

SP1R

MANUAL

ENGLISH

DOC00091 Rev.03

INTRODUCTION

The SP1R is a state-of-the-art hearing protection (i.e., protects against harmful noise) communication system that allows you to retain situational awareness while remaining in full contact with your team via two-way radio communication.

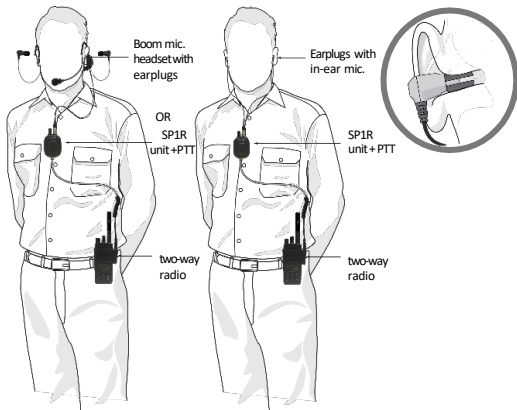
There is an Intrinsically Safe variant of the product that meets international standards for use in explosive gas environments.

Situational awareness is provided by **SENS**[®] processing technology and environmental microphones mounted within the headset.

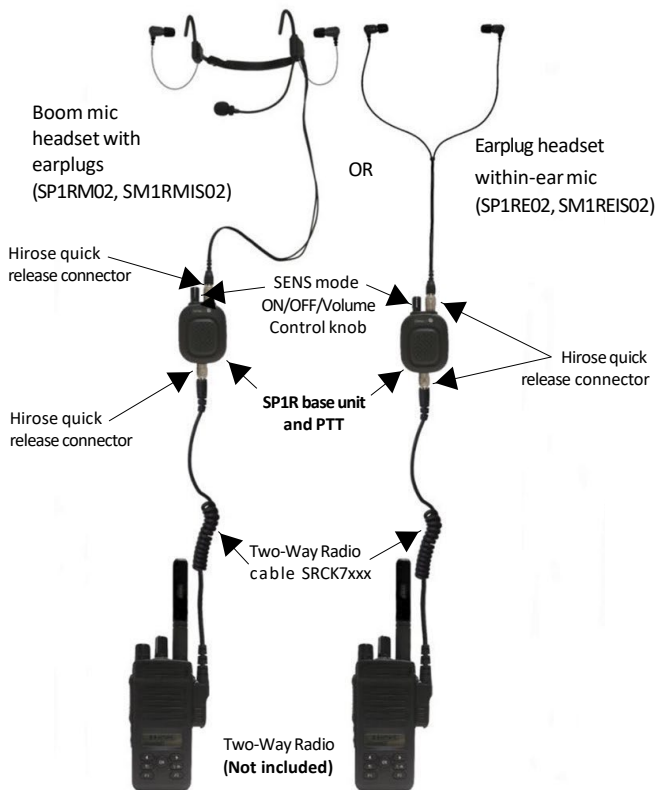
The SP1R headset draws power from the two-way radio. It must be connected by the appropriate SRCK7xxx radio cable to utilize both the **SENS**[®] situational awareness and two-way radio communications.

SRCK7xxx part numbers vary depending on the radio connector and are sold separately. For language translated manuals and further information, please refer to the website.

The SP1R is designed to be worn with the main housing attaching to the belt of pant seam, and the inline PTT attaching to the shirt/upper garment.

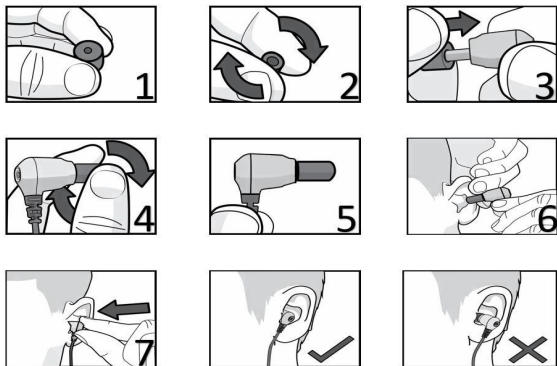


SP1R ANATOMY



FITTING THE EARPLUGS

The SP1R comes with a detachable earpiece assembly designed for ease of serviceability and hygiene for users who share the base unit. For further information and to order additional earpiece assemblies, please contact your supplier or visit www.sensear.com.



1. Place disposable foam tip between thumb and forefinger.
2. Roll foam tip to a compressed, crease-free cylinder.
3. Push the foam tip all the way onto the earpiece spout.
4. Roll the foam tip again between the thumb and forefinger.
5. Ensure the foam tip remains a compressed crease-free cylinder.
6. Using your opposite hand, pull your ear upward and outward.
7. Insert the earpiece and hold in place for 30 seconds while the foam tip expands. Proper fit is ensured by not having any of the foam tip visible while the earpiece is in the ear.

