MSA
The Safety Company

Operating Manual

left/RIGHT

Hearing Protection

CE

Order No.: PM259/00

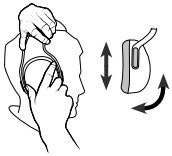

Fig. 1

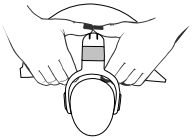

Fig. 2

Fig. 3

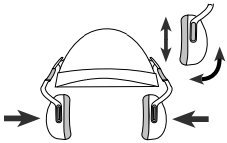

Fig. 4

Fig. 5

Fig. 6

Fig. 7

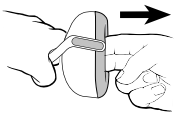

Fig. 8

Fig. 9

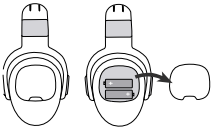

Fig. 10

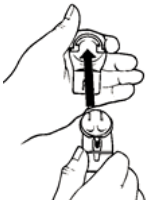

Fig. 11

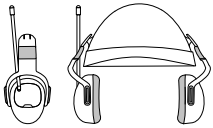

Fig. 12

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1 Product

The MSA left/RIGHT series consists of a range of ear-muffs with a level-dependent facility designed to improve safety and working conditions in noisy environments. It consists of the following versions:

Product name **All products are available with headband or as a helmet mounted version**	**Bluetooth wireless technology**	**Ambient sound**	**FM radio**	**Aux entry**	**Color**	**Weight (in g) excluding batteries**
left/RIGHT Wireless World	X			X	Black	Headband: 378g Helmet mounted: 395g
left/RIGHT Wireless World Dual	X	X	X	X		

This manual is applicable for all versions. If a function is only available for certain versions, it is mentioned. left/RIGHT Wireless World and left/RIGHT Wireless World Dual provide an entertainment audio facility. For optimum comfort, fit and function of the product, it is important to read the instructions carefully and save them for future reference.

WARNING!

- To ensure proper hearing protection, the ear-muffs must be fitted, adjusted and maintained in accordance with MSA's instructions. If these instructions are not adhered to, the protection afforded by the ear muffs could be severly impaired.
- Do not disassemble the ear-muffs. If any unauthorized repair or modification has been carried out on the device, warranty is no longer valid.
- left/RIGHT Wireless World and left/RIGHT Wireless World Dual have an entertainment audio facility. The audibility of warning signals at a specific workplace may be impaired while using the entertainment facility. These versions limit the entertainment audio signal to 82 dB(A) effective at the ear.
- Remember that hearing protectors may shut out external ambient sounds, such as warning shouts, alarms and other important signals. The audibility of warning signals at a specific workplace may be impaired while using the entertainment facility. The user must be especially attentive of the surroundings when wearing hearing protection.
- Depending on the model, this ear-muff is provided with level-dependant attenuation and/or electrical audio output. The wearer should check correct operation before use. If distortion or failure is detected, the wearer should refer to the manufacturers advice for maintenance and replacement of the battery.
- Performance may deteriorate with battery usage. The battery life time varies depending on the mode of use and volume output. The typical period of continuous use that can be expected from the ear-muff battery is:
  - Surround and Bluetooth active: approximately 30 h
  - Surround only and Bluetooth inactive: approximately 350 h
- The output of the level-dependent circuit of this hearing protector may exceed the external sound level. The output of the electrical audio circuit of this hearing protector may exceed the daily limit sound level.

Refer to the attenuation table for further details on noise reduction. Make sure to select the correct product for the application.

These models of ear-muffs have satisfied the optional requirements of thermal resistance at -20 °C and +50 °C.

For details on how to operate the product and for a description of all functions of models left/RIGHT Wireless World and left/RIGHT Wireless World Dual see additional manual PM260.

