

Wireless Headset Series

UHW-10E/20E Under the Helmet

FHW-10E Over the Head

Operation Manual



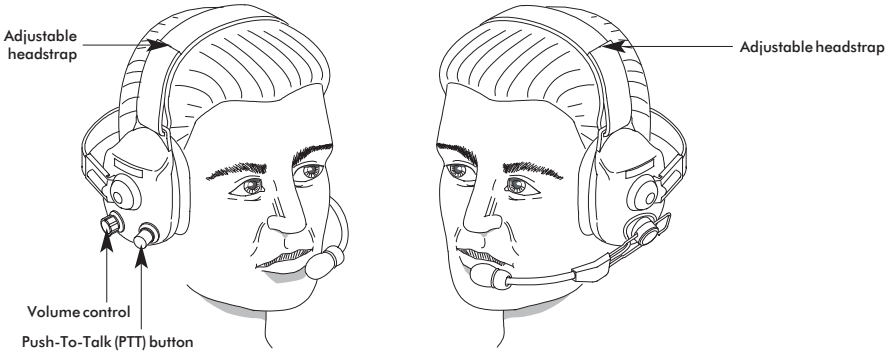
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Introduction

The UHW/FHW series are highly reliable wireless communication headsets for fire and emergency vehicle operator applications. The UHW/FHW series provides secured, digitally encrypted interference free communications. When operated as part of a wireless system, up to 120 headsets can operate interference free in close proximity to each other.

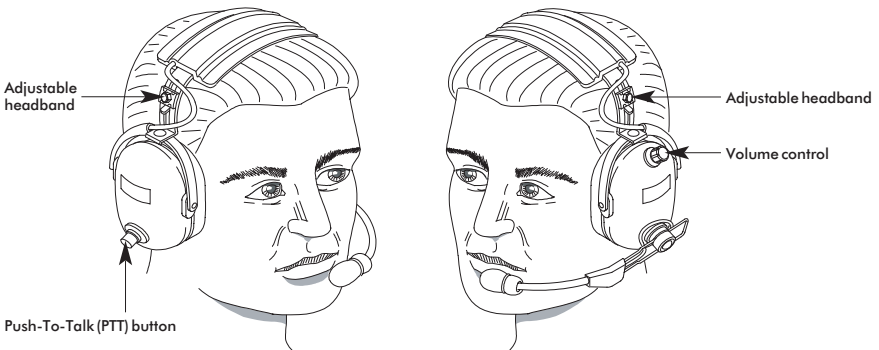
UH Under-the-Helmet Headsets



UHW-10E Under-the-helmet wireless headset with a red momentary PTT button for transmitting on the vehicle radio.

UHW-20E Under-the-helmet wireless headset with a black momentary PTT button to key the microphone for intercom communications.

FH Over-the-Head Headsets



FHW-10E Over-the-head wireless headset with a red momentary PTT button for transmitting on the vehicle radio.

All headsets include a microphone with water resistant membrane and mic muff (cover) with retaining o-ring.

Proper Fit

When worn properly, this headset will provide significant hearing protection. If it is not worn properly, the headset's effectiveness in reducing harmful noise is severely compromised.

- The length or vertical fit of the headset ear dome is adjusted by the headband or head-strap. Adjust as necessary to achieve a fit that ensures the headset ear dome completely covers the ear.
- This headset is intended to be a left dress headset.



Rotating the mic boom in order to switch dress direction may damage the boom or wiring.



Damage to the headband cable may result from rotating the metal head band on the UHW model in the wrong direction.

- For maximum comfort, wear the headset as far back on the head as possible, while ensuring the ear dome still completely covers the ear. If discomfort is felt in the jawbone, you are wearing the headset too far forward.

Caution

This Sonetics headset provides 24dB noise attenuation when properly fitted to the user and worn as instructed. Any modification to the hearing protector such as drilling holes in the dome, painting or reforming the headband spring, will reduce the hearing protector's performance and hearing damage could occur.

Always wear a hearing protector in areas that have been identified as high noise locations.

Long term exposure to high volume sounds may cause temporary or permanent hearing damage and/or loss. Always use and maintain headsets in the manner described in the Operation Manual.

Headset Power Switch and Volume Control

A power switch is provided on the volume control. This control is located on the bottom side of the right ear dome on the UHW-10E/20E headsets, and on the top side of the left ear dome on the FHW-10E headset. Volume should be set at a comfortably high audio level to optimize performance but not so high as to cause audio distortion and hearing discomfort.

Operation

The base station should be installed and powered up prior to operating the headset. If the headset has not been previously paired to the base station, refer to the "Pairing Section" for pairing instructions. Turn the power switch on, the green LED will normally flash rapidly to indicate that the headset is attempting to link to the base. The corresponding link LED on the base station will also be flashing rapidly at this point. After approximately 5 seconds the headset will link to the base and the green LED will turn on steadily to indicate that the headset is linked to the base. The headset will also sound a one time double beep on connection to the base. Once the connection is established, full duplex communication between the base station and the headset will become possible.