OPERATING THE HEADSET

POWER ON:

1. Connect the SRCK7xxx radio cable to the Hirose connector on the bottom of the main unit.
2. Connect the SRCK7xxx cable to the two-way radio.
3. Turn the two-way radio on.
4. The headset will power up. An audible “Sensear, sounds good to me” will be heard through the headset.

POWER OFF:

Option 1. Turn the two-way radio off from the two-way radio.

Option 2. Disconnect the headset cable from the SRCK7xxx cable.

(Option 2. Reverts audio back to the two-way radio automatically)

ENVIRONMENTAL MODES

SENS® & QUIET MODES:

SENS® mode can be turned on and off by turning the volume knob to the on/off position with a click, which will toggle the unit into SENS® mode or quiet mode, while also controlling the volume level. This allows for easy muting of Sensear’s situational awareness feature when, and if, this is preferred by the user.

COMMUNICATING

COMMUNICATING OVER TWO-WAY RADIO:

To transmit over the two-way radio:

- Press and hold the built-in PTT button located on the SP1R unit
- Release the inline PTT button to cease transmission

Two-Way Radio VOX: VOX can be used on VOX-enabled two-way radios when using the SP1R Boom Mic headset option. Refer to the two-way radio documentation for the setup and use of the VOX feature.

To enable VOX on the SP1R:

1. Turn the radio off
2. Plug the radio cable into the two-way radio
3. Press the SP1R's PTT once
4. Put the two-way radio into VOX mode
5. To disable VOX, you can either:
 - Turn VOX off on the two-way radio
OR
 - Press the SP1R's PTT once

USER MAINTENANCE AND STORAGE

This product may be adversely affected by certain chemical substances. Further information should be sought from the manufacturer.

The headset should be stored at room temperature (between 15°C/59°F and 25°C/77°F).

ACCESSORIES AND SPARE PARTS

The following accessories and spare parts may be ordered separately:

SRCK7xxx	Various models, two-way radio interface cables for most popular two-way radios
SRCK7xxx0001	Various models, intrinsically safe two-way radio interface cables for most popular two-way radios
SP1RE02	SP1R earpieces with Hirose connector
SP1RM02	SP1R Boom Mic headset with earplugs with Hirose connector
FETSM010	Foam ear tip – small (10.5mm) – 10 pair
FETMD010	Foam ear tip – medium (12mm) – 10 pair
FETLG010	Foam ear tip – large (14mm) – 10 pair

Further information may be obtained from your Sensear representative, via the Sensear website, or by emailing or writing to the address on this User Manual.

INTRINSICALLY SAFE CERTIFICATION


The SP1R-IS meets the following standards for use in hazardous gas environments:

- TIA-4950-A Rev. May 13, 2014
Requirements for Battery-Powered, Portable Land Mobile Radio Applications in Class I, II, III, Division 1 Hazardous (Classified) Locations
- CSA C22.2 No. 157-92 (R2012) + UPD1 + UPD2
Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations
- UL913 5th Edition. February 21, 1997
- Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, III, Division 1

MARKINGS

The SP1R-IS contains the following markings:

Manufacturer's name, Hazardous location class and group and temperature class

SP1R
 Class I, II, III, Div 1 & 2
Grp A-G T4, Ta=-25°C to +60°C
710402 Control Dwg SGSSCUS006

ENTITY PARAMETERS

The entity parameters for the SP1R-IS when used with the two-way radio cables (SP1R-IS Interface Cable SRCK7xxx0001)

$V_{max} = 8.4 \text{ V}$

$C_i = 70 \text{ uF}$

$L_i = 4.84 \text{ uH}$

SRCK7xxx0001 – Cable with Heavy Duty inline PTT

SRCK7xxx0001 is the interface cable to connect SP1R-IS with any radio that utilizes a 7.6 V typical mobile radio battery pack.

SENSEAR STANDARD WARRANTY TERMS & CONDITIONS

Sensear Pty Ltd

("SENSEAR") warrants the SENSEAR manufactured HEARING PROTECTION products ("Product") listed below to be free from defects in material and workmanship under normal use and service for a period of 12 months from the original date of purchase.

SENSEAR will at its absolute discretion repair or replace the Product where a defect in material or workmanship occurs, at no charge to the end user for parts or labor. SENSEAR reserves the right to replace the Product with the same or equivalent part or Product rather than repair it. Where a part or Product is replaced, the part or Product becomes the property of SENSEAR. SENSEAR reserves the right to use refurbished parts or Product for repair or replacement.

