

*Seven Essential Elements of
Solid Two-Way Communication*

Radius[®]

CM200[™]
CM300[™]

Mobile Series
Two-Way Radios and Accessories



Every business depends on clear communication to succeed. When it comes to two-way radio communication, you want your radios to have all the essential elements to communicate loud and clear every time.

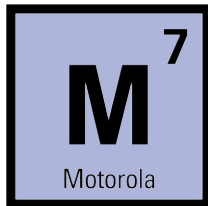
The new Radius® CM Series mobile radios from Motorola have been designed and engineered with the following seven essential elements to provide you with radios that meet your specific communication needs.

- **Value** to get the maximum communication system for your budget
- **Reliability** you can count on, even in the most challenging environments
- **Ease of Use** with numerous features to make your communication quick and easy
- **Audio Quality** so every message is delivered loud and clear
- **Size and Weight** to accommodate almost any vehicle, as well as space-saving desk sets
- **Programmable** with a choice of features to customize your radio for your specific communication needs
- **Range** that covers across the street or across town

These elements make the difference in Motorola radios' superb quality and make them solid communication tools you can count on. The CM200™ and CM300™ mobile radios and their portable counterparts, the CP150™ and CP200™, are the next generation of Motorola communication and the next level of M7.

The CM200 and CM300 mobile radios are ideal for many businesses and industries including:

- Agriculture
- Hospitality
- Manufacturing
- Retail/Delivery Services
- Taxi and Limousine Services
- Transportation/Fleet



Motorola – A Name You Know and Trust

For 75 years, Motorola has been a leader in creating state-of-the-art wireless communication. The CM200 and CM300 mobile two-way radios uphold that standard of excellence. And each radio is backed by a two-year* limited warranty on parts and labor. So when you choose the CM200 or CM300, you'll experience the same exceptional quality you would expect from all Motorola products.

*Radio accessories are covered by Motorola's one-year accessories warranty.

High Performance ... Outstanding Value

The all-new Radius CM200 and CM300 two-way mobile radios are loaded with easy-to-program features, plus Motorola's legendary ruggedness, all at a very competitive price. The CM200 and CM300 radios are an affordable mobile solution from Motorola.

What can mobile radios do for you?

- Effectively dispatch and manage employees for routine maintenance or critical, time-sensitive tasks
- Enable efficient coordination of assignments by drivers
- Improve customer service with quick communication between drivers and a dispatcher
- Facilitate communication between a dispatcher and a fleet of portable and mobile two-way radios
- Help users meet deadlines on the road, in the field or at the factory
- Keep the work flowing no matter what the weather
- Coordinate shipping and delivery for maximum efficiency and cost savings

CM200 and CM300 Radio Accessories Customize Your Radio for Your Specific Needs

Choose from many Motorola Original[®] and Motorola Certified Accessories available for the CM200 and CM300 radios to expand the capabilities of your radio and create a customized communication solution for your business. Most M1225 mobile radio accessories are compatible with the CM200 and CM300. Ask us how we can help customize your mobile radios with just the right accessories for your communication needs.

- **Audio Accessories – microphones and speakers**
Make it easy to hear and be heard
- **Hands-Free Accessories**
Improve operating convenience and safety so that drivers stay focused and keep their hands on the wheel
- **Desktop Base Station Accessories – power supplies and stands**
Set up an efficient, centralized base station or dispatch center
- **Mounting Accessories**
Customize the mobile's mounting for any vehicle configuration
- **Antenna Accessories**
For transmission and reception range, choose from a variety of antennas
- **Mobile Data Accessories**
Allow your communication system to grow, with Global Positioning Systems, Automatic Vehicle Locator, Mobile Display Status Terminals and more
- **Public Address Accessories**
Convert your mobile into a public address system for broadcast communication
- **Alarm Accessories**
Provide a warning or alert
- **Installation Accessories**
Take care of unique vehicle installation situations easily



CM200™

Mobile Series

Two-Way Radios and Accessories



- 4 Channels
- Red/Yellow/Green LED Indicators
- 1-Character Numeric Display

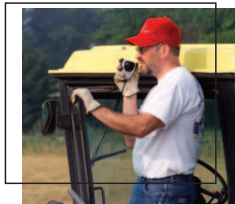
- 4-Watt Front-Projecting Speaker
- Die-Cast Housing with Polycarbonate Outer Casing
- 2 Programmable Buttons (P1, P2)
Supports a choice of up to 4 favorite features with a short/long press
- Up/Down Channel Selector Buttons
- Rotary On/Off/Volume Control

