



LOUDER, CLEARER WHEN IT COUNTS MOST

# APX™ REMOTE SPEAKER MICROPHONES

The wail of sirens. The whine of traffic. The roar of a crowd. If you're an officer coordinating stadium security or a battalion chief commanding the fireground, you not only need to hear messages, but be heard continuously in the noisiest environments.

We listened to what you want in an audio accessory. Whether it's a ruggedized remote speaker microphone or a specialized temple transducer, you expect performance that is second to none – from exceptional audio and excellent clarity to advanced features and incredible toughness.

Our robust portfolio includes **Display Remote Speaker Microphones**, **standard Remote Speaker Microphones** and **Public Safety Microphones**, along with unique secondary accessories such as the **Receive and Transmit Boomless Temple Transducer**. All innovatively engineered to give you greater capabilities and clearer communications than ever before. To help significantly improve response time and responder safety.

Now you can hear above the commotion of a crowd or be heard working at a windy site. Whether you're indoors securing a sports arena or outdoors patrolling a city festival, you can trust APX audio accessories to extend the performance of your portable and deliver on their promise.

#### APX REMOTE SPEAKER MICROPHONES (RSM)

- Delivers the loudest, clearest RSM audio available
- Advanced IMPRES™ technology for optimized audio communication on select models
- Select RSMs with easy-read displays that mirror the top display on your radio
- Easy access to push-to-talk and radio controls
- Ruggedized, submersible models for the harshest environments
- Comfortable, durable earpiece selection available for RSMs with audio jack

#### APX PUBLIC SAFETY MICROPHONES (PSMS)

- Same advanced features as our RSMs
- Attached RF antenna improves reception when radio is under a coat
- Compatible with APX 700/800 MHz models only

#### RECEIVE AND TRANSMIT BOOMLESS TEMPLE TRANSDUCER

- Ear-free hearing at its best
- Be in a noisy environment, wear hearing protection and use your radio
- First Motorola accessory with bone conduction that receives and transmits, eliminating the need for a boom microphone
- Compatible with APX Display RSMs only

# APX REMOTE SPEAKER MICROPHONES AND PUBLIC SAFETY MICROPHONES

## AUDIO THAT LIVES UP TO ITS NAME

In pursuit, on patrol or handling crowd control, the APX RSMs and PSMs deliver audio that is clearer, more easy to understand, and up to 50% louder than XTS-series RSMs. That's because they have the same speaker found in our APX portable radios – for the **best-in-class accessory audio available.**

Some RSMs feature leading-edge **IMPRES technology** which communicates with your APX radio to help suppress ambient noise, improve voice intelligibility and amplify loudness—even in noisy situations and difficult weather. So if you're a first responder with an RSM clipped to your coat, you can carry on a conversation clearly even with traffic rushing by or pumper trucks running.

### SHOWS INFORMATION INSTANTLY

Select from a variety of models, including RSMs with a display. These easy-read screens let you see **zone and channel information at-a-glance**. Since the display mirrors the one on top of your portable, it delivers the information you need, when you need it. Many of our RSMs/PSMs give you immediate access to radio controls – from volume and channel selector to emergency and programmable buttons.

### REDUCE BACKGROUND NOISE

The **Windporting** feature on select RSMs/PSMs is specifically designed for windy outdoor environments. If you're directing traffic or moving crowds after an outdoor concert, Windporting dramatically reduces the noise caused by howling winds and harsh weather. And it prevents water from clogging the microphone and distorting your transmission.

In a domed stadium or an open-air event, **noise-canceling acoustics** on select RSM models negate background noise so your voice comes through loud and clear anytime you speak into the microphone. Whatever the work condition, there's a microphone made for you.



### ENDURES ADVERSE CONDITIONS

Chasing an offender or commanding an incident, you expect a microphone to overcome noisy settings and outlast demanding shifts. Many of our RSMs and PSMs meet tough specs – IP57 submersibility ratings – to withstand water immersion longer. Even if you drop them in a puddle or wear them in the rain, you'll stay connected.

Our **rugged<sup>1</sup> accessories** take toughness further – exceeding IP57 standards for submersibility and providing an optimal level of water protection. If you're on the fireground and your RSM gets drenched by a hose, it will stand up.

Display RSMs sport the first rugged, **submersible audio jack** so you can receive discreet communications with a separate earpiece accessory and not worry about water damaging your connection.

### IMPROVES COVERAGE AND SAFETY

Our PSMs are designed for use with an **antenna** to provide better coverage when you're wearing a radio under a jacket or coat. Because the APX portable connector design incorporates the radio frequency (RF) antenna signal, it eliminates the need for an external RF adapter. PSMs are only available for 700/800 MHz radios.

