

EX500 PORTABLE TWO-WAY RADIO

Available in VHF and UHF
Operates on Conventional Systems



Practicality and Power

Ideal for high-level professionals who want powerful yet streamlined communication tools, the compact Motorola EX500 portable radio has what it takes to make all the right connections. Its sleek, ergonomic design makes this Expert Series radio easy to hold and carry—and it's so lightweight you can take it virtually anywhere. The Motorola EX500 radio's exceptional features deliver solid functionality and remarkable ease-of-use. Flexible scanning and monitoring capabilities allow you to stay on top of critical transmissions. Three programmable buttons and a range of signaling capabilities offer the tools you require to communicate steadily and efficiently. With the Motorola EX500 radio, you'll have everything you need to perform at your best.

16 Channels

Programmable Emergency Button

Dedicated button that sounds alarm or alerts dispatcher in urgent situations

X-Pand™ Audio Enhancement

Clearer, crisper audio quality

3 Programmable Buttons

Immediate access to your favorite features

- **Adjustable Power Levels**
Help optimize coverage and battery life
- **Priority Channel Scan**
Program radio to more frequently scan transmissions on your most important channel, to help ensure you don't miss critical calls
- **Monitor/Permanent Monitor**
Quickly and easily monitor a specific channel at the touch of a button
- **Repeater/Talkaround**
Unit-to-unit communication allows radio to bypass the repeater when necessary, to help ensure continuous radio contact



Quik Call II™ and MDC1200 Signaling

Send and receive information in a variety of ways, including:

- **Push-to-Talk ID (Encode)**
Identifies your outgoing calls on other users' radios
- **Selective Call (Decode)**
Lets you receive a specific group or individual call
- **Call Alert (Decode)**
Notifies you of incoming calls when you're a short distance away from your radio
- **Radio Check (Decode)**
Tells others whether your radio is activated
- **Emergency (Encode)**
Sounds an alarm or alerts dispatcher in urgent situations
- **Selective Radio Inhibit (Decode)**
Allows system owner to disable stolen or missing radios

Internal VOX

Voice-operated transmission capability with optional headset allows hands-free operation

EX500/EX600•XLS

Specifications

General

SPECIFICATION	VHF	UHF
EX500 Channel Capacity	16 Channels	
EX600•XLS Channel Capacity	Trunking zone capacity: 15 Trunking talkgroup capacity: 16 Conventional channel capacity: 160	
EX500 Dimensions (with Li-ion Battery)	3.74" x 1.04" x 2.17" 95mm x 26.5mm x 55.1mm	
EX500 Weight (with Li-ion Battery)	8.8 ounces/250 grams	
EX600•XLS Dimensions (with Li-ion Battery)	4.61" x 1.58" x 2.48" 117mm x 40.1mm x 63mm	
EX600•XLS Weight (with Li-ion Battery)	9.5 ounces/270 grams	
EX500/EX600•XLS Power Supply	Rechargeable battery 7.5V	
EX500/EX600•XLS Average Battery Life @ 5/5/90 Duty Cycle with High Capacity Li-ion Battery with Slim Li-ion Battery	Low Power	High Power
	14 hrs	10 hrs
	10 hrs	7 hrs
FCC Description	AZ489FT3801	AZ489FT4844 AZ489FT4845

Transmitter

SPECIFICATION	VHF/UHF
Frequencies	136-174 MHz 403-470 MHz 450-512 MHz
Channel Spacing	12.5 kHz/20/25 kHz
Freq. Stability (-30° C to 60° C, +25° Ref.)	±2.5 ppm @12.5 kHz ±4 ppm @20/25 kHz
Power	1 W, 5 W, 136-174 MHz 1 W, 4 W, 403-470 MHz 1 W, 4 W, 450-512 MHz
Modulation Limiting	±2.5 KHz @12.5 kHz ±4 KHz @20 kHz ±5 KHz @25 kHz
FM Hum & Noise	-34 dB @12.5 kHz -40 dB @20/25 kHz
Conducted/Radiated Emission	-36 dBm < 1 GHz -30 dBm > 1 GHz
Adjacent Channel Power	-60 dBc @12.5 kHz -70 dBc @20/25 kHz
Audio Response (300 - 3000 Hz)	+1 to -3dB of a 6 dB/octave pre-emphasis
Audio Distortion	3%
FM Modulation	16K0F3E, 11K0F3E

Factory Mutual Approvals

The EX500 and EX600•XLS are Factory Mutual approved as intrinsically safe for use in Classes I, II, and III, Division 1, Groups C, D, E, F and G, as well as non-incentive use in Class I, Division 2, Groups A, B, C and D on models ordered with the Factory Mutual option and battery.

Receiver

SPECIFICATION	VHF/UHF
Frequencies	136-174 MHz 403-470 MHz 450-512 MHz
Channel Spacing	12.5/20/25 kHz
Freq. Stability (-30° C to 60° C, +25° Ref.)	±2.5 ppm @12.5 kHz ±4 ppm @20/25 kHz
Sensitivity (12 dB SINAD)	0.35 µV
Intermodulation	70 dB
Adjacent Channel Selectivity	60 dB @ 12.5 kHz 70 dB @ 20/25 kHz
Spurious Rejection	70 dB
Rated Audio	0.5 W
Audio Distortion @ Rated Audio	3% typical
Hum and Noise	-34 dB @12.5 kHz -40 dB @20/25 kHz
Conducted Spurious Emission	-57 dBm < 1 GHz -47 dBm > 1 GHz

NOTE: All RX Hum and Noise numbers assume a low level expander is used.

Portable Military Standards 810 C, D & E

Applicable	810C		810D		810E	
	Methods	Procedures	Methods	Procedures	Methods	Procedures
Low Pressure	500.1	1	500.2	2	500.3	2
High Temp	501.1	1,2	501.2	1,2	501.3	1,2
Low Temp	502.1	2	502.2	1,2	502.3	1,2
Temp. Shock	503.1	1	503.2	1	503.3	1
Solar Radiation	505.1	1	505.2	1	505.3	1
Rain	506.1	1,2	506.2	1,2	506.3	1,2
Humidity	507.1	2	507.2	2,3	507.3	2,3
Salt Fog	509.1	1	509.2	1	509.3	1
Dust	510.1	1	510.2	1	510.3	1
Shock	516.2	1,2,5	516.3	1,4	516.4	1,4
Vibration	514.2	8,10	514.3	1	514.4	1

Environmental

PARAMETER	SPECIFICATION
Operating Temperature Radio only	-30 to 60° C
Storage Temperature	-55 to 85° C
Thermal Shock	-40 to 80° C
Humidity	95% RH @ 8 Hr.
Sand Dust	Blowing Dust: 5 Hr. Non-operating IP54
Vibration	SINE 10-60Hz 30 min/axis
Drop Test	42 drops from 48" height 42 drops from 121.9cm height
Flame Resistance	UL94 HB
ESD	IEC 801-2 KV
Water Intrusion	IP54
Packing Test	5 feet