Out-of-Range Warning

The UHW-10E/20E wireless headsets incorporate an out-of-range warning as a safety feature to warn the user against exceeding the coverage range of the headset. The headset will sound a 1 second cautionary beep every 10 seconds when the headset is at the fringes of the coverage range and before the headset goes completely out of range and loses its link to the base. The cautionary beep will stop if the user steps back into range from the base station.

Warning: Sonetics recommends that the headset always be operated within the coverage range to ensure consistent and clear communications and therefore to ensure the safety of the crew and help them perform their duties in the safest and most effective manner.



Reconnect Feature

Should the headset go out of range and lose its link to the base station, the headset is capable of automatically reestablishing its link to the base within 10-15 seconds of the headset's coming back into range. However, if the headset is not able to reconnect to the base station within 5 minutes of losing its link, the headset will be powered down automatically. The user will then have to cycle power to the headset in order to reestablish the link to the base station.

LED Indicators

All headsets have one green and one red externally viewable LED indicator located on the top side of the left ear dome (same side as boom microphone).

These two LEDs operate as follow:

Unit Off, Charging:	Steady ON	Flashing Slow
Green LED	Fully Charged	
Red LED		Charging

Unit On:	Steady ON	Flashing Slow	Flashing Fast	3 Beeps Every 10 Minutes	6 Beeps Every Minute
Green LED	Connected to Base		Not Connected to Base		
Red LED		Low Battery	Very Low Battery		
Audible				Low Battery	Very Low Battery

Microphone Placement

Place the microphone in front of the mouth and no more than 3.18mm away from the lips as shown in the diagram below. Placement of the microphone is critical for proper operation of the noise gating feature.

If the microphone is positioned incorrectly, you may experience a reduction or interruption in the audio and or deterioration in clarity of intercom and radio communication.

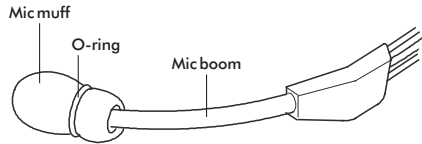


Mic Muffs

The headset microphone is covered with a washable, replaceable foam mic muff. This mic muff helps prevent the “pops” and “hisses” that can occur from speaking into a microphone that is close to the mouth.

To clean or replace the mic muff:

1. Remove the o-ring.
2. Slip the mic muff off the microphone.
3. At this time, you can decide whether to clean or replace the mic muff.



If you clean the mic muff, use a mild detergent, rinse it out well and let it dry completely before re-installing it on the microphone.

4. Slide the mic muff on the microphone.
5. Install the o-ring on the mic muff to secure it.

Replacement mic muffs may be ordered from Sonetics.

Intercom Communication

The UHW-20E headset has a black momentary PTT button located on the bottom side of the right ear dome. Press and hold this button to activate the microphone for intercom communication. Radio transmitting is not possible with the UHW-20E model.

The UHW-10E and the FHW-10E models have a red momentary PTT button located on the bottom of the right ear dome. The microphone on these two models is always live for internal intercom communications. Press and hold the red button to transmit over the vehicle radio. Release the button to terminate radio transmission.

Pairing Procedure

1. Press and hold the pairing button on the front panel of the base station for approximately 5-7 seconds until the yellow LED(s) on the front panel of the base station start flashing, indicating that the base station has entered pairing mode. Once the base station is placed in pairing mode, the user has approximately 15 seconds to place the headset in pairing mode.
2. Press and hold the PTT button, turn on power to the headset. After approximately 5 seconds, the green and red LEDs on the outside of the left ear dome will start flashing in a relatively fast alternating pattern. Release the PTT button.
3. Monitor the green and red LEDs on the left ear dome of the headset. After about 5-7 seconds, the alternating flashing pattern ends, the green LED will flash rapidly for two seconds and then the green and red LEDs resume normal operation (as stated in the section titled “LED Indicators”) to indicate that the headset is paired and linked to the base station. The respective LINK LED on the base station will illuminate steadily after flashing rapidly for two seconds to indicate that a link to the headset has been established.

Charging

Ensure that the headset is fully charged prior to operating for the first time.

