

Motorola PMMN4106D

Motorola Solutions APX XE500 Remote Speaker Microphone User Manual

Model: PMMN4106D, PMMN4106, PMMN4107

Document Reference: MN002720A01

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your Motorola Solutions APX XE500 Remote Speaker Microphone (RSM). The APX XE500 RSM is engineered for use in extreme environments, offering robust performance and clear communication.

It features an ergonomic design for ease of use, even with bulky gloves, and incorporates advanced audio technology for superior sound quality in challenging conditions.

2. SAFETY INFORMATION

Always read and understand all safety precautions before using the device. Failure to do so may result in injury or damage to the equipment.

- **Extreme Temperatures:** While designed for high heat, avoid prolonged exposure beyond specified limits (500°F / 260°C for up to five minutes).
- **Water Immersion:** The device has an IP68 rating (2m, 4 hours). Ensure all ports are sealed before immersion.
- **Cleaning:** Use only recommended cleaning agents and methods. Do not use abrasive materials.
- **Servicing:** Refer all servicing to qualified Motorola Solutions personnel. Unauthorized modifications can void the warranty and compromise safety.

3. PRODUCT OVERVIEW AND FEATURES

The Motorola Solutions APX XE500 Remote Speaker Microphone is built for demanding situations, providing reliable communication when it matters most.



Image Description: This image displays the Motorola Solutions APX XE500 Remote Speaker Microphone (RSM) in high-impact green, connected to its coiled cable. The RSM features a large push-to-talk button and an emergency button. Also visible is a small instruction manual titled "XE 500 RSM (PMMN4106, PMMN4107) Accessories" with a barcode and "Motorola Solutions" branding. The overall view shows the product and its basic documentation.

- **Adaptive Audio Engine:** Features five integrated microphones that automatically adjust noise suppression, microphone gain, Windporting, and speaker equalization for clear audio in any environment.
- **Extreme Durability:** Designed to withstand heat exposure of 500°F (260°C) for up to five minutes.
- **IP68 Submersibility:** Rated for immersion up to 2 meters for 4 hours.
- **Flexible Wear:** Strategic microphone placement and enhanced water drainage allow for wearing the RSM straight, upside down, or sideways while maintaining audio clarity.
- **Ergonomic Design:** Asymmetrical shape and large, shielded buttons (Push-to-Talk, Emergency) for easy operation even with bulky gloves.
- **Dedicated Channel Knob:** Some models (PMMN4106, PMMN4106_BLK) include a channel knob mimicking the radio's knob for intuitive channel changes.



Image Description: This image shows several Motorola APX series radios in a vibrant green color, along with an APX XE500 Remote Speaker Microphone (RSM) lying in the foreground. The radios are upright, displaying their screens and antennas. The RSM is also green, highlighting its robust design and integration with the radio system. This visual demonstrates the compatibility and typical usage context of the RSM with Motorola APX radios.

4. COMPONENTS AND WHAT'S IN THE BOX

Your Motorola Solutions APX XE500 Remote Speaker Microphone package typically includes the following items:

- APX XE Remote Speaker Microphone (RSM)
- Xtreme Temperature Cable

- Belt clip



Image Description: This image shows the top of a brown cardboard product box. A white label is affixed to the center, displaying product information. Key details visible on the label include "KIT #: PMMN4106D", "DESC: APX XE500 Remote Speaker, High Impact Green", "Serial Number: CAB24MHD0675", "MADE IN MALAYSIA", and a UPC barcode with the number "7 48091 02726 0". Various regulatory marks (EAC, UKCA, CE) are also present. This image confirms the model number and manufacturing details of the product.

5. SETUP

1. **Attach Belt Clip:** Securely attach the provided belt clip to the back of the RSM. Ensure it clicks into place firmly.
2. **Connect to Radio:** Align the connector of the RSM cable with the accessory port on your compatible Motorola APX radio. Push firmly until it locks into place.
3. **Secure Cable:** Route the cable in a way that prevents snagging or excessive strain. Use any integrated cable management features on your radio or uniform.

