MTM800 MOTOROLA TETRA MOBILE TERMINAL 380-430 MHz

GENERAL SPECIFICATIONS	
Dimensions HxWxD mm	49x170x155 (radio only)
	72x185x53 (standard control head)
	58x185x58 (Motorcycle control head)
Weight g	1370 (radio only)
	1670 (radio with control head)
	448 (Motorcycle control head only)
Talkgroups –TMO	2048
Talkgroups –DMO	1024
Phone book entries	1000
Text message list	20
Status list	100
Country code/Network code list	100
Scan List	20 lists of 20 groups

ENVIRONMENTAL	
Operating Temperature °C	-30 to +60
Storage Temperature °C	-40 to +85
Humidity	ETS 300 019-1-5 class 5.1 and 5.2
	EIA/TIA 603 (95%)
Dust and Water -	IP54 (cat.2)
	Standard control head
Dust and Water -	IP57 (cat.2)
	Motorcycle control head
Shock, drop and vibration	ETS 300 019-1-5 class 5M2 and 5M3
	MIL 810 C/D/E/F

RF SPECIFICATIONS		
Frequency Band	MHz	380-430
Transmit Band	MHz	380-430
Receive Band	MHz	380-430
DMO Band	MHz	380-430
RF Channel Bandwidth	kHz	25
Switching Bandwidth (TMO)	MHz	50 (380-430)
Switching Bandwidth (DMO)	MHz	50 (380-430)
Transmitter/Receiver Separation	MHz	10 (380-430)
Transmitter RF Power	Watt	3 (380-430)
		Class 3
RF Power Control		4 Steps of 5 dB
RF Power Level Accuracy +/-	db	2
Receiver Class		A and B
Receiver Static Sensitivity	dBm	-112 minimum
		-114 typical
Receiver Dynamic Sensitivity	dBm	-103 minimum
		-105 typical

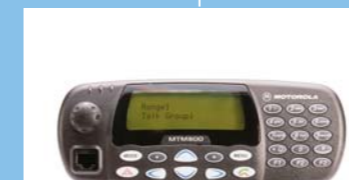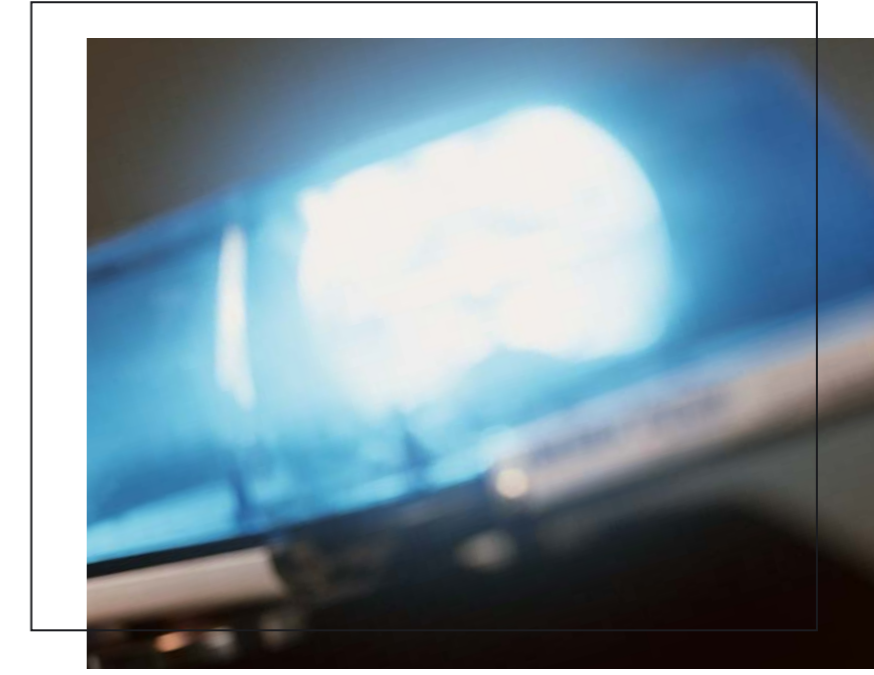| GPS SPECIFICATIONS	
Simultaneous Satellites	12
Mode of operation	Autonomous or assisted (A-GPS*)
GPS antenna	lead with FME connector for standard
	GPS antennae (5V,25mA Supply)
Sensitivity	-152 dbm/-182dbW
Accuracy	5 meter (50% probable)*
	10 meter (95% probable) †
	† Measured at -137 dbm

*Future software upgrade
**Dependant on TETRA Infrastructure
***Requires future software and hardware upgrade

The information contained in this document may be subject to change without further notice

- Please note all product features are subject to infrastructure support
- Selected features are subject to optional software upgrade
- The availability of accessories included in this document are subject to change without notice

SEAMLESS MOBILITY WITH TETRA TECHNOLOGY

MTM800
THE FUTURE OF TETRA, TODAY

GPS LOCATION SERVICES*

Enhance the user safety and efficiency with an integrated high sensitivity GPS receiver. Incorporating the latest semiconductor technology it opens the door for customised automatic vehicle location services and resource management – ensuring you have the right personnel deployed to the right location in the shortest time possible. This solution also includes a full terminal resident software application providing control of the various GPS parameters over the air – minimising the need to recall vehicles for reprogramming.