CM200 Features

- 4 Channels
- Audio Indicator Tones
- VHF and UHF Frequencies
- 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 (42 standard TPL codes and 84 standard DPL codes)
- Single Priority Scan allows user to listen for activity on multiple channels
- Quik-Call II™ Decode Selective Call/Call Alert
 - Selective Call: Allows receipt from a specific group or individual
 - Call Alert: Receives notification from a specific group or individual user 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
- 2-year Standard Warranty

CM200 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 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 "white noise" to be heard when there is no channel activity
- **VOX On/Off**
Enables/disables voice-operated transmit functionality for the current channel
- **Escalart**
Increases volume of unanswered alarm alert

**CM200 & CM300™ . . . What These Radios Can Do for You**

The CM200 and CM300 were designed for those of you who are new to two-way mobile radios and for users who need to upgrade their two-way radio communication with the best value-to-features ratio available. The new CM Series mobile radios are perfect for use by organizations with these specific needs.

- Quality design and construction provide rugged reliability when and where it matters most
- Small size makes mounting easy in almost any vehicle
- Survives temperature extremes per U.S. military standards
- Loud, clear speaker provides effective communication in noisy environments
- Superb reliability helps ensure the radio will last and work longer

CM300™

Mobile Series

Two-Way Radios and Accessories



- **32 Channels**
- **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**
- **4-Watt Front-Projecting Speaker**
- **4 Programmable Buttons (P1, P2, P3, P4)**
Customize shortcuts for up to 8 favorite features with a short/long press (4 more than CM200™)
- **Red/Yellow/Green LED Indicators**
- **Up/Down Channel Selector and Menu Scroll Buttons**
- **Rotary On/Off/Volume Control**

CM300 Features

- 32 Channels
- Audio Indicator Tones
- VHF and UHF Frequencies
- Time-Out Timer
- Busy Channel Lockout
- Escalator (increases volume of unanswered alarm alert)
- Voice-Operated Transmit (requires voice-activated microphone)
- TPL Standard and Non-Standard Reverse Burst (for better compatibility with existing fleets)
- Privacy Codes (42 standard TPL codes, 84 standard DPL codes and non-standard 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 Selective Call/Call Alert
Selective Call: Calls a specific group or individual
Call Alert: Notifies a specific group or individual user with an alert tone and lighted LED
- MDC 1200 Signaling (PTT ID, Selective Radio Inhibit Decode, Radio Check Decode)
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 from reaching stolen or inactive radios
Radio Check Decode: Dispatcher can determine remotely if radio is powered on without disturbing user
- 2-year Standard Warranty

CM300 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 "white noise" to be heard 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
- **Escalart**
Increases volume of unanswered alarm alert
- **Menu Mode**
Access to radio menu and to select a menu option
- **Option Board On/Off**
Enables/disables option board functionality for the current personality
- **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)



Optional Enhanced Keypad Microphone (RMN5029)

The CM300 radio may be ordered with an optional keypad microphone that is easy to use when wearing gloves and has a direct entry keypad. This keypad microphone has 3 programmable buttons to conveniently activate select radio features. The keypad is used for entering user ID numbers to make a selective call to an individual or group of users or for directly accessing preprogrammed features.

Exceptional Durability

There's a reason why Motorola two-way radios are built to last. Motorola's rugged and reliable radios, including the Radius® CM200™ and CM300™, undergo rigorous testing during 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. Ideal for agriculture because you can't stop because of the weather when there's work to be done.

Salt Fog – 48 hours of exposure to an atomized salt solution. Ideal for manufacturing and transportation customers working near oceans or around winter salt applications because salt can corrode ordinary radios.

Dust – 6 hours of blowing dust on all surfaces. Ideal for agriculture, manufacturing and other customers because dust can get everywhere when you're on the road.

Vibration – Up to 9 hours of exposure to vibration that simulates the rigors a radio could undergo while being transported. Ideal for retail/delivery services, taxi and limousine services and anyone else who wants his or her two-way radio to last.

Shock – 18 shocks with a minimum G force of 40 Gs each. Ideal for agriculture, manufacturing, transportation, retail/delivery services and anyone who drives frequently. Because potholes, bumps and gullies are everywhere and show no mercy.

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.