SENSEAR is not responsible for any damage caused to or by accessory or ancillary equipment connected or attached to the Product that is not provided by SENSEAR and is not expressly designed to operate in conjunction with the Product.

This warranty is not assignable or transferable to any other party, this warranty is extended to the original purchaser of the Product only.

This warranty is in addition to your statutory rights provided under the Trade Practices Act, or relevant legislation in your state or territory.

SENSEAR reserves the right to limit its liability to the repair, replacement, or refund of the purchase price of a Product. Under no event shall SENSEAR be liable for damages more than the original purchase price of the Product, for any loss of use, loss of time, inconvenience, loss of profits or savings, loss of revenue, commercial loss, or any other incidental, special or consequential loss to the full extent such may be disclaimed by the law.

This warranty does not cover:

- Defect or damage resulting from use of the Product in other than its normal or intended manner.
- Defects or damage occurring from misuse, abuse, accident, corrosion, fire, liquid intrusion, or neglect, including during transportation.
- Defects or damage occurred from improper or unauthorized testing, operation, maintenance, service, repair, alteration, modification, or adjustment.
- Freight costs to the place of repair.
- Product that has been subjected to unauthorized or illegal alteration of the firmware or software in the Product.
- Cosmetic damage to the Product that does not interfere with the intended operation of the Product.
- Normal wear and tear.
- Product where the serial number has been removed or altered.
- Any batteries rechargeable or otherwise either shipped with or internal to the Product.
- Any consumable items, for example replaceable ear-tips or ear-cup pads.
- Warranty claims made outside of the warranty period.
- Warranty claims made without appropriate proof of purchase bearing both the original purchase price and date.
- All other warranties, conditions, terms, representations, and undertakings whether express or implied.

How to Get Warranty Service

To register your product visit: sensear.com/support/headset-registration

If you require warranty service visit: sensear.com/support/returns-repairs-new

SP1R

TECHNICAL INFORMATION

Rev: 7/31/23

**For most recent technical information, visit
sensear.com/support/technical-information**

FORWARD

Product Safety and RF Exposure Compliance:

This product is designed to be used in isolation or in conjunction with a two-way radio. Before using this product with a two-way radio, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet enclosed with the two-way radio.

FCC COMPLIANCE STATEMENT

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 receive.
- 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

DECLARATION OF CONFORMITY

Manufacturer's Name: Sensear Pty Ltd.
Manufacturer's Address: 4 Hehir Street, Belmont, Western Australia, 6104 Australia

This declaration of conformity is issued under the sole responsibility of the manufacturer and herewith declares that the products **SPR, SP1R, smartPlug** series Ear Plug Headsets.

Conforms to the following directives:

2011/65/EU (L174/88-110)	RoHS Directive
(EU)2016/425 (L81/51-98)	PPE Directive
2014/53/EU (L153/62-106)	Radio Equipment Directive

As attested by conformity with harmonized standards

RoHS:

RoHS 2 Directive 2011/65/EU

EMC and EMF Specifications:

Electromagnetic Compatibility	EN301 489-1: V2.1.1 (2017-02)
Electromagnetic Compatibility	EN301 489-17: V3.1.1 (2017-02)
Electromagnetic Compatibility	EN301 357: V2.1.1 (2017-06)
Electromagnetic Compatibility	EN300 328: V2.2.2 (2019-07)
Electromagnetic Fields	EN62479:2010

Safety Specifications:

IT Equipment EN62368-1: 2014 +AC:2015

PPE Specifications:

PPE Conformance: Finnish Institute of Occupational Health, Topeliuksenkatu, 41b, FI-00250 Helsinki, Finland, Notified Body: 0403 performed the EU Type Examination (Module B) and issued the EU type-examination certificate numbers 29223RGS02 and 10409GDS01.

This product is Category III and is subject to Module D conformity to type based on quality assurance of the production process and is under the surveillance of BSI Group ANZ Pty Ltd (Notified Body 2797). Certification Number: CE 717133

Ear-Plug protection:

EN 352-2:2020 Hearing protectors. General requirements Part 2: earplugs

EN 352-7:2020 Hearing protectors. General requirements Part 7: Level-dependent earplugs

Sensear PTY Ltd: Hehir Street, Belmont, Perth, Western Australia Date: 27 July 2023

William Choo

William Choo

Engineering & Operations Director

Tel: +61 8 9277 7332, Toll Free: 1-300-859-120, Web: www.sensear.com

For most recent Declaration of Conformity, please visit
sensear.com/support/declaration-of-conformity

SPECIFICATIONS

SPECIFICATION	SP1R	
Weight	107.2g	3.8oz
Operational Temperature	-25°C to +60°C	-13°F to +140°F
Power	Seeradio cable documentation	
Housing Material	PC/ABS +TPE	
RoHSCompliant	Yes	

NRR AND SLC80

The SP1R has been certified to international hearing protection standards including EN352-2, EN352-7, ANSI S3.19-1974, ANSI 12.6-2008 and AS/NZS 1270-2002. The following passive attenuation ratings were observed:

PASSIVE ATTENUATION (ANSI S3.19 -1974)

SP1R measured in accordance with ANSI S3.19 -1974.

