MOTOROLA

CM200™/CM300™Series
Mobile Two-way Radios

CM200 Mobile

CM300 Mobile

Motorola—
a name you know and trust.

Motorola is a company of firsts with a rich heritage of innovation. We continue to invent what's next—connecting people, delivering mobility and making technology personal. Whether you need to connect with one, one dozen or one hundred people, the CM Series of two-way radios help keep you and your team working efficiently. With their compact and flexible design, the CM200 and CM300 mobile radios are ideal for in-vehicle and dispatch use. Each radio is backed by a limited two-year* warranty on parts and labor. So when you select one of these two-way radios, you will experience the same exceptional quality you have come to expect from all Motorola products.

Great care was taken in the design process of the CM200™ and CM300™ to ensure ruggedness and reliability, ease of use and functionality. Some things you'll notice about Motorola's CM mobiles: They feature large controls that are easy to grip or press even when wearing gloves. The powerful 4-watt speaker is forward-facing (instead of on top of the radio) for superior clarity. Three color LED indicators (red, yellow, green) show visible feedback of transmit, scan and monitor status. The microphone and controls are located on the left, closest to driver for easy reach and bright visual indicators can be read at a glance. Both features that help drivers keep their eyes on the road.

The CM200 is a basic cost-effective solution and features a numeric display, 4 channels and 2 programmable buttons, while the CM300 is ideal for users who need increased functionality, or access to expanded features for a large workforce. This model features an 8-character, alphanumeric display, 32 channels and 4 programmable buttons.

Everything that goes in or on a Motorola radio is carefully considered, reviewed, designed, reviewed again and manufactured to extremely high-quality standards and these radios really show it.

Retail and Delivery Services

Agriculture

Taxi and Limousine

Hotel and Resort

Construction

Manufacturing

*Radio accessories are covered by Motorola's One-year
 Limited Accessory Warranty.

These compact radios
provide better, and faster
fleet productivity solutions.

Exceptional Durability
Motorola's durability is unmatched in the industry. Motorola's rugged and reliable radios, undergo rigorous testing in the design process. We use U.S. Military Standards and Accelerated Life Testing, so you can be assured Motorola radios will hold up under demanding conditions. These tests are designed to simulate very harsh environments, including:

Rain—Steady rainfall and wind for 30 minutes on every surface

Salt Fog—48 hours of exposure to an atomized salt solution

Dust—6 hours of blowing dust on all surfaces

Vibration—Up to 9 hours of exposure to vibration that simulates the rigors a radio could undergo while being transported

Shock—18 shocks with a minimum G force of 40 Gs each

Service Offerings
Managing the in-house repair and maintenance of your subscriber radios takes a dedicated staff of technicians, as well as an ongoing investment in diagnostic equipment, repair tools, and the technical training to keep up to speed on the latest technology. Motorola has made that investment and can help you easily and cost effectively keep your radios in top operating condition to ensure optimal efficiency and productivity.

Repair Service Advantage (RSA):
Repair Service Advantage is a post-warranty service offering that extends the service coverage of Motorola subscriber portable or mobile radios. RSA can be purchased as an option to new radio purchases and is available in 1, 2 or 3-year increments. (US only)

Extended Warranty:
In addition to the 2-year standard warranty, Extended Warranty is available for a total of 3 or 5 year coverage. (Canada only)

CM200 and CM300 mobile two-way radios

All CM200/CM300 models include:

- Standard microphone
  Compact microphone with transmit LED,
  hang-up clip and 7 foot coil cord – HMN3413
- Standard installation bracket
  Low profile mounting bracket – GLN7324
- Standard power cable – HKN4137_R
- Safety Manual
- Two-year warranty

- 4 channels
- Rotary on/off/volume control
- Up/down channel selector buttons
- Red/yellow/green LED indicators
- 1-character numeric display
- Die-cast housing with polycarbonate outer casing
- 4W front-projecting speaker
- 2 programmable buttons: customize shortcuts for up to 4 favorite features with a short/long press

Features

CM200 Mobile:

- 4 Channels
- Audio Indicator Tones
- Time-Out Timer
- Busy Channel Lockout
- Voice-Operated Transmit
  Requires voice-activated microphone
- TPL Standard and Non-Standard Reverse Burst
  For better compatibility with existing fleets

- Privacy Codes Include:
  42 standard TPL codes, 84 standard and non-standard DPL codes
- Single Priority Scan
  Listen for activity on multiple channels
- Quik-Call™ II Decode Includes:
  Selective Call: Allows calls from specific group/individual
  Call Alert: Notification of calls from a specific group/individual with an alert tone and lighted LED

