

SWATCOM

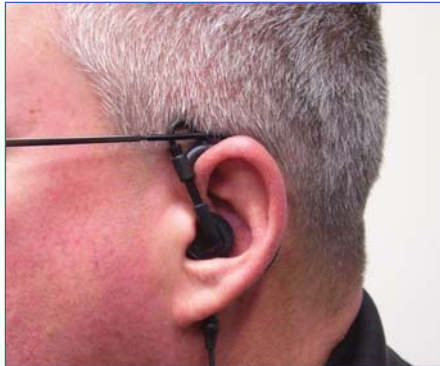
RADIO ACCESSORIES

Product Features
Set-up and Operation
Using the Throat Mic
Using the Headsets
Speaker Options
Connecting Headsets
Remote PTT Options



talking **headsets**

Placement

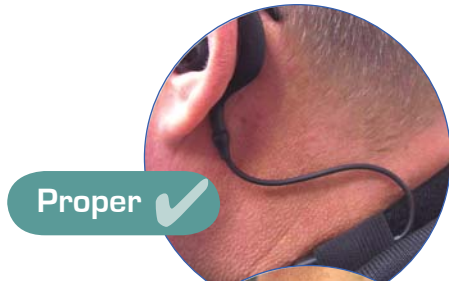


1. Behind-the-Ear Speaker Placement
Ensure the speaker is placed comfortably inside the ear. Speaker element can rotate to accommodate with both left and right ears.



2. Securing Behind-the-Ear Speaker
Secure the speaker behind the ear using the flexible ear loop then tuck the speaker cord into the throat mic loop as shown on the following page.

Proper Wear w/Throat Mic



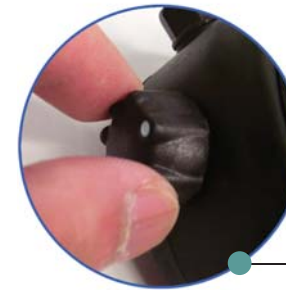
Proper ✓



Proper ✓

Improper ✗

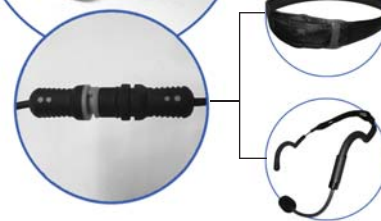
Important: Read Control Drawing E-1609 before using the SWATCOM 4 in Hazardous Locations



On/Off Switch & Volume Control
Activates/deactivates the Voice Amplifier (by turning knob) as well as regulates the volume of the Voice Amp speaker. Turn clockwise to power unit on and/or increase volume and counter-clockwise to turn unit off and/or decrease volume.



Quick Connect Cable
Connects your Voice Amplifier to a microphone/speaker device such as a headset or throat mic.



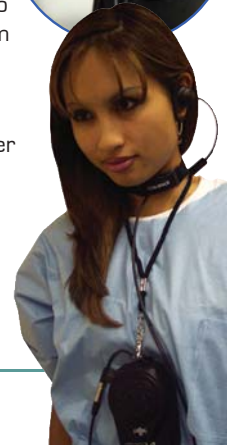
Speaker
Amplifies the wearers voice when connected to a microphone device such as a Throat or Boom Mic (shown on the left).

Replace Batteries
Remove and replace 3 AA (Duracell MN / PC-1500 Only *) Alkaline Batteries when LED (above speaker) flashes red.
* Required to maintain Intrinsically Safe Approval



Lanyard Attachment
Connect the supplied Lanyard to the SC4 Base Unit for maximum convenience and ease of wear

Rotary Belt Clip
Secures the SC4 to a belt or another anchor point on the users body.



Positioning the Boom Mic

Whether using a Lightweight or Heavy Duty Headset, always ensure that the Boom Mic is positioned no further than a finger-width away from the mouth for optimal transmission to the microphone.



Flexible Boom Mic

The Boom Mic of our Headsets are extremely flexible and can be adjusted to any particular position without worry being easily displaced from the desired position.



