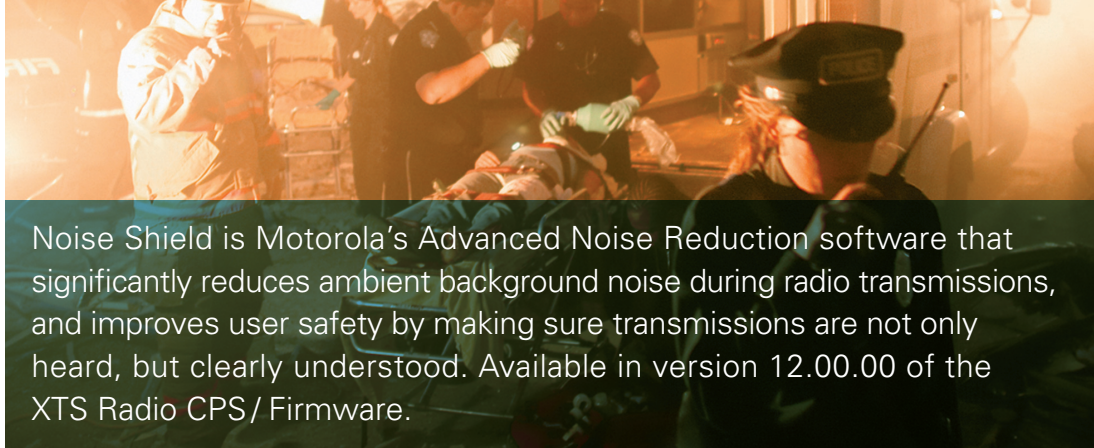




Motorola's Advanced Noise Suppression Technology

Noise Shield for ASTRO® 25 Portable Radios



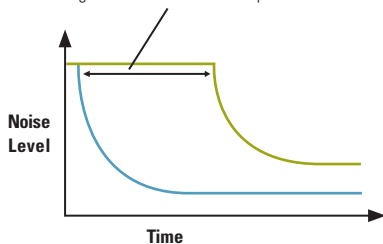


Noise Shield is Motorola's Advanced Noise Reduction software that significantly reduces ambient background noise during radio transmissions, and improves user safety by making sure transmissions are not only heard, but clearly understood. Available in version 12.00.00 of the XTS Radio CPS/Firmware.

***Training Time**

- Motorola Noise Shield
- Competitor's Noise Suppression

Amount of delay before noise suppression algorithm activates on each push-to-talk



Feature	Motorola	Competitors	Why It Is Important
Analog & digital noise suppression software	Yes	No	Other vendors can only offer noise suppression when users operate in digital mode.
Backwards compatibility for legacy radios	Yes	No	There are no software field upgrades to the new AMBE vocoder, forcing customers to replace radios and support mixed fleets.
Adaptable programming parameters	Yes	No	Other vendors use a vocoder with built in noise suppression and provide customers a one-size fits all answer to varying environments.
*Less than one second for Noise Suppression to engage. "Training Time"	Yes	No	Competitor radios can experience up to 6 seconds – on each Push-to-Talk – of raw, unfiltered, background noise before the vocoder noise suppression is triggered.



XTS 5000 XTS 2500 XTS 1500

Noise Shield is available on all XTS 5000, 2500 and 1500 portables.

Noise Shield technology uses a series of algorithms in the digital signal processor to accurately filter out the caller's voice from background noise. The noise is then attenuated before the voice signal reaches the vocoder. In most environments this provides users with more intelligible audio and significantly reduces the cycle time or "training time" for noise suppression to activate. Adaptable programming also allows users to configure radios to fit their environments. Lastly, custom transducers (speakers/microphones) and the radios unique mechanics / design also assist Noise Shield technology in providing high quality audio intelligibility.

Motorola thoroughly tests radios using TIA test methods for audio performance as well as more advanced natural and artificial speech tests which simulate the most challenging conditions for modern vocoder based radios. Noise Shield provides users a backwards compatible solution, that operates in both analog and digital modes which users can use in conjunction with other proven industry recommended techniques, e.g., the IAFC's Digital Project Working Group Best Practices, to help minimize or eliminate the problem of background noise in extreme environments. *



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* Recent studies have shown communication systems can be affected by certain high noise sources such as alarm systems in self-contained breathing apparatus or chainsaws in fireground environments.