

# PowerTrunk-T MDT-400

## TETRA Mobile Radio

*For digital trunked UHF and 800 MHz LMR networks*

Unique in its class, the PowerTrunk-T MDT-400 mobile radio provides the coverage and versatility that make a difference. Its 10 watts of RF output power provides the best coverage available on the TETRA market — by far. Couple this with a GSM option that automatically connects the unit to the telephone network when it is out of the land mobile radio network range. Then, add specialized off-the-shelf solutions and a remarkably flexible design that can be tailored for complex applications such as telemetry.

Now, you can begin to appreciate why the MDT-400 mobile unit has been integrated into LMR networks around the world.



### **Powerful RF coverage and outstanding audio quality**

- Adaptive 10 watt RF output power provides significantly superior coverage than other radios on the market:
  - Output power automatically adjusts from 15 dBm to 40 dBm (10 watts) to ensure reliable coverage as the user changes location.
  - Emergency calls are always automatically sent at full 10-watt power.
- Delivers the highest audio quality according to independent testing (PESQ).

### **Security features you can depend on**

- A unique built-in GSM option eliminates isolation by automatically connecting to the telephone network when the unit is out of the LMR network range:
  - The MDT-400 becomes a typical cell phone able to send SMS messages, call cell phones and call TETRA units.
- Optional built-in GPS sends location information periodically by time or distance and upon request. Supports the ETSI LIP protocol for faster position refreshing.
- Exceeds standard security requirements: FIPS 140-2 Level 3-oriented tamper-proof E2E encryption module, support for up to eight algorithms including AES 256 and OTAK functionality.

### **Friendly and intuitive user interface**

- Exceptionally easy to use MMI allows users to adapt the radio to their requirements.
- Large display automatically adjusts to ensure readability even in full sunlight.

### **Designed for easy integration and versatile customization**

- Off-the-shelf configurations are available for key applications:
  - The DT-410 unit is designed for desktop use, with a full range of features and accessories.
  - A remote control unit is ruggedized and simplified for operation in motorcycles.
  - The MDT-400 can operate without a front panel to function as a data modem.
  - The RTP-400 unit is customized to meet railroad requirements.
- Versatile design permits utmost customization:
  - An enhanced PEI interface enables development of complex applications such as GPS information, database consult, file transmission or telemetry.
  - All data services defined in the TETRA standard are available (status, short data, multi-slot packet data and circuit mode data) so you can choose the best for your needs.



**Powerful • Secure • Reliable • Scalable**

**PowerTrunk-T MDT-400**  
TETRA Mobile Radio

## Technical Characteristics

### Dimensions

- Radio unit only: 177 x 163 x 47.5 mm / 6.97 x 6.42 x 1.87 in.
- With front panel: 195 x 163 x 61 mm / 7.68 x 6.42 x 2.4 in.
- DT-410: 300 x 320 x 110 mm / 11.81 x 12.6 x 4.33 in.

### Weight

- Radio unit only: 1230 g / 2.71 lb.
- With front panel: 1400 g / 3.09 lb.
- DT-410: 5 kg / 11 lb.

### Power supply voltage

- MDT-400: 10.8 to 15.6 VDC
- DT-410: 100 to 250 VAC

### Consumption

- 4A (5A for 10 W Tx RF)

### DT-410 loudspeaker

- 3 in., 5 W, 4 Ohms / output to external speaker

### RF features

- Channel spacing: 25 KHz
- Rx / Tx bandwidth: 20 MHz
- Static / dynamic sensitivity: -112 / -103 dBm (minimum)
- Receiver class: A

### Frequency bands

- 350-370 MHz (10 W) / 380-400 MHz (10 W) / 410-430 MHz (10 W)
- 450-470 MHz (10 W) / 806-870 MHz (3 W)

## Services Supported

### Mobility management

- Registration / deregistration
- All types of TETRA cell reselection (handover)
- AI migration and multiple manual network selection)

### Security services

- Authentication (terminal and mutual)
- Air interface encryption security class:
  - Class 1: Clear
  - Class 2: SCK
  - Class 3: DCK
- Algorithms: TEA1, TEA2 and TEA3
- OTAR (Over the Air Rekeying)
- Enable / disable (temporary and permanent)
- PIN / PUK code
- E2E encryption

### Voice services

- Individual half-duplex calls with direct / hook signaling
- Individual duplex calls
- Group call
- Broadcast call
- Phone calls (PSTN / PABX). DTMF transmission
- Emergency call (type destination address programmable)

### Data services

- Status to individual or group addresses
- SDS (Type 1, 2, 3 and 4) to individual or group addresses (with or without TL)
- Secondary control channel support (up to 3)
- Simultaneous status and SDS data on a voice call
- Immediate SDS
- PEI interface:
  - AT commands
  - TNP1 commands
  - Different services profiles
- Multi-slot packet data (up to 4 slots)
- Circuit data

### Supplementary services

- Dynamic group number assignment
- Late entry
- Calling line identification
- Calling line identification restriction
- Talking party identification
- Priority call
- Call forwarding
- Pre-emptive priority call
- Access priority
- Ambience listening

### Other features

- Transmit inhibit operation
- 112 / 999 emergency codes
- FSSN dialing / simple offset dialing
- Engineering mode
- Discreet mode
- Logging request
- DMO gateway functionality
- Audio accessories selection via menu
- MMI languages: European (English, Spanish, French, German, Catalan, Dutch, Euskera, Polish, Portuguese), Cyrillic (Russian), Chinese and Korean

## Environmental

### General

- Operative temperature range: -30°C to +70°C / -20°F to + 160°F
- Conformance testing ETSI EN300 394-1: -20°C to +55°C / -5°F to +130°F
- Storage temperature: -40°C to +85°C / -40°F to +185°F
- Humidity: 5% to 95%
- IP54

### Classification according to ETSI EN 300 019 standard (equivalent to MIL-STD 810 C, D, E, F)

- Storage. Class 1.3. Non-weather protected storage locations.
- Transportation. Class 2.3. Public transportation.
- Stationary use (DT-410) Class 3.2. Partly temperature controlled locations.
- Mobile use (MDT-400)
- Environmental Class 5.2. Partly protected installations.
- Mechanical Class 5M3

## Accessories

- Handsfree kit
- Fist microphone with PTT and AUX
- Loud speaker 5 W, 2.5 in. and 4 in.
- Handset with push-to-talk
- PEI connection kit
- Remote front panel mounting kit
- TETRA, GPS, GSM and combined antennas



### PowerTrunk™ Inc.

750 Columbus Ave., Suite 11G  
 New York, NY 10025  
 212.222.4971  
 info@powertrunk.net  
 www.powertrunk.net  
 www.teltronic.es