Connecting a Remote PTT Switch to the SWATCOM 1 Radio Accessory

Insert Remote PTT Connector into the plug found beneath the bottom left corner of the SWATCOM 1 PTT unit (also located to the left of the Radio Interface Cable)



Trigger Ring Switch

The Ring Switch option allows virtually hands-free PTT Radio communication. This versatile switch is worn like a ring and can facilitate having a Push-To-Talk switch in a ready position for activation.

Silencer Velcro Switch

When connected to the SWATCOM 1, this remote Push-To-Talk switch can activate the radio PTT function. It can be secured virtually anywhere via the integral Velcro Strap.

Remote PTT Switches – Use



Use the Ring Switch for...

Easy PTT activation while holding sidearm weapons, note pads, radios, megaphones, etc., etc.



Use the Velcro Switch on...

Bicycle or motorcycle handles, long range weapons, stationary objects, etc., etc.

Important: Read Control Drawing E-1608 before using the SWATCOM 1 in Hazardous Locations

Push-to-Talk Switch (available in Tactile or Quiet)

Transmits the users voice via over the connected portable radio when the PTT is activated (pushed down as shown)



Quick Connect Cable

Connects your SWATCOM 1 to a microphone/speaker device such as a headset or throat mic.



Rotary Belt Clip

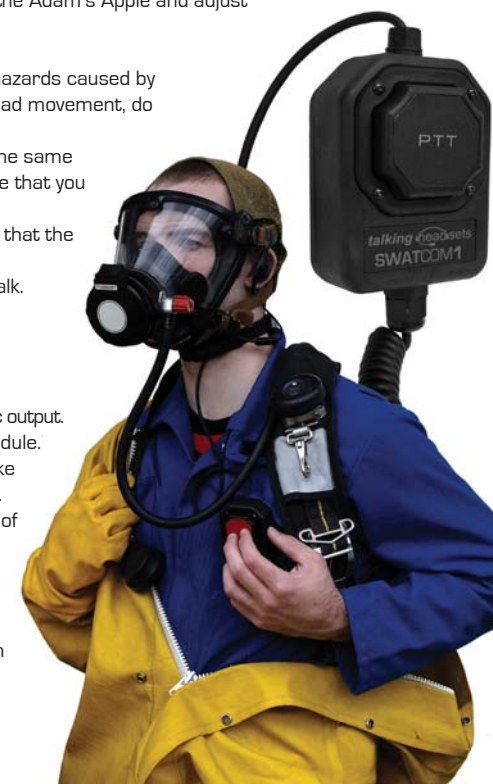
Secures the SWATCOM 1 to a belt or another anchor point on the wearers body.



Radio Interface

Cable Connects the SWATCOM 1 to a portable radio. *Cable, connector and radio shown are examples only.

1. IMPORTANT: Please Read carefully and understand the Warning notes and Connection Instructions outlined in Control Drawing E-1608, on the back page of this manual.
2. Use in explosive atmospheres: The SC1 is Intrinsically Safe as per ATEX Directive 94/9/EC. The accessory has been certified as Group II Category 1 G, excluding dust atmospheres, allowing it to be connected to almost any intrinsically safe (I.S.) approved portable radio. Once the SC1 is connected to a radio, the resulting LS. rating is that of the lowest of the two devices.
3. Before use, check the following (Do not use if the SC1 fails any of the following checks):
 - Check that the Push-To-Talk (PTT) module is not damaged (cracked or broken housing)
 - Check that the rubber cable-entry grommet on top of the PTT module is not cracked and has no cuts
 - Check that the plastic cable strain relief on the bottom of the PTT module is not broken or loose.
 - Check that there are no abrasions or cuts on the cables.
4. Making sure that you are located in an area known to be non-hazardous (non-explosive), connect the SC1 radio cable to your radio.
5. Place radio in a pocket or belt mounted holster.
6. Adjust the 360 degree rotating Belt Clip on the SC1 Push-To-Talk (PTT) Module, and attach for easy access at chest or belt level.
7. Place the Throat Mic on the neck, to the left or right of the Adam's Apple and adjust the strap to be snug and comfortable.
8. Don the Hearing Device (Speaker)
9. Cables have been kept to a minimum length to reduce hazards caused by snagging, however to ensure you have a full range of head movement, do not over-tighten cables.
10. To test the SC1 a second radio is required switched to the same channel as the SC1 radio. Perform a radio test to ensure that you can transmit and receive.
11. IMPORTANT: Reduce the volume of your radio to ensure that the output is not excessive when the radio is powered on.
12. Switch both radios "ON", push the SC1 PTT switch and talk. Position the Throat Mic for best voice clarity.
13. Handy Tips for good communication:
 - Adjust the volume on the radio so it is comfortable.
 - Instruct the user to speak at a normal level.
 - Try to avoid shouting as this may somewhat distort the mic output.
14. Remote Push-To-Talk capability is built into each SC1 Module. A selection of Remote PTT switches are available to make communicating in harsh or difficult environments easier. Remote PTT switch plugs into the socket on the bottom of PTT Module.
15. Maintenance on the SC1 is minimal. The accessory has no batteries to change and housing is made of fire retardant material, it is waterproof, and extremely rugged. Washing/cleaning/replacement of straps foam pads, ear tips, etc., for hygiene purposes should be done as required.



