

Figure 1: Sensear SM1/SM1x Major Components

It is recommended that the wearer should ensure that:

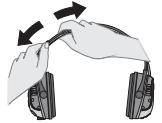
- The ear muffs are fitted, adjusted and maintained in accordance with the manufacturer's instructions

- The ear muffs are worn at all times in high level noise conditions.

If the above recommendations are not adhered to, the protection afforded by the ear muffs will be severely impaired.

#### Ear Muff Fitting Instructions

1



Adjust the headband by pulling the centre band out equally on both sides.

2



Ensure no hair is inside the muff ear cushions.

3



Fit the ear muffs over the ears ensuring a tight fit around the ears.

4



Ensure the muff completely surrounds the ears.

5



Press down on the headband to obtain a snug comfortable fit.

#### Ear Muff Fitting Instructions - Helmet Mounted

1



Ensure the helmet is tight and secure fit

2



Push down the muffs ensuring no hair is inside the muff ear cushions

3



Adjust the height of the muffs to ensure the muff completely surrounds the ears giving a snug comfortable fit.

## **User Manual Insert for SM1xSR**

### **SM1X SR FM RADIO AND SHORT RANGE WIRELESS FUNCTIONS**

The SM1x SR provides short range, half duplex, wireless communication with up to 50 metres range. The SM1x SR also allows the user to listen to broadcast FM radio in the 88–108 MHz frequency range.

The SM1x SR contains additional system settings to enable and select features applicable to the short range wireless and FM radio capabilities.

#### **SM1x SR System Settings**

Press and hold the "Volume Up" button for one second to activate System Set-up. Press and release the "Power" button to cycle through the available settings. Press and release the "Volume Up" or "Volume Down" buttons to change a setting. System Set-up will be de-activated nine seconds after the last button press.

#### ***Communications Options***

The Communications Option allows communication via an externally connected two-way radio or via the internal Short Range FM radio.

Enter system set-up as described above and cycle through the settings until "Communications Options" is selected. Using the "Volume Up" or "Volume Down" buttons select either, "Two-way Radio Communication" or "Short Range FM

Communication". These two modes of radio communication are mutually exclusive.

#### ***Short Range FM Frequency***

Enter system set-up as described above and cycle through the settings until "Short Range FM Frequency" is selected.

This option allows the Short Range FM frequency channel to be selected. The default frequency is 105.0 MHz. The frequency can be adjusted in steps of 0.1 MHz using the "Volume Up" or "Volume Down" buttons.

Note that all SM1x SR must be programmed to the same frequency if they are to be used to communicate with each other.

### ***FM Radio Options***

Enter system set-up as described above and cycle through the settings until "FM Radio Options" is selected. Using the "Volume Up" button to enable FM Radio or "Volume Down" to disable FM Radio. By default, FM Radio is enabled.

### ***Region Selection***

The region selection determines the appropriate RF Power Level settings for the SM1x SR required to satisfy regulatory requirements.

**WARNING:** Selecting the incorrect regional setting may violate regulatory requirements.

Using the "Volume Up" or "Volume Down" buttons select the applicable regional setting. The default regional setting will be set to the region where the product was purchased.

### ***Short Range FM Communication Operation***

Prior to operation, the Short Range FM Communication option must first be enabled in the System Settings. Once this has been done, Short Range FM Communication can be turned on or off by pressing the "Volume Up" and "Volume Down" buttons simultaneously.

### ***Adjusting Short Range FM Volume***

To adjust the Short Range FM volume the SM1x SR should first be placed in QUIET Mode. Press and release the "Power" button until QUIET Mode is selected. Press the "Volume Up" or "Volume Down" buttons to adjust the Short Range FM volume.

Note that SENS volume can only be adjusted when the SM1x SR is in SENS Mode.

### ***VOX Operation/PRIVACY Mode***

VOX operation can only be enabled if the SM1x SR has a boom microphone connected and VOX has been enabled in the System Settings. If VOX has been enabled then speech may trigger the VOX, transmitting to all listeners on the same frequency. In some situations this may not be desirable, if for example the speaker wishes to have a private conversation with someone nearby.

In this situation the SM1x SR can be placed in "PRIVACY Mode". PRIVACY Mode inhibits transmission of the user's speech over the Short Range FM communication channel.

By pressing and releasing the "Power" button the SM1x SR will cycle between , SENS, PRIVACY and QUIET modes. Note that the PRIVACY Mode option is only available when VOX is enabled.

