

3M Science.
Applied to Life.™

Dual-mode hearing protection that adapts to your environment

3M™ E-A-R™ Switch Protection Earplugs

Introducing 3M™ E-A-R™ Switch Protection Earplugs

Today's workforce needs to be more flexible than ever. Often working on different tasks across different environments and in noisy, busy workplaces, workers will have varying requirements for their hearing protection – they need to be aware of their surroundings, be able to communicate with their co-workers and still remain protected at all times.

It's a real challenge for Health & Safety Officers, but one where 3M has applied its hearing protection expertise to solve. Introducing the E-A-R switch protection earplugs, an innovative and cost-effective new development from 3M that offers dual-mode hearing protection that can be adapted easily to suit the wearer's work environment.

Flexibility is built into these earplugs so you can switch between higher hearing protection and low/moderate protection that offers greater situational awareness – enabling you to communicate with colleagues and hear potential danger and warning signals such as reversing vehicles.



Key features:

- Pack includes ready assembled medium size earplugs and one additional pair of each of the three different size ear tips (small, medium and large) to fit a wide range of ear canals
- Soft flexible patented retainer holds the plug securely in the ear
- Robust rocker switch, with smooth valve mechanism, allows easy switch between modes
- Easy to clean
- Convenient storage in lightweight pouch that can be worn on the belt



Switching modes to suit your needs

3M™ E-A-R™ Switch Protection Earplugs offer you two distinct hearing modes – normal protection mode and awareness mode. Switching modes couldn't be easier. The earplugs have a simple in-ear rocker switch that allows you to change mode, without removing them from your ears, even whilst wearing gloves. Hearing protection is never compromised, whichever mode you are using.



How do they do this?



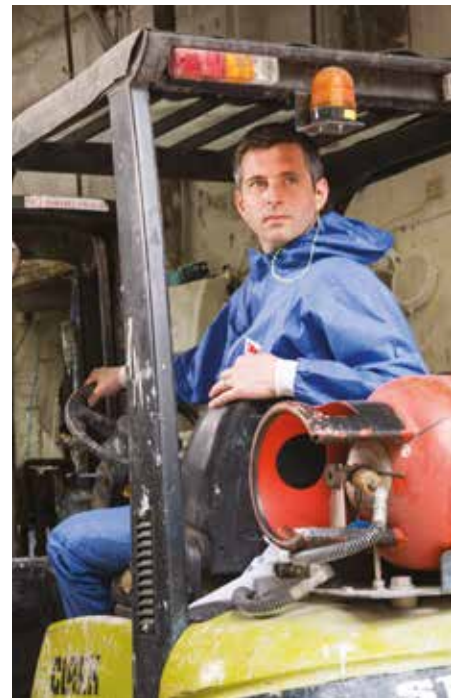
The earplugs incorporate a patented ISL* acoustic filter that has been specifically designed to allow controlled pass through of low level sound for situational awareness whilst protecting against high levels of peak impulse noise.

Normal Protection Mode

When the tab on the rocker switch, featuring the 3M logo, is pressed the earplug is in normal protection mode and acts as a conventional hearing protector. This mode provides protection against hazardous noise and allows you to concentrate on the work in hand.

Awareness Mode

When the tab, featuring the CAE logo, is pressed the earplug switches to awareness mode. This mode offers greater situational awareness, enabling communications with colleagues and the ability to hear potential danger and warning signals, such as reversing vehicles.



Optimal Fit

Each pack of E-A-R switch protection earplugs includes one pair of ready assembled medium size earplugs and one pair of each of the three different size ear tips (small, medium and large) to help the wearer achieve the best possible fit quickly and efficiently. The patented retainer is designed to keep the earplugs in place whilst moving around.

E·A·Rfit™



The earplugs are fit test ready. For greater confidence in the protection of your workers we recommend using the 3M™ E·A·Rfit™ Dual-Ear Validation System to measure and document the Personal Attenuation Rating (PAR) for individual workers as an integral part of the hearing conservation programme.

Pack contents:

- 1 x pair of assembled medium plugs including retainers and rocker switch
- 3 pairs of eartips (1 x small, 1 x medium, 1 x large)
- Hi-viz cord
- Convenient lightweight storage pouch
- User instructions

Attenuation data

Subjective attenuation data in Normal Protection mode

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mf (dB)	28.3	27.9	26.8	28.3	27.2	31.5	33.0	39.2
sf (dB)	5.8	4.3	4.4	3.4	4.0	4.4	2.3	4.9
APVf (dB)	22.5	23.6	22.4	24.9	23.2	27.1	30.7	34.3

Mf = Mean Attenuation, sf = Standard Deviation, APVf = Assumed Protection Value

SNR = 28dB H = 28dB M = 25dB L = 24dB APVf = Mf - sf

Subjective attenuation data in Awareness mode

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mf (dB)	5.7	5.8	7.9	10.1	17.3	23.9	23.3	28.3
sf (dB)	2.5	2.8	3.1	2.3	2.6	3.4	2.7	5.4
APVf (dB)	3.2	3.0	4.8	7.8	14.7	20.5	20.6	22.9

Mf = Mean Attenuation, sf = Standard Deviation, APVf = Assumed Protection Value

SNR = 28dB H = 28dB M = 25dB L = 24dB APVf = Mf - sf

Peak noise reduction values in Awareness mode as determined by the Institute of Saint-Louis (ISL) Laboratory, France.

External Peak Level (dB)	110	130	150	170	190
Peak noise reduction (dB)	4.8	13.9	17.0	23.5	30.2
Standard deviation (dB)	1.8	0.4	0.5	0.6	0.7

FAQ Frequently Asked Questions

When do I set the rocker switch for either Normal Mode or Awareness Mode?

If you work in a moderate noise environment and need to maintain situational awareness to hear important instructions and warning signals, set the rocker switch to Awareness Mode. In all other situations, including continuous high noise level, set the rocker switch to Normal Protection Mode.

How do the 3M™ E-A-R™ Switch Protection Earplugs protect my hearing against loud, impulse noises in the Awareness Mode?

Impulse noise must pass through a specially designed acoustic filter which reacts to sudden, loud sounds in the workplace and reduces them to a safe level. The acoustic filter works more efficiently against very high peak impulse sounds.



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