GB

2 Approvals

2.1 Europe

The product meets the Basic Safety Requirements of the European Community Directive and the requirements of the EMC directive. Certificate issue by Emitech, 3, rue des Coudriers - CAP 78 - ZA de l'Observatoire - 78180 MONTIGNY LE BX - France

EN 300 328
EN 301 489-17
EN 301 489-3
EN 301 489-1

Attenuation Data

The attenuation values and noise levels for the headset are tested and approved according to EN 352-1, EN 352-3, EN 352-4, EN 352-6, EN 352-8. Certificate issue by Finnish Institute of Occupational Health (FIOH), Topeliuksenkatu 41aA, FIN-00250 Helsinki, Finland

	left/RIGHT Wireless World	left/RIGHT Wireless World Dual
EN 352-1	X	X
EN 352-3	X	X
EN 352-4		X
EN 352-6	X	X
EN 352-8	X	X

The sound attenuation values of the hearing protectors are measured in accordance with EN 24869-1 (with electronics off).

Key:

f	Frequencies at which attenuation is measured (Hz)
Mf	Mean value (dB)
sf	Standard deviation (dB)
APV (Mf-sf)	Assumed Protection Value
H	High frequency attenuation value (predicted noise level reduction for noise where LC–LA –2 dB)
M	Medium frequency attenuation value (predicted noise level reduction for noise where LC–LA +2 dB)
L	Low frequency attenuation value (predicted noise level reduction for noise where LC–LA +10 dB)
SNR	Single Number Rating (the value that is subtracted from the measured C-weighted sound pressure level, LC, in order to estimate the effective A-weighted sound level inside the ear)

Criterion Levels

The sound pressure level of external sound for which the sound pressure level under the ear-muff first exceeds 82 dB(A).

Headband version

f (Hz)	63	125	250	500	1000	2000	3150	4000	6300	8000
Mf (dB)	13.9	13.7	18.1	27.1	34.0	32.1	38.4	40.1	41.8	38.1
Sf (dB)	5.1	3.2	2.0	3.3	4.1	4.2	4.8	4.4	3.5	3.5
APV (dB)	8.8	10.5	16.2	23.8	29.9	27.9	33.6	35.7	38.3	34.6

H = 31 dB, M = 25 dB, L = 17 dB, SNR = 28 dB, NRR = 25 dB

Helmet mounted version

f (Hz)	63	125	250	500	1000	2000	3150	4000	6300	8000
Mf (dB)	12.7	13.7	16.2	24.3	31.2	32.2	33.0	36.4	35.5	31.6
Sf (dB)	3.5	4.0	2.9	3.1	4.5	5.2	2.9	3.0	2.9	4.4
APV (dB)	9.2	9.7	13.4	21.2	26.7	27.0	30.1	33.4	32.6	27.2

H = 29 dB, M = 23 dB, L = 16 dB, SNR = 26 dB, NRR = 24 dB

2.2 North America

The product meets with requirements of FCC 47 CFR PART 15

Certificate issue by Emitech, 3, rue des Coudriers - CAP 78 - ZA de l'Observatoire - 78180 MONTIGNY LE BX - France

Attenuation Data

	left/RIGHT Wireless World	left/RIGHT Wireless World Dual
ANSI S3.19-1974	X	X

Attenuation measurements have been performed according to the American National Standards Institute (ANSI) specifications, ANSI S3.19-1974. Certificate issue by Michael & Associates

NRR (Noise Reduction Rating) = Headband: 25dB, Helmet mounted: 24dB

3 Materials

Part	Materials	Part	Materials
Cup	ABS	Microphone arm	Polyamide
Cover	ABS	Height adjustment bushings	TPE
Headband	Acetal	Spring cover	TPE
Headband fork	Polyamide	Bluetooth button	TPE
Helmet fork, Helmet attachment	Polyamide	Attenuation foam (inserts)	Polyurethane
Spring bracket	Polyamide	Cushions	Polyurethane, PVC

4 Fitting

The cushions should snugly fit the head with no interference of the seal by any objects e.g. respirator head-bands or spectacle arms, the cups should completely enclose the ears. Before putting on the device, brush excess hair aside and remove any jewellery that could affect acoustic seal.

Headband version

(1) Ensure that the headband is positioned correctly before putting it on.

The inside of the headband is marked with a letter L on the left hand side and a letter R on the right hand side.

(2) With the headband over the head, adjust the height of the cups by sliding them up or down so they completely enclose the ears (see Fig. 1).

