



Marlborough Communications Limited

Tactical In-ear Protection Plugs (TIPPS)

THE NEW GENERATION OF DUAL MODE PASSIVE HEARING PROTECTION



DUAL MODE HEARING PROTECTION

- Continuous noise protection - closed mode
- Impulse noise protection & hear-thru - open mode
- Low profile design fits comfortably under communication headsets
- 4 sizes ensures best fit and maximum comfort
- No batteries required



In closed mode, TIPPS provide hearing protection against continuous noise such as tracked vehicles and air platforms.

In open mode a unique patented acoustic filter attenuates high level impulse noises. As the impulse noise increases, so does the attenuation level without affecting mission critical non-impulse situational awareness noises such as voice commands and warning signals, these remain audible.

FEATURES & BENEFITS

Features	Benefits
Mode select rocker switch	User can select hearing protection mode without removing the earplug; either closed for steady state noise or open for impulse noise,
Level dependent impulse noise attenuation	Attenuation increases as impulse noise levels increase up to 168dB, maintaining sound in the ear at safe levels below the exposure limit value, L_{peak} of 140dB(C)
Passive operation	No power required. Maintenance free.
Breathable acoustic filter	Allows an open air passage to the ear canal avoiding irritation or hot ear whilst still providing attenuation
Pre-formed triple flange eartip	Quick to don, no forming required. When correctly fitted, the soft curved flanges exert just enough pressure on the ear canal to provide extra stability in the ear with better retention for more consistent attenuation performance and comfort.
Soft medical grade eartip	Optimum comfort and hygiene with continuous extended usage
Reusable:	Easy to clean, remaining hygienic, reducing the potential for ear infections
Selection of sizes	Small, Medium, Large and X-Large to fit wide user population
Eartip tag:	Assists with insertion and removal
Low in-ear profile	No interference with headgear, eyewear or headsets Useable under earmuffs as dual layer protection in extreme noise environments
Detachable flexible lanyard	Earplugs can be easily removed and retained around the neck preventing loss
MTP brown colour	Compatible with Multi Terrain Patter camouflage
Water resistant carry case	Maintains hygiene whilst being easy to open quickly and remove TIPP's for use

ATTENUATION PERFORMANCE

Closed Mode: Continuous Noise Hearing Protection (EN 353-2:2002) Certified by PZT

HML Values: H:27 dB M: 22 dB L: 20 dB

Freq (Hz)	63	125	250	500	1000	2000	4000	8000	SNR
Mean Attn (dB)	21.2	21.0	21.7	21.4	24.8	31.4	29.1	37.2	25
Std Dev (dB)	4.4	3.0	3.2	2.5	3.2	3.3	3.4	4.9	
APV (dB)	16.9	18.0	18.9	18.9	21.6	28.1	25.7	32.3	

Open Mode: Impulse Noise Hearing Protection (ANSI S12.42-2010) Certified by PZT

Note: Open mode is not designed or certified to provide hearing protection to EN 353-2:2002 for continuous noise

Impulsive Peak Insertion Loss

21 dB @ 130 dB ISPL
29 dB @ 150 dB ISPL
33 dB @ 166 dB ISPL

PHYSICAL SPECIFICATION

Eartip design	Pre-formed triple flange with removal tag
Eartip material	Soft medical grade thermoplastic elastomer (TPE)
Eartip sizes:	Nominal diameter (EN 13819-1:2002) Small:6–7mm, Medium:7–8mm, Large:8–9mm, X-large:10–11mm
Lanyard dimensions	620 x 1.6 x 1.2 mm
Weight	2.5 g (Pair with lanyard)
Colour	MTP Brown (Pantone Prosim 463 CVP)
Environmental	Operating temperature: -46° C to +55° C, Storage temperature -50° C to +65° C