



MTM5000 SERIES TETRA TWO-WAY MOBILE RADIO

The MTM5000 Series TETRA mobile radios are sleek and durable and packed with features that have become essential for safe and effective operations. These include End-to-End Encryption and features that enable ease of operation in the most demanding situations such as high audio quality, high receiver sensitivity, an intuitive keypad, and a high-definition colour display.

The MTM5000 series mobile radios support a wide range of applications and installation options including: fixed control room, vehicle, motorcycle and custom installation.

MTM5000 SERIES BENEFITS

- Extended Operational Range
- Superior Audio Performance
- Low User Migration Costs
- Enhanced End-to-End Encryption Options
- Location Services
- Advanced Terminal Management
- Flexible Installation Options
- Rugged Design with Exceptional Reliability



MTM5000 SERIES SPECIFICATIONS



	MTM5200	MTM5400	MTM5500
MODELS - COMPLIANT WITH DIN 75490 (ISO 7736)			
Dash	Compact radio for fast vehicle installation		N.A.
Desk	Compact radio, for use in the office. Optional range of accessories such as desk tray with integrated loudspeaker		N.A.
Multiple Remote Control Head	N.A.		Radio with multiple remote mount control head capability
	N.A.		Range of installation options enable use in cars, vans and other vehicles
Multiple Transceiver or Control Head	N.A.	Radio with multiple remote mount control head capability	Range of installation options enable use in cars, vans and other vehicles
Motorcycle	Environmentally enhanced radio meeting IP67 specification. Suitable for demanding environments such as motorcycle, fire appliance and marine installations		N.A.
Expansion head "Databox"	Radio without a control head, for data applications, or customised application development		

GENERAL										
		MTM5200	Dimensions H x W x D (mm)	Weight Typical (g)	MTM5400	Dimensions H x W x D (mm)	Weight Typical (g)	MTM5500	Dimensions H x W x D (mm)	Weight Typical (g)
Dash / Desk Mount	Transceiver & Control Headhead)		60 x 188 x 198	1,500		60 x 188 x 198	1,500	N.A.		
	Dash / Desk Control Head		60 x 188 x 31	230		60 x 188 x 31	230	N.A.		
Remote Mount	Transceiver & Expansion Head		45 x 170 x 185	1117		45 x 170 x 185	1117		45 x 170 x 196	1330
	Remote Control Head		60 x 188 x 39	300		60 x 188 x 39	300		60 x 188 x 39	330
	IP67 Control Head		60 x 188 x 39	320		60 x 188 x 39	320	N.A.		
	Telephone Style Control Head	N.A.		N.A.			220 x 65 x 75	450 (excluding cable)		
Databox	Transceiver & Expansion Head		45 x 170 x 194	1201		45 x 170 x 194	1201		45 x 170 x 196	1330

		USER INTERFACE & DISPLAY								
Display	Diagonal dimension	2.8"								
	Type	VGA - 640x480 pixels, 65,000 colours								
	Backlight	Variable backlight, User configurable								
	Font sizes	Standard & Zoom mode (90 pixels, 4.5mm high) characters								
TSCH		N.A.						Available as option		
Buttons & Keypad	Numeric	Integral backlit numeric keypad of 12 keys, with keypad lock option								
	International keypad versions ¹	Roman, Arabic, Cyrillic, Korean, Chinese, Taiwanese characters								
	Programmable function keys	3 programmable function keys (plus 10 programmable numeric keys)								
	Navigation	4-way navigation key, menu and soft keys								
Rotary	Emergency	Emergency button with backlight								
	Shortcuts	User configurable shortcuts to menus and common features using "One-Touch-Button" feature								
Indication	Dual Function	Talkgroup and volume change with lock option								
	LED	Tri-colour LED								
User Interface Languages	Tones	Configurable notification tones								
	Standard Options	Arabic, Chinese Simplified, Chinese Traditional, Croatian, Danish, Dutch, English, French, German, Greek, Hebrew, Hungarian, Italian, Korean, Lithuanian, Macedonian, Mongolian, Norwegian, Portuguese, Russian, Spanish, Swedish								
Menu	User defined	User programmable, using ISO 8859-1 character								
		Tailored to user needs								
Contacts Management		Menu Shortcuts								
		Menu Configuration								
Contact List		Cellular Type								
		Up to 1,000 contacts								
Multiple Dialling Methods		Up to 6 numbers per contact, Max 2,000 numbers								
	Fast/Flexible Call Response	User selects how to dial								
Message Manager	Multiple Ring Tones	Private Call Response to a Group Call via One Touch Button								
	Text message list	Configurable with CPS								
Intelligent Keypad Text Input		Cellular Type								
		20								
Status list		All Control Heads								
		400								
Country/Network Code List		100								
	Scan lists	40 lists of 20 groups								
Screen Saver		All Control Heads								
	Universal Time Display	gif image & text (any user's selection)								
Keypad Lock		All Control Heads								
		All Control Heads								
Talkgroup Folders		Dual layer folder structure (folder/subfolder)								
		256 folders								
Favourite Folders		Up to 3 (to store any favourite talkgroup)								