- MDC 1200 Push-to-Talk Identification Encode
  Sends unique digital ID information when transmitting (PTT ID), which can be displayed on radios equipped with MDC decode

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Programmable Features: Choose up to 4

- Scan On/Off
  Enables/disables scan mode of operation
- High/Low Power
  Adjusts transmit power to accommodate user environment
- Repeater Talkaround
  Unit-to-unit communication, bypassing the repeater
- Local/Distance
  Local mode reduces interference from nearby radios; distance mode helps improve range

- Tight/Loose Squelch
  Tight squelch helps minimize interference from undesired weak signals; loose squelch helps weak signals to be heard
- Nuisance Channel Delete
  Temporarily deletes a specific channel from your scan mode if you no longer want to hear activity on that channel
- Volume Set
  Sets volume level for radio speaker

- Silent Monitor/Open Squelch
  Silent monitor causes radio to remain silent when there is no channel activity. Open squelch monitor causes audible "white noise" when there is no channel activity
- VOX On/Off
  Enables/disables voice-operated transmit functionality for the current channel
- Escalert
  Increases alarm alert volume of unanswered calls

Bullet callouts (right side):

- 32 channels
- Rotary on/off/volume control
- Up/down channel selector and menu scroll buttons
- Red/yellow/green LED indicators
- 8-character alphanumeric display with user-friendly icons: assign a name to each channel for ease of use.
- Die-cast housing with polycarbonate outer casing
- 4W front-projecting speaker
- 4 programmable buttons: customize shortcuts for up to 8 favorite features with a short/long press

Features

CM300 Mobile:

- 32 Channels
- Audio Indicator Tones
- Time-Out Timer
- Busy Channel Lockout
- Escalert
  Increases alarm alert volume of unanswered calls
- Voice-Operated Transmit
  Requires voice-activated microphone
- TPL Standard and Non-Standard Reverse Burst
  For better compatibility with existing fleets
- Privacy Codes Include:
  42 standard TPL codes, and 84 standard and non-standard DPL codes

- Menu Mode
- System Scan and Auto Scan
- Supports up to 16 Scan Lists of up to 16 Channels Each
- Single and Dual Priority Scan
  Frequently scans higher priority channels
- Revert Scan
  Radio moves automatically to last landed scan channel when exiting scan mode
- Customizable Audio Indicator Tones
- Adjustable Backlight Intensity
- Option Board Expandability

- Quik-Call II Encode/Decode Includes:
  Selective Call: Calls a specific group/individual
  Call Alert: Notifies a specific group/individual with an alert tone and lighted LED
- MDC 1200 Signaling Includes:
  PTT ID Encode/Decode: Sends unique digital ID information when transmitting (PTT ID), which can be displayed on radios equipped with MDC decode
  Selective Radio Inhibit Decode: Dispatcher can remotely disable radio to prevent transmission to stolen or inactive radios
  Radio Check Decode: Dispatcher can determine remotely if radio is powered on without disturbing user

Programmable Features: Choose up to 8

- 2-Channel Home Revert
  Returns to 1 or 2 favorite channels
- Volume Set
  Sets preferred volume level for radio speaker
- Silent Monitor/Open Squelch
  Silent monitor causes radio to remain silent when there is no channel activity; open squelch monitor causes audible "white noise" when there is no channel activity
- High/Low Power
  Adjusts transmit power to accommodate user environment
- Repeater Talkaround
  Unit-to-unit communication, bypassing the repeater
- Local/Distance
  Local mode reduces interference from nearby radios; distance mode helps improve range

- Tight/Loose Squelch
  Tight squelch helps minimize interference from undesired weak signals; loose squelch helps weak signals to be heard
- Nuisance Channel Delete
  Temporarily deletes a specific channel from your scan mode if you no longer want to hear activity on that channel
- Scan On/Off
  Enables/disables scan mode of operation
- VOX On/Off
  Enables/disables voice-operated transmit functionality for the current channel
- Escalert
  Increases alarm alert volume of unanswered calls
- Menu Mode
  Access to radio menu and to select a menu option
- Option Board On/Off
  Enables/disables option board functionality for current user

- Phone Mode
  Provides access to telephone interconnect through a repeater
- Speed Dial
  Initiates a phone call to a preprogrammed recipient with the press of a DTMF key (requires DTMF keypad)
- Radio Call
  Allows a user to initiate Quik-Call II and/or DTMF Call Alert or Selective Call Encode from a call list
- Scan List Edit
  Allows user to add/remove channels from current scan list
- External Alarm
  Activates a warning or alert by triggering flashing headlights, a siren or a horn (requires an external alarm accessory and an accessory connector pin to be programmed for external alarm through CPS)

Mobile radio accessories can significantly enhance the operation of your mobile radio.

