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* for all bands except 800 MHz which has 3 watts:
  - 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 power.
- Delivers the highest audio quality according to independent testing (PESQ).

Security features you can depend on
- A GSM option eliminates isolation by automatically connecting to the telephone network when the unit is out of the LMR network range (requires compatibility with local cell carrier frequency band):
  - 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 on 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.

* To comply with FCC emission masks and occupied bandwidth limits in the US, the MDT-400 is offered in two versions: (1) ETSI standard TETRA for use specifically in FCC-authorized bands, and (2) FCC Part 90 certified TETRA-Interoperable D-LMR (TI D-LMR) for bands with more restrictive limits in which ETSI standard TETRA is not authorized. Both versions are fully interoperable and compliant with official TETRA Interoperability Profile (TIP) certification requirements.

Powerful • Secure • Reliable • Scalable

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)
- Air interface 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
- End-to-end encryption (E2EE)

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 of call and destination address program-mable)

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 mode 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
- Emergency codes
- FSSN dialing / simple offset dialing
- Engineering mode
- Discreet mode
- Login request
- DMO gateway functionality
- Audio accessories selection via menu
- MMI languages: English, Spanish, French and others (consult)

Environmental

General
- Operating temperature range: -30ºC to +70ºC / -20ºF to + 160ºF
- TETRA conformance testing ETSI EN300 394-1:
  -20ºC to +55ºC / -5ºF to +130ºF
- Storage temperature: -40ºC to +85ºC / -40ºF to +185ºF
- 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

- Hands-free kit
- Fist microphone with PTT and AUX
- Handset with push-to-talk
- PEI connection kit
- Remote front panel mounting kit
- TETRA, GPS, GSM and combined antennas

PowerTrunk

PowerTrunk™ Inc.
590 Madison Ave., 21st Floor
New York, NY 10022
212.222.4971
www.powertrunk.com

Subsidiary of Teltronic S.A.U.
www.teltronic.es