



### ENHANCE YOUR MTH650 TETRA HANDPORTABLE TERMINAL WITH A WIDE RANGE OF ACCESSORIES

Professional users of portable 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 robust and reliable accessories. This extensive portfolio of accessories allows professional users to further customise their MTH650 TETRA Terminal and satisfy their individual communications needs above and beyond those already incorporated in the standard package.

<b>CHARGERS</b>	
	* Part numbers unavailable at time of print.
FLN9468	Dual Pocket Desktop Charger (Requires the use of Travel Charger WALN4092)
WALN4092	Travel Charger

<b>MULTI UNIT CHARGERS</b>	
WPLN4175	Multi Unit Charger – Euro Plug 220V
WPLN4176	Multi Unit Charger – UK Plug 240V
WPLN4177	Multi Unit Charger – US Plug 110V

<b>BATTERIES</b>	
FTN6031	800 mAh – Lithium Ion
NNTN4655	1500 mAh – Lithium Ion

<b>IN-VEHICLE SOLUTIONS</b>	
*	Digital Car Kit
FLN9469	Vehicle Power Adaptor

<b>AUDIO ACCESSORIES</b>	
RMN5042	Remote Speaker Microphone with 2.5mm jack socket and long cord

WADN4184	Breeze Headset with Boom Microphone and in-line PTT
FLN9568	Personal Handsfree kit
*	Earpiece with separate Microphone and PTT
*	Earpiece with in-line Microphone, short cable for shoulder/lapel wearing
RLN4939	Earpiece, receive only, short cable for use with Remote Speaker Microphone
NTN8371	Acoustic Tube for low noise environments (Clear voicetube with rubber eartip)
NTN8370	Acoustic Tube for extreme noise environments (Clear voicetube with foam earplug)
WADN4223	Earshell, large with grommet insert
WADN4224	Earshell, small with grommet insert

<b>CARRY ACCESSORIES</b>	
RLN4892	Hard Leather Case with swivel 3" belt loop
RLN4198	Nylon Carry Case
HLN9767	Wrist Strap
*	Shoulder Wearing Device

<b>ANTENNAS</b>	
*	Whip Antenna
8586381J03	Helical Antenna, 380 – 400 MHz
8586381J02	Helical Antenna, 410 – 430 MHz
FAE5528	External Roof Antennas 380 – 400 MHz
FAE5529	External Roof Antenna, 410 – 430 MHz

<b>CABLES</b>	
FKN4897	RS232 Data Cable
FLN9636	Programming Cable



# MTH650

YOUR LIFELINE

Dimensions HxWxD mm	141 x 55 x 32	
Weight g	196 Radio only 228 (with standard 800mAh battery) 239 (with 1500mAh battery)	
Battery Capacity mAh	800 Standard Li Ion 1500 Extended Li Ion	
Operating Life Hours (expected)	800 mAh	1500 mAh
05/05/90	12 hrs	24 hrs
5/20/75	11 hrs	22 hrs
10/20/70	8 hrs	15 hrs
5/35/60	9 hrs	17 hrs
IDLE Mode	19.8 hrs	33 hrs
Talk Groups – TMO	512	
Talk Groups – DMO	208	
Private call list	100	
Phone call list	100	
PABX call list	25	
Text message list	20	
Status list	100	
Country code/Network code list	100	
Scan list	20 lists of 20 groups	
Operating Temperature °C	-20 to +60	
Storage Temperature °C	-40 to +85	
Humidity	ETS 300 019-1-7 class 7.3E, up to 95% EIA/TIA 603 (95%)	
Dust and Water	ETS 300 019-1-7 class 7.3E and IP54	
Shock, drop and vibration	ETS 300 019-1-7 class 5M3	
Frequency Bands MHz	380-400	410-430
RF Channel Bandwidth kHz	25	

Switching Bandwidth TMO MHz	10	
Switching Bandwidth DMO MHz	20	
Transmitter/Receiver Separation MHz	10	
Transmitter RF Power Watt	1 (380-400)	1 (410-430)
RF Power Control	3 steps of 5dB	
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)	



[www.motorola.com/tetra](http://www.motorola.com/tetra)  
email [tetraterminals@motorola.com](mailto:tetraterminals@motorola.com)

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 the accessories included in this brochure are subject to change without notice.

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*BECAUSE LIFE SHOULDN'T BE A GAME OF CHANCE*



# MTH650

## YOUR LIFELINE



### THE NEW MOTOROLA MTH650 TETRA HANDPORTABLE TERMINAL

As the latest addition to our market leading portfolio of TETRA terminals, the MTH650 Handportable terminal is designed to perform in the most demanding conditions, providing your organisation with an uncompromisingly reliable communication solution that is:

- Flexible, versatile and easy to use
- Reliable, safe and high performance
- Strong and compact
- Ergonomically designed for comfortable use
- Feature-rich and easy to personalise
- Rugged, yet light

### YOUR LIFELINE

The MTH650 has been extensively researched and engineered to give you the ultimate in TETRA reliability and security. You told us what you needed – we listened and responded.

