TETRA MTM800 MOBILE TERMINAL

Empowering Faster Data Communications

MOTOROLA

Range1
Talk Group1

MTM800

Providing first responders with access to the right information to make the right decisions

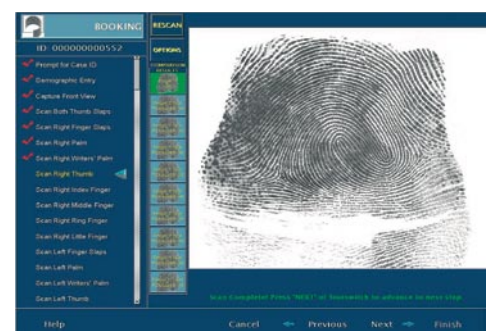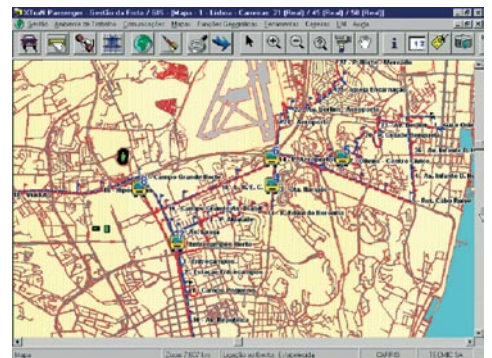**Seamless access to voice and data when and where needed most.**

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 terminal 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 support for integrated GPS receiver and End-to-End encryption reinforces Motorola's state-of-the-art technology in a 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 the first generation TETRA terminals, enhancing the effectiveness of database queries and file transfer.

GPS Location Services

Enhance 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.

Features

VOICE SERVICES SUPPORTED – GROUP

- Group call – TMO/DMO
- Late Entry – TMO/DMO
- Talk Group INDEX entry dialing via Keypad
- Announcement Talk Group call
- Emergency call - TMO / DMO
- Emergency call 'Hot Mic'
- Dynamic Group Number Assignment (DGNA) - (up to 2047 Groups)
- Local site trunking
- Scanning
- 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)

TELEPHONE CALL

- Full duplex operation
- Hands free operation
- Flexible dailling (list scroll, direct dial, alphabetic search, speed dial, one-touch dial, last number redial)
- DTMF overdial
- Calling line Identification Presentation

SECURITY SERVICES SUPPORTED

- Air Interface Encryption
- Algorithms
  - TEA1, TEA3
- Security Class
  - Class 1: Clear
  - Class 2: Static Cipher Key (SCK)
  - Class 3: Derived Cipher Key (DCK) and Common Cipher Key (CCK)
- Authentication (Clear Mode, Secured Mode)
- Secure Key Provisioning Tool for customer use
- User crypto key deletion from keypad
- Radio Stun
- PIN/PUK code access
- Packet data user authentication

Features

E2E SECURITY SERVICES SUPPORTED

- E2E encryption module with full tamper protection
- Factory or field install (including in-country) of E2E module
- Multiple Algorithm support

USER SAFETY

- Dedicated Emergency button
- Keypad lock
- Transmit Inhibit (TXI)
- 'Hot' Microphone emergency (TMO)
- Emergency initiated by external switch (even when the terminal is off)
- Ambience Listening
- Site Wide Call

DATA/MESSAGING SERVICES SUPPORTED

- Short Data Service (SDS)
- Alphanumeric Text Service (ATS)
- Built-in database enquiry templates
- One-touch status messaging
- Peripheral Equipment Interface (PEI) for external RS232 short and packet data devices
- Multi-Slot Packet Data
- 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 GPS support
  - Combined GPS / TETRA or GPS only mobile antenna
  - 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
  - Full over the air programmability of all GPS Location Service parameters

OTHER FEATURES

- Multiple software upgrade capability
- 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 Solution

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". Comes complete with adjustable angle mounting bracket, machine screws and hang-up cup.

GMMN4063 - Fist microphone
Provides remote microphone and PTT for convenient one-handed mobile terminal operation. Robust construction with coiled cord for strain relief. Comes complete with hang-up clip and mounting hardware.

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.

GMMN4064
Desktop Microphone

GMUN1006
Telephone style handset kit

GMMN4065
Visor microphone

GLN7318
Desktop tray without speaker

GMSM4066
External Speaker 13 watts

GMSN4078
Compact External Speaker 5 watts

GLN7324
Mounting Trunnion

GMLM3002
Junction Box

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
TBC - GPS only antenna

MISCELLANEOUS SPECIALISED ACCESSORIES

GKN6272 - External alarm relay
GLN7282 - Buzzer kit

DATA

GMKN4079 - Mobile SB9600 cable
GMKN1016 - RS232 Data interface cable
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

MTM800 Mobile Terminal

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	100
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 and vibration	ETS 300 019-1-5 class 5M2 and 5M3
	MIL 810 C/D/E/F

RF SPECIFICATIONS

Frequency Band	MHz	380-430 / 806-870
Transmit Band	MHz	380-430 / 806-825
Receive Band	MHz	380-430 / 851-870
DMO Band	MHz	380-430 / 851-870
RF Channel Bandwidth	kHz	25
Switching Bandwidth (TMO)	MHz	50 (380-430) / 19 (851-870)
Switching Bandwidth (DMO)	MHz	50 (380-430) / 19 (851-870)
Transmitter/Receiver Separation	MHz	10 (380-430) / 45 (806-870)
Transmitter RF Power	Watt	3 (380-430) / 3 (806-870)
		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
Receiver Dynamic Sensitivity	dBm	-103

GPS SPECIFICATIONS

Mode of operation	Autonomous
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 under specific controlled environment

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