# MTP3000 SERIES
# TETRA RADIOS

## SAFE. TOUGH. EASY TO USE.

**MOTOROLA** SOLUTIONS

## MTP3000 SERIES
## KEY FEATURES

**IP65, IP66 & IP67**

**WIDEBAND, 350-470 MHZ & 800 MHZ**

**GPS & BEIDOU OR GLONASS**

**END-TO-END ENCRYPTION**

**MAN DOWN**

**VIBRATE ALERT**

# MTP3000 SERIES

## DESIGNED TO WORK IN THE TOUGHEST, MOST DEMANDING ENVIRONMENTS, DAY IN, DAY OUT.

The MTP3000 Series radios are the result of more than 15 years of focus in TETRA on increasing user safety, enhancing efficiency and improving communications. The radios are packed with features that are essential for safe and effective operations, as well as loud and clear audio and a rugged design.

The MTP3500 features a simple keypad, while the MTP3550 has a full keypad.

Both the MTP3500 and MTP3550 are fully featured radios for public safety and mission-critical users, with a man down sensor, vibrate alert and End-to-End Encryption (E2EE).

And for those requiring a feature rich radio they both have secure Bluetooth™ and Global Navigation Satellite System (GNSS) capability, including GPS and BeiDou or Glonass.

They also have IP65, IP66 and IP67 for dust and water ingress protection, wideband support for 350-470 MHz and 800 MHz, as well as a RFID hardware option.

# SAFE

## CLEAR AUDIO AND LONG RANGE

The MTP3000 Series is optimised for excellent audio performance in all types of noisy and demanding situations. Audio through both the speaker and accessories is clear even at full volume, and the user can be heard above loud background noise.

High receiver sensitivity and high transmit power gives the MTP3000 Series the capability to maintain communications in the most demanding situations at long range, in built up areas and in buildings.

Hardware enabled End-to-End Encryption (E2EE) is the most secure method for preventing the interception of critical voice or data communications.

The sensor detects whether a radio has been static for a pre-set time or has tilted beyond a pre-set angle. Man down is of particular value for the protection of fire officers in front-line operations, but also for lone security personnel or industrial workers operating in hazardous environments.

# TOUGH

## DURABLE CONNECTORS AND RUGGED DESIGN

The MTP3000 Series is fitted with two rugged connectors that provide corrosion resistance, conductivity and low insertion resistance. The side connector has excellent pull strength. The bottom connector is protected inside the radio. It has a self-cleaning mechanism to resist dust and dirt, but if required – it is also easy to clean.

With IP65, IP66 and IP67 the MTP3000 series radios can withstand immersion in a metre of water for 30 minutes, or a high pressure water jet from a fire hose. A range of tough and effective audio and energy accessories are also available.

# EASY TO USE

## INTUITIVE HARDWARE AND SOFTWARE FEATURES

The two knob interface will suit users migrating from an analogue radio. Users can navigate quickly through the simple interface on the wide transflective screen that is easy to see in both low light and direct sunlight.

Vibrate alert for incoming calls and messages will allow officers or workers to stay covert or be discreet when silence matter.

Easily identify different radios for different users, groups, coverage areas or tasks with optional colour identification bands around the antenna.

Optional colour identification bands for groups with different tasks, coverage areas or shifts

# MTP3550

High Performance Global
Positioning Antenna

Standard    RFID

Hardware Option
for Security or
Inventory Control

Slim Slide
Connector for
Audio Accessories

End-to-End
Encryption

Top
Microphone

Programmable
Buttons

Intuitive Easy
Simple Use
Interface with
Easy Text

Tactile
Keypad

Loud and
Clear Audio

Man Down
Sensor

Vibrate Alert for
Incoming Calls

Bottom
Microphone

Full Keypad

Easy to Use Seaparated Volume
and Talkgroup Knobs

IP65/66/67 Dust and Water
Ingress Protection

Emergency Alert Button

Durable Bottom Connector

**MTP3500**
Simple Keypad ▶

**MTP3550**
Full Keypad ▶

## GENERAL SPECIFICATIONS

| | |
|---|---|
| Dimensions | Height: 124mm<br>Width: 53mm<br>Depth: 33.5mm (with 1950mAh battery)<br>36.7mm (with 2200mAh & IMPRES2 3400mAh battery) |
| Weight | 280g (with 1950mAh battery)<br>295g (with 2200mAh battery) |
| Battery Options | 1950mAh standard battery<br>2200mAh standard battery<br>3400mAh IMPRES2 battery |

