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3M™ PELTOR™ TWIN CUP Headset IECEx/ATEX

Technical Data Sheet

Description

The 3M™ PELTOR™ TWIN CUP Headset IECEx/ATEX has high-attenuating shells with optimised acoustic design and excellent space for the ears, as well as a noise compensated microphone for clear and reliable communication.

Key Features

- IECEx/ATEX approved for use in areas where intrinsic safety is required
- Dynamic noise-cancelling microphone
- TWIN CUP technique for increased attenuation

Applications

The PELTOR™ TWIN CUP IECEx/ATEX approved headset, is designed to be used in industrial areas where intrinsic safety is required.

Standards

These TWIN CUP headsets have been tested by an accredited laboratory in accordance with the requirements specified in the Australian/New Zealand Standard AS/NZS1270:2002.

Declaration(s) of Conformity are available at www.3M.com/Hearing/certs.

Approvals

The product has been approved for use in potentially explosive environment according to ATEX directive and IEC Ex. Product marking: II 2 G Ex ib IIC T4 Gb, Ta : -20°C to +50°C IEC Ex certificate number: IECEx NEM 09ATEX1119X

MT7H72H540P3E-50

MT7H72H540A

Quick Reference

	3M™ PELTOR™ TWIN CUP Headsets IECEx/ATEX	
	Headband (Available Q4 2023) MT7H72H540A	Helmet Attach MT7H72H540P3E-50
Attenuation Data		
SLC80	31dB	30dB
Class	5	5
Tested to	AS/NZS1270:2002	AS/NZS1270:2002
Physical Properties		
Clamp Force	11.4 N	10.9 N
Weight (Batteries Included)	387g	400g
Material Listing		
Cup	ABS Plastic	
Headband	PVC, PA, Stainless Steel Wire	N/A
Helmet Attachment Arm / Neckband	N/A	Stainless Steel Wire
Cable	PE,TPE	
Two-Point Fastener	POM	
Cushion	PVC covered PUR foam	
Insert (Liner)	PUR foam	
Speech Microphone	ABS,PA	
Connection Cord	Insulated with flexible polyurethane and with a moulded connector.	
Specifications		
Wired connectivity	Nexus TP-120 connector	
Microphone/ Type	Noise cancelling dynamic microphone Sensitivity: -60dB+-3dB (0dB=1V/Pa @ 1 kHz) Impedance: 230 Ω +20% -10%	
Speakers	230 Ohm +/-10%	
Operating temperature	–20 °C (–4 °F) to 50 °C (122 °F)	
Storage temperature	–20 °C (–4 °F) to 40 °C (104 °F), <90% humidity	
Product lifetime	Up to 5 years (excl. batteries)	
Level Dependent Microphone for Ambient Listening	N/A	
Other		
Colour	Blue	
Hygiene Kit	HY13	
Compatible with 3M™ E-A-Rfit™ Validation System	No	Yes
Helmet Attachment Backplate	N/A	On Product P3E (30mm)

Use limitation: Never modify or alter this product.

Fitting Instructions

Inspect the hearing protector before each use. If damaged, select an undamaged hearing protector or avoid the noisy environment.

When additional personal protective equipment is necessary (e.g. safety glasses, respirators, etc.), select flexible, low profile temples or straps to minimize interference with the earmuff cushion. Remove all other unnecessary articles (e.g. hair, hats, jewelry, headphones, hygiene covers, etc.) that could interfere with the seal of the earmuff cushion and reduce the protection of the earmuff.