Quick Connect Cable

Connects your Voice Amplifier to a microphone/speaker device such as a headset or throat mic.



On/Off Switch & Volume Control

Activates/deactivates the Voice Amplifier (by turning knob) as well as regulates the volume of the Voice Amp speaker. Turn clockwise to power unit on and/or increase volume and counter-clockwise to turn unit off and/or decrease volume.



Speaker Grill & Push-to-Talk Switch

Amplifies the wearers voice when connected to a microphone device and also transmits the users voice via radio signal when the PTT is activated (pushed down as shown)



Radio Interface Cable

Connects the SC3 to a portable radio. *Cable, connector and radio shown are examples only.



Lanyard Attachment

Connect the supplied Lanyard to the SC3 Base Unit for maximum convenience and ease of wear



Rotary Belt Clip

Secures the SC3 to a belt or another anchor point on the wearers body.



SWATCOM 3 Battery Replacement

Remove Battery Compartment Lid

Loosen two upper thumbscrews to remove the compartment lid.



LED flashes red to indicate diminishing battery life



Replace Depleted Batteries

Replace the 3 depleted batteries with 3 new AA Alkaline batteries.



Step.01 Placing the Throat Mic on the Neck

Use both hands to place the Throat Mic around the neck area ensuring that the Throat Mic element is placed to the left (or right) of the Adam's Apple.



Step.02 Securing the Throat Mic

Ensuring that the Throat Mic is now snug around the neck area, secure it by connecting the two ends at the back of the neck via the Velcro Strap (or Buckles if using that version of the Throat Mic).



Step.03 Wearing & Using the Throat Mic

The Throat Mic should now be in a comfortable position around the neck such that the wearer isn't feeling any discomforting pressure but the mic element is snugly positioned to the left (or the right) of the wearers Adam's Apple and his/her voice is transmitting clearly over the microphone.



Step.04 Adjust Throat Mic to find Optimal Positioning

If you find that the Throat Mic is not transmitting properly or if you are receiving a lot of feedback from your portable radio, try moving the Throat Mic around the neck area and speak continually to test different placements and determine an optimal position. You may also wish to tighten the strap of the Throat Mic slightly to ensure the mic element is positioned properly.

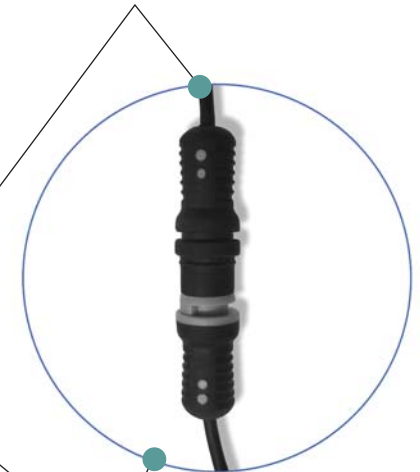


***IF YOU HAVE A SWATCOM 2 PUSH-TO-TALK THROAT MIC**

The Push-to-Talk Button is located directly above the Throat Mic Element. With your portable radio connected (via separate Radio Interface Cable) use the SWATCOM 2 Push-to-Talk Switch in the same fashion you would use the Push-to-Talk on your portable radio.