## AUDIO

| | |
|---|---|
| Audio Output Power at Max Volume | 2W |

## TETRA SERVICES

### RF

| | |
|---|---|
| Frequency Bands | 350-470 MHz, 800 MHz |
| Transmitter RF Power | Class 3 (1.8W)<br>Class 4 (1W) |
| Adaptive Power Control | Per EN 300 392-2 |
| Receiver Class | A and B |
| Receiver Static Sensitivity | 350-470 MHz: -116dBm (min); -118dBm (typical)<br>800 MHz: -114dBm (min); -116dBm (typical) |
| Receiver Dynamic Sensitivity | 350-470 MHz -107dBm (min); -109dBm (typical)<br>800 MHz: -105dBm (min); -107dBm (typical) |

### DATA

| | |
|---|---|
| Short Data | STATUS messaging in TMO and DMO |
| | SDS messaging in TMO and DMO<br>Supports concatenated SDS (1000 characters) |
| | Short data applications |
| | Callout (simple, full, E2EE) |
| | Access to SDS during an emergency call |
| Packet Data | Supports TNP1 - simultaneous operation of Packet Data and Short Data Services over a common Peripheral Equipment Interface (PEI) |
| AT Commands | Full set of ETSI and enhanced AT commands |

## VOICE

| | |
|---|---|
| Full Duplex Call | TMO: Private, PABX, PSTN, emergency |
| Half Duplex call | TMO: Private, group, emergency |
| | DMO: Private, group, emergency |
| Emergency Call Management (user customisable) | Tactical: Emergency group call to ATTACHED talkgroup |
| | Non-Tactical: Emergency group call to DEDICATED talkgroup |
| | Individual: Emergency call to PRE-DEFINED party (half/full duplex) |
| | Hot Mic: Allows user to talk without needing to press PTT button |
| | Smart TMO/DMO selection for Emergency Call set up to ensure call gets through |
| | Emergency Status message sent to dispatch console |
| Other Voice Functions | Inter-MNI |
| | Gateway |
| | Repeater |
| | PTT double push |
| | Pre-emptive priority calls |

## DMO REPEATER

| | |
|---|---|
| DMO repeater mode features and functions | ETSI type 1A DMO Repeater for channel efficient operation |
| | Repeats DMO voice and tone signalling on selected talkgroup |
| | Repeats SDS and Status messaging on selected talkgroup |
| | Transmission of Repeater Presence Signal |
| | Emergency Call (Pre-emptive Priority Call) |
| | Monitoring of and participation in calls whilst in Repeater mode |

## SECURITY

| | |
|---|---|
| Authentication | Infrastructure initiated and made mutual by radio terminal |
| Air Interface Encryption - Algorithms | TEA1, TEA2, TEA3 |
| End-to-End Encryption | Enhanced End-to-End Encryption with OTAK supported through AES128 or AES256 |
| Other Security Features | Temporary disable (stun) |
| | Permanent disable (ETSI standard or V2-Customer Restore) |

## CONNECTIVITY

### BLUETOOTH

| | |
|---|---|
| Bluetooth Versions Supported | Bluetooth 2.1 + EDR, Bluetooth 4.0, Bluetooth Smart (BTLE) |
| Bluetooth Security | Bluetooth 2.1 Introduces Mandatory Encryption with Secure Simple Pairing (SSP), Easier Pairing and Preventing Sniffing/Hacking |
| Bluetooth Audio Profiles | Headset Profile (HSP), Fast PTT with Motorola Solutions Accessories |
| Bluetooth Data Profiles | Serial Port Profile, Dial Up Networking Profile, Discovery Mode, Generic Access Profile, Generic Attributes Profile (GATT), Heart Rate Profile, Battery Service Profile, Devices Info Profile |