A range of Motorola accessories are available to support the CM200 and CM300 mobile radios. Mobile radio accessories expand capabilities; whether it's dispatch operation, public address systems, or specific mounting requirements to create a customized mobile solution for your business or organization.

Audio Solutions
Microphone options, such as the standard, heavy-duty, telephone-style or keypad microphones, ensure your voice gets through despite noisy working conditions. External speakers provide an audio boost when operating in extremely noisy environments, while public address systems allow you to communicate easily in your immediate area. Hands-free accessories such as the visor microphone, and other remote push-to-talk options enhance safety when operating the mobile radio in a vehicle.

Control Station Accessories
A desktop microphone, tray and external speaker allow you to convert CM200 and CM300 mobiles into simple base stations, offering a cost-effective solution for transportation and dispatch needs.

Installation, Mounting and Alarm Systems
Mounting brackets free dashboard space, and can provide flexible installation choices depending on the type of vehicle you operate. Alarm accessories allow you to use your mobile to activate the horn and lights on your vehicle for enhanced operation and safety.

Antennas
For optimum range and signal quality, it is important to match the mobile radio's frequency with the proper Motorola antenna. Antennas are available as through-hole or magnetic mount, in standard ¼ wave models, and can include 3dB, 3.5dB or 5dB signal gain.

For a detailed listing of all Motorola Original® accessories* available for your CM200 or CM300 mobile radio, see the Commercial Tier Accessories Catalog (RC-3-1008).

Compact microphone: HMN3596
Desktop microphone: RMN5068

HMN1035

AAREX4617

RLN4857

*Radio accessories are covered by Motorola's One-year Limited Accessory Warranty.

GENERAL SPECIFICATIONS

	CM200™ VHF	CM200™ UHF	CM300 VHF	CM300 UHF
Frequency	146-174 MHz	438-470 MHz	146-174 MHz 136-162 MHz	438-470 MHz
Channel Capacity	4 Channels		32 Channels	

Technical RF Output
  Low Power
  High Power
	1-25W
	25-45W
			1-25W
			25-40W	

Dimensions: H x W x L	1.73 x 6.67 x 4.64 inches 44 x 169 x 118mm		1.73 x 6.67 x 4.64 inches 44 x 169 x 118mm	
Weight – Radio only	2.25 lbs 1.02 Kg		2.25 lbs 1.02 Kg	

Current Drain
  Standby
  Rx @ rated, external 8 ohm speaker
  Transmit
	0.3A
	1.5A
	7A (25W), 9.5A (45W)
			0.3A
			1.5A
			8A (25W), 9A (40W)	

FCC Designation
  136-162 MHz
  146-174 MHz
 	
  438-470 MHz
	ABZ99FT3049 (45W)
	AZ492FT3805 (25W)
	ABZ99FT3046 (45W)
		
		AZ492FT4856 (25W)
		ABZ99FT4048 (40W)
			ABZ99FT3049 (45W)
			AZ492FT3805 (25W)
			ABZ99FT3046 (45W)
				
				AZ492FT4856 (25W)
				ABZ99FT4048 (40W)

RECEIVER SPECIFICATIONS

	CM200 VHF	CM200 UHF	CM300 VHF	CM300 UHF
Channel Spacing*:	12.5/20/25 kHz		12.5/20/25 kHz	
Sensitivity 12dB EIA SINAD (typical)	0.35 uV (12.5 kHz) 0.3 uV (25 kHz)		0.35 uV (12.5 kHz) 0.3 uV (25 kHz)	
Adjacent Channel Selectivity	65 dB (12.5 kHz) 75 dB (25 kHz)	60 dB (12.5 kHz) 70 dB (25 kHz)	65 dB (12.5 kHz) 75 dB (25 kHz)	60 dB (12.5 kHz) 70 dB (25 kHz)
Intermodulation	65 dB (12.5 kHz) 75 dB (25 kHz)	60 dB (12.5 kHz) 70 dB (25 kHz)	65 dB (12.5 kHz) 70 dB (25 kHz)	60 dB (12.5 kHz) 70 dB (25 kHz)
Frequency Stability: -30° C to +60° C	+/-2.5 ppm		+/-2.5 ppm	
Spurious Rejection	-75 dB	-70 dB	-75 dB	-70 dB
Rated Audio Extended audio with 4 ohm speaker	4W internal, 13W external		4W internal, 13W external	
Audio Distortion @ Rated Audio	3% typical		3% typical	
Hum and Noise	-40 dB (12.5 kHz) -45 dB (12.5 kHz)	-35 dB (12.5 kHz) -40 dB (12.5 kHz)	-40 dB (25 kHz) -45 dB (25 kHz)	-35 dB (25 kHz) -40 dB (25 kHz)
Audio Response	TIA603 and ETS300		TIA603 and ETS300	
Conducted Spurious Emission	-57 dBm < 1 GHz -47 dBm > 1 GHz		-57 dBm < 1 GHz -47 dBm > 1 GHz	