Headband Headset

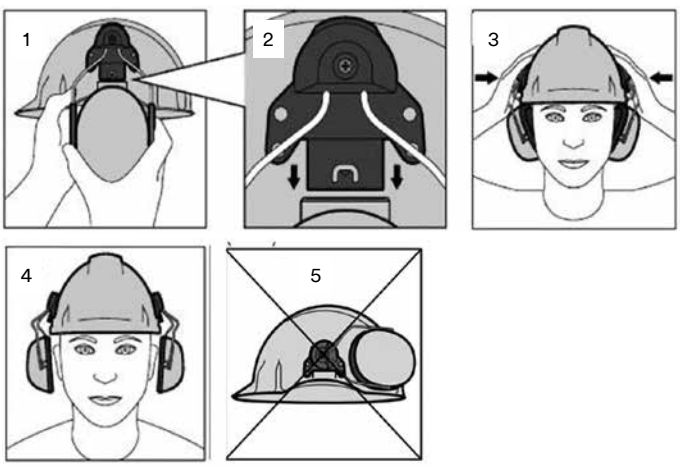
To fit the hearing protector:

1. Slide out the cups and tilt the top of the cup out, as the cable must be on the outside of the headband (Fig 1).
2. Pull the cups apart and place the ear muffs over the ears so that the cushions form a snug seal around the ears.
3. Adjust the height of the cups by sliding them up or down while holding the headband in place (Fig 2).
4. The headband should be positioned across the top of your head (Fig 3).

Helmet Attach Headset

To fit the hearing protector:

- **Fit the cup:** Push the attachment blade firmly into the slot on the side of the helmet until it clicks into place (Fig 1 & 2)
- **Working position:** With the cups over the ears press the arms inwards until you hear a click on both sides indicating a firm seal (Fig 3).
- **Stand-by position:** Lift the cups to the fixed stand-by position. In a noisy environment the ear muffs must be worn in the working position at all times (Fig 4).
- **Parking position:** First lift the cups to the stand-by position (Fig 4), then rotate them up to the next fixed position.
- **Ventilation mode:** Avoid placing the cups against the helmet as this prevents ventilation (Fig 5).
- **Storage Position:** When the helmet is not in use, lower the earmuffs and press them inward. Keep the cups clean and dry and store at normal room temperature.



Fit Check

When hearing protectors are correctly worn, your voice should sound hollow and sounds around you should not sound as loud as before.

Hearing Protector Fit Testing the 3M™ E-A-Rfit™ Dual-Ear Validation System

The success of your hearing conservation program requires more than offering earplugs or earmuffs. Each worker needs to wear the most effective hearing protector for the environment and the correct fit for their unique anatomy.

With 3M™ E-A-Rfit™ Dual-Ear Validation System, you can quickly identify how much protection each worker receives from their 3M hearing protectors.

The Technology Behind 3M™ E-A-Rfit™

The 3M™ E-A-Rfit™ Dual-Ear Validation System is based on Field Microphone-In-Real Ear (F-MIRE) technology that measures the effectiveness of hearing protectors from inside a worker's ears, providing accurate, quantitative results.

The tester wears a pair of modified 3M™ probed hearing protectors connected to a dual-element microphone. A loudspeaker is placed in front of the tester. When it emits a broadband noise, the dual-element microphone measures the signal in the ear canal and outside the ear plug. In less than five seconds, the difference between the two measurements is calculated and a Personal Attenuation Rating (PAR) is displayed.

It Starts with PAR

The 3M™ E-A-Rfit™ Validation System puts the worker in the context of their noise environment and helps you understand their level of attenuation.

The results you get from the 3M™ E-A-Rfit™ is displayed as a PAR. The PAR is a numerical value that shows the reduction in sound level within the ear when a hearing protector is worn. The resulting PAR, combined with the worker's exposure to noise, is used to determine if a worker is receiving appropriate protection from the noise hazard.

Knowing the PAR lets you identify workers who are inadequately protected, so you can provide real-time intervention and training.

Key Benefits of the 3M™ E-A-Rfit™ Dual-Ear Validation System include:

- Tests both ears simultaneously in less than 5 seconds
- Science-based, quantitative testing
- Fast, clear, and accurate results
- Tests 7 frequencies 125Hz to 8000Hz
- 3M™ Earplug, earmuff and headset (comms) testing capability

Contact your 3M Personal Safety Specialist to find out more about our 3M™ E-A-Rfit™ Dual-Ear Validation System or for assistance in solving your complex or day-to-day hearing conservation challenges