### **FM Radio Operation**

Prior to operation, the FM Radio option must first be enabled in the System Settings. Once this has been done, Fm Radio can be turned on or off by simultaneously pressing the "Multifunction" and "Power" buttons simultaneously.

#### ***Adjusting FM Radio Volume***

To adjust the FM Radio volume the SM1x SR should first be placed in QUIET Mode. Press and release the "Power" button until QUIET Mode is selected. Press the "Volume Up" or "Volume Down" buttons to adjust the FM Radio volume.

Note that SENS volume can only be adjusted when the SM1x SR is in SENS Mode.

#### ***Selecting FM Radio Stations***

The FM radio is set to a default station of 94.5 MHz. To select a different station the SM1x SR must first be placed in QUIET mode. Press and release the "Power" button until QUIET mode is selected.

Press and hold the "Volume Up" button to scan up in frequency to the next FM radio station. Press and hold the "Volume Down" button to scan down in frequency to the previous FM radio station.

## **DECLARATION OF CONFORMITY**

We, the undersigned,

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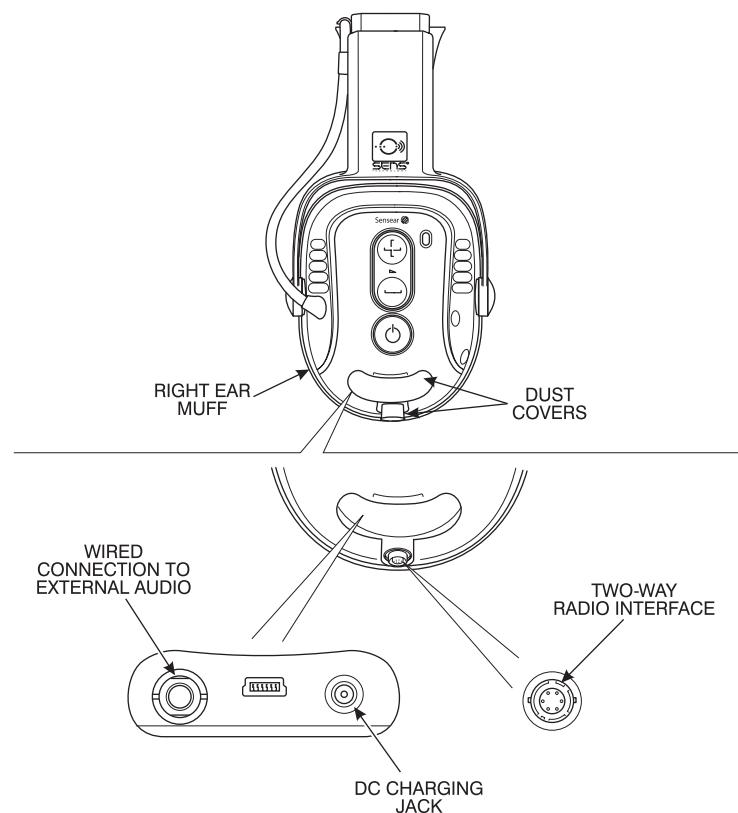
Declare that:

Model SM1 SR and SM1x SR, in accordance with the following directives:

- 69/686/EEC
- 99/5/EC
- 2006/95/ED
- 2004/108/EC
- 98/37/ED

Have been designed and manufactured to the following specifications:

- ETSI EN 352-1, EN 352-3, EN 352-4, EN 352-6
- ETSI EN 301 489
- ETSI EN 300 220
- ETSI EN 301 357
- ETSI EN 60950



**Figure 2: Input for Wired Connection to External Audio, Two-way Radio Interface, DC Charging Jack.**

## FCC COMPLIANCE STATEMENT

The Sensear models comprising the SM1 - (Ear-muff without Bluetooth module) and the SM1x - (Ear-muff with Bluetooth module), comply with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (i) This device may not cause harmful interference
- (ii) This device must accept any interference received, including interference that may cause undesired operation.

**WARNING:** Any changes or modifications not expressly approved by Sensear Pty. Ltd. could void the user's authority to operate this equipment.

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 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.**

## NRR AND SLC80

The SM1 and SM1x models have been certified to European Standards EN352-1:2002, ANSI S12.6-1997 and AS/NZS 1270-2002.