¹ For availability of other language keypads please contact your local Motorola Solutions representative

MTM5000 SERIES SPECIFICATIONS

		MTM5200	MTM5400	MTM5500
ELECTRICAL SPECIFICATIONS				
Voltage Range		10.8 to 15.6 V DC		
Current Consumption (A, typ.)	Idle / Rx / Tx @ 10W	N.A.	0.5 / 1.0 / 1.2 (TX 3.4A Peak)	
	Idle / Rx / Tx @ 3W	0.5 / 1.0 / .9 (TX 2.2A Peak)		
	Tx - Multi Slot PD (4 slots) @ 5.6W	N.A. (3W only)	2.7	
	Using USB host	Adds 0.5A		
RF SPECIFICATIONS				
Frequency Bands (MHz)		350 - 390, 380 - 430, 410 - 470, 806 - 870		
Transmitter RF Power		TETRA Release 1	N.A. (3W only)	10W (Class 2) and 3W (Class 3)
RF Power Control		6 Power Step Levels (steps of 5 dBm)	Starting at 15 dBm; finishing at 40 dBm	
Receiver Class		A & B		
Receiver Static Sensitivity (dBm)		-114 minimum, -116 typical (ETSI 300-392-2)		
Receiver Dynamic Sensitivity (dBm)		-105 minimum, -107 typical (ETSI 300-392-2)		
GNSS SPECIFICATIONS				
Simultaneous Satellite Systems		GPS plus one other GNSS, eg GLONASS, BeiDou		
Mode of Operation		Concurrent tracking, SBAS capable, 72 channel		
GNSS Antenna		Supports active antenna (5V, 25mA supply)		
Acquisition Sensitivity		-145 dBm (guaranteed); -146 dBm (typical)		
Tracking Sensitivity		-162 dBm (guaranteed); -163 dBm (typical)		
Horizontal Accuracy, 2D		5m (95% probable) @ -130dBm		
Location Protocols		ETSI Location Information Protocol (LIP) Motorola LRRP		
ENVIRONMENTAL SPECIFICATIONS				
Operating Temperature (°C)		-30 to +60		
Storage Temperature (°C)		-40 to +85		
Not in use - Storage		ETSI 300 019-1-1 CLASS 1.3	Non-Weather Protected Storage Locations	
Not in use - Transportation		ETSI 300 019-1-2 CLASS 2.3	Public Transportation	
Stationary use - Weather Protected Locations		ETSI 300 019-1-3 CLASS 3.2	Partly Temperature Controlled Locations	
Mobile use - Ground Vehicle Installation		ETSI 300 019-1-5 CLASS 5.2	Climatic Tests	
Mobile use - Ground Vehicle Installation		ETSI 300 019-1-5 CLASS 5M3	Mechanical Tests	
Rail Certification Environmental		EN50155:2007 and IEC60571 ED.3.0	Environmental	
MIL STD		810 C/D/E/F/G Specifications	All 11 categories met (or exceeded)	
Dust and Water Ingress Protection		IP54 (dust cat. 2) IP67	Dash/Desk/Remote models Motorcycle model (only control head is IP67; transceiver is IP54)	MTM5500 TSCH IP55
VOICE SERVICES				
Talkgroups		10,000 TMO, 2,000 DMO		
Phone book entries		1,000 persons. Up to 6 numbers per entry (mobile, office etc). Max 2,000 entries		
Scan lists		40 lists of 20 talkgroups		
Trunked Mode (TMO) Services	Group call	Late Entry, TMO/DMO Mapping		
	Private call	Half / Full Duplex		
	Telephony (PABX, PSTN, MS-ISDN)	Full Duplex		
	DGNA	Up to 10,000 groups		
Direct Mode (DMO) Services	Scanning	Attachment signalling, supports SWMI initiated attachment/detachment		
		Group call Private call		
Emergency (tailored by users)	Tactical	Emergency Group Call to ATTACHED talkgroup		
	Non-Tactical	Emergency Group Call to DEDICATED talkgroup		
	Individual	Emergency Call to PREDEFINED party (half/full duplex)		
	Smart emergency	TMO to DMO and DMO to TMO automatic switching options		
	Hot Mic	Configurable timers for automatic open mic (talk without PTT)		
	Location	Location (GPS) sent with emergency		
	Target Address	Sent to individual or group address (selected or dedicated)		
Alarm (status message)	Emergency Status (or other pre-defined status)			
DATA SERVICES				
Status	Alias messages Options	400 Entries Can be sent via One-Touch or via menu Up to 200 Entries (short messages) At least 20 Entries for Outbox (long messages) ² At least 10 Entries for Inbox (long messages) ²		
Short Data Service (SDS)	Inbox/Outbox	Cellular style iTAP predictive text entry		
	Predictive Text	Sent to individual or group address (selected or dedicated)		
	Target Address	SDS messages can be sent and received during a voice call		
Packet Data (PD)	Voice Call Interaction	Data transmission with up to 4 slots supporting up to 28.8 kbit/s gross		
WAP	Multi-slot PD	Integrated Openwave browser		
	Integrated WAP browser (including WAP-PUSH)	WAP 1.2.x and WAP 2.0 compatibility for UDP/IP Stack AT Commands - Full Set ETSI Mandatory Compliant		
Peripheral Equipment Interface (PEI)	Interface Protocol	AT Multiplexer - 4 Virtual Physical Port (simultaneous PD, SDS, AT commands and Air Tracer SESSIONS) TNP1; enables simultaneous PD and SDS sessions		
Terminal Management		Programmable via Motorola Integrated Terminal Management (ITM) solution		

