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

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MTM5000 SERIES SPECIFICATIONS

		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		Radio with multiple remote mount control head capability	Range of installation optionsenable use in cars, vans andother 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							
		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	N.A.		
	Dash / Desk Control Head		60 x 188 x 31	230	N.A.		
Remote Mount	Transceiver & Expansion Head		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	330
	IP67 Control Head		60 x 188 x 39	320	N.A.		
	Telephone Style Control Head	N.A.				220 x 65 x 75	450 (excluding cable)
Databox	Transceiver & Expansion Head		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
	Emergency	Emergency button with backlight
	Shortcuts	User configurable shortcuts to menus and common features using "One-Touch-Button" feature
Rotary	Dual Function	Talkgroup and volume change with lock option
Indication	LED	Tri-colour LED
	Tones	Configurable notification tones
User Interface Languages	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
	User defined	User programmable, using ISO 8859-1 character
Menu		Tailored to user needs
		Menu Shortcuts
		Menu Configuration
Contacts Management		Cellular Type
Contact List		Up to 1,000 contacts
		Up to 6 numbers per contact, Max 2,000 numbers
Multiple Dialling Methods		User selects how to dial
Fast/Flexible Call Response		Private Call Response to a Group Call via One Touch Button
Multiple Ring Tones		Configurable with CPS
Message Manager		Cellular Type
Text message list		20
Intelligent Keypad Text Input		All Control Heads
Status list		400
Country/Network Code List		100
Scan lists		40 lists of 20 groups
Discrete Mode		All Control Heads
Screen Saver		gif image & text (any user's selection)
Universal Time Display		All Control Heads
Keypad Lock		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

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ELECTRICAL SPECIFICATIONS			
Voltage Range		10.8 to 15.6 V DC	
Current Consumption (A, typ.)	Idle / Rx / Tx @ 10W	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	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	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			
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)	Dash/Desk/Remote models	
	IP67	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	
	Scanning	Attachment signalling, supports SWMI initiated attachment/detachment	
Direct Mode (DMO) Services		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	400 Entries	
	Options	Can be sent via One-Touch or via menu	
Short Data Service (SDS)	Inbox/Outbox	Up to 200 Entries (short messages) At least 20 Entries for Outbox (long messages)[2] At least 10 Entries for Inbox (long messages)[2]	
	Predictive Text	Cellular style iTAP predictive text entry	
	Target Address	Sent to individual or group address (selected or dedicated)	
	Voice Call Interaction	SDS messages can be sent and received during a voice call	
Packet Data (PD)	Multi-slot PD	Data transmission with up to 4 slots supporting up to 28.8 kbit/s gross	
WAP	Integrated WAP browser (including WAP-PUSH)	Integrated Openwave browser	
		WAP 1.2.x and WAP 2.0 compatibility for UDP/IP Stack	
Peripheral Equipment Interface (PEI)	Interface Protocol	AT Commands - Full Set ETSI Mandatory Compliant	
		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

		MTM5400	MTM5500
GATEWAY SERVICES			
DMO/TMO Gateway		Group voice calls from DMO to TMO	
		Group voice calls from TMO to DMO	
		Emergency group call from DMO to TMO	
		Emergency group call from TMO to DMO	
		Call Pre-emption (in either direction)	
		SDS messaging through the gateway from DMO to TMO or TMO to DMO	
		Configurable routing of SDS messages to console or PEI[3]	
		Point to point calls and SDS messages whilst operating as a Gateway	
REPEATER SERVICES			
DMO Repeater		Repeats DMO voice calls on selected talkgroup	
		Repeats SDS and Status messaging on selected talkgroup	
		ETSI type 1A DMO Repeater for channel efficient operation	
		Transmission of Repeater Presence Signal	
		Priority Call	
		Emergency Call (Pre-emptive Priority Call)	
		E2EE Encrypted DMO traffic	
		Monitoring of and participation in calls whilst in Repeater mode	
		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	
		USB 1.1 support (Host Mode) to manage USB Slave Devices (e.g. SIM CARD READER)	
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 Universal Crypto Module (UCM) and SIM (via integrated card slot) and or Cryptr 2 Broadband IP unit.	
	Packet Data E2EE		
	Short Data (SDS) E2EE		
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.

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