The following passive attenuation ratings were observed:

	<b>NRR</b>	<b>SLC80</b>
SM1/SM1x	25 dB	28 dB
SM1/SM1x Helmet	23 dB	24 dB

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## OVERVIEW

The Sensear SM1 and SM1x models hearing defense systems are state-of-the-art hearing protectors.

The systems have sophisticated electronics and algorithms to enhance speech in noisy environments. As a result, Sensear SM1 and SM1x users do not need to remove their hearing protection to hear speech in noisy environments.

In addition, the SM1x units incorporate Bluetooth technology, external audio pass-through and two-way radio connectivity. This enables users to effectively answer a phone call, listen to an MP3 player or use a two-way radio whilst wearing their hearing protection.

The SM1 unit is functionally identical to the SM1x in every respect, with the exception of the Bluetooth connectivity function. The SM1 communication features include face-to-face and two-way radio connectivity.

The SM1 Ultra and SM1x Ultra models include a noise cancelling boom microphone for extreme noise environments. Standard models may be upgraded by purchasing the boom microphone upgrade kit.

The SM1 and SM1x are available in over-the-head headband or helmet mount models. Helmet mount adaptors are available for a wide range of helmets. The SM1 and SM1x were tested with Protector HC600 safety helmets and may give different levels of protection if fitted to different helmets.

The basis of the SM1 and SM1x units consists of advanced signal processing algorithms that process sound. The output of these algorithms is referred to as the SENS processed sound. In the SENS processed sound, the speech of nearby speakers is enhanced while at the same time, the surrounding noise is suppressed. The SENS processed sound is the sound delivered to the SM1 and SM1x users.

**WARNING:** The reported attenuation will be obtained only if the SM1/SM1x is in good condition and worn as directed (Refer to AS/NZS 1269.3 for guidance).

Noise reduction will be adversely affected by anything that impairs the seal of the earmuff cushions against the head, such as thick spectacle frames, balaclavas, etc. Cushions may deteriorate with use and should be renewed regularly.

## GETTING STARTED

To fully utilise the functionality provided by the Sensear SM1 and SM1x models, please ensure that the Sensear SM1 and SM1x are worn correctly. See the inside front cover for illustrations of fitting the SM1/SM1x.

It is recommended that the SM1/SM1x are fitted, adjusted and maintained in accordance with Sensear's instructions; the ear-muffs are worn at all times in noisy surroundings and the cushions are regularly inspected for serviceability. If these recommendations are not adhered to, the protection afforded by the ear muffs will be severely impaired.

The basic functions of getting started with the Sensear SM1 and SM1x are described below.

### Powering Up the Product

- Press and release the "Power" button shown in Figure 1.
- All the light-emitting diodes (LEDs) will turn on briefly and the system software will load.
- The system will play the welcome message, after which it will deliver the SENS processed sound.
- The Green LED will flash at the normal rate. Refer to Section, "LED INDICATORS", for more information.

### Powering Down the Product

- Press and hold the "Power" button for two seconds.
- All the LEDs will turn on.
- The system will play the goodbye message, after which it will shut down.

### Adjusting the Volume of the SENS Processed Sound

- Press and release the "Volume Up" button to increase the volume.
- Press and release the "Volume Down" button to decrease the volume.

**NOTE: SM1/SM1x models incorporate a volume limiting function which ensures that the maximum noise exposure is limited according to EN352-4. In high noise environments, the volume may be automatically reduced to ensure that the noise exposure does not exceed safe levels.**

### Muting the SENS Processed Sound

- Press and release the "Power" button to enter "Quiet Mode"
- The user will still be able to use the two-way radio and answer phone calls, however the user will not hear the SENS processed sound
- When in the "Quiet Mode", the green LED will flash at the faster rate.

Refer to Section, "LED INDICATORS" for more information.

### Restoring the SENS Processed Sound

- Press and release the "Power" button
- When exiting the "Quiet Mode", the green LED will return to flashing at the normal rate.

**IMPORTANT NOTE: The SM1/SM1x cannot be powered down while charging is taking place. While the user is in the "System Set-up", or on a telephone call, the volume of SENS processed sound cannot be changed.**

**Please refer to the Sections, "BLUETOOTH" and "SYSTEM SET-UP" for more information.**



## BLUETOOTH

Configuring the SM1x to be a Bluetooth headset for a cell phone is a two-step process. Firstly, the SM1x must be **paired** with the cell phone. Secondly, the SM1x must be **connected** to the cell phone. Pairing is required only once. When completed, each time the SM1x is powered up, the SM1x automatically connects to the cell phone it was last paired with.