END-TO-END ENCRYPTION (E2E)***

The fully integrated End-to-End encryption (E2E) technology satisfies the security needs of the most demanding users. As part of a complete E2E solution from Motorola the MTM800 offers support for multiple encryption algorithms and Over-the-Air-Keying using Motorola's Advanced Key Management Facility. The E2E module (UCM) can be factory fitted, provisioned in-country or even retrofitted in the future to meet evolving user requirements.

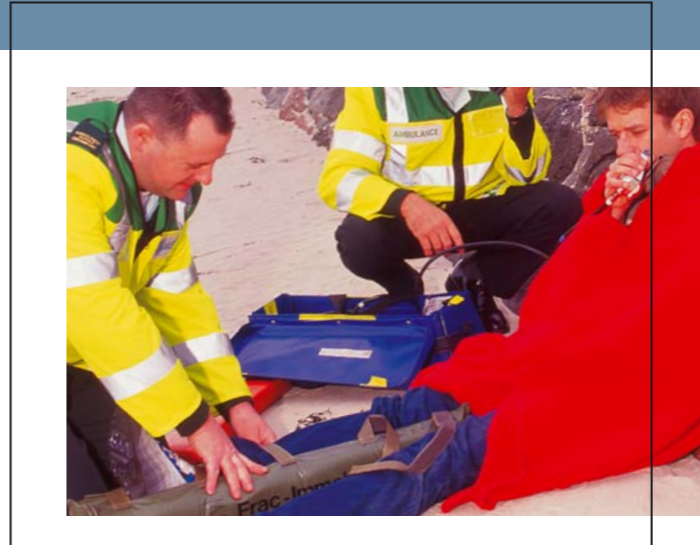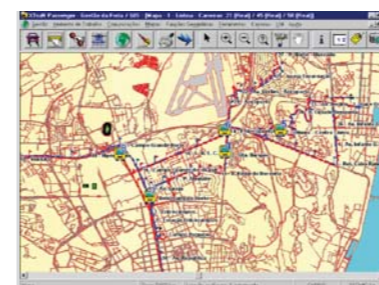## PROVIDING PEOPLE WITH ACCESS TO THE RIGHT INFORMATION TO MAKE THE RIGHT DECISIONS

SEAMLESS ACCESS TO VOICE AND DATA WHEN AND WHERE NEEDED MOST

The MTM800 is Motorola's latest TETRA mobile terminal and forms part of a new platform for mission critical mobile voice and data communication. By delivering fully integrated voice and data services it ensures users have access to up to date intelligence, enabling them to make truly informed decisions.

The MTM800 TETRA mobile solution has been designed to operate in the most demanding environments where communication and timing are vital. With a range of accessories the terminals can be mounted on the dashboard, desktop, motorcycle, remotely or used as a pure data modem for data-only applications. A large graphic display and a dedicated emergency button make it ideal for public safety, ambulance, public transport and industrial users.

The MTM800 uses Motorola's latest TETRA architecture which includes a powerful processor, enhanced memory capacity and wideband RF platform. In addition the inclusion of an integral GPS receiver and support for End-to-End encryption provide state of the art technology in our market-leading suite of TETRA terminals.

Addressing the growing use of mobile data, the MTM800 offers support for true IP Multi-slot packet data, offering data-rates up to four times that of first generation TETRA terminals, enhancing the effectiveness of database queries and file transfer.