SC5 Throat Mic



SC3 Radio Accessory/Voice Amplifier

SC1 Radio Accessory



Connecting Quick Connect of Throat Mic & Push-to-Talk Accessory

Plug Male Connector of Push-to-Talk Accessory into Female Connector of Throat Mic

Universal Speaker

* Requires separate head harness when used w/o a facemask



Earpiece Speaker



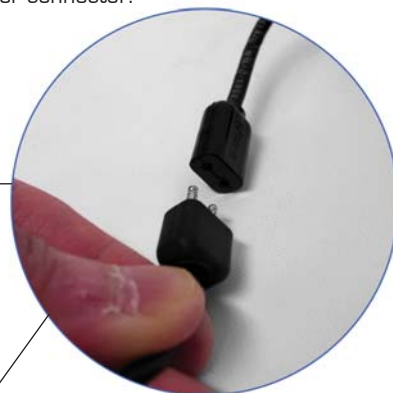
Over Ear Speaker



Tactical Speaker*

Connecting the Throat Mic to a Speaker

Connect the two-prong male plugs of the Throat Mic connector into the female outlets of the Speaker connector.



High Noise Headset



Throat Mic (SC5 or SC2)

* SWATCOM 3 only. The Tactical Speaker is NOT approved (I.S.) for use with SWATCOM 1.

Type of Product	SC9 Headset	SC8 Headset	SC6/7 Headset	SC2 Throat Mic	SC5 Throat Mic
	Headset	Headset	Headset Single & Dual	Microphone	Microphone
Type of Microphone	Electret Element	Electret Element	Electret Element	Proprietary	Proprietary
Mic Sensitivity	-40 +/- -2dB	-43 +/- -3dB	TBA	-32 +/- -6dB pk*	-32 +/- -6dB pk*
Mic Operating Voltage	1.0 to 10 VDC	1.3 to 17 VDC	2 to 10 VDC	1.3 to 10 VDC	1.3 to 10 VDC
Mic Operating Current	<500uA	<500uA	<500uA	<500uA	<500uA
Mic Freq. Response	100 Hz to 10 kHz	250 Hz to 4 kHz	400 Hz to 8 kHz	300 Hz to 4 kHz	300 Hz to 4 kHz
Speaker-Single/Double	Single	Single	Either available	Single/Various	Single/Various
Speaker Sensitivity	117 +/- 3dB/ 10mW	108 +/- 3dB/ 10mW	TBA	Accessory Dependant	Accessory Dependant
Speaker Element Frequency Response	250 Hz to 4 kHz	250 Hz to 4 kHz	TBA	Accessory Dependant	Accessory Dependant
Speaker Impedance presented to radio**	88 Ohm	88 Ohm	88 Ohm	77 to 88 Ohm-Accessory Dependant	77 to 88 Ohm-Accessory Dependant
Headband Material	Rubber	Rubber	Rubber/Steel/Rayon	Rubber	Rubber
Ear Cushion	Rubber Foam	Rubber Foam	Gel-filled Poly Eurythane	n/a	n/a
Weight	1.15/33	2.83/80	26/730	1.4/40	1.5/42
Cable Pull Strength	Preliminary	Preliminary	84/38.7	85/38	85/38
Colour	Matte Black	Matte Black	Matte Black	Matte Black	Matte Black
Helmet Compatible	Yes	Yes	Yes	Yes	Yes
Face Mask Compatible	No	No	No	Yes	Yes
EnviroSuit Compatible	Yes	Yes	No	Yes	Yes
Water Resistance	Yes	Yes	Yes	Water-proof	Yes
Adjustable Mounting	Yes	Yes	Yes	Yes	Yes
ROHS Compliance	Yes	Yes	Yes	TBA	Yes
Warranty	18 mos	18 mos	18 mos	18 mos	18 mos
Part Number	SC9	SC8	SC6/7	SC2	SC5