### Pairing and Connecting with a Cell Phone

Pairing represents the exchange of a security key to enable secure communications between the SM1x and the cell phone. To complete pairing, the following steps should be followed:

#### **Step 1. Enter "Pairing Mode", which makes the Bluetooth module on SM1x discoverable:**

- Press and hold the "Multi-Function" button for five seconds. The Blue LED will illuminate solid blue and an audible message will be played. The user can now use a cell phone to find the Sensear SM1x and commence the pairing process.

#### **Step 2. Find the SM1x on a cell phone:**

- Ensure that Bluetooth is enabled on the cell phone. Perform a search for Bluetooth devices on the cell phone and select Sensear SM1x from the list of discovered devices.

#### **Step 3. Enter the PIN (Passkey) on the cell phone:**

- The PIN (Passkey) is "0000" (zeros). The pairing will then be completed. Note at this point, some cell phones will automatically connect to the SM1x. If so, Step 4 is not required.

Following pairing, the Sensear SM1x will be stored in the list of paired devices on your cell phone. Similarly, your cell phone is stored in the memory of the SM1x.

#### **Step 4. Connect the SM1x to the cell phone:**

- Press and hold down the "Volume Down" button for one second. An audible message will play, notifying the user that the SM1x is attempting to connect to the cell phone. When connection is completed successfully, the SM1x plays the message "Connection Completed" and the Blue LED flashes at the normal rate. On some cell phones the user may have to "authorise" the SM1x to complete the connection.

#### **IMPORTANT NOTES:**

***The SM1x stores pairing information for only ONE cell phone at a time. Each cell phone paired over-writes the previously paired phone in the memory of the SM1x. Any cell phone that is not registered in the memory of the SM1x, regardless if it has previously been paired, will require pairing with the SM1x again.***

***If pairing is not completed within two minutes after entering "Pairing Mode", the system will leave "Pairing Mode" and notify the user with a message.***

***NOTE: The SM1x can only enter the "Pairing Mode" if the two-way radio interface is NOT operational. Ensure that the two-way radio is unplugged before attempting to enter the "Pairing Mode". Alternatively, leave the two-way radio plugged into the system, ensuring that the radio is turned off.***



## Using Bluetooth Functions

The user must first have connected the SM1x to the cell phone to use Bluetooth functions on the SM1x.

The functions are described below:

### ***Accepting an incoming call***

- When the phone is ringing, press and release the "Multi-Function" button. Note that when the phone is ringing, a ring tone will also be delivered by the SM1x. In addition, the Blue LED will flash at the faster rate.
- After accepting the call, a brief "Call Accepted" sound will be heard and the Blue LED will continue to flash at the faster rate.

### ***Rejecting an incoming call***

- When the cell phone is ringing, press and hold the "Multi-Function" button for one second. A "Call Rejected" sound will be heard and the Blue LED will return to flash at the normal rate. If "Call Divert" is enabled on the cell phone, the caller will be directed to voicemail.

### ***Ending an active call***

- When the user is on a phone call, press and hold the "Multi-Function" button for one second. A "Call Ended" sound will be heard and the Blue LED will return to flash at the normal rate.

### ***Adjusting the Bluetooth phone call volume***

- While the user is on a phone call, press and release the "Volume Up" button.
- While the user is on a phone call, press and release the "Volume Down" button.

### ***Disconnecting the cell phone from SM1x***

- Using the cell phone, navigate through the "Active Bluetooth Devices" menu, select the SM1x and select "Disconnect". The Blue LED will turn off.

## **TWO-WAY RADIO INTERFACE**

Connecting a two-way radio unit to the SM1/SM1x requires a 2-way radio audio adapter cable available from your Sensear stockist. Several adaptors are available to suit a wide range of Motorola, ICOM and Kenwood radios. Insert the six pin connector into the 2-way radio interface socket on the SM1/SM1x. Attach the audio adapter to the two-way radio unit. Contact your nearest Sensear distributor to obtain the required adapters for two-way radios.

The SM1/SM1x will deliver the incoming two-way radio transmission. Note that the incoming two-way audio is mixed with the SENS processed sound.

To speak over the two-way radio, use the following function:

***Push-To-Talk (PTT)***

- Press and hold the "Multi-Function button", which has the same effect as pressing the "PTT" button on the two-way radio. Speak normally and the user's voice will be sent through the Sensear system to the two-way radio.

