



DESIGNED FOR TODAY READY FOR TOMORROW

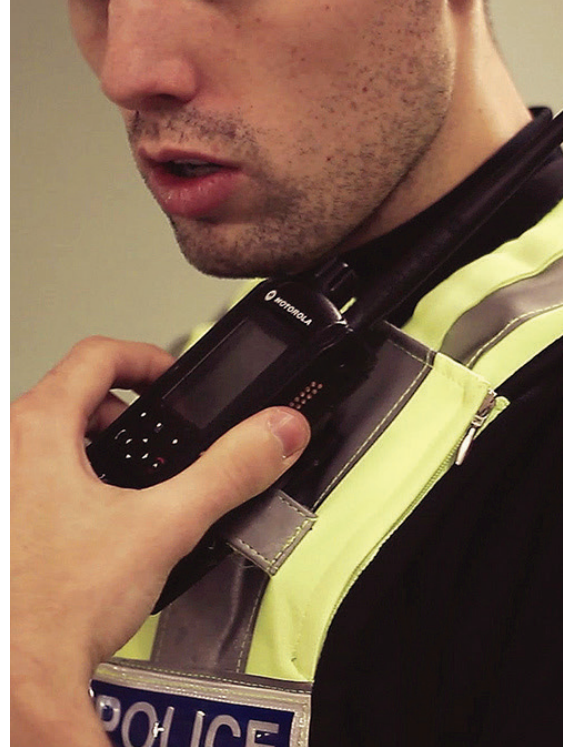
MTP6650 TETRA PORTABLE RADIO





MTP6650 TETRA PORTABLE RADIO DESIGNED FOR TODAY. READY FOR TOMORROW.





OVERCOMING TODAY'S CHALLENGES WHILE PREPARING FOR TOMORROW'S IS NO EASY TASK. ESPECIALLY WHEN IT COMES TO PUBLIC SAFETY.

The MTP6650 TETRA portable radio is designed to help you do both. With its enhanced coverage, built-in Bluetooth® 4.1 wireless technology, Wi-Fi readiness, expanded location services, and full car kit support, it's an exceptional radio now that will support your team well into the future.

Take coverage, for example. Now you can reach personnel even in marginal areas with Class 3 transmit power. Plus, you have the ability to optimise your coverage based on the type of environment in which your team is working. The new open standard SMA connector gives you the flexibility to use different antennas.

There's also Bluetooth® 4.1 for adding connected devices—such as a PTT button or a heart rate monitor—without adding wires.

And you can easily transform your portable radio into a virtual mobile using the full car kit.

Whether you're guiding teams into an emergency or allocating day-to-day resources based on location, now you can do it more effectively.

The MTP6650 delivers additional Global Navigation Satellite System (GNSS) capabilities to Eastern Europe and Asia, enhancing GPS with GLONASS and BeiDou.

THE MTP6650 TETRA PORTABLE RADIO WILL SUPPORT YOUR TEAM NOW AND WELL INTO THE FUTURE.

Key Features:

- Class 3 transmit power
- Wideband 350-470 MHz
- SMA connector
- Bluetooth® 4.1 wireless technology
- Full car kit support
- GPS, BeiDou and GLONASS
- 2W audio output
- Advanced noise suppression
- microSD card
- Large 2" display
- Simple and intuitive user interface
- Rated IP68 and MIL-STD 810G
- Greater than 16 hours battery life
- Wi-Fi hardware ready
- BT Indoor location
- RFID knob for asset management





EXTEND YOUR RANGE.

IN AN EMERGENCY, YOU CAN'T AFFORD TO BE LET DOWN BY POOR COVERAGE.

So rely on the enhanced coverage of the MTP6650 TETRA portable radio instead. Send voice and data messages and make emergency calls in marginal areas with the help of Class 3 transmit power. Optimise coverage using the new SMA connector, which gives you the ability to switch antennas based on the environment in which your team is working, or when the radio is worn under a protective vest. And be able to reach your team inside buildings due to its high receive sensitivity.

Wherever it's deployed, the MTP6650 puts you in control. When you need to increase your coverage, choose a high power setting. When you want to preserve battery life, toggle to a lower one.



WORK WIRELESSLY.

WITH BLUETOOTH® 4.1
WIRELESS TECHNOLOGY,
YOU CAN EQUIP YOUR TEAM
WITH THE LATEST WIRELESS
SOLUTIONS.

Connect to multiple devices—such as audio, PTT, and sensors—and enjoy the freedom of using the radio without being wired to it.

For example, pair the MTP6650 TETRA portable radio with a wireless PTT button that can be activated without having to reach for the radio. Then, hide the radio in a backpack or underneath clothing for covert operations. Bluetooth® 4.1 also enables partners to develop new collaborative solutions, including biometric sensors that can monitor vital signs. The possibilities are practically endless.





CREATE A VIRTUAL MOBILE.

TODAY'S SHRINKING BUDGETS REQUIRE SMARTER MOBILE SOLUTIONS.