TRANSMITTER SPECIFICATIONS

	CM200 VHF	CM200 UHF	CM300 VHF	CM300 UHF
Channel Spacing	12.5/20/25 kHz		12.5/20/25 kHz	
Frequency Stability: -30° C to +60° C	+/-2.5 ppm		+/-2.5 ppm	
Modulation Limiting	+/-2.5 kHz (12.5 kHz) +/-4 kHz (20 kHz) +/-5 kHz (25 kHz)		+/-2.5 kHz (12.5 kHz) +/-4 kHz (20 kHz) +/-5 kHz (25 kHz)	

Conducted/Radiated Spurious Emission
  1-25 W
  25-45 W
	-36 dBm < 1 GHz, -30 dBm > 1 GHz
	-26 dBm
			-36 dBm < 1 GHz, -30 dBm > 1 GHz
			-26 dBm	

Adjacent Channel Power	-60 dB (12.5 kHz) -70 dB (25 kHz)		-60 dB (12.5 kHz) -70 dB (25 kHz)	
Audio Response	TIA603		TIA603	
Audio Distortion	3% typical		3% typical	
FM Hum and Noise	-40 dB (12.5 kHz) -45 dB (25 kHz)	-35 dB (12.5 kHz) -40 dB (25 kHz)	-40 dB (12.5 kHz) -45 dB (25 kHz)	-35 dB (12.5 kHz) -40 dB (25 kHz)
FCC Modulation	11K0F3 (12.5 kHz) 16K0F3E (25 kHz)		11K0F3 (12.5 kHz) 16K0F3E (25 kHz)	

MOBILE MILITARY STANDARDS 810 C, D, and E

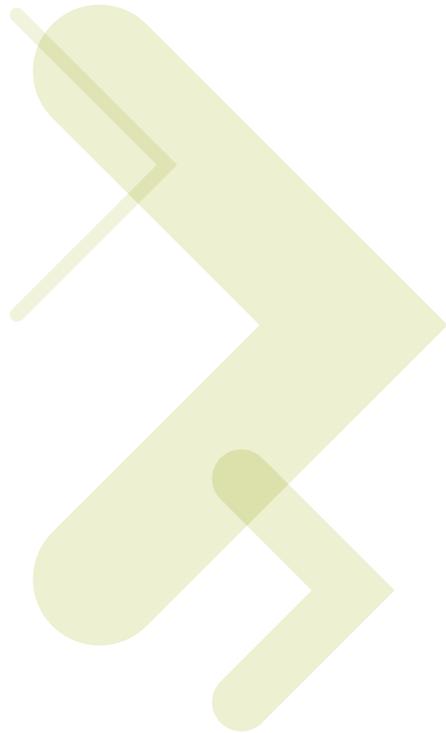|	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E	
	Method	Procedures	Method	Procedures	Method	Procedures
Temperature Shock	503.1	I	503.2	I	503.3	I
Solar Radiation	505.1	I	505.2	I	505.3	I
Rain	506.1	II	506.2	II	506.3	II
Salt Fog	509.1	I (48 Hours)	509.2	I (48 Hours)	509.3	I (48 Hours)
Water and Dust Intrusion	510.1	I	510.2	I	510.3	I
Vibration	–	–	514.3	I, Cat. 1	514.4	I, Cat. 1
Shock	516.2	I, III	516.3	I, V	516.4	I, V

ENVIRONMENTAL

Operating Temperature	-30° C to +60° C
Storage Temperature	-40° C to +85° C
Thermal Shock	-40° C to +80° C
Humidity	95% RH @ 8 Hour
Water and Dust Intrusion	IP 54
Packing Test	Impact test

* Availability of new 25 kHz equipment may be restricted due to Narrowbanding regulations in your country. Please check with your frequency coordinator and/or regulatory agency for the latest information on Narrowbanding.

Accelerated Life Test
Motorola's Accelerated Life Test (ALT) is a developmental process of rigorous laboratory testing that simulates years of field use. Motorola has a firm commitment to quality and reliability. These radios have been designed, manufactured and tested to achieve high levels of component and workmanship quality. Motorola radios are designed to minimize costly repairs and downtime.

All specifications subject to change without notice.

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