***IMPORTANT NOTES:***

***Always use the "Multi-Function" button and not the "PTT" button on the two-way radio, to activate the PTT.***

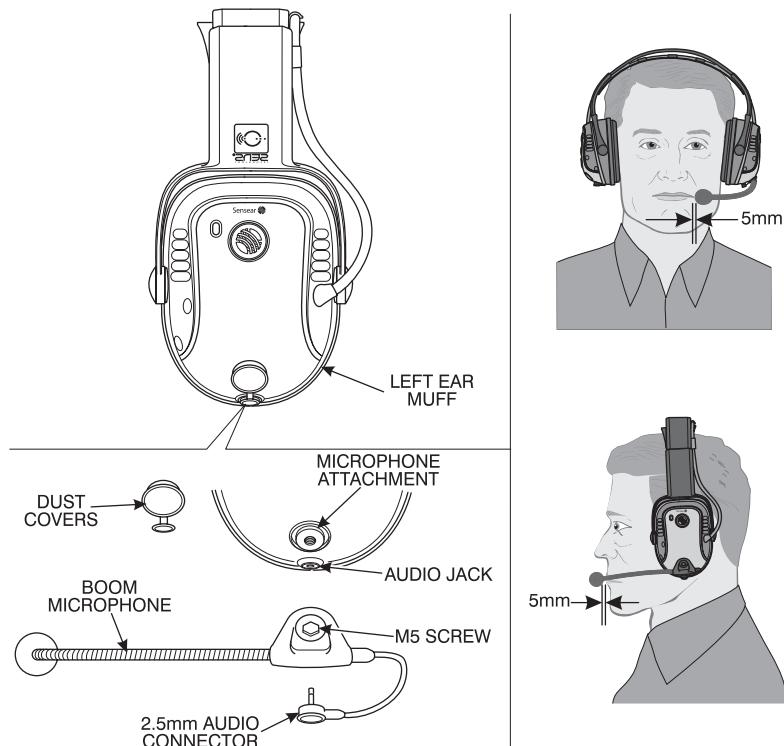
***The volume of the two-way radio played back cannot be changed using the SM1/SM1x volume controls. The volume is controlled only by the two-way radio unit.***

***PTT functionality is disabled if there is an incoming Bluetooth phone call, or if the user is currently on a phone call via Bluetooth.***

***The two-way radio interface can be enabled/disabled as described in "SYSTEM SET-UP". If the interface is enabled, the user will be able to use the SM1/SM1x as a two-way radio accessory to communicate on two-way channels. Note that the factory setting for the two-way radio interface is "Enabled".***

### BOOM MICROPHONE POSITIONING AND USE

The SM1 Ultra and SM1x Ultra are fitted with flexible boom microphones that allow 2-way radio and mobile phone call operation in extreme noise situations. The standard SM1 and SM1x may be upgraded by purchasing a the Ultra Boom Microphone Upgrade – see ACCESSORIES AND SPARE PARTS. The upgrade kit contains an Allan key, M5 nut and boom clamp.



**Figure 3 : Boom Microphone Fitting**

Remove the rubber microphone attachment cover and attach the boom microphone and clamp as shown in Figure 3. Lightly tighten M5 screw so that the boom position can just be adjusted by hand. Place the ear-muffs on the head and adjust the boom position until the end of the microphone is adjacent to the corner of the mouth. Remove the ear-muffs and tighten the M5 screw using the Allan key provided. Insert the 2.5mm audio connector into the audio jack.

For optimum use, the boom microphone should be positioned within 5mm of the mouth.



## **TWO-WAY RADIO VOX OPERATION**

The SM1 and SM1x support Voice Operated Switch (VOX) functionality, allowing hands free operation of 2-way radios. Note that this option is only available if a boom microphone is attached. By default the VOX setting is disabled. Follow the steps in SYSTEM SET-UP to enable the VOX. Once enabled, the VOX function detects speech through the boom microphone and automatically activates the radio transmitter.

VOX operation is not recommended in windy conditions.

## **EXTERNAL AUDIO PASS-THROUGH**

If the external audio pass-through has been enabled, (Factory setting is "Disabled" - see important notes following), the SM1/SM1x can be used as a stereo headset to listen to audio from external devices. External devices that can be used include iPods, other portable MP3 players, PC's, laptops, portable CD/cassette players, FM/AM radios and any other device with "line-out" audio output.