Attenuation Data

3M™ PELTOR™ TWIN CUP Headset, Headband MT72H540A-50 **AS/NZS 1270:2002**

Test Frequency (HZ)	125	250	500	1000	2000	4000	8000	SLC_{80}	Class	Clamp Force	Mass
Mean Attenuation (dB)	19.1	23.4	33.2	35	33.1	37.1	34.1	31dB	5	11.3 N	387g
Standard Deviation (SD) (dB)	4.9	3.7	3	3.1	2.8	3.1	4.4				
Means minus SD (dB)	14.2	19.7	30.2	31.9	30.3	34	29.7				

Hearing protector Class 5 tested to AS/NZS1270. When selected, maintained as specified in AS/NZS1269, this protector may be used in noise up to 110dB(A) assuming an 85dB(A) criterion. A lower criterion may require a higher protection class.

3M™ PELTOR™ TWIN CUP Headset, Helmet Attach* MT7H72H540P3E-50 **AS/NZS 1270:2002**

Test Frequency (HZ)	125	250	500	1000	2000	4000	8000	SLC_{80}	Class	Clamp Force
Mean Attenuation (dB)	23.1	24.9	34.5	34.5	31.3	39.6	37.0	30dB	5	10.9 N
Standard Deviation (SD) (dB)	3.5	5.9	5.2	4.3	3.0	3.9	3.7			
Means minus SD (dB)	19.6	19.0	29.3	30.2	28.3	35.7	33.3			

Hearing protector Class 5 tested to AS/NZS1270. When selected, maintained as specified in AS/NZS1269, this protector may be used in noise up to 110dB(A) assuming an 85dB(A) criterion. A lower criterion may require a higher protection class.

* These earmuffs were tested in combination with the HC600 industrial safety helmet using the P3G adapter and may give different levels of protection if fitted to different helmets.

Mean = Mean attenuation value derived from testing in accordance with AS/NZS 1270:2002.
SD = Standard Deviation derived from testing in accordance with AS/NZS 1270:2002.
Mean-SD = Mean attenuation value minus Standard Deviation
SLC_{80} = Single number rating commonly used in Australia and New Zealand to compare acoustic performance of hearing protectors. The subscript '80' indicates that in well managed hearing protector programs, the protection provided is expected to equal or exceed the SLC80 in 80% of protector-wearer noise spectrum combinations.
Class = A simplified process for selecting hearing protectors based on the wearers 8-hour equivalent continuous A-weighted sound pressure level.

3M strongly recommends personal fit testing of hearing protectors. Research suggests that users may receive less noise reduction than indicated by the attenuation label value(s) on the packaging due to variation in fit, fitting skill, and motivation of the user. Refer to applicable regulations and guidance on how to adjust attenuation label value(s). In the absence of applicable regulations, it is recommended that the attenuation label value(s) be reduced to better estimate typical protection.

The effectiveness of a hearing protector reduces dramatically when the hearing protector does not fit properly, is incorrectly inserted or is not worn 100% of the time during ALL hazardous noise events. Removal of the hearing protector, even for brief moments, substantially reduces protection and greatly increases the risk of hearing damage.

Cleaning and Maintenance

Follow recommended care and cleaning instructions in order to maintain best noise reduction and function.

Cleaning

- Use a cloth wetted with soap and warm water to clean the outer shells, headband and ear cushions.

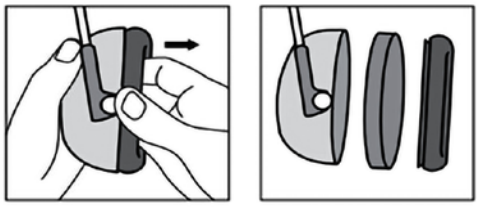
NOTE: Do NOT immerse the hearing protector in water.

If the hearing protector gets wet from rain or sweat, turn the earmuffs outwards, remove the ear cushions and foam liners, and allow to dry before reassembly. The ear cushions and foam liners may deteriorate with use and should be examined at regular intervals for cracking or other damage. When used regularly, 3M recommends replacing the foam liners and ear cushions at least twice a year to maintain consistent attenuation, hygiene, and comfort. In hot and humid environments more frequent changes may be required to maintain acceptable hygiene. If an ear cushion is damaged, it should be replaced.