Foam tips (SML, MED, LRG)

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	NRR
Mean attenuation (dB)	38.2	35.6	40.0	39.6	40.7	42.9	40.9	44.5	45.8	31 dB
Standard deviation (dB)	4.2	2.8	3.9	4.2	3.8	3.5	2.9	4.4	3.9	

PASSIVE ATTENUATION (ANSI S12.6 - 2008)

SP1R measured in accordance with ANSI S12.6–2008 (Method B)

Foam tips (SML, MED, LRG)

Frequency (Hz)	125	250	500	1000	2000	4000	8000	NRS
Mean attenuation(dB)	32.0	29.2	32.3	32.5	37.0	40.8	42.6	29 to 39 dB
Standard deviation (dB)	6.1	6.5	6.8	6.7	5.1	5.8	4.5	
APV84%	26.9	23.7	26.6	26.9	32.7	35.9	38.8	

PASSIVE ATTENUATION (AS/NZS 1270:2002)

SP1R measured in accordance with AS/NZS 1270:2002.

Foam tips (SML, MED, LRG)

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SLC(80)
Mean attenuation (dB)	31.7	28.1	32.1	32.7	36.7	39.5	42.0	28dB, Class 5
Standard deviation (dB)	9.7	7.8	8.0	8.2	5.7	7.6	5.7	
Mean attenuation–Standard deviation (dB)	22.0	20.3	24.1	24.5	31.0	31.9	36.3	

PASSIVE ATTENUATION (EN352-2 AND EN352-7)

SP1R measured in accordance with EN352-2 and EN352-7.

Foam tips (EN352-2)

Frequency (Hz)	125	250	500	1000	2000	4000	8000	H	M	L	SNR
								(dB)			
Mean attenuation (dB)	38.8	35.4	40.7	39.8	40.9	40.8	44.3	37	36	35	38
Standard deviation (dB)	4.8	3.2	3.5	4.7	3.5	3.7	3.7				
Mean attenuation - Standard deviation (dB)	34.1	32.2	37.2	35.1	37.5	37.1	40.7				

The SP1R has level dependent facilities and the criterion levels as defined in EN352-7 are displayed below

Model	H	M	L
	(dBA)		
Foam tips	115.4	118.0	118.1

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IMPORTANT NOTICE

Sensear Pty. Ltd. reserves the right to make corrections, modifications, enhancement, improvements and other changes to its products and services and to discontinue any product or service without notice.

While Sensear Pty. Ltd. makes every effort to ensure that the information in this document is correct at the time of publication, users and potential users should first check with Sensear Pty. Ltd. to ensure that they have received the most up-to-date documentation.



Waste (Disposal) of your Electronic and Electric Equipment



European Union (EU) Waste of Electrical and Electronic Equipment (WEEE) directive

The European Union's WEEE directive requires that products sold into EU countries must have the crossed-out trash bin label on the product (or the package in some cases). As defined by the WEEE directive, this crossed-out trash bin label means that customers and end-users in EU countries should not dispose of electronic and electrical equipment or accessories in household waste. Customers or end-users in EU countries should contact their local equipment supplier representative or service center for information about the waste collection system in their country.



Directive de l'Union Européenne (UE) sur l'Élimination des Équipements Électriques et Électroniques (DEEE)

La directive DEEE de l'Union Européenne impose que les produits vendus dans les pays de l'UE portent la marque (éventuellement sur l'emballage) d'une poubelle sur roues barrée d'une croix. Comme la directive DEEE est explicite, cette marque composée d'une poubelle sur roues barrée d'une croix signifie que les clients et les utilisateurs des pays de l'UE ne devraient pas inclure leurs équipements électriques et électroniques ou accessoires dans leurs déchets ménagers. Les clients ou utilisateurs des pays de l'UE devraient contacter le représentant local de leur fournisseur d'équipement ou un centre de service pour s'informer sur le système de collection de déchets dans leur pays.