Connecting an external audio device to the SM1/SM1x requires an optional audio cable, available from your Sensear stockist. Insert the threaded 3.5mm end of the cable into the Audio socket on the SM1/SM1x. Insert the other 3.5mm end of the audio cable into the external audio device.

Note that the audio coming from external devices is mixed together with the SENS processed sound and delivered to the user. External audio pass-through can also be permanently disabled. To complete this, take the following steps:

### **Step 1**

- When the SM1/SM1x is turned off, while pressing and holding down the "Multi-Function" button and the "Volume Down" button, press and release the "Power" button.

### **Step 2**

- Press and release the "Volume Up" button to confirm.
- The user will then receive a message advising that external audio pass-through has been permanently disabled. The SM1/SM1x will then shut down automatically. When powered up again, all functions relating to external audio pass-through, including System Set-up options, will have disappeared.

### **IMPORTANT NOTES:**

*Once permanently disabled, the external audio pass-through cannot be restored.*

*The volume of external audio cannot be changed using the SM1/SM1x volume controls.*

*The volume must be controlled on the user's external audio device.*

*External audio pass-through can be temporarily enabled/disabled, as described in "SYSTEM SET-UP".*

*Note that the factory setting of the external audio pass-through is "Disabled".*

## **SYSTEM SET-UP**

The Sensear SM1 and SM1x models are configured by using System Set-up, in which the following functions are available:

### **Activating the System Set-up**

- Press and hold down the "Volume Up" button for one second. A message will be heard when the System Set-up is activated.

### **De-activating the System Set-up**

- Press and hold down the "Volume Up" button for one second. Alternatively, the System Set-up will be exited nine seconds after the last button press. A message will be heard when the user has exited the System Set-up.

#### ***Navigating to the next option in the System Set-up***

- Press and release the "Power" button.

#### ***Changing options in the System Set-up***

- Press and release the "Volume Up" button or the "Volume Down" button, depending on the option required.

##### ***Battery Status***

**Press and release "Volume Up" or "Volume Down";**  
Advises the battery status.

##### ***External Audio Pass-through Options***

**Press and release "Volume Up";**  
Enables the external audio pass-through.

**Press and release "Volume Down";**  
Disables the external audio pass-through.

##### ***Bluetooth Options***

**Press and release "Volume Up";**  
Enables Bluetooth.

**Press and release "Volume Down";**  
Disables Bluetooth (Suitable for aircraft use, etc).

##### ***Two-way Radio Options***

**Press and release "Volume Up";**  
Enables the two-way radio interface.

**Press and release "Volume Down";**  
Disables the two-way radio interface.

##### ***VOX Options (If Boom Mic installed)***

**Press and release "Volume Up";**  
VOX enabled.

**Press and release "Volume Down";**  
VOX disabled.

##### ***Volume Balance Options***

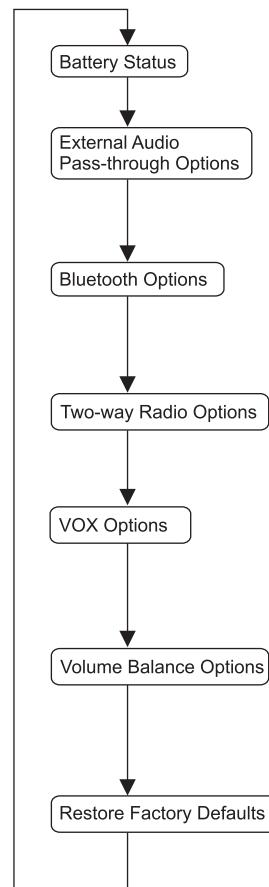
**Press and release "Volume Up";**  
Increases left ear volume relative to the right.

**Press and release "Volume Down";**  
Increases right ear volume relative to the left.

##### ***Restore Factory Defaults***

**Press and release "Volume Up";**  
Restores factory defaults. The user will be asked to confirm by pressing and releasing "Volume Up" again. If confirmed, factory settings are restored and a message is played and the system will shut down.

**Press "Volume Down";**  
Cancels restoring factory defaults.



The order of System Set-up options available to the user is shown below.

#### **LED INDICATORS**

On the Sensear SM1/SM1x models, there are three LEDs: Red, Green and Blue.

Each LED has the following four modes of operation;

- Off
- Solid on
- Flashing at the normal rate. The normal rate is defined as once every 2.5 seconds
- Flashing at the faster rate. The faster rate is defined as 5 times per second.