² Long messages of up to 1,000 characters

MTM5000 SERIES SPECIFICATIONS

		MTM5200	MTM5400	MTM5500
GATEWAY SERVICES				
DMO/TMO Gateway		N.A.		Group voice calls from DMO to TMO
		N.A.		Group voice calls from TMO to DMO
		N.A.		Emergency group call from DMO to TMO
		N.A.		Emergency group call from TMO to DMO
		N.A.		Call Pre-emption (in either direction)
		N.A.		SDS messaging through the gateway from DMO to TMO or TMO to DMO
		N.A.		Configurable routing of SDS messages to console or PEI ³
		N.A.	Point to point calls and SDS messages whilst operating as a Gateway	
REPEATER SERVICES				
DMO Repeater		N.A.		Repeats DMO voice calls on selected talkgroup
		N.A.		Repeats SDS and Status messaging on selected talkgroup
		N.A.		ETSI type 1A DMO Repeater for channel efficient operation
		N.A.		Transmission of Repeater Presence Signal
		N.A.		Priority Call
		N.A.		Emergency Call (Pre-emptive Priority Call)
		N.A.		E2EE Encrypted DMO traffic
		N.A.		Monitoring of and participation in calls whilst in Repeater mode
		N.A.	Configurable Repeater Power Levels	
INTERFACES				
RS232		Four Virtual Ports via AT Multiplexer enable PC applications to run simultaneously Packet Data, AT Commands, SDS, SCOUT		
USB		USB 2.0 support for PEI (Two Virtual Ports via standard Windows drivers enable PC applications to run simultaneously Packet Data and AT Commands)		
		USB 2.0 support for PEI (Four Virtual Ports via AT Multiplexer enable PC applications to run simultaneously Packet Data, AT Commands, SDS, SCOUT); rapid programming		
		USB On-The-Go (host & slave) capability for intelligent PEI applications		
Rugged Accessory Connector (GCAI)		GCAI - Motorola accessory and ancillary interface for connection of accessories, data terminals and programming		
General Purpose Input/Output	Digital I/O	7 (4 on remote and motorcycle control head, 3 on transceiver)		
	Analog input	4 (1 on remote and motorcycle control head, with 4 levels)		
SECURITY FEATURES				
Air Interface Encryption	Algorithms	TEA1, TEA2, TEA3		
	Security Classes	Class 1 (Clear), Class 2 (SCK), Class 3G		
	Authentication	Infrastructure initiated and made mutual by terminal		
Provisioning		Secure provisioning tool via Key Variable Loader (KVL)		
User Access Control		PIN/PUK code access		
	Service Profile Selection for Radio User Assignment / Radio User Identity (RUA/RUI) Operation	Based on login credentials, a radio user can be limited to only those radio capabilities defined in pre-installed service profiles, selected by the infrastructure		
Data		Packet Data user authentication		
End to End Encryption (E2EE)	Voice E2EE	Enhanced End-to-End Encryption with OTAR supported through		
	Packet Data E2EE	Universal Crypto Module (UCM) and SIM (via integrated card slot) and or		
	Short Data (SDS) E2EE	Crypt 2 Broadband IP unit.		
E2EE with SIM Card	Internal SIM Card	Slotted into SIM Card slot on the transceiver		
	External SIM Card	Via External SIM Card Reader connected to rear accessory connector on transceivers or to RJ50 Data port on MTM5500 transceiver		
REGULATORY COMPLIANCE				
Radio (RED Article 3.2)		EN 302 561		
EMC (R&TTE Article 3.1.b)		EN 301 489-1		
		EN 301 489-18		
Electrical Safety (R&TTE Article 3.1.a)		EN 60950-1		
		EN50360 EME		
Environmental		WEEE Directive		
		EN50155 (IEC 60571 ED. 3.0)		
Automotive		E-mark, ECE Regulation No.10 for Electrical/Electronic-Subassembly		
Rail Certification EMC		EN50121-3-2 (IEC 62236-3-2 Ed.2.0)		

³ Future software release

For more information, please visit: motorolasolutions.com/MTM5000

Specifications are subject to change without notice.

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. ©2021 Motorola Solutions, Inc. All rights reserved. (11-21)