Rugged Reliability

Rain Salt Fog

Dust

Vibration Shock

Environmental Specifications

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

CM200/CM300 Mobile Military Standards

| Applicable MIL - STD | 810C | | 810D | | 810E | |
|----------------------|---------|--------------|---------|--------------|---------|--------------|
| | Methods | Procedures | Methods | Procedures | Methods | 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 | I | 506.2 | I | 506.3 | I |
| Salt Fog | 509.1 | I (48 Hours) | 509.2 | I (48 Hours) | 509.3 | I (48 Hours) |
| Dust | 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 |

CM200/CM300 Mobile Two-Way Radio Specifications*

General Specifications

| | VHF | UHF |
|-----------------------------------|---|---|
| Channel Capacity | 4 (CM200) 32 (CM300) | 4 (CM200) 32 (CM300) |
| Technical RF Output | | |
| Low Power | 1-25W | 1-25W |
| High Power | 25-45W | 25-40W |
| Frequency | 146-174MHz | 438-470MHz |
| Dimensions (H * W * L) | 1.73" x 6.67" x 4.64" (44mm x 169mm x 118mm) | 1.73" x 6.67" x 4.64" (44mm x 169mm x 118mm) |
| Weight (radio only) | 2.25 lbs (1.02 Kg) | 2.25 lbs (1.02 Kg) |
| Current Drain: Standby | 0.3A | 0.3A |
| Rx@ rated, external 8 ohm speaker | 1.5A | 1.5A |
| Transmit | 7A (25W) 9.5A (45W) | 8A (25W) 9A (40W) |
| FCC Description | AZ492FT3805 (25W) ABZ99FT3046 (45W) | AZ492FT4856 (25W) ABZ99FT4048 (40W) |

Receiver

| | VHF | UHF |
|---|---|---|
| Frequencies | 146-174MHz | 438-470MHz |
| Channel Spacing | 12.5/20/25kHz | 12.5/20/25kHz |
| Frequency Stability (-30 C + 60 C, +25 C) | +/-2.5ppm | +/-2.5ppm |
| Sensitivity (12db Sinad) | 0.35µV (12.5kHz) 0.3µV (25kHz) typical | 0.35µV (12.5kHz) 0.3µV (25kHz) typical |
| Intermodulation | 65dB (12.5kHz) 75dB (25kHz) | 60dB (12.5kHz) 70dB (25kHz) |
| Adjacent Channel Selectivity | 65dB (12.5kHz) 75dB (25kHz) | 60dB (12.5kHz) 70dB (25kHz) |
| Spurious Rejection | 75dB | 70dB |
| 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 (12.5kHz) -45 dB (25kHz) | -35 dB (12.5kHz) -40 dB (25kHz) |
| Audio Response | TIA603 & ETS300 | TIA603 & ETS300 |
| Conducted Spurious Emission | -57 dBm < 1GHz -47 dBm > 1GHz | -57 dBm < 1GHz -47 dBm > 1GHz |

Transmitter

| | VHF | UHF |
|---|---|---|
| Frequencies | 146-174MHz | 438-470MHz |
| Channel Spacing | 12.5/20/25kHz | 12.5/20/25kHz |
| Frequency Stability (-30 C + 60 C, +25 C) | +/-2.5ppm | +/-2.5ppm |
| Modulation Limiting | +/-2.5kHz (12.5kHz) +/-4kHz (20kHz) +/-5kHz (25kHz) | +/-2.5kHz (12.5kHz) +/-4kHz (20kHz) +/-5kHz (25kHz) |
| FM Hum and Noise | -40 dB (12.5kHz) -45 dB (25kHz) | -35 dB (12.5kHz) -40 dB (25kHz) |
| Conducted/Radiated Power | -36 dBm < 1GHz -30 dBm > 1GHz | -36 dBm < 1GHz -30 dBm > 1GHz |
| Adjacent Channel Power | -60 dB (12.5kHz) -70 dB (25kHz) | -60 dB (12.5kHz) -70 dB (25kHz) |
| Audio Response | TIA603 | TIA603 |
| Audio Distortion | 3% typical | 3% typical |
| FM Modulation | 11K0F3 (12.5kHz) 16K0F3E (25kHz) | 11K0F3 (12.5kHz) 16K0F3E (25kHz) |

For more information:



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MD-EUCM200/300

Motorola's Commercial, Government and Industrial Solutions Sector (CGISS) is a recipient of the prestigious 2002 Malcolm Baldrige National Quality Award, in recognition of its commitment to performance excellence and quality achievement.