MOTOROLA
intelligence everywhere™



INTRODUCING THE COMMERCIAL SERIES MOBILE TWO-WAY RADIOS



A MOBILE RADIO THAT FITS YOUR BUSINESS, YOUR BUDGET AND YOUR VEHICLE



Benefiting from a 75 year history in the business of communication, Motorola welcomes you to the future of two-way radio with the Commercial Series. Comprising four new mobile radios for powerful in-vehicle or fixed site communications, the family also includes portable radios for workteams that need to keep in touch wherever they are working.





Keep the lines of communication open with the Motorola Commercial Series

As some of the smallest mobile radios on the market, the robust and rugged Motorola Commercial Series mobile radios offer communicators voice and build quality that will not let them down.

CM140 AND CM340

A simple single-digit display, up to ten channels of communication and two programmable buttons (allowing up to four single-push functions) make the radio easy to use.

CM160 AND CM360

For those with more sophisticated requirements, these radios have an eight-character display and up to 64 or 100 channels (depending upon radio signalling protocol*). The CM160 features up to four programmable buttons (allowing up to eight single-push functions) and the CM360 has three (for six single-push functions).

Additional features like encryption for increased security or data transfer capabilities can be added to the CM160 and CM360 via PROIS option boards developed by approved Motorola Application Partners. Option boards also allow for the development of customer-specific applications so that organisations can maximise the benefit gained from their radios.

*Some features depend upon the radio communications protocol that is chosen. Commercial Series mobiles are available in 5 Tone/PL and MDC/PL protocols. Let your local Motorola Authorised Dealer guide you through the benefits of the most suitable solution for your organisation.



QUALITY AND RELIABILITY

Designed and built to the gruelling American standard MIL spec 810F and exceeding the exacting IP54 standard for environmental protection, all Commercial Series radios have also passed the Motorola Accelerated Life Test which replicates five years of hard use in the field.

Motorola's voice-compression technology, called X-Pand™, offers users excellent audio quality at the touch of a button.

CONTINUOUS COMMUNICATION

The 'repeater talkaround' function allows users to stay in touch should the radio repeater for their area stop working or when users work beyond its range. Repeater talkaround is particularly useful where the electricity supply can be unreliable – often when communication is most important.

BUDGET-CONSCIOUS

Not only does the Commercial Series offer a fantastic range of features in one of the smallest packages on the market, but users of other Motorola mobile radios like the GM300, GM350 and GM900, can reuse many of their existing accessories, saving time and money. All radios are supplied with a microphone, mounting bracket and power cable.

MOTOROLA PROVIDES YOUR ORGANISATION WITH THE TOOLS TO COMMUNICATE



EASY-TO-USE

Users benefit from an intuitive menu system and large, clearly-labelled buttons. Radios have either a simple single-character display or a clear eight-character starburst display with ten simple-to-understand icons.

PROTECTING USERS AND EQUIPMENT

Looking after employees and resources is paramount to stay ahead. With this in mind, the radios feature 'emergency mode'. A single button press is all it takes to alert colleagues or base that assistance is required.

With 'lone worker' function, the radio can be set up to request a response from a user at regular intervals. If the user is unable to give the 'okay' message then a defined emergency procedure is activated.



A stolen vehicle's radio can be 'stunned' to prevent usage and 'unstunned' upon retrieval.

TARGETED COMMUNICATION

Selective calling lets users talk one-to-one without disturbing the rest of the team, ideal when sensitive issues occur. The CM360 also displays the caller's identity and when a call is missed, the caller's identity is stored for retrieval at a convenient time.

INSTALLATION VERSATILITY

The Commercial Series mobile radios are truly DIN-mountable and offer a number of other mounting options.

For added security, the keylock mount guards against unauthorised removal. A desktop tray with integrated speaker is also available for use in an office or control room.

INTELLIGENT AND CUSTOMISABLE

The Commercial Series is supported by a range of accessories that personalises an individual's radio. These include microphones and steering wheel mountable and foot-operated PTT buttons for safe usage of driver-operated radios.

OTHER FEATURES

Nuisance channel delete
Monitor
System Scan

A MOBILE RADIO THAT FITS YOUR BUSINESS

The versatile Commercial Series mobile radios are particularly suitable for the cost-conscious and fast-moving taxi and courier/distribution markets where data capabilities allow quick transmission of passenger and delivery information.

For agricultural and environmental organisations, lone workers are protected by built-in safety features so that help and advice from colleagues is only a button-press away.

Within local government operations, one-to-one calling is ideal for contact between supervisor and team member without disturbing busy colleagues.



Black Desk Microphone



Keypad Microphone



Mag One Microphone



Desktop Tray without Speaker



13W External Speaker



Keylock Mount

TECHNICAL SPECIFICATIONS

General Specifications	Mid Band	VHF	UHF
Channel Capacity	CM340 10, CM360 100	CM140 8, CM160 64, CM340 10, CM360 100	
Frequency	66-88MHz	VHF1 136-162MHz VHF2 146-174MHz	UHF1 403-440MHz UHF2 438-470MHz
Power	1-25W	1-25W, 25-45W	1-25W, 25-40W
Channel Spacing	12.5/20/25KHz		
Dimensions (HxWxL)	44x169x118mm		
Weight	1.02Kg		
Antenna Connector	BNC		
Current Drain – Standby	0.3A		
– Rx@ rated, external 8ohm speaker	1.5A		
– Transmit (25W, max)	7A	8A	8A