FEATURES

VOICE SERVICES SUPPORTED – GROUP:
- Group call – TMO/DMO
  - Late Entry
  - Group call via DMO Gateway
  - TMO / DMO Talkgroup mapping
  - Talk Group INDEX entry dialing via Keypad
  - Hidden Talkgroups
- Direct Mode (DMO)
  - DMO Gateway compatibility
- Announcement Talk Group call
- Smart Emergency call - TMO / DMO
  (including "Hot Mic" option in TMO/DMO*)
  - to selected group, pre-defined group,
  - to individual** or telephone/PABX subscriber**
- Dynamic Group Number Assignment (DGNA) -
  (up to 2047 Groups)
  - Accept DGNA assignment with attachment**
- Local site trunking
- Scanning
  - Background Scanning (Always Scan)**
  - Scan group attachment signaling**
  - Scan on/off status**
  - Support SwMI initiated attachment/detachment**
- Talking Party Identification
- Priority Monitor
- Site Wide Call
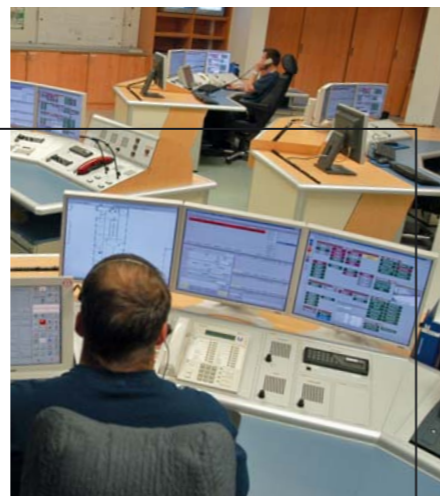
VOICE SERVICES SUPPORTED –PRIVATE CALL:
- Half duplex/full duplex operation
- Flexible dialling (list scroll, short number dial, direct
  entry, alphabetic search, last number called)
- Loud/discreet audio mode (via optional handset)
- Calling line Identification Presentation
- Busy User Pre-emption (Pre-emption
  Priority Call – PPC)

VOICE SERVICES SUPPORTED – TELEPHONE CALL (PABX/PSTN):
- Full duplex operation
- Hands free operation
- Flexible dialling (list scroll, direct dial, alphabetic
  search, speed dial, one-touch dial, last
  number redial)
- DTMF overdial
- Calling line Identification Presentation
- Busy User Pre-emption
  (Pre-emption Priority Call – PPC)

SECURITY SERVICES SUPPORTED:
- Air Interface Encryption:
- Algorithms
  - TEA1, TEA2, TEA3*
- Security Class
  - Class 1: Clear
  - Class 2: Static Cipher Key (SCK)
  - Class 3: Derived Cipher Key (DCK) and
  Common Cipher Key (CCK)
- Authentication
  - Infrastructure Initiated
  - Made mutual by Terminal
- Secure Key Provisioning Tool for customer use
- User crypto key deletion from keypad
- Radio Stun
- PIN/PUK code access
- Packet data user authentication

E2E SECURITY SERVICES SUPPORTED***:
- E2E encryption module with full tamper protection
- Factory or field install (including in-country) of
  E2E module
- Multiple Algorithm support
  - AES algorithm supported
  - Support for National algorithm development
- Multiple simultaneous algorithms supported
- Over The Air Keying (OTAK) of encryption keys

USER SAFETY:
- Dedicated Emergency button
- Keypad lock
- Transmit Inhibit (TXI) – enhanced version
- 'Hot' Microphone emergency (TMO / DMO*)
- Automatic Microphone Gain adjustment during
  'Hot' microphone emergency
- Emergency initiated by external switch (even when
  the terminal is off)
- Ambience Listening
- Site Wide Call

DATA/MESSAGING SERVICES SUPPORTED:
- Short Data Service (SDS)
  - to individual / group target**
- Alphanumeric Text Service (ATS)
- Built-in database enquiry templates
- One-touch status messaging
- Keypad entry of status values**
- Peripheral Equipment Interface (PEI) for external
  RS232 short and packet data devices
- New text message notification during calls
- Automatic status message sent on entering/exiting
  Transmit Inhibit mode
- Multi Slot Packet Data*
- TNP1
- WAP Support using Packet Data Services via PEI

USER INTERFACE FEATURES:
- Alphanumeric Talk Group search
- Loud/discreet audio mode toggle
- Keypad tones on/off
- Alert tones on/off
- Configurable Notification tones
- Backlight options (disabled, manual, automatic and
  semi-automatic)
- Scan list edit via keypad
- Address book edit via keypad
- Pre-programmed languages (English, French,
  German, Spanish, Dutch,)

- User definable display languages
  (ISO 8859-1 characters)
- 2 dedicated context sensitive menu softkeys
- 3 dedicated programmable function buttons
- One-touch functions on numeric keypad (10 entries)
- One-touch Phone / Private / PABX / Status / Talk
  Group / TXI / Database template / Text message
  template
- Full access to menu system during calls
- Call history missed/received
- Backlight intensity manually adjusted via
  front panel

GPS LOCATION SERVICE:
- Fully integrated single chip GPS receiver
  - Low current and high sensitivity GPS
  - Autonomous and assisted GPS support
  - Location Request/Response Protocol (LRRP) for
    positioning data transportation
  - Combined GPS / TETRA or GPS only
    mobile antenna
  - Storage of position data in terminal for post
    processing etc*.
  - GPS disable option for special operations
  - Authentication of GPS Location Service
    dispatchers
- Full programmable position update
  triggers including:
  - On request
  - Delta distance
  - Emergency Alerting
  - Delta time
  - On power-up/power down
  - TXi enable/disable
  - DMO/TMO switching
  - With status transmission*
  - With message transmission*
  - With site handover*
  - On group attachment*
  - Full over the air programmability of all GPS
    Location Service parameters*