All headsets have a 2.1mm panel mounted charger jack located on the right ear dome. A charger cable assembly with a 2.1mm x 5.5mm plug is provided with the headset. The unterminated end of the charger cable can be wired to nominal 12V (11-16V) from the vehicle*. Plug the terminated end of the charger cable into the headset charger jack (refer to the "LED Indicators" section for proper operation of the battery charging red LED indicator. *Follow the Fuse Assembly Installation Instructions below

NOTES:

- 1. Observe correct polarity when connecting the charger cable to 12V from the vehicle. Connect the white striped black wire to +12V and the solid black wire to GND. This will result in a positive center terminal of the 2.1mm charger jack as shown in the illustration.**



- 2. Sonetics does not recommend operating the headset while the headset is being charged. It is recommended that the headset be charged only when it's not being operated and with the power switch on the headset turned off.**

Sonetics recommends charging the headset on the vehicle by connecting to the vehicle's uninterruptible 12V supply (battery). The use of unregulated 12V AC/DC wall adapters is not recommended. If an adapter must be used, Sonetics offers a 12V 0.5A regulated wall adapter; P/N 114-0061-0E

NOTICE: FUSE ASSEMBLY INSTALLATION

When power from a vehicle is used for charging your wireless product the charger cable assembly (420-0048-00) and the fuse assembly (330-0012-00) are to be wired to a slot in the vehicle's fuse box utilizing a 500mA or greater ATO fuse.

Only use a 500mA fuse (supplied) in the fuse assembly (330-0012-00).

Reset

In rare cases, resetting the headset may become necessary.

With the power switch turned on, insert the charger plug into the charger jack on the right ear dome. The system will reset, both red and green LEDs will illuminate for approximately two seconds after which the headset will resume normal operation.

NOTES:

- 1. In case the battery is deeply discharged, no LED indication will be possible until the battery is partly charged to an operable voltage level.**
- 2. Plugging the charger plug into the headset at anytime will cause the headset to reset even when the headset is linked to a base station. Resetting a connected headset will result in losing the link for about 10-12 seconds.**

Wipe headset and ear seals with a mild soap and water mixture only. **NEVER IMMERSE ANY PART OF THE HEADSET IN WATER.** Although the microphone is water resistant, to ensure a longer life, keep the microphone away from moisture, when possible.
 Do not store in direct sunlight or in areas of high temperature.

Specifications

Headset

Sensitivity	.104dB re 20 uPa @ 1000 Hz, 1 mW
Frequency Response	.300Hz - 3.4 KHz, +/- 3dB
Impedance	.32 ohms nominal per speaker
Weight (FHW-10E)	.0.553Kg
Weight (UHW-10E/20E)	.0.553Kg

Microphone

Frequency Response	.Optimized for speech clarity and noise reduction
Max. Amb. Noise Level	.125dB SPL re 20 uPa
MIC Sensitivity	-.44 +/- 5db, 0dB=1v/Pa
DC Bias	.Internally biased
Frequency range	.300Hz – 3.4KHz
Noise Canceling	.approx. 6.25 db/octave from 3.4 KHz down to 300 Hz
S/N ratio	.60db minimum
Impedance	.Internally matched

RF

- Range: 818 meters open field.
- Digital encoding for secured communications.
- Interference free communications for up to 120 headsets operating in close proximity under ideal site conditions.

Meets Essential Requirements of:

- EN 301 406 V1.5.1
- EN 489-6 V1.3.1
- IEC 60950-1: 2005
- EN 60950-1: 2006

Changes or modifications not expressly approved by Sonetics can void the user’s authority to operate the equipment.

Care and Maintenance

To ensure hearing protection and user safety, repairs or replacement of the headset should be immediately sought if you see any defect such as holes or cracks in the ear domes, ear seals or headband.

Body oils, perspiration and hair care products will, over time, affect the ear seals. Inspect the ear seals frequently for signs of wear and replace at approximate 6 month intervals along with the mic muff (cover).

Do not remove the foam speaker cover.

**Never remove the charging cable from the headset by pulling on the cord.
 The headset should be unplugged at the jack location by pulling the charger plug from the jack.**



Power

- 3.7V rechargeable lithium ion battery
- 8-10 hours of talk time
- Cycle life: 500 cycles minimum
- Over voltage, under voltage, over current and over temperature protection.
- Charge source: 12V nominal (11-16v), 0.25A minimum
- Charge time: 3 hours max from deeply discharged state

Environmental

- Operating temperature -10 to +70°C
- Storage temperature -25 to +85°C
- Meets standards SAE J1455 and J1113
- Chemical resistance corrosion and humidity per MIL-STD-810

Package Contents

UHW-10E Headset: 111-3092-0E

- User's manual: P/N 600-0154-0E @www.soneticscorp.com
- Fuse assembly: P/N 330-0012-00
- Charger cable with 2.1mm plug, 274mm: P/N 420-0048-00

UHW-20E Headset: 111-3093-0E

- User's manual: P/N P/N 600-0154-0E @www.soneticscorp.com
- Fuse assembly: P/N 330-0012-00
- Charger cable with 2.1mm plug, 274mm: P/N 420-0048-00

FHW-10E Headset: 111-3090-0E

- User's manual: P/N P/N 600-0154-0E @www.soneticscorp.com
- Fuse assembly: P/N 330-0012-00
- Charger cable with 2.1mm plug, P/N 420-0048-00

Power

- Wall plug adaptor, international 12V: P/N 114-0061-0E
- Hygiene kit: P/N 114-0029-0E

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