All our PSMs and RSMS are rated **intrinsically safe<sup>2</sup>** when used with intrinsically safe APX radios. They are certified and rated for use in classified hazardous areas where flammable gases or combustible dusts or fibers may be present.

For even more flexibility and options, one remote speaker microphone offers a threaded audio jack, giving you the flexibility to re-use key XTS-series surveillance accessories.

<sup>1</sup> Rugged accessories exceed industry standard (IPx7) for submersibility and provide a higher level of water protection—MIL-ST-810E, Method 512.3 Immersion. These accessories meet the incremental requirement of submersion in 1 meter of fresh water that is 27C colder than the product.

<sup>2</sup> Intrinsically Safe: Motorola approved accessories are a critical part of the specific radio and accessory system certified by a recognized testing organization as intrinsically safe. Non-Motorola approved accessories are not certified as part of the overall Motorola APX system. Use of non-Motorola approved accessories could result in equipment that is unapproved or unsafe in a hazardous environment.

## RECEIVE AND TRANSMIT BOOMLESS TEMPLE TRANSDUCER

### EAR-FREE HEARING AT ITS BEST

Police officers on the street. EMS responders on a call. Fire service on incident command. You need to hear conversations no matter how deafening the environment – over traffic, sirens and engines. And you want to communicate without listeners hearing all that noise in the background. Our **Receive and Transmit Boomless Temple Transducer** lets you do both – hear and be heard – without noise compromising your conversation.

### COMMUNICATE ABOVE THE CLAMOR

Unlike conventional headsets that can mask external sounds, our temple transducer lets you **receive messages on the radio and hear the environment** around you without covering your ears. Now you can either hear ambient noise—approaching traffic, sirens and overhead pages, or work in the noisiest places and wear much needed ear protection—all while still effectively communicating on your radio.

### BE HEARD CLEARLY, WITHOUT THE NOISE

Our temple transducer uses **bone conduction** to pick up your voice from vibrations on temple bone. That means external sounds are not transmitted, only your voice. So no matter how loud the environment is around you, your communication still gets through. Since we are using bone conduction to transmit your voice, no boom microphone is needed. This keeps your face unobscured and your hands free, so you can interact with others on the scene.



### COMFORTABLE, ALL DAY LONG

This temple transducer rests in front of your ears, allowing you to wear the accessory comfortably for long periods of time, even when wearing hearing protection. The flexible frame **adjusts for an exact fit**. Plus, the over-the-head band is fully adjustable and comfortable for extended wear and fits under helmets, caps and other headgear.

#### MICROPHONE

Part Number	RMN5116
Microphone Type	Bone Conduction
Microphone Sensitivity	-21dB ±4.5dB @ 1KHz
Mic Distortion (THD)	<3% over frequency ranged 300Hz – 3000Hz

#### SPEAKER

Speaker Type	Bone Vibration Magnetic Speaker
Speaker Output Level	>112.5dB over frequency range 1KHz
Speaker Distortion (THD)	<20% over frequency range 300Hz to 3000Hz, <5% at 1kHz

#### PHYSICAL

Flammability	UL 94 V-1 rating or better
Controls	None
Cable length	21 inches
Cable Flex Life	35,000 Cycles with 4 oz (113gram) weight at all strain relief's
Cable Pull Strength	20 lbs minimum at all strain reliefs
Headband type	Skull strap

#### ENVIRONMENTAL

Operating temperature	-30° C to +60° C
Storage temperature	-55° C to +85° C
Thermal Shock	-40° C to +80° C
Humidity	95% RH @ 50° C for 48 hrs
Blowing Rain	MIL810F Method 506.4, Procedure 1
Salt / Fog	MIL810F Method 509.4, Procedure 1
Blowing Dust	MIL810F Method 510.4, Procedure 1
Vibration	MIL810F Method 514.5, Procedure 1, Category 24
ESD	IEC 61000-4-2
Intrinsic Safety Rating	FM

All specifications subject to change without notice

\* IP54 – 4 stands for protection against water sprayed from all directions

IP55 – 5 stands for protection against hose nozzle water jets

IP57 – 7 stands for submersibility tested at 1 meter for 30 minutes

IP68 – Rugged accessories exceed industry standards (IPx7) for submersibility and provide a higher level of water protection– MIL-STD-810E, Method 512.3 Immersion. These accessories meet the incremental requirement of submersion in 1 meter of fresh water that is 27° C colder than the product.