OTHER:
- Multiple software upgrade capability
- Programming software automatic logging of
  logistical information
- Customer Programming Software Codeplug
  Password enable
- Enhanced Mobility operation (including
  subscriber classes)
- Favourite Talk Group (DMO/TMO Talk Groups)

ENHANCE YOUR MTM800 MOTOROLA TETRA MOBILE TERMINAL WITH A WIDE RANGE OF ACCESSORIES

Professional users of mobile radios have specific needs, requirements and working conditions within a highly demanding environment. Motorola provides complete two-way radio communication solutions with a wide selection of microphones, speakers, in-vehicle accessory kits and remote mounting kits. Professional users can customise their MTM800 mobile terminal to satisfy their individual communications needs above and beyond those already incorporated in the standard package.

SPEAKERS

Suitable for Desktop and In-Vehicle Solutions

GMSN4066 - External speaker 13 watts
GMSN4078 - Compact external speaker 5 watts

DESKTOP SOLUTION

Offers a simple and easy-to-install "mobile-in-tray" option suitable for local dispatching operations. The following accessories are required:

AUDIO ACCESSORY
GMMN4064 - Desktop microphone

MOUNTING OPTION
GLN7318 - Desktop Tray without speaker

POWER SUPPLY
GPN6145 - Desktop power supply
GKN6266 - DC power cable

PLUG OPTIONS
NTN7373 - US Plug
NTN7374 - Euro Plug
NTN7375 - UK Plug

IN-VEHICLE SOLUTIONS

The following accessories allow mobile terminal customisation over and above the standard mounting option. Suits professional end users' needs and caters for different vehicles and dashboards. The following accessories are available.

AUDIO ACCESSORIES

GMUN1006 - *Telephone style handset kit*
Ergonomically designed for professionals seeking the increased privacy of a slim line telephone style handset with PTT. Supports both Duplex and PTT calling. Includes two programmable buttons for added functionalities such as loudspeaker enable/disable and "request to send".

GMMN4063 - *Fist microphone*
Provides remote microphone and PTT for convenient one-handed mobile terminal operation. Robust construction with coiled cord for strain relief.

GMMN4065 - *Directional Visor microphone*
Slick new design, catering for professionals working in vehicles for extended periods of time. Particularly suited for installations with high background noise and where the visor microphone is sheltered from outside wind.

GMMN1033 - *Omni-directional Visor microphone*
This visor microphone offers alternative operational performance, especially designed to cater for installations where wind outside the vehicle may blow across the microphone.

PUSH-TO-TALK OPTIONS (FOR REMOTE PTT OPERATION):
RLN4856 - Remote footswitch PTT
RLN4857 - Push button PTT
RLN4858 - Gooseneck PTT
RLN4836 - Emergency footswitch PTT

MOUNTING OPTIONS:
GLN7317 - High profile mounting trunnion
GLN7324 - Low profile mounting trunnion
PMLN4492 - 3 metre remote mount kit
PMLN4493 - 5 metre remote mount kit
PMLN4494 - 7 metre remote mount kit
PMLN4495 - 3 metre remote mount expansion kits
PMLN4496 - 5 metre remote mount expansion kits
PMLN4497 - 7 metre remote mount expansion kits
RKN4077 - 3 metre Remote Mount Cable
RKN4078 - 5 metre Remote Mount Cable
RKN4079 - 7 metre Remote Mount Cable
RLN4779 - Key lock mount

POWER CABLES:
GKN6270 - 3 metre 12V power cable to battery with fuse (10A)
GKN6274 - 6 metre 12V power cable to battery with fuse (10A)
HKN9327 - 6 metre ignition sense cable with fuse (3A)

ANTENNAS:
FAE5521 - Rooftop mount 380-400 MHz
FAE6003 - Rooftop mount 410-430 MHz
TBC - Combined GPS/TETRA antenna 380-430 MHz
TBC - GPS only antenna

MISCELLANEOUS SPECIALISED ACCESSORIES:
GKN6270 - External alarm relay
GLN7282 - Buzzer kit

DATA:
GMKN4079 - Mobile SB9600 cable
GMKN1016 - RS232 Data interface cable (for short data only)
GMKN1022 - Active Data Cable (for short and packet data transfer)
GMKN4067 - Programming cable

JUNCTION BOX

Compact and easy to install box which provides connections of all mobile accessories to the terminal (except the antenna). Data capability is allowed through the junction box RS232 port for dash/desk model only (for other models this is allowed through the expansion head RS232 port).

GMLN3002 - Junction Box (including installation kit)
GMKN4192 - 6 metre cable to junction box
GMKN4194 - 2 metre cable to junction box
GMKN4193 - 4 metre cable to junction box