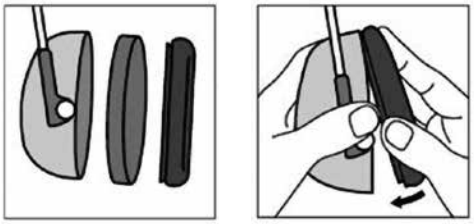
Maintenance - Changing the Hygiene Kit

Cushions and inserts can be replaced by using the approved Hygiene Kits for your 3M™ PELTOR™ Product. See 'Ordering Information' section.

1. Remove the cushions and inserts as shown.



2. Replace the worn or damaged cushions and insert with the new pair from the approved hygiene kit.



- 3M™ PELTOR™ HY100A Clean Hygiene Pads can be applied onto the earmuff cushions to help absorb sweat and moisture for improved comfort and hygiene.

Storage

- Store the product in a clean and dry area before and after use.
- Always store the product in the original packaging and away from any sources of direct heat or sunlight, dust and damaging chemicals.
- Storage temperature range:–20°C (–4°F) to 40°C (104°F).
- Relative humidity: <90%.
- For headband versions: make sure that no force is applied to the headband and that the cushions are not compressed.
- Helmet attachment version: ensure the earmuffs are in the storage position and that the cushions are not compressed.

Disposal

If the product is to be disposed*, it should be disassembled and disposed of as solid waste. Please see local authority regulations for disposal advice and locations.

*Discard the product within 5 years from date of manufacture or immediately if damaged or cannot be cleaned.

Australia: Customers must refer to their Local Council Muncipal area for disposal of electronics at their end of life.

New Zealand: Customers must dispose of electronics at their end of life in their local e-waste disposal bins.

Ordering Information

3M Code	Model #	Description
Headsets		
UU011743018	MT72H540A-50	3M™ PELTOR™ WS™ TWIN CUP IECEx/ATEX Headset, Headband
XH001674254	MT72H540P3E-50	3M™ PELTOR™ WS™ TWIN CUP IECEx/ATEX Headset, Helmet attach
Accessories - Helmet Adaptors/Backplates		
UU010853503	Z3GS/2 (25mm)	Helmet Adapter for 3M™ Scott Safety Helmets and 3M™ Scott Safety Visor Range
XL001642468	Z3E/2 (30mm)	Helmet Adapter for Common Helmets
XL001642484	Z3G/2 (25mm)	Helmet Adapter for 3M™ Visor Range
Accessories - Hygiene		
XH001659297	HY13	3M™ PELTOR™ HY13 Hygiene Kit
XH001651351	HY100A	3M™ PELTOR™ HY100A Clean Hygiene Pad
Accessories - Microphone		
UU008159483	M171/2	3M™ PELTOR™ M171/2 Wind shield/Wind protector, 2 pcs for speech microphone
AT010580697	HYM1000	3M™ PELTOR™ HYM1000 Microphone protection
3M™ E-A-Rfit™ Dual-Ear Validation System - Probe		
70071691110	393-3001-2	3M™ PELTOR™ Earmuff Probed Test Cushion B

In the box

- 1 × 3M™ PELTOR™ TWIN CUP Headset IECEx/ATEX
- 1 x User Instruction

Warning

These hearing protectors help reduce exposure to hazardous noise and other loud sounds. Misuse or failure to wear hearing protectors at all times that you are exposed to noise may result in hearing loss or injury. For proper use, see supervisor, User Instructions, or call 3M TechAssist Helpline 1800 024 464.

Always ensure the hearing protection device (HPD) is:

- Suitable for the application;
- Fitted correctly;
- Worn during all periods of exposure;
- Replaced when necessary.

Important Notice

To the extent permitted by law, 3M shall not be liable for any loss or damage including any loss of business, loss of profits, or for any indirect, special, incidental or consequential loss or damage arising from reliance upon any information herein provided by 3M. Nothing in this statement will be deemed to exclude or restrict 3M's liability for death or personal injury arising from its negligence.

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