Type of Product	SC3	SC4	SC1
	Radio Voice Amplifier	Voice Amplifier	PTT/Radio Interface Unit
Type of Microphone	Interchangeable	Interchangeable	Interchangeable
Speaker Material	Mylar	Mylar	n/a
Speaker Freq. Resp.	450 Hz to 9- kHz	450 Hz to 9- kHz	n/a
Push-To-Talk	Tactile	n/a	Either available
Self-Powered	Yes	Yes	n/a
Battery Type	3 x 1.5V- AA cells.	3 x 1.5V- AA cells.	n/a
Battery Life Operation/Stby	40/200	40/200	n/a
Weight	13.7oz/390g	13.9oz/393g	7.1oz/202g
Cable Pull Strength	69kg/31g	69kg/31g	69kg/31g
Colours	Matte Black	Matte Black	Matte Black
Operating Temp	-20C to 40C	-20C to 40C	-20C to 40C
Output Sound Level- Speech	84 dB	84 dB	n/a
Water Resistance	Yes	Yes	Yes
Adjustable Mounting	Yes	Yes	Yes
ROHS Compliance	Yes	Yes	Yes
IP Compliance	Yes, IP-57	TBA	Yes, IP-57
EMC Compliance	Yes	TBA	TBA
Warranty	18 mos	18 mos	18 mos
Part Number	SC3.001	SC4	SC1.001

Mic Sensitivity measured in (units): dB re 1Vrms/ Pa (mic) dB re 1Vpk

*throat mic

Speaker Sensitivity measured in (units): dB @ 1, 1.4, 1.7 & 2 kHz 6cc coupler

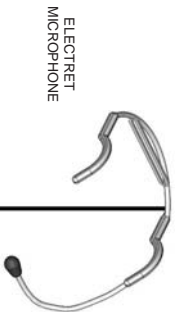
* = Subject wearing the throat mic saying "a" as in father at 80dB C SPL, measured 30cm (12") distance from subject

** = This impedance consists of the respective speaker element impedance in series with the 72 Ohm internal resistance. (Requirement for intrinsic safety)

n/a = not available

All products are RoHs Compliant

REVISION	DESCRIPTION	REVISED	APP.	DATE



ELECTRET MICROPHONE



THROAT MICROPHONE



SWATCOM 4
CS4-8-1



SWATCOM 4
CS4-5-1

INTRINSICALLY SAFE APPROVED WHEN POWERED WITH DURACELL
MN-1500 OR PC-1500 ALKALINE, 1.5V "AA" SIZE BATTERIES ONLY.

CE 0399 II 1G
Ex Ia IIC T4 Ga
ITS07ATEX2659X

WARNING:

- TO PREVENT IGNITION OF A FLAMMABLE OR EXPLOSIVE ATMOSPHERE, BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS.
- SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY.
- TO REDUCE THE RISK OF EXPLOSION DO NOT MIX OLD BATTERIES WITH NEW BATTERIES.