	<b>Off</b>	<b>Solid On</b>	<b>Normal Rate</b>	<b>Faster Rate</b>
<b>Red</b>	Battery OK	Battery charging	Charge complete	Battery low
<b>Green</b>	SM1/SM1x turned off.	N/A	SENS processed, sound active.	SENS processed, sound muted.
<b>Blue</b>	Bluetooth not connected to a cell phone.	Bluetooth "Pairing Mode" engaged.	Bluetooth connected to a cell phone.	Incoming call, outgoing call, or active call.

The meaning of LED indicators for Sensear SM1 and SM1x is given in Table 1, below.

**Table 1: LED Indicators**

#### **CHARGING**

Sensear SM1/SM1x models are supplied with an AC adapter that operates globally when fitted with the appropriate electrical local adapter fitting.

To charge the Sensear SM1/SM1x, take the following steps:

**Step 1**

Plug the Sensear AC adapter into an appropriate electrical power outlet.

**Step 2**

Insert the cable end of the Sensear AC adapter into the DC Power socket on the SM1/SM1x.

While the battery is charging, the Red LED will turn on solid red. When the charging is complete, the Red LED will flash at the normal rate.

Refer to the Section, "LED INDICATORS", for more information.

#### **TECHNICAL SPECIFICATIONS**

Weight: ..... 430 g

Operational temperature: ..... 0 °C - 40 °C charging. 0°C - 50 °C discharging

Battery use: ..... 12 hours (Bluetooth disabled)

Battery charge: ..... 4 hours

The Sensear SM1 and SM1x are active hearing protectors that allow audible contact with your surroundings while providing protection from harmful noise.

**WARNING:** Performance may deteriorate with battery usage. The typical period of continuous use that can be expected from the SM1 or SM1x is 12 hours.



## SIZE RANGES

**WARNING:** Ear-muffs complying with EN352-1 and EN352-3 are of 'small size range', 'medium size range' or 'large size range'. 'Medium size range' ear-muffs will fit the majority of wearers. 'Small size range' or 'large size range' ear-muffs are designed to fit wearers for whom 'medium size range' ear-muffs are not suitable. The SM1 and SM1x headband may be adjusted for small, medium or large size.

## MAINTENANCE AND CLEANING

Ear-muffs, and in particular cushions, may deteriorate with use and should be examined at frequent intervals for cracking and leakage, for example.

The ear-muff replaceable cushions should be replaced if any visible sign of damage is detected. Inspect regularly and replace if any visible sign of damage is evident. Refer to ACCESSORIES AND SPARE PARTS for details of the replacement hygiene kit.

The ear-muff cushionss can be cleaned with a damp cloth using warm soapy water. The ear-muffs must not be immersed in water as this may destroy the electronic circuits. This product may be adversely affected by certain chemical substances. Further information should be sought from Sensear Pty. Ltd.

Fitting of hygiene covers to the cushions may affect the acoustic performance of the ear-muffs. Please note that the battery is not user replaceable. If it becomes damaged or faulty, return to a Sensear authorised distributor for repair.

The SM1 and SM1x are fitted with level-dependent attenuation. The wearer should check the correct operation before use. If distortion or failure is detected, the wearer should refer to the manufacturer's advice for maintenance and replacement of the battery.

## ACCESSORIES AND SPARE PARTS

The following accessories and spare parts may be ordered separately:

- SPPA0000 - Power pack adaptor, multizone.
- SRCK0006 - Radio connection kit, Motorola Aoba/Plus.
- SRCK0007 - Radio connection kit, Motorola Waris.
- SRCK0008 - Radio connection kit, Motorola MTS/XTS.
- SRCK0009 - Radio connection kit, Motorola CP150/CP200.
- SRCK0010 - Radio connection kit, ICOM F50/F60.
- SRCK0011 - Radio connection kit, Kenwood TK3140/3180.
- SRCK0012 - Radio connection kit, ICOM 2 pin.
- SRCK0013 - Radio connection kit, Kenwood 2 pin TK260/360.
- SRCK0014 - Radio connection kit, Motorola Mototurbo XPR6300/6500.
- SCAJ0002 - 3.5mm spiral audio cable suitable for external MP3.
- SMBM0001 - SM1 Ultra Boom Microphone Upgrade.
- SMHK0000 - SM1 Ear-muff Hygiene Kit.
- SMWS0001 - SM1 Wind Noise Foam Kit.
- SMHA0000 - SM1 Helmet Adaptor – MSA-Vguard.
- SMHA0001 - SM1 Helmet Adaptor – Protector Allsafe.
- SMHA0002 - SM1 Helmet Adaptor – Protector Tuffmaster.
- SMHA0003 - SM1 Helmet Adaptor – Unisafe Unilite.

