



SH10X AVIATION HEADSET

USER MANUAL
Edition 0.2 (2018)

Welcome

We are so confident this product will bring you of years of trouble free, quiet, comfortable and enjoyable use that we offer not only a full 5 year warranty (by registration, see separate document for details) but we also offer our unrivalled satisfaction guarantee, if you are not entirely satisfied for any reason with the product simply return it (full details available on request)

The SH10X is not just a high quality ANR aviation headset employing the latest active noise cancelling technologies but with an unrivalled price/performance ratio and weighing in on your head at under 180 grams it is one of the lightest and best performing aviation headsets available.

WARNING!

Please read the information in this user manual carefully and completely before using your headset. Keep these instructions and make them easily accessible to all other users. Always include this user manual when giving this headset to third parties.

In an unlikely event of a problem with your headset, it is recommend to switch to an alternate communication method and to use standard cockpit resource management skills to minimize distraction.

Your aircraft sounds such as engines, propellers, warning alarms and other sound sources may sound differently when using a new headset.

When listening to an audio source via the SH10X limit the volume to safe levels to ensure you are able to hear communication and warning alarms from your aircraft.

Do not attempt to disassemble the headset as this may void your warranty and result in unexpected performance of your headset. Always refer servicing and repair to SEHT approved service centres. Contact SEHT for details.

Features

Advanced reverse noise cancelling technology, reduces up to 90% of background noise.

Noise cancelling dedicated 50mm driver, single piece formed corona diaphragm ensuring crystal clear, high quality sound reproduction. Hi-Fi quality speakers for music reproduction to maximize listening pleasure and reduce fatigue.

Failsafe design to ensure communication is not lost in the event of battery failure. Headset reverts automatically to passive mode.

Full cover cap design, high quality synthetic kid leather ear seal material to maximise comfort and reduce background noise.

Electret noise cancelling microphone to ensure faithful voice reproduction and minimise noise and unwanted breakthrough of interference.

Using the SH10X

The SH10X uses state-of-the-art technology to reduce exterior noise and promote clear in-flight communications reducing user fatigue.

Once the ANR power switch is activated the SH10X reduces unwanted ambient noise through Active Noise Reduction (ANR). This is done by placing a microphone inside and outside the ear cup and generating an anti-noise signal through the speakers.

The anti-noise and the ambient noise cancel each other out before they reach the ear resulting in a quieter environment. Through this technology low frequency ambient noise is significantly reduced making communication easier and reducing user fatigue.

The SH10X will continue to operate as a standard passive aviation headset should the ANR become inactive for any reason such as low or no battery power.

Getting started

Correct fitment is essential to ensure the correct operation of any headset. A good seal around your entire ear and a symmetrical fit across the top of your head is necessary to ensure the correct performance of the ANR feature.

The following steps will assist you in achieving the proper fit:

1. Extend the ear shell slider adjusters fully.
2. Place the headset on your head and compress the sliders slowly on each side until the head pad rests softly on the top of your head.
3. Adjust the ear cups to ensure the ears are fully inside the ear seal and there is uniform pressure on your head
4. Tighten the adjusters securely to prevent unwanted movement.
5. Position the microphone approximately 3mm from your lips.

Aircraft Squelch/Gain control (locate this on your aircraft)

The sensitivity of the squelch is controlled by turning the control clockwise (increasing microphone sensitivity) or by turning the control counter clockwise (decreasing microphone sensitivity).

The squelch can be adjusted to meet even the most extreme noise levels of aircraft noise.

Setting the squelch correctly allows the intercom to be active only when someone speaks into their headset microphone.

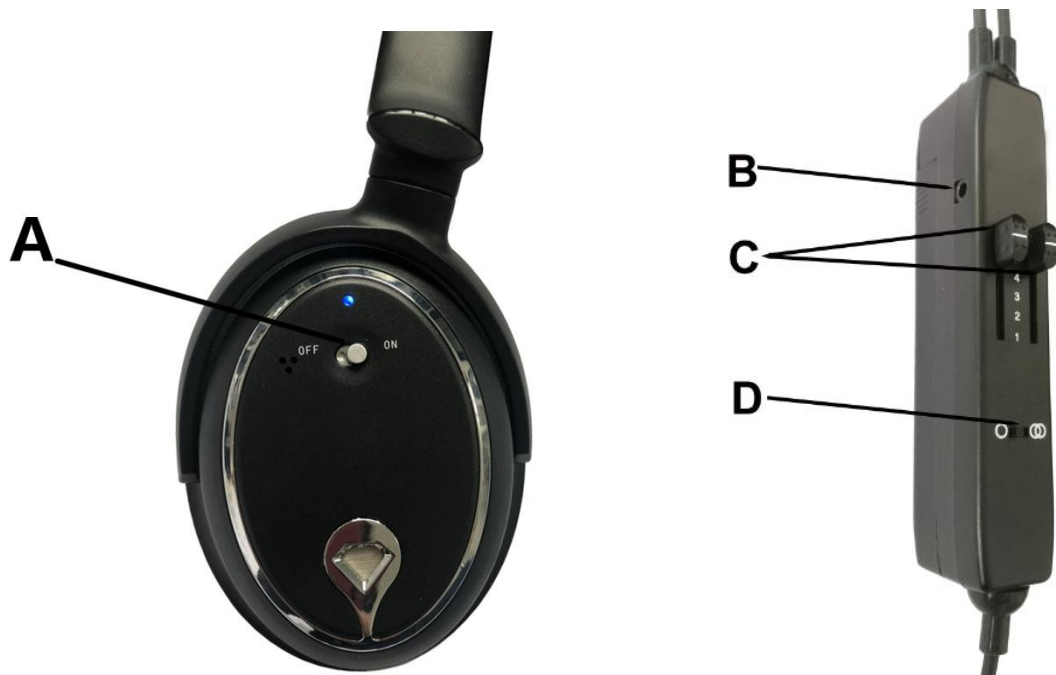
The intercom will become inactive as soon as they stop speaking. In this manner all Extraneous noise in the cockpit is not heard over the microphone