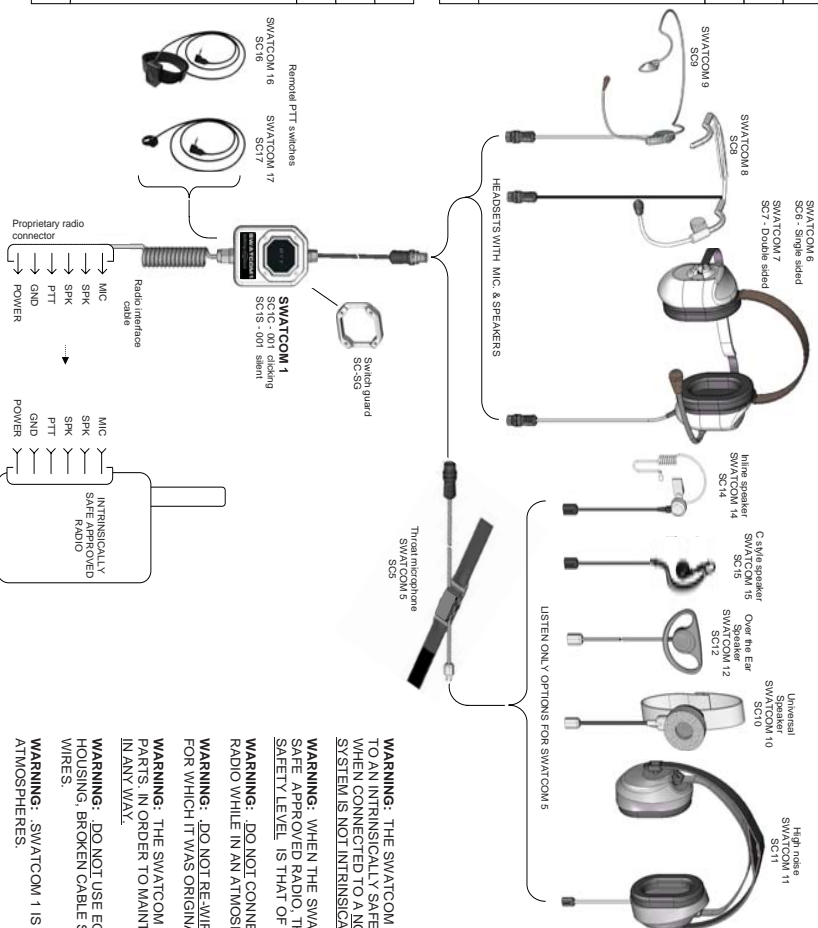
REVISION	DESCRIPTION	REVISED	APP.	DATE

talking headsets

CONTROL DRAWING
SWATCOM 4

No.: E-1609

REVISION	DESCRIPTION	REVISED	APP.	DATE



INTRINSICALLY SAFE APPROVED:
CE 0399 II 1G
Ex Ia IIC T4
ITS07ATEX26576X

ENTRY PARAMETERS:
V_i = 18 V, I_i = 0.066A, P_i = 2.69W, C_i = 2400 pF, U_i = 4 dHy
V_o = 12.8V, I_o = 1.16A, P_o = 5W, C_o = 2400 pF, U_o = 4 dHy
V_o = 9.8V, I_o = 2.4A, P_o = 5.79W, C_o = 2400 pF, U_o = 4 dHy

- WARNING:** THE SWATCOM 1 IS INTRINSICALLY SAFE (I.S.) WHEN CONNECTED TO AN INTRINSICALLY SAFE APPROVED RADIO. WHEN CONNECTED TO A NON-I.S. RADIO, THE RESULTING SYSTEM IS NOT INTRINSICALLY SAFE.
- WARNING:** WHEN THE SWATCOM 1 IS CONNECTED TO AN INTRINSICALLY SAFE APPROVED RADIO, THE RESULTING INTRINSIC SAFETY LEVEL IS THAT OF THE LOWEST OF THE TWO.
- WARNING:** DO NOT CONNECT OR DISCONNECT THE SWATCOM 1 TO/FROM A RADIO WHILE IN AN ATMOSPHERE KNOWN TO BE HAZARDOUS.
- WARNING:** DO NOT RE-WIRE THE SWATCOM 1 FOR USE WITH A RADIO OTHER THAN THAT FOR WHICH IT WAS ORIGINALLY INTENDED.
- WARNING:** THE SWATCOM 1 DOES NOT CONTAIN ANY BATTERIES OR USER SERVICEABLE PARTS. IN ORDER TO MAINTAIN INTRINSIC SAFETY, THE UNIT MUST NOT BE TAMPERED WITH IN ANY WAY.
- WARNING:** DO NOT USE EQUIPMENT THAT IS DAMAGED, SUCH AS CRACKED OR BROKEN HOUSING, BROKEN CABLE STRAIN RELIEFS OR CABLES WITH CUTS OR GOUGES EXPOSING WIRES.
- WARNING:** SWATCOM 1 IS NOT APPROVED TO OPERATE IN OXYGEN ENRICHED ATMOSPHERES.

talking headsets

CONTROL DRAWING
SWATCOM 1

No.: E-1608

talking **headsets**

Offering sound solutions

**For more information or further instructions on the
use and operation of our products please contact
our head office & Manufacturing location at:**

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Chichester, West Sussex, UK, PO18 8UG

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