



# AN INTRODUCTION TO THE BENEFITS OF REMOTE SPEAKER MICROPHONES



## INTRODUCTION

Two-way radio offers users reliable, instantaneous communications and the addition of a Remote Speaker Microphone (RSM) can make a portable radio even easier, safer and more effective to use. Motorola radios are built to withstand knocks and bumps, but keeping the radio on the belt helps protect it from the drops and misuse that can occur when users hold the radio in their hand. Using an RSM allows the user to make and receive calls without the need to remove the radio from their belt, leaving their hands free to hold guard rails, climb ladders, carry equipment or operate machinery. The RSM clips to a collar or epaulette making it easy to access when needed and since the speaker is then closer to the user's ear, it's easier to hear calls so helps prevent missed messages.

## REMOTE SPEAKER MICROPHONES EXPLAINED

A basic RSM combines a loudspeaker, microphone and Push-To-Talk button (PTT) in a compact device with a clip to hold it in place and a cable to connect to the radio accessory connector. Some RSMs also offer enhanced functionality: dedicated emergency and programmable buttons to allow quick access to frequently used functions, volume controls to adjust received audio levels, or an audio jack that allows an earpiece to be connected, ensuring discreet communication that can't be overheard and won't disturb others.

In addition to standard RSM features, Motorola Solutions has also developed exclusive capabilities for our RSMs – we offer a range of models so users can select the best fit and feel for their specific needs. Windporting, Noise Cancelling, IMPRES™ and Industrial Noise Cancellation (INC) help ensure optimal performance even in noisy or windy environments.



## WINDPORTING (MOTOROLA EXCLUSIVE)

When users are operating outdoors, wind blowing across the microphone can distort or mask messages making it difficult to understand what is being said. Windporting reduces the effect of wind and other outdoor noises on your microphone performance and prevents water from clogging the microphone and distorting your transmissions.

## IMPRES AUDIO (MOTOROLA EXCLUSIVE)

IMPRES smart audio accessories communicate with the radio to optimise performance, suppress background noise and improve voice intelligibility even in noisy situations. They detect changes in voice level so whether you speak loudly or softly, turn your head or increase the distance between mouth and microphone, the gain automatically increases or decreases so the receiver experiences consistent audio level and doesn't have to adjust volume levels.

## NOISE CANCELLATION

Noise cancellation uses a simple but effective directional microphone purposely designed to help eliminate low frequency background noise such as the rumbling of machinery. The microphone samples ambient noise received at the back of the RSM and combines it with the voice plus noise signal from the front of the RSM, reducing background noise and making it easier to hear messages clearly.

## INDUSTRIAL NOISE CANCELLATION (MOTOROLA EXCLUSIVE)

Some areas, like plant rooms, sports stadia, shunting yards or factory floors can experience extreme noise where standard noise cancelling RSMs may struggle to eliminate the high levels of background noise. Motorola's unique Industrial Noise Cancellation (INC) provides superior performance in the most difficult of situations. The INC RSM uses microphones designed to operate at levels that would saturate standard microphones and includes two mics to help steer your voice (like a beam of light from a torch) to eliminate ambient noise. Additionally, the INC RSM uses Digital Signalling Processing to extract noise in the speech band leaving just the speech for transmission. So, unlike standard noise cancelling, low frequency generator noise, angle grinders or even sirens from emergency services are all cancelled out.

## ATEX RSMs

Within the EU, radio equipment used within potentially explosive environments must meet the ATEX directives. Only Motorola ATEX RSMs have been tested and certified with the radio to ensure compliance with the requirements: using third party RSMs means the user must apply for certification for the complete radio/RSM system themselves.



**THE RIGHT  
"FIT AND  
FEEL" FOR  
YOUR NEEDS**



Windporting  
RSM



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IMPRES  
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Noise  
Cancelling  
IMPRES



ATEX  
Windporting  
IMPRES



INC  
Industrial  
Noise  
Cancelling

## THE BENEFITS OF RSMs

RSMs are an essential addition to portable two-way radios, providing an extended interface within easy reach for the user. Not only that, they help keep users hands free, enhance safety and can prevent the radio from damage. Motorola offers a range of RSMs with exclusive features, allowing the user to select the best solution for their needs.

WINDPORTING AUDIO	NOISE CANCELING AUDIO	IMPRES AUDIO	INDUSTRIAL NOISE CANCELLING AUDIO
<p><b>Reduce the effect of wind and other outdoor noises so your messages are always heard clearly</b></p>	<p><b>Reduce the effect of background crowd and machinery noise so your messages are always heard clearly</b></p>	<p><b>Ensure your voice is heard clearer, crisper, and louder regardless of whether you speak left or right, whisper or shout</b></p>	<p><b>Communicate clearly in demanding and extreme noise environments</b></p>
<p>I HEAR YOU, NOT THE WIND</p>	<p>I HEAR YOU, NOT THE NOISE</p>	<p>I HEAR YOU, HOWEVER YOU SPEAK</p>	<p>I HEAR YOU, EVEN WHEN YOU CAN'T HEAR YOURSELF</p>

For more information on Motorola Solutions’ accessories, visit [www.motorolasolutions.com/en\\_xu/products/two-way-radio-accessories.html](http://www.motorolasolutions.com/en_xu/products/two-way-radio-accessories.html) or find your closest Motorola representative or authorised Partner at [www.motorolasolutions.com/contactus](http://www.motorolasolutions.com/contactus)

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