Receiver	Mid Band	VHF	UHF
Frequency Stability (-30 deg C +60 deg C, +25 deg C)	± 5 ppm	± 2.5 ppm	
Sensitivity (12db Sinad)	0.35µV (12.5KHz) 0.3µV (25KHz) typical		
Intermodulation	65dB		
Adjacent Channel Selectivity	60dB (12.5KHz) 70dB (25KHz)	65dB (12.5KHz) 75dB (25KHz)	60dB (12.5KHz) 70dB (25KHz)
Spurious Rejection	70dB	75dB	70dB
Rated Audio (external audio with 4 ohm speaker)	4W internal 13W external		
Audio Distortion	3% typical		
Hum and Noise	-40dB (12.5KHz) -45dB (25KHz)	-40dB (12.5KHz) -45dB (25KHz)	-35dB (12.5KHz) -40dB (25KHz)
Audio Response	TIA603		
Conducted Spurious Emission	-57dBm < 1GHz	-47dBm > 1GHz	

Transmitter	Mid Band	VHF	UHF
Frequency Stability (-30deg C +60deg C, +25deg C)	± 5ppm	± 2.5ppm	
Modulation Limiting	± 2.5KHz (12.5KHz) ± 4KHz (20KHz) ± 5KHz (25KHz)		
FM Hum & Noise	-40dB (12.5KHz) -45dB (25KHz)	-40dB (12.5KHz) -45dB (25KHz)	-35dB (12.5KHz) -40dB (25KHz)
Conducted Spurious Emissions	-36dBm < 1GHz	-30dBm > 1GHz	
Adjacent Channel Power	-60dB (12.5KHz)	-70dB (25KHz)	
Audio Response	TIA603		
Audio Distortion	3% typical		

MODEL NUMBERS

Name	Model Number	Signalling	Channels	Frequency	Power
CM140	MDM50JNC9AA2AN	PL	8	VHF1 136-162MHz	1-25W
CM140	MDM50KNC9AA2AN	PL	8	VHF2 146-174MHz	1-25W
CM140	MDM50QNC9AA2AN	PL	8	UHF1 403-440MHz	1-25W
CM140	MDM50RNC9AA2AN	PL	8	UHF2 438-470MHz	1-25W
CM160	MDM50JNF9AA2AN	PL	64	VHF1 136-162MHz	1-25W
CM160	MDM50KNF9AA2AN	PL	64	VHF2 146-174MHz	1-25W
CM160	MDM50QNF9AA2AN	PL	64	UHF1 403-440MHz	1-25W
CM160	MDM50RNF9AA2AN	PL	64	UHF2 438-470MHz	1-25W
CM140	MDM50KQC9AA2AN	PL	8	VHF2 146-174MHz	25-45W
CM140	MDM50RPC9AA2AN	PL	8	UHF2 438-470MHz	25-40W
CM160	MDM50KQF9AA2AN	PL	64	VHF2 146-174MHz	25-45W
CM160	MDM50RPF9AA2AN	PL	64	UHF2 438-470MHz	25-40W
CM340	MDM50FNC9AN2AN	5 Tone	10	MB 66-88MHz	1-25W
CM340	MDM50JNC9AN2AN	5 Tone	10	VHF1 136-162MHz	1-25W
CM340	MDM50KNC9AN2AN	5 Tone	10	VHF2 146-174MHz	1-25W
CM340	MDM50QNC9AN2AN	5 Tone	10	UHF1 403-440MHz	1-25W
CM340	MDM50RNC9AN2AN	5 Tone	10	UHF2 438-470MHz	1-25W
CM360	MDM50FNF9AN2AN	5 Tone	100	MB 66-88MHz	1-25W
CM360	MDM50JNF9AN2AN	5 Tone	100	VHF1 136-162MHz	1-25W
CM360	MDM50KNF9AN2AN	5 Tone	100	VHF2 146-174MHz	1-25W
CM360	MDM50QNF9AN2AN	5 Tone	100	UHF1 403-440MHz	1-25W
CM360	MDM50RNF9AN2AN	5 Tone	100	UHF2 438-470MHz	1-25W

ENVIRONMENTAL SPECIFICATIONS & STANDARDS

Operating Temperature	- 20 to + 55 deg C
Storage Temperature	- 40 to + 85 deg C
Thermal Shock	- 40 to + 80 deg C
Humidity	95%RH @ 50 deg C for 8 hr
Dust & Water Intrusion	IP 54
Mobile Military Standards 810F	
Conforms to CE Directives: – RTTE Directive 1999/5/EC – Automotive Directive 72/245/EEC (95/54/EC) – Applicable EN Standards EN300086, EN301489 01/05, EN60950, EN300113	
ISO 9001 Standard – Compliance with ISO 9001, an international quality system assurance on design, development, production, installation and servicing of a product.	

All specifications are subject to change without notice.



ACCESSORIES

Microphones	
HMN3413	Compact Microphone
HMN1035	Heavy Duty Microphone
MDRMN5018	Mag One Microphone
MDRMN5029	Keypad Microphone
MDRMN5019	Mag One Keypad Microphone
MDREX4617	Telephone Style Handset
Handsfree Communication	
GMMN4065	Omni-directional Visor Microphone
RLN4856	Footswitch with Remote PTT
RLN4857	Pushbutton with Remote PTT
RLN4858	Gooseneck PTT
RLN4836	External PTT with Emergency Footswitch
In-Vehicle Mounting	
FTN6083	DIN Mount
GLN7324	Low Profile Mounting Bracket
GLN7317	High Profile Mounting Bracket
RLN4779	Keylock Mount
Desktop Solutions	
HMN3000	Black Desk Microphone
RLN5390	Desktop Tray with Speaker
RLN5391	Desktop Tray without Speaker
Speakers	
HSN8145	7.5W External Speaker
RSN4001	13W External Speaker
Specialist Solutions	
HLN9328	External Alarm Relay Cable
GLN7282	Buzzer Kit

For more information contact your local Motorola authorised two-way radio dealer:

CM.FB-RE (03/04)

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