips, including two sizes of 3-flange eartips with long stems. Depending on your ear geometry, the longer stems may allow the deepest seal.

A deep eartip seal ensures the best performance and prevents the “hollow voice” sound, called the occlusion effect.

- The occlusion effect is caused by sound transmission into the ear from vibration of the ear canal wall when the ear is occluded by an eartip.
- The vibration comes from sound pressure developed in the back of the mouth.
- The occlusion effect is most commonly caused by vibration from a person’s own voice, especially from speaking the sounds “ee” and “uu,” or from playing a brass or woodwind musical instrument.
- The occlusion effect is worse when there is a shallow insertion of the eartip.
- Deeply-sealed eartips reduce the occlusion effect.

Operation

ON/OFF

The QSA turns on and off by opening and closing the battery door.

Note: It is not necessary to remove the battery as long as the door is open wide enough to disable the circuit.



Battery Door
ON = Closed
OFF = Open

Loudness Adjustment

There are two loudness settings, Normal (N) and High (H).

N: (switch toward the body of the QSA)

- 15-dB mild amplification and treble boost for soft sounds. No amplification for loud sounds

H: (switch away from the body of the QSA)

- 8-dB more amplification than the N position, and treble boost for soft sounds
- Mild amplification for loud sounds



Normal
position

High
position

Using the Telephone

It is not necessary to remove the QSA when using the telephone. Practice. If you are comfortable holding the phone on or near the ear and a whistling sound does not occur, the QSA can remain in the ear during a call.

General Product Care

Simple cleaning with the tool provided will keep the eartip clean and the QSA working properly.

- Use the cleaning tool to pick out or brush off debris.
- 3-flange eartips can be removed and cleaned in mild detergent. Dry eartips thoroughly before reattaching.
- All eartips need to be replaced regularly. With regular use of QSA devices, 3-flange eartips should be replaced every 60-90 days.
- Foam and glider eartips should be discarded and replaced as needed.
- Do not use alcohol to clean QSA devices.
- Remove QSAs before using hair products.
- Do not expose QSA devices to extreme heat or moisture.
- Avoid dropping or hitting QSA devices on a hard surface.



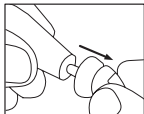
Cleaning Tool

Changing Filters

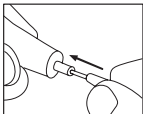
Each QSA has a special filter that enhances sound quality and prevents earwax from entering the device. A filter should be changed if the volume decreases or sound quality declines.

Filter Removal

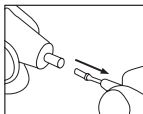
Note: Use the tool to remove the filter.



1. Remove eartip.



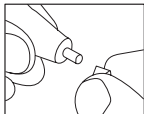
2. Insert tool into the filter.



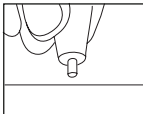
3. Remove filter.

Filter Replacement

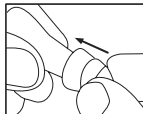
Note: Do not use the tool to replace the filter.



1. Insert a new filter.



2. Press gently against a hard surface to secure it in place.



3. Re-attach eartip.

Troubleshooting

Problem: No sound.

What to do:

- Check to see if QSA is turned on (battery door closed).
- Clean the eartip and the end of the QSA.
- Try a fresh battery.
- Replace the filter.

Problem: Sound is not loud enough

What to do:

- Try the **H** (high) setting for more amplification.
- Clean the eartip and the end of the QSA.
- Replace the filter.

Problem: "My voice sounds hollow" or "There is an echo in my voice."

What to do:

You may be experiencing the *occlusion effect*. See p.10. Make sure the eartip seals deeply in the ear. You may need to try an eartip with a long stem.



Caution

- Consult an audiologist or physician if you have excessive ear wax, difficulty inserting the eartips, or discomfort after prolonged use.
- In rare instances an eartip may come off in the ear canal when removing a QSA. If this should occur and the eartip cannot be easily removed, it is recommended that you promptly contact an audiologist or other medical professional. A professional can use blunt tweezers to remove the eartip.
- QSA devices are made from materials and components that are standard in consumer audio products and hearing protection devices.
- Allergic reactions are uncommon. If redness, soreness or other adverse reactions occur, discontinue use and contact a medical practitioner.
- Do not shower or swim while wearing the QSA.
- The QSA Bean allows up to 115 dB SPL A-weighted to pass through. Do not use the QSA Bean in loud environments. Avoid use when exposed to prolonged loud sound.
- Do not put batteries in your mouth.
- Batteries may be harmful if swallowed.
- Keep batteries out of the reach of children.
- Batteries (in the battery pack or installed in the device) should not be exposed to excessive heat such as fire, sunshine or similar adverse environment.

Warranty

QSA devices are covered by a 1-year repair or replacement warranty against defects in materials and workmanship. The warranty period begins on the date of the original purchase. The warranty does not cover malfunction related to misuse or abuse of the device. If you are not satisfied with this product, return it in good working condition within 30 days with proof of purchase for a full refund.

Send the product to:

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BEAN[™]
Quiet Sound Amplifier®

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