

Data Sheet

MTP3000 Series TETRA radios

Safe. Tough. Easy to use.



MOTOROLA SOLUTIONS



MTP3000 Series

Designed to work in the toughest, most demanding environments, day in, day out.

MTP3000 Series radios have a rugged design, loud and clear audio and are packed with features that are essential for safe and effective operations. 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 fall alert (man down) sensor, high transmission power option, vibrate alert, 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 or 800 MHz, as well as a RFID hardware option.

Key features



IP65, IP66 and IP67



Wideband, 350-470 MHz or 800 MHz



GPS and BeiDou or GLONASS



Fall alert



Vibrate alert



Safe

Improve user safety and communications

MTP3000 Series radios are 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 option helps give the MTP3000 Series radios the capability to maintain communications in the most demanding situations – at long range, in built up areas and in buildings.

The fall alert sensor detects whether a radio has been static for a pre-set time or has tilted beyond a pre-set angle. Fall alert 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

MTP3000 Series radios are 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 transfective 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 matters.

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 side connector for audio accessories

Top microphone

Intuitive easy simple use interface with easy text

Tactile keypad

Loud and clear audio

Bottom microphone

Programmable buttons

Vibrate alert for incoming calls

Full keypad

Fall alert

Easy to use separate 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: 124 mm
	Width: 53 mm
	Depth: 33.5 mm (with 1950 mAh battery) 36.7 mm (with 2200 mAh & IMPRES2 3400 mAh battery)
Weight	280 g (with 1950 mAh battery)
	295 g (with 2200 mAh battery)
Battery options	1950 mAh standard battery
	2200 mAh standard battery
	3400 mAh IMPRES2 battery

Audio

Audio output power at maximum volume	2 W
--------------------------------------	-----

TETRA services

RF

Frequency bands	350-470 MHz or 800 MHz
Transmitter RF power	Class 3 ¹ (2.8 W)
	Class 3L (1.8 W)
	Class 4 (1 W)
Adaptive power control	Per EN 300 392-2
Receiver class	A and B
Receiver static sensitivity	350-470 MHz: -116 dBm (min); -118 dBm (typical)
	800 MHz: -114 dBm (min); -116 dBm (typical)
Receiver dynamic sensitivity	350-470 MHz: -107 dBm (min); -109 dBm (typical)
	800 MHz: -105 dBm (min); -107 dBm (typical)

Data

Short data	STATUS messaging in TMO and DMO
	SDS messaging in TMO and DMO
	Supports concatenated SDS (1000 characters)
	Short data applications
Callout (simple, full)	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
Other voice functions	Smart TMO/DMO selection for emergency call set up to ensure call gets through
	Emergency status message sent to dispatch console
	Inter-MNI
	Gateway
Pre-emptive priority calls	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	TEA 1, TEA 2, TEA 3
Other security features	Temporary disable (stun)
	Permanent disable (ETSI standard or V2-customer restore)

¹Only supported on specific models. Please check with your local Motorola Solutions representative for full details.



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	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/tetradevicesoftware

Recommended services

Services for TETRA radios.
For more information please visit: motorolasolutions.com/mtp3000

Environmental specifications

Operating temperature ²	-30°C to +60°C
Storage Temperature	-40°C to +85°C
Humidity (Condensation and High), Temperature Change, Low and High Temperature	ETSI 300 019-1-7 class 7.3E
Shock (bumps and shock), drop (free fall and drop and topple) and vibration (random and sine)	ETSI 300-019 1-7 class 5M3
Dust and water ingress protection	IP65/IP66/IP67

US Military standard matrix³

	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 and 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

³Where a test method has multiple procedures, the applicable procedures are listed. A tick "✓" indicates that there is only one procedure.

User interface

	1.7" Colour Transflective Display, 132x90 pixel screen with 262K vivid colours
Display	Backlight, flip screen, large icons and scalable text font options
	Screen saver gif image and 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
	Up to 200 entries (short messages) At least 20 entries for outbox (long messages up to 1000 characters)
Text message list	At least 10 entries for inbox (long messages up to 1000 characters)
Status list	400 pre-defined messages assignable to one touch buttons
	Intelligent keypad text input
Other features	Covert mode
	Fall alert (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

²Performance may be degraded at extreme temperatures

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.





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.

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 services⁴ for your radio fleet needs.

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.

The service capabilities offered include:

Hardware repair

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

Accidental damage cover

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

⁴For the complete list of service packages, please visit motorolasolutions.com/mtp3000





For more information about the
MTP3000 Series TETRA radios, please visit
motorolasolutions.com/mtp3000



Motorola Solutions Ltd., Nova South, 160 Victoria Street, London, SW1E 5LB, United Kingdom

All specifications are subject to change without notice.

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. ©2024 Motorola Solutions, Inc. All rights reserved. 12-2024 [CY02]