6. OPERATING THE RSM

The APX XE500 RSM is designed for intuitive operation, even in high-stress environments.

- **Push-to-Talk (PTT) Button:** The large, prominent button on the side of the RSM. Press and hold to transmit, release to listen.
- **Emergency Button:** An extra-large button, typically orange and illuminated when activated. Press to initiate an emergency call (functionality depends on radio programming).
- **Channel Knob (if applicable):** For models with a channel knob (PMMN4106, PMMN4106_BLK), rotate to change radio channels. This mimics the radio's main channel knob.
- **Volume Control:** Adjust the volume using the radio's volume knob. The RSM's speaker output will reflect the radio's volume setting.
- **Adaptive Audio:** The RSM's integrated microphones and Adaptive Audio Engine automatically optimize audio for clarity. No user adjustment is typically required for this feature.

7. MAINTENANCE AND CARE

Proper maintenance ensures the longevity and optimal performance of your RSM.

- **Cleaning:**
 - Wipe the exterior with a damp cloth.
 - For stubborn dirt, use a mild soap solution. Avoid harsh chemicals or abrasive cleaners.
 - Ensure the microphone and speaker grilles are free of debris.
- **Drying:** After exposure to water, ensure the RSM is thoroughly dry before storage or continued use, especially around the connector. The enhanced water drainage helps, but manual drying is recommended.

- **Storage:** Store the RSM in a clean, dry environment away from extreme temperatures when not in use.
- **Cable Inspection:** Regularly inspect the cable for any signs of wear, cuts, or damage. Replace if necessary.

8. TROUBLESHOOTING

If you encounter issues with your RSM, try the following steps:

Problem	Possible Cause	Solution
No audio from RSM speaker	Volume too low; RSM not fully connected; Radio issue.	Increase radio volume; Re-seat RSM connector; Test radio with another accessory.
Others cannot hear me	PTT not pressed; Microphone blocked; RSM not fully connected.	Ensure PTT is pressed firmly; Check microphone for obstructions; Re-seat RSM connector.
Emergency button not activating	Radio not programmed for emergency function; Button malfunction.	Consult radio programming guide; Contact support if button is unresponsive.
Distorted or unclear audio	Environmental noise; Microphone/speaker damage; Radio interference.	Ensure RSM is positioned correctly; Inspect for physical damage; Move away from interference sources.

If the issue persists after attempting these solutions, please contact Motorola Solutions customer support.

9. SPECIFICATIONS

Detailed technical specifications for the APX XE500 Remote Speaker Microphone (PMMN4106D):

Feature	Detail
Model Number	PMMN4106D (High-impact green, with channel knob)
Other Models	PMMN4106 (High-impact green, with channel knob), PMMN4106_BLK (Black, with channel knob), PMMN4107 (High-impact green, without channel knob), PMMN4107_BLK (Black, without channel knob)
Dimensions (Product)	2.96 x 1.4 x 3.74 inches
Weight	12 ounces (approx. 340 grams)
Heat Resistance	500°F (260°C) for up to five minutes
Submersibility Rating	IP68 (2 meters for 4 hours)
Microphones	Five integrated microphones with Adaptive Audio and Windporting
Speaker Rated Power	2W

Feature	Detail
Operating Temp	-40 Degree Celsius to +85 Degree Celsius
Humidity	90-95% relative humidity at +50 Degree Celsius for 8 hours
Compatible Devices	Motorola APX Radios (e.g., APX 1000, 3000, 4000, 6000, 7000 series)
UPC	724129218749

APX XE500 REMOTE SPEAKER MICROPHONE SPECIFICATIONS*

PORTABLE MILITARY STANDARDS 810 C, D, E, F & G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	I	500.3	II	500.4	II	500.5	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Basic Hot	501.5	I/A1, II/A2
Low Temperature	502.1	I	502.2	VC3, WC1	502.3	VC3, II/CI	502.4	VC3, II/CI	502.5	VC3, II/CI
Temperature Shock	503.1	I	503.2	I/A1C3	503.3	I/A1C3	503.4	I	503.5	IC
Solar Radiation	506.1	II	506.2	I	506.3	I	506.4	I	506.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	Only 1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	Only 1 Proc	509.5	Only 1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	Only 1 Proc	Only 1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Immersion (Delta-T)	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Vibration	514.2	VMF, Dune-W	514.3	I/10, I/3	514.4	I/10, I/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.6	I, V, VI
Shock (Drop)	516.2	II	516.2	IV	516.4	IV	516.5	IV	516.6	IV