Further information may be obtained from your Sensear stockist, via the Sensear web site, or by emailing or writing to the addresses on Page 14 of this User Manual.



**DECLARATION OF CONFORMITY**

We, the undersigned,

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Declare that:

Models SM1 and SM1x, in accordance with the following directives:

- 69/686/EEC
- 99/5/EC
- 2006/95/ED
- 2004/108/EC
- 98/37/ED

Have been designed and manufactured to the following specifications:

- ETSI EN 352-1, EN 352-3, EN 352-4, EN 352-6
- ETSI EN 301 489
- ETSI EN 300 220
- EN 60950

## **TROUBLE-SHOOTING**

If the Sensear SM1 or SM1x is not functioning correctly, first refer to this Section for simple trouble-shooting. This can save time and effort, however if symptoms persist, consult your nearest Sensear Service Centre.

### ***The SM1/SM1x does not power up.***

Ensure that the battery is sufficiently charged. Charge the battery according to the instructions given in the Section, "CHARGING".

### ***Bluetooth is not working.***

Ensure that the Bluetooth is enabled in the System Set-up.

### ***Two-way radio interface is not working.***

Ensure that the two-way radio interface is enabled in the System Set-up.

### ***External audio pass-through is not working.***

Ensure that the external audio pass-through has not been permanently disabled and that it is enabled in the System Set-up.

### ***Volume of the two-way radio is too loud or too quiet.***

Adjust the volume on your two-way radio.

The volume of the two-way radio cannot be adjusted using the volume controls on the SM1/SM1x.

### ***Volume of the external audio device is too loud or too quiet.***

Adjust the volume on your external audio device.

The volume of your external audio device cannot be adjusted using the volume controls on the SM1/SM1x.

### ***Unable to enter "Pairing Mode" (i.e., unable to make the Bluetooth module on the SM1x discoverable).***

The SM1x can only enter the "Pairing Mode" if the two-way radio interface is not in use. Ensure the two-way radio is unplugged before attempting to enter the "Pairing Mode". Alternatively, leave the radio plugged into the system, however ensure that the radio is turned off.

### ***The SM1x does not connect, either automatically or manually, to the cell phone it was last paired with.***

Ensure that the cell phone is ready to accept Bluetooth connections. This means that Bluetooth is enabled on the cell phone and the phone is not connected to other Bluetooth devices.

Please note that on some phones, the user may also need to "authorise" the SM1x to connect to the phone.

### ***The SM1x does not connect, either automatically or manually, to a previously paired cell phone after another cell phone has paired with the SM1x.***

The SM1x stores pairing information for only one cell phone at a time. If another cell phone has paired with the system since last paired with it, the user will need to pair with the system again.

***The SM1x connects, either automatically or manually, to another cell phone.***

The SM1x contains pairing information for the other cell phone. Press and hold the “Multi-Function” button for five seconds to enter “Pairing Mode”.

This will clear the current pairing memory, which will ensure that the SM1x does not connect to another cell phone.

***The SM1x does not re-connect to the cell phone when powered on immediately after it was powered off while connected to the cell phone.***

If the SM1x is powered off while connected to the cell phone, it can take up to 20 seconds for the phone to become ready to accept a new Bluetooth connection.

If the SM1x is powered back up during these 20 seconds, the automatic connection at the power-up will fail. To prevent this, ensure that 20 seconds lapse between powering off and back up. If the automatic connection fails, the user can still connect manually to the cell phone once the phone becomes ready to accept a new Bluetooth connection.

***Bluetooth connection is lost after an incoming call is accepted using the cell phone's "Answer" button.***

When an incoming call is accepted using the cell phone's “Answer” button, a small proportion of cell phones automatically close the connection to their Bluetooth headset, (in this case, the SM1x) and re-route the audio to the phone's speakers. They do this on the assumption that by answering the call using the phone, the user wishes to use the phone's microphone and speaker and not those on the Bluetooth headset. To prevent this from happening, always use the “Multi-Function” button on the SM1x to accept incoming calls.