**PRODUCT SPEC BROCHURE**  
RSMS, PSMS, TEMPLE TRANSDUCER

	<b>HMN4101/ 4103/4104</b>	<b>PMMN4062</b>	<b>PMMN4065</b>	<b>PMMN4069</b>	<b>PMMN4083</b>	<b>PMMN4084</b>	<b>PMMN4059/ 4060/4061</b>
<b>MICROPHONE ACOUSTICS</b>							
Microphone Type	Windporting	Noise-Canceling	Windporting	Windporting	Windporting	Noise-Canceling	Windporting
Sensitivity (@ 1inch)	-42dBV typical	-37dBV typical	-44dBV typical	-44dBV typical	-44dBV typical	-37dBV typical	-44dBV typical
Distortion (THD)	< 3% from 300 to 3200Hz	< 3% from 200Hz to 3200Hz	< 3% from 200Hz to 3200Hz	< 3% from 200Hz to 3200Hz	< 3% from 200Hz to 3200Hz	< 3% from 200Hz to 3200Hz	< 3% from 200Hz to 3200Hz
<b>SPEAKER ACOUSTICS</b>							
Nominal Output Level (@ 1kHz, 0.5W)	90dB SPL	90dB SPL	90dB SPL	90dB SPL	90dB SPL	90dB SPL	90dB SPL
Maximum Output Level (at max volume, 1 kHz)	94dB SPL, nominal	94dB SPL, nominal	94dB SPL, nominal	94dB SPL, nominal	94dB SPL, nominal	94dB SPL, nominal	94dB SPL, nominal
Frequency Response	300-3000Hz	300 - 3000Hz	300 - 3000Hz				
Distortion (THD) (at rated volume, 1 kHz)	< 15% (RX)	< 15% (RX)	< 15% (RX)	< 15% (RX)	< 15% (RX)	< 15% (RX)	< 15% (RX)
<b>EARPHONE</b>							
Earphone Type	Push-pull 8-pin connector	3.5mm unthreaded jack	None	3.5 mm unthreaded jack	None	3.5 mm threaded jack 3.5mm unthreaded jack	3.5 mm unthreaded jack
Compatible Earpieces	RLN6424, RMN5116	RLN4885, WADN4190, PMLN4620, RLN4941	N/A	RLN4885, WADN4190, PMLN4620, RLN4941	N/A	Unthreaded: PMLN4620, RLN4885, WADN4190 and RLN4941 Threaded: BDN6664, BDN6666, BDN6726, BDN6728.	RLN4885, WADN4190, PMLN4620, RLN4941
Maximum Output Level	≤ 118dB	≤ 118dB	N/A	≤ 118dB	N/A	≤ 118dB	≤ 118dB
<b>POWER</b>							
Radio Battery Life Impact	8% reduction on 5/5/90 profile	No radio degradation	No radio degradation				
<b>CABLE</b>							
Flex Life	50,000 cycles	50,000 cycles	50,000 cycles	50,000 cycles	50,000 cycles	50,000 cycles	50,000 cycles
Pull Strength	40lbs, minimum tensile, in-line	40lbs, minimum tensile, in-line	40lbs, minimum tensile, in-line	40lbs, minimum tensile, in-line	40lbs, minimum tensile, in-line	40lbs, minimum tensile, in-line	60lbs, minimum tensile, in-line
<b>CONTROLS</b>							
Display	HMN4101: None HMN4103: 8 character HMN4104: 8 character	None	None	None	None	None	None
Channel	HMN4101: None HMN4103: None HMN4104: 16 position	None	None	None	None	None	None
Volume	Toggle Switch (ramp up and ramp down in 16 intervals)	None	Toggle Switch (high and low volume)	None	None	None	Toggle Switch (ramp up and ramp down in 16 intervals)
Top Button	Orange button	Orange button	Orange button	None	None	Orange button	Orange button
Side Button	Two programmable buttons	None	One programmable button	None	None	None	None
<b>ENVIRONMENTAL SPECIFICATIONS</b>							
Operating Temp	-30 C to +60 C	-30 C to +60 C	-30 C to +60 C	-30 C to +60 C	-30 C to +60 C	-30 C to +60 C	-30 C to +60 C
Humidity	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours	90-95% relative humidity at +50 C for 8 hours
ESD	IEC/EN61000-4-2	IEC/EN61000-4-2	IEC/EN61000-4-2	IEC/EN61000-4-2	IEC/EN61000-4-2	IEC/EN61000-4-2	IEC/EN61000-4-2
Intrinsic Safety Rating	FM	FM	FM	FM	FM	FM	FM
IP Rating*	IP68	IP54	IP57	IP55	IP68	IP54	IP55

All Remote Speaker Microphones listed meet MIL810F and G for Rain, Salt/Fog, Dust, Vibration and Mechanical Shock

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