### RFID

| | |
|---|---|
| Tag Type | 866-868 MHz RFID Knob |

## LOCATION SERVICES

### SATELLITE / OUTDOOR NAVIGATION SERVICE

| | |
|---|---|
| Constellations Supported | GPS, BeiDou/Glonass |
| Antenna | Integrated Internal Antenna |
| Simultaneous Satellites | 12 |
| GNSS Tracking Sensitivity, dBm | GPS: -160 dBm (guaranteed); -161 dBm (typical) |
| Accuracy, 3D | <5 (95% probable at -130dBm) |
| Protocols | ETSI LIP (Short and Long), Motorola LRRP |
| TTFF Cold Start | <60 sec (typical) |
| TTFF Hot Start | <10 sec (typical) |

### INDOOR NAVIGATION SERVICE

| | |
|---|---|
| BTLE Indoor Location | iBeacon™ / Bluetooth Low Energy Beacon |
| Protocols | ETSI LIP (extended) |

## SOFTWARE FEATURES

| | |
|---|---|
| For a full list of available licensed features please visit: | motorolasolutions.com/tetradevicessoftware |

## RECOMMENDED SERVICES

| | |
|---|---|
| Services for TETRA radios | motorolasolutions.com/deviceservices |

## ENVIRONMENTAL SPECIFICATIONS

| | |
|---|---|
| Operating Temperature [1] | -30°C to +60°C |
| Storage Temperature | -40°C to +85°C |
| Humidity (Condensation & High), Temperature Change, Low and High Temperature | ETSI 300 019-1-7 class 7.3E |
| Shock (bumps & shock), drop (free fall & drop & topple) and vibration (random & sine) | ETSI 300-019 1-7 class 5M3 |
| Dust and Water Ingress Protection | IP65/66/67 |

[1] Performance may be degraded at extreme temperatures

## USER INTERFACE

| | |
|---|---|
| Display | 1.7" Colour Transflective Display, 132x90 pixel screen with 262K vivid colours |
| | Backlight, flip screen, large icons and scalable text font options |
| | Screen saver gif image & text (user defined) |
| | Universal time display |
| | Multiple display languages, user selectable |
| Controls | Keypad and rotary lock |
| Keypad | User configurable one touch buttons and keys, extensive list of functions |
| Menu | Customisable to user needs |
| | Menu Shortcuts |
| Talkgroup Management | User friendly, flexible, fast and efficient interface |
| Talkgroups | TMO folders: up to 256, TMO talkgroups: up to 10000 DMO folders: up to 128, DMO talkgroups: up to 2000 |
| Favourite Talkgroup Folders | 3 |
| Scan lists | 40 lists of up to 20 groups |
| Contacts Management | Rapid search |
| Contacts | Up to 1000 contacts with 6 numbers per contact, (maximum 2000 unique numbers) |
| Dialling Methods | Dialling Direct, Scroll, Speed, One touch button/key |
| Message Manager | Distinct folders for each message type |
| Text Message List | Up to 200 entries (short messages) At least 20 entries for outbox (long messages up to 1000 characters) At least 10 entries for inbox (long messages up to 1000 characters) |
| Status List | 400 pre-defined messages assignable to one touch buttons |
| Other Features | Intelligent keypad text input |
| | Covert Mode |
| | Man Down |

## ACCESSORIES

| |
|---|
| Batteries (Li Ion 1950 mAh & 2200 mAh and IMPRES Li-ion 3400 mAh) |
| Battery chargers and vehicle adapters |
| Various carry options |
| Audio headsets |
| Remote speaker microphones |
| Earpieces |
| Programming and data cables |

**Notes:**
Some features mentioned are optional, and some require additional software licences.
Feature availability may vary by country.
Please check with your local Motorola Solutions representative for full details.