De richtlijn inzake afgedankte elektrische en elektronische apparatuur (AEEA) van de Europese Unie (EU)

De richtlijn AEEA van de Europese Unie vereist dat product en die in de landen van de EU worden verkocht (of in sommige gevallen de verpakking daarvan), moeten zijn voorzien van het etiket met een doorgekruiste vuilnisbak. Zoals bepaald door de richtlijn AEEA, betekent dit etiket met de doorgekruiste vuilnisbak dat klanten en eindgebruikers in landen van de EU elektrische en elektronische apparatuur of toebehoren niet met hun huisvuil mogen wegwerpen. Klanten en eindgebruikers binnen de EU moeten contact opnemen met hun plaatselijke leverancier of onderhoudscentrum voor informatie over het afvalinzamelsysteem in hun land.



Richtlinie über Elektro- und Elektronik-Altgeräte (WEEE) der Europäischen Union (EU)

Produkte, die in EU Ländern auf den Markt gebracht werden, müssen mit einer durchgestrichenen Abfalltonne gekennzeichnet sein (oder in einzelnen Fällen die Verpackung). Die WEEE Richtlinie definiert, dass Kunden und Endnutzer in Ländern der Europäischen Union (EU) elektronische und elektrische Geräte sowie elektronisches oder elektrisches Zubehör nicht in den Hausmüll entsorgen dürfen. Innerhalb der EU setzen Sie sich bitte mit dem örtlichen Vertreter oder Kundendienst Ihres Geräteherstellers in Verbindung, der Ihnen Auskunft zur Altgeräteentsorgung/-abholung geben kann.

IT

La direttiva de la Unione Europea (EU) sui rifiuti di apparecchiature elettriche ed elettroniche (RAEE) La direttiva RAEE della Unione Europea richiede che i prodotti venduti nei paesi della UE devono essere marcati con il simbolo di un contenitore di spazzatura mobile barrato sul prodotto (o incasi eccezionali sull'imballaggio). Il simbolo di un contenitore di spazzatura mobile barrato, conforme alla direttiva RAEE, significa che i clienti detentori finali nei paesi dell'UE, non dovrebbero smaltire gli apparecchi e gli accessori elettronici ed elettrici con i normali rifiuti domestici. I clienti o i detentori finali nei paesi della UE dovrebbero rivolgersi al fornitore, rappresentante o centro di riparazione locale per ottenere informazioni sui sistemi predisposti nel proprio paese per la raccolta di tali apparecchi usati.

PT

Directiva da União Europeia (UE) relativa aos Resíduos de Equipamentos Eléctricos e Electrónicos (REEE) A Directiva REEE União Europeia exige que os produtos vendidos em países UE tenham etiqueta com o símbolo do contentor do lixo barrado com uma cruz no próprio produto (ou, em determinados casos, na embalagem). Tal como definido pela Directiva REEE, este contentor do lixo barrado com uma cruz significa que os clientes utilizadores finais nos países da UE não devem eliminar equipamentos eléctricos e electrónicos ou acessórios junto com o lixo doméstico. Os clientes ou utilizadores finais dos países UE devem contactar o representante local do fornecedor do equipamento ou o centro de assistência para obter informações relativas ao sistema de recolha de lixo no país onde vivem.

RU

Директива Европейского Союза (ЕС) об утилизации электрического и электронного оборудования («УЭЭО»).

Директива «УЭЭО» Европейского Союза требует, чтобы изделия, продаваемые в странах ЕС (в отдельных случаях на их упаковке), были нанесены маркировка в виде перечёркнутого мусорного контейнера. Как установлено в директиве «УЭЭО», такая маркировка в виде перечёркнутого мусорного контейнера означает, что покупатели и конечные пользователи не должны выбрасывать электронное и электрическое оборудование или приборы в бытовой мусор. Покупателям и конечным пользователям в странах ЕС следует обращаться к местным представителям поставщиков оборудования или в сервисные центры для получения информации о системе сбора отходов в их стране.

ES

La directiva de la Unión Europea (EU) sobre Residuos de Aparatos Eléctricos y Electrónicos (RAEE) La directiva RAEE de la Unión Europea requiere que los productos vendidos en los países de la UE sean rotulados mediante el símbolo de un contenedor de basura tachado sobre el producto (en algunos casos sobre envase). Conforme con la directiva RAEE, el símbolo del contenedor de basura tachado significa que los clientes usuarios finales en los países de la UE no deberían disponer los aparatos eléctricos electrónicos ni ninguno de sus componentes junto a la basura doméstica. Clientes Usuarios Finales En Los Países de la UE debe entrar en contacto con el centro del servicio proveedores del equipo para obtener información acerca del sistema de recolección en su país.

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