Helmet version

These ear-muffs should be fitted to, and used only with, the following industrial safety helmets:

Helmet Brand / Model	Adaptor Type No	Approved sizes
MSA V-Gard	60614	S, M, L
MSA V-Gard 200	60601	S, M, L
MSA V-Gard 200	60614	M, L
MSA V-Gard 500	60614	S, M, L
MSA V-Gard 900t	60614	M, L
Balance AC	60601	S, M, L
Peltor G2000	60601	S, M, L
Peltor G3000	60602	S, M, L
Balance HD	60601	S, M, L
Protector Style 600	60602	S, M, L
Protector Style 300	60601	S, M, L
Auboueix Iris II	60601 and 60602	S, M, L

3 sets of adapters are provided with the device. Before the ear muffs can be attached to the helmet, the adapters have to be installed.

(1) Attach the correct adapter (see Fig. 11) to the helmet (see table above).

(2) Ensure that the cups are mounted on the correct side of the helmet. The cup marked with L must be put on the left hand side of the helmet and the cup marked with R must be put on the right hand side of the helmet.

(3) Pull the ear cup down the fork as far as possible.

(4) Push the attachment clip firmly into the slot on the side of the helmet until it clicks into place (see Fig. 2).

(5) Detach the head harness at two places at the rear of the helmet (see Fig. 3) and place the cord from the cups above the harness attachment.

(6) Reattach the harness.

Ensure the cord is not tangled.

(7) For the working position, press the cups toward the ears until they click into place. Adjust the height of the cups by sliding them up or down so they completely enclose the ears (see Fig. 4).

The grommet of the cable and the antenna is positioned inside the fork (see Fig. 12).

(8) Stand-by position: Pull the cups away from the ears until they lock into the stand-by position (see Fig. 5).

(9) Parking Position: From the stand-by position, move the cups to the rear of the helmet until they click into place. In this position, the cushions do not get damaged or dirty and the cups can dry (see Fig. 6).

NOTE: Do not press the cups onto the helmet shell as this will lock the spring in the ear-muff arm, and damage the attachment slots on the side of the helmet.

(10) Storage Position: When the helmet is not in use, lower the ear-muffs and push them inwards until they click into place (see Fig. 7).

WARNING!

In noisy environments, the ear-muffs must be worn in the working position at all times.

The fitting of hygiene covers to the cushions may affect the acoustic performance of the ear-muffs.

5 Ear Muffs

Microphone characteristics

Electret noise cancelling microphone

Waterproof IP67

Frequency range: 100 Hz-10 kHz

Sizes

All ear-muffs of this series are 'Medium size range' ear-muffs and will fit the majority of wearers.

6 Storage

When the ear-muffs are not in use, store them without stretching the headband and without compressing the cushions. Keep the ear-muffs dry and clean, store them at normal room temperature and do not place them in direct sunlight.

If the product is to be stored for a prolonged period, remove the batteries to avoid damage.

7 Maintenance

Inspect the ear-muffs regularly for serviceability. Ear-muffs, and in particular cushions, may deteriorate with use and should be examined at frequent intervals for cracking and leakage, for example at the start of every work shift. Clean and disinfect the cups, cushions and inserts with mild soap and water only. The ear-muffs must not be immersed in water. This product may be adversely affected by certain chemical substances. Further information should be sought from the manufacturer. Do not subject the product to rough handling, which can damage the electronics.

Dispose of the product and batteries in accordance with national and local regulations.

7.1 Hygiene Kit

The cushions and inserts are replaceable. Always replace worn or damaged parts. Remove the cushion by pulling it straight out (see Fig. 8). Replace the old cushion and insert with new ones from the hygiene kit (see Fig. 9). Use only hygiene kits from MSA.

Type	Product Number
Hygiene kit consisting of one pair of cushions, distance rings and inserts Replace at least twice a year to ensure consistent attenuation, hygiene and comfort!	10094605

7.2 Batteries

Only use batteries with 1,5 rated voltage (rechargeable or non-rechargeable). The use of rechargeable batteries such as NiMH 1.2 V or NiCd 1.2 V will significantly reduce operating time.

Replacing the Batteries

Turn the device off during battery replacement.

The battery compartment is located in the left cup (see Fig. 10). To install new batteries, remove the lid and insert the batteries, starting with the upper battery. Make sure that the + and – poles are correctly aligned. Replace the lid.

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For local MSA contacts, please visit us at ***MSAsafety.com***

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