## US MILITARY STANDARD MATRIX [2]

| | MIL-STD810C | | MIL-STD810D | | MIL-STD 810E | | MIL-STD 810F | | MIL-STD 810G | | MIL-STD 810H | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. |
| Low Pressure | 500.1 | I | 500.2 | II | 500.3 | II | 500.4 | II | 500.6 | II | 500.6 | II |
| High Temperature | 501.1 | I, II | 501.2 | I/A1, II/A1 | 501.3 | I/A1, II/A1 | 501.4 | I/Hot, II/Hot | 501.6 | I/A1, II/A1 | 501.7 | I/A1, II/A1 |
| Low Temperature | 502.1 | ✓ | 502.2 | I, II | 502.3 | I, II | 502.4 | I, II | 502.6 | I, II | 502.7 | I, II |
| Temperature Shock | 503.1 | ✓ | 503.2 | A1/C3 | 503.3 | A1/C3 | 503.4 | I | 503.6 | I-C | 503.7 | I-C |
| Solar Radiation | 505.1 | II | 505.2 | I/A1 | 505.3 | I/A1 | 505.4 | I/A1 | 505.6 | I/A1 | 505.7 | I/A1 |
| Rain | 506.1 | I, II | 506.2 | I, II | 506.3 | I, II | 506.4 | I, III | 506.6 | I, III | 506.6 | I, III |
| Humidity | 507.1 | II | 507.2 | II | 507.3 | II | 507.4 | ✓ | 507.6 | II/Aggravated | 507.6 | II/Aggravated |
| Salt Fog | 509.1 | I | 509.2 | I | 509.3 | I | 509.4 | ✓ | 509.6 | ✓ | 509.7 | ✓ |
| Blowing Dust & Sand | 510.1 | I | 510.2 | I, II | 510.3 | I, II | 510.4 | I, II | 510.6 | I, II | 510.7 | I, II |
| Vibration | 514.2 | VIII/CatF, XI | 514.3 | I/Cat10, II/Cat3 | 514.4 | I/Cat10, II/Cat3 | 514.5 | I/Cat24, II/Cat5 | 514.7 | I/Cat24, II/Cat5 | 514.8 | I/Cat24, II/Cat5 |
| Shock | 516.2 | I, II, V | 516.3 | I, IV, VI | 516.4 | I, IV, VI | 516.5 | I, IV, VI | 516.7 | I, IV, VI | 516.8 | I, IV, VI |

[2] Where a test method has multiple procedures, the applicable procedures are listed. A tick "✓" indicates that the there is only one procedure.

# DEVICE SERVICES
## ACHIEVE MISSION CRITICAL PERFORMANCE

RADIO PERFORMANCE IS CRITICAL FOR EFFECTIVE MISSION-CRITICAL OPERATION. YOUR USERS RELY ON THEIR RADIOS TO BE AVAILABLE AND CONNECTED.

You and your users count on the radio to operate at optimal efficiency. To help support the performance of your MTP3000 radio fleet and maximise the value of your investment, we offer a variety of service packages that transfer the risk and responsibility to Motorola Solutions to provide the right level of services[3] for your radio fleet needs.

**The service capabilities offered include:**

### HARDWARE REPAIR
Troubleshooting, testing and repair of your equipment at a centralised facility

### ACCIDENTAL DAMAGE
When the unexpected happens, we have you covered with a quick repair turnaround

### TECHNICAL SUPPORT AND SERVICE DESK
Remote technical support services to ensure that your radios are rapidly restored and functional

### SOFTWARE MAINTENANCE
Access to latest certified software releases ensure reliable and secure device operations

You can rely on us to help you achieve your device performance targets and maximise the value of your radio investments with the right level of services designed specifically for your needs. Each package provides a higher level of support, transferring the risk and responsibility to Motorola Solutions.

[3]For the complete list of service packages, please visit **motorolasolutions.com/deviceservices**

# MTP3000 SERIES TETRA RADIOS
## YOUR LIFELINE
## WHEN TIME IS CRITICAL

For more information on the MTP3000 Series TETRA radios, please visit **motorolasolutions.com/MTP3000**

**MOTOROLA** SOLUTIONS