MIC ACOUSTICS

Microphone Type 5 Integrated microphones with Adaptive Audio and windproofing

Sensitivity (dB 1kHz) -42dBV typical

SPEAKER

Rated Power* 2W

CONTROLS

Channel Available with a 16 position channel knob or without a channel knob

Volume Toggle Single up/down step in 10 intervals

Side Button Push-to-talk button

Top Button Orange button

Slide Button One programmable button

Front Button One strobe light control

ENVIRONMENTAL SPECIFICATIONS

Operating Temp -40 Degree Celsius to +85 Degree Celsius

Heat Rating 1. NIST Class I, II, III, IV compliant for cable and RSM head
2. 850 Degree Celsius 10 seconds passed for RSM head

Humidity 90-95% relative humidity at +50 Degree Celsius for 8 hours

ESD IEC/EN61000-4-2

IP Rating IP68 (2 meters, 4 hours submersion)

Weight in grams PMMN4106: 333, PMMN4107: 326

Size in mm without clip 75 x 98 x 33

MIL Specs Meets MIL810F and G for Rain, Salt/Fog, Dust, Vibration and Mechanical Shock

RADIO COMPATIBILITY & HAZARDOUS CERTIFICATION

Hazardous Certified Radios The XE500 RSM is UL certified with UL certified Motorola APX radios, please see your radio's UL manual for more information.

FM Certified Radios The XE500 is not FM approved. Although it will work with legacy FM approved radios, due to FM changes, Motorola will not be able to FM approve the XE500 RSM.

PART NUMBERS

PMMN4106	XE500, high impact green, channel knob
PMMN4106_BLK	XE500, black, channel knob
PMMN4107	XE500, high impact green, no channel knob
PMMN4107_BLK	XE500, black no channel knob



PMMN4107 PMMN4107_BLK
PMMN4106 PMMN4106_BLK

APX™ 8000XE ALL-BAND P25 PORTABLE RADIO

The APX 8000XE is redefining mission critical communications by delivering an ultra-durable radio that combines unlimited interoperability, loud audio, and secure WiFi connectivity.

UNLIMITED MOBILITY. EXTREME PERFORMANCE.

For more information, please visit: www.motorolasolutions.com/XE500

*All specification are subject to change.



Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. motorolasolutions.com

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Image Description: This image displays a detailed specification sheet for the APX XE500 Remote Speaker Microphone. It includes tables outlining MIL-STD 810D, E, F, & G environmental specifications (Low Pressure, High Temperature, Low Temperature, Temperature Shock, Solar Radiation, Rain, Humidity, Salt Fog, Blowing Dust, Blowing Sand, Immersion, Vibration, Shock, Drop). It also lists mic acoustics, speaker, and control features, environmental specifications, and physical characteristics like weight. A section on radio compatibility and hazardous certification is included, along with a list of part numbers and descriptions for different models (PMMN4106, PMMN4106_BLK, PMMN4107, PMMN4107_BLK). This sheet provides comprehensive technical data for the product.

For more information, please visit: motorolasolutions.com/XE500

10. WARRANTY AND SUPPORT

Your Motorola Solutions APX XE500 Remote Speaker Microphone comes with a 90-day limited warranty.

- Warranty Coverage:** This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accident, unauthorized modification, or external causes.

- **Claiming Warranty:** For warranty service, please contact Motorola Solutions customer support with your proof of purchase and product serial number.
- **Manufacturer:** Motorola Solutions
- **Support:** For technical assistance, troubleshooting, or service inquiries, please visit the official Motorola Solutions website or contact their customer service department.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question