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

MOTOROLA SOLUTIONS

	MTM5400	MTM5500

MODELS - COMPLIANT WITH DIN 75490 (ISO 7736)

Dash	Compact radio for fast vehicle installationN.A.	
Desk	Compact radio, for use in the office. Optional range of accessories such as desk tray with integrated loudspeakerN.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 capabilityRange of installation optionsenable use in cars, vans andother vehicles	
Motorcycle	Environmentally enhanced radio meeting IP67 specification. Suitable for demanding environments such as motorcycle, N.A. fire appliance and marine installations	
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

Diagonal dimension2.8"
TypeVGA - 640x480 pixels, 65,000 colours
Display
BacklightVariable backlight, User configurable
Font sizesStandard & Zoom mode (90 pixels, 4.5mm high) characters
TSCHN.A.Available as option
NumericIntegral backlit numeric keypad of 12 keys, with keypad lock option
International keypad versions1Roman, Arabic, Cyrillic, Korean, Chinese, Taiwanese characters

Buttons & KeypadProgrammable function keys3 programmable function keys (plus 10 programmable numeric keys)

Navigation4-way navigation key, menu and soft keys
EmergencyEmergency button with backlight
ShortcutsUser configurable shortcuts to menus and common features using "One-Touch-Button" feature
RotaryDual FunctionTalkgroup and volume change with lock option

IndicationLEDTri-colour LED
TonesConfigurable notification tones

User Interface Standard OptionsArabic, Chinese Simplified, Chinese Traditional, Croatian, Danish, Dutch, English, French, German, Greek, Hebrew, Hungarian, Italian, Korean, Lithuanian,
Macedonian, Mongolian, Norwegian, Portuguese, Russian, Spanish, Swedish
Languages
User definedUser programmable, using ISO 8859-1 character
Tailored to user needs
MenuMenu Shortcuts
Menu Configuration
Contacts ManagementCellular Type
Contact ListUp to 1,000 contacts

Up to 6 numbers per contact, Max 2,000 numbers
Multiple Dialling MethodsUser selects how to dial
Fast/Flexible Call ResponsePrivate Call Response to a Group Call via One Touch Button
Multiple Ring TonesConfigurable with CPS
Message ManagerCellular Type
Text message list 20
Intelligent Keypad Text InputAll Control Heads
Status list 400
Country/Network Code List100
Scan lists40 lists of 20 groups
Discrete ModeAll Control Heads
Screen Savergif image & text (any user's selection)
Universal Time DisplayAll Control Heads
Keypad LockAll Control Heads

Talkgroup FoldersDual layer folder structure (folder/subfolder)
256 folders
Favourite FoldersUp to 3 (to store any favourite talkgroup)

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

		MTM5400	MTM5500
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 PowerTETRA Release 1		10W (Class 2) and 3W (Class 3)	
RF Power Control6 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 - StorageETSI 300 019-1-1 CLASS 1.3		Non-Weather Protected Storage Locations	
Not in use - TransportationETSI 300 019-1-2 CLASS 2.3		Public Transportation	
Stationary use - Weather Protected ETSI 300 019-1-3 CLASS 3.2 Locations		Partly Temperature Controlled Locations	
Mobile use - Ground Vehicle ETSI 300 019-1-5 CLASS 5.2 Installation		Climatic Tests	
Mobile use - Ground Vehicle ETSI 300 019-1-5 CLASS 5M3 Installation	Mechanical Tests		
Rail Certification EN50155:2007 and EnvironmentalIEC60571 ED.3.0	Environmental		
MIL-STD810 C/D/E/F/G Specifications		All 11 categories met (or exceeded)	
Dust and Water IP54 (dust cat. 2)	Dash/Desk/Remote models		
Ingress ProtectionIP67	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	
Group call		Late Entry, TMO/DMO Mapping	
Private call		Half / Full Duplex	
Trunked Mode (TMO) Telephony Services(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 Smart emergency 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)	
		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			
Alias messages		400 Entries	
Status Options		Can be sent via One-Touch or via menu	
		Up to 200 Entries (short messages)	
Inbox/Outbox		At least 20 Entries for Outbox (long messages)2	
		At least 10 Entries for Inbox (long messages)2	
Short Data Service (SDS)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	
WAPIntegrated WAP browser (including WAP-PUSH)		Integrated Openwave browser	
		WAP 1.2.x and WAP 2.0 compatibility for UDP/IP Stack	
Peripheral Equipment		AT Commands - Full Set ETSI Mandatory Compliant	
		AT Multiplexer - 4 Virtual Physical Port (simultaneous PD, SDS, AT commands and Air Tracer SESSIONS)	
Interface (PEI)Interface Protocol		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

	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 PEI3	
	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 Digital I/O Input/OutputAnalog input	7 (4 on remote and motorcycle control head, 3 on transceiver)	
	4 (1 on remote and motorcycle control head, with 4 levels)	
SECURITY FEATURES		
Air Interface Encryption — Algorithms	TEA1, TEA2, TEA3	
Air Interface Encryption — Security Classes	Class 1 (Clear), Class 2 (SCK), Class 3G	
Air Interface Encryption — Authentication	Infrastructure initiated and made mutual by terminal	
Provisioning	Secure provisioning tool via Key Variable Loader (KVL)	
	PIN/PUK code access	
User Access Control — 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.	
End to End Encryption (E2EE) — Packet Data E2EE		
End to End Encryption (E2EE) — Short Data (SDS) E2EE	Slotted into SIM Card slot on the transceiver	
E2EE with SIM Card — Internal SIM Card	Via External SIM Card Reader connected to rear accessory connector on transceivers or to RJ50 Data port on MTM5500 transceiver	
E2EE with SIM Card — External SIM Card		
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