IMPORTANT

If the headset is not fitted correctly this may generate an oscillating noise, this is caused by the ears seals not sealing entirely around the ear, adjust the ear cup and ear seal to make sure the ears are sealed completely.

The microphone can be rotated and placed on the right or left side of the headset. To adjust the microphone placement rotate the microphone from its base and bend the flexible boom. For clear and crisp communication, the microphone should be placed approximately 3mm from the lips.

Understanding the SH10X Controls



- A** - Power ON/OFF (LED glows blue when on)
- B** - Auxiliary 3.5mm stereo input jack (link cable included)
- C** - Independent left and right ear volume controls (does not affect auxiliary input)
- D** - Mono/Stereo switch

Battery Type

The SH10X uses two AA batteries (supplied). Always use good quality alkaline batteries to ensure the best performance. DO NOT use rechargeable batteries as they provide reduced and uneven voltage which can interfere with the correct headset performance.

The SH10X has a failsafe mode and will continue its basic operations of hearing and transmitting in the event of battery failure or without batteries fitted.

DO NOT mix old and new batteries together.

Battery Life

The use of alkaline batteries can typically provide up to 40 hours of use, the exact duration however depends on the amount of noise reduction required in your cockpit. To maximise battery life turn off ANR when headset is not in use.

Battery Installation

To open the battery compartment door push down the battery cover (see below)



1. Insert two AA batteries in the battery compartment observing the correct polarity
2. Slide headset power switch to the ON position to activate the ANR function
3. Observe the LED above the headset power switch illuminates blue

Stereo / Mono Setting

Whether you should use the Mono or Stereo setting depends on your aircraft's avionics. Incorrect setting will result in communication being heard in only one side. Stereo/Mono setting does not affect the audio from auxiliary sources.

By default the switch is set to Mono operation, to change this setting remove the battery compartment door (see above) and slide the switch to the desired setting (see below),



Volume Adjustment

Each ear cup's volume can be independently adjusted by the slider controls on the controller handset.

The overall headset volume will be determined based on the settings on the headset as well as the aircraft's intercom or radio. Avoid setting the volume levels too high; exposure to loud sounds can cause permanent hearing damage.

Auxiliary Input

The SH10X can be connected to an external audio source such as a portable audio or GPS device via the provided 3.5mm jack cable. You will find the auxiliary input on the side of the handset controller

Tip: Be sure to have the auxiliary audio set at a volume that ensures you do not miss any important communications or aircraft sounds.

Pro Tips

1. Always ensure the SH10X is fitting correctly by reviewing adjustments each time you wear them, ear seals should be centered over the ears for best performance.
2. There may be a noise generated if the ears seals are not providing a good seal around the ear, in this case you should adjust the ear cup and ear seal to make sure the ears are covered and sealed correctly.
3. Position the microphone in front of your lips for maximum noise cancellation.
4. Set Mono / Stereo setting to match your aircrafts avionics. In most situations this would be mono, if set to the incorrect setting audio will be lost in one ear.
5. When the headset is powered on it is advisable to set the volume to the minimum level for clear communications, this ensures the noise level remains low and readability is improved

FAQ

- Q. Why can I hear in only one side?
- A. The SH10X is compatible with both Stereo and Mono aircraft avionics. If your headset is set to the incorrect setting for your aircraft hearing will be lost in one side.
- Q. What is the best way to store the headset?
- A. Please remove the batteries before storing the headset for a prolonged period, always store your headset in a ventilated area away from direct sunlight.
- Q. Why do I need to yell to activate the microphone?
- A. Your avionics squelch setting must be adjusted correctly; it is common for every pilot to change the squelch setting just like adjusting the volume. Consult someone who is familiar with your airplane's avionics if you cannot locate the squelch control.
- Q. Why can I always hear cockpit noises in my ears even when I am not talking?
- A. Your avionics squelch setting must be adjusted correctly; it is common for every pilot to change the squelch setting just like adjusting the volume. Consult someone who is familiar with your airplane's avionics if you cannot locate the squelch control.

Technical Specifications

General

Battery power supply:	3V, 2 x AA alkaline batteries (provided)
Operating Temperature:	-4 to 94°F / -20 to 70°C
Storage Temperature:	-31 to 167°F/ -35 to 75°C
Cord Length:	180cm
Weight (including controller and cable):	10.5oz / 300g

Headphone

Type:	Dynamic
Frequency Response:	50 Hz to 20 kHz
Sensitivity:	95 ± 5 dB SPL

Microphone and Amplifier

Type:	Noise-canceling Electret
Frequency Response:	100 Hz to 5 kHz
Operating Voltage:	8-32 VDC
Matching impedance:	150-1000 Ohms
Sensitivity:	-33 ± 4 dB

Active Noise Reduction

Main Attenuation Frequency Band:	20Hz to 700Hz
Power Consumption:	30mW