You also told us that every second counts in your organisation, which is why we've included a host of revolutionary features to make life easier and safer for you.

- Brand new ergonomic form factor design makes the terminal ideal for comfortable lapel-wearing, on the belt and in the hand, ensuring easy and secure handling and operation.
- Innovative multi-purpose knob design, which allows you to operate Talk Group selection and volume control functions in an easy, flexible and personal way.
- Unique screensaver, which enables easy identification at a glance via officer branding and enhances security by hiding sensitive information.

Of course, the MTH650 still has all of the standard features you would expect from a first-rate Motorola TETRA terminal including:

- Dedicated top-mounted emergency button
- Top mounted Talk Group selector and volume control
- Programmable one-touch feature buttons
- Large, well protected screen
- Dual earpiece and front mounted speaker design
- Dual microphone design for optimal dispatch and telephony-style operation
- Inverted display allows flexible screen viewing
- Ambience listening feature for enhanced user safety allowing radio to "switch off" whilst continuing audio transmission
- Microphone sensitivity increased if the terminal is dropped in a struggle

### A HISTORY OF EXCELLENCE

Motorola is the leading authority in TETRA technology and boasts 65 years of unrivalled experience and expertise in the communications market. We already offer a global portfolio of well-proven TETRA terminals and the development of the MTH650 represents the culmination of our knowledge across all sectors, guaranteeing it as the terminal you can rely on, whatever your needs. Here's just some of the reasons that make Motorola the driving force behind TETRA...

## MOTOROLA 1st...

- to market with a fully TETRA compatible system
- to demonstrate the TETRA protocol on air
- to provide a fully live and compliant TETRA system for third party operation
- manufacturer to supply a fully compliant TETRA system on a commercial basis
- to ship fully IP-based TETRA network
- largest ever TETRA-based Public Safety contract to supply a nationwide network



#### **VOICE SERVICES SUPPORTED – GROUP:**

- Group call – TMO/DMO
- Group call – TMO/DMO via a DMO Gateway
- TMO/DMO Programmable Talk Group mapping
- Late Entry – TMO/DMO
- Emergency call – TMO/DMO
- Emergency call "Hot Microphone"
- Announcement Talk Group call
- Hidden Talk Groups
- Dynamic Group Number Assignment (DGNA) – (up to 511 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
- Calling line Identification Presentation
- Busy User Pre-emption (Pre-emption Priority Call – PPC)
- Speakerphone

#### **VOICE SERVICES SUPPORTED – TELEPHONE CALL (PABX/PSTN):**

- Full duplex operation
- Speakerphone
- 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:
  - TEA1, TEA2
- Security Class
  - Class 1: Clear
  - Class 2: Static Cipher Key (SCK)
  - Class 3: Derived Cipher Key (DCK) & 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

#### **USER SAFETY:**

- Dedicated Emergency button
- New screensaver with customer logo option
- Talk Group lock
- Keypad lock
- Transmit Inhibit (TXI) – enhanced version
- "Hot" Microphone emergency
- Ambience Listening
- Automatic Microphone Gain adjustment during "Hot" microphone emergency
- Separate front mounted main loudspeaker and earpiece to prevent Acoustic Shock
- Site Wide Call

#### **DATA/MESSAGING SERVICES SUPPORTED:**

- Short Data Service (SDS)
- Alphanumeric Text Service (ATS)
- Predictive Text Entry (iTAP)
- Built-in database enquiry templates
- One-touch status messaging
- Packet data service
- Peripheral Equipment Interface (PEI) for external RS232 short and packet data devices
- New text message notification during calls

- Database enquiry during calls
- Ability to read text messages during calls
- Ability to send text message from busy talk group
- Automatic status message sent on entering/exiting Transmit Inhibit mode
- WAP support using packet data services via PEI

#### **USER INTERFACE FEATURES:**

- Top Mounted Talk Group Selector and Volume Control with push function providing options:
  - Combined operation of Talk Group Selection, list navigation and volume control
  - Talk Group Selection only
  - Volume Control only
- Rugged bottom accessory connector
- 2 microphones
  - Top microphone for dispatcher calls
  - Bottom microphone for "one-to-one" calls
- Alphanumeric Talk Group search
- Loud/discreet audio mode toggle
- Keypad tones on/off
- Alert tones on/off
- Backlight options (disabled and automatic)



- Multiple network support (100 network codes)
- Scan list edit via keypad
- Address book edit via keypad
- 5 pre-programmed languages (English, French, German, Spanish, Dutch)
- User definable display languages (ISO 8859-1 characters)
- 2 dedicated context sensitive menu softkeys
- 2 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 / Display flip
- Full access to menu system during calls
- Call history received/dialled lists
- Display flip (inverts text 180 Degrees)
- Fast access to functions using rotary knob.

**OTHER:**

- Side connector for audio accessories and lock function, IP54
- Dedicated connector for digital car kit, programming, upgrading, packet and short data as well as Remote Speaker Microphone (RSM)
- VibraCall®
- Multiple software upgrade capability
- Programming software automatic logging of logistical information
- Customer Programming Software Codeplug Password enable
- Enhanced Mobility operation (including subscriber classes)