Turn your MTP6650 TETRA portable radio into a virtual mobile with the simple addition of the MTP6000 Series Car Kit. Then enjoy hands-free operation along with in-car charging and expanded coverage.

The kit uses the car's own battery, so you can charge your portable on the go without slowing down. With the MTP6650 and a car kit, there's no need to buy an expensive mobile radio, or the filters, switches, and extra batteries one requires. Not to mention incurring the additional installation time and cost.





MANAGE EVERYONE, EVERYWHERE.

OPTIMISING RESOURCES AND IMPROVING SAFETY BEGIN WITH KNOWING WHERE EVERYONE IS.

So we designed the MTP6650 TETRA portable radio with the latest GNSS, providing access to global services such as GPS, GLONASS, and BeiDou. With accurate location data for all personnel, you can mobilise teams closest to an incident. Ensure that critical messages get to the right people. And ultimately, shorten emergency response times.

GNSS helps keep personnel safe, too. You know precisely where to send help if people are in trouble, whether they activate their emergency alert manually or it triggers the automatic "man down" sensor.



HEAR AND BE HEARD.

OUT ON PATROL, THE ABILITY TO COMMUNICATE CLEARLY CAN BE THE DIFFERENCE BETWEEN LIFE AND DEATH.

The MTP6650 makes sure you can hear and be heard even when sirens are blaring thanks to 2W audio output and advanced noise suppression technology. With its Slimport speaker, you receive an even distribution of sound all around the radio wherever it's being worn. Listen at full volume using the speaker or audio accessories, and experience the clarity you depend on. At the same time, an intelligent microphone eliminates the need for audio profiles and provides wide dynamic range, making sure your message gets across in the most demanding environments.



KEEP INFORMATION AT HAND.

ACCESS DAILY BRIEFINGS,
ROUTE MAPS, PICTURES
OF SUSPECTS OR MISSING
CHILDREN, AND MORE.

The microSD card slot lets you easily expand storage and keep critical information at your fingertips, so it's always there when you need it. Or, use the microSD card slot to boost security, delivering end-to-end encryption for those who require the ultimate in protection.





Motorola GAI rugged side connector for audio accessories.

Robust keypad with enhanced tactility

Rugged bottom connector with self-cleaning design and corrosion resistance. Offers USB support

Robust battery latch

Man-Down feature activates emergency alerting based on motion detection and incline angle threshold settings



Emergency alert button

Status indicator

Programmable key

Large, glove friendly PTT with enhanced tactility

Programmable key

High performance audio based on Motorola Slimport technology

Rugged product design with IP68 submersibility

Automatic keypad backlit

Bottom microphone



SUPERIOR, GLOVE FRIENDLY ERGONOMICS





MTP6650 ACCESSORIES

CHOOSE FROM A VARIETY OF MOTOROLA ORIGINAL™ ACCESSORIES DESIGNED, TESTED AND CERTIFIED TO OPTIMISE THE PERFORMANCE OF YOUR MTP6650.

MTP6000 SERIES CAR KIT

Transform the MTP6650 portable radio into a virtual mobile radio with a wide range of mobile accessories, including a variety of microphones, speakers, remote PTT options, telephone style handset, alarm relay and emergency footswitch.



INTEGRATED BLUETOOTH®

The MTP6650 has Bluetooth 4.1, which enables connectivity to a variety of wireless accessories. Our exclusive Operations Critical Wireless accessories handle loud environments, and an optional wireless PTT seamlessly links to any accessory. Just put the PTT in a pocket or on a lapel and connect instantly.



IMPRES™ AUDIO ACCESSORIES

Connect an IMPRES audio accessory, and the MTP6650 identifies it automatically. Whether it's a Remote Speaker Microphone or a Surveillance Kit, your radio assigns the correct profile to optimise audio performance. The IMPRES large speaker microphone matches the high-powered speaker on your radio so you can hear clearly even in high noise environments. What's more, whether you speak loudly or quietly, directly into or away from the microphone, with IMPRES, the volume adjusts automatically, providing clear audio in all environments.





MTP6650 SPECIFICATIONS¹

GENERAL SPECIFICATIONS

Dimensions	Height: 132mm Width: 59mm Depth: 34mm (1950mAh battery)
Weight (with 90mm antenna)	292g
Battery options	1950mAh standard battery 2200mAh standard battery 3400mAh IMPRES2 battery
Audio output power at max volume	2W
Audio distortion at max volume	<1%

TETRA SERVICES

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

VOICE	
Full duplex call	TMO: Private, PABX, PSTN, Emergency
Half duplex call	TMO: Private, Group, Emergency DMO: Private, Group, Emergency
Emergency call (user customisable)	Tactical: Emergency group call to attached talkgroup Non-Tactical: Emergency group call to dedicated talkgroup Individual: Emergency call to predefined 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 Preemptive priority calls

DATA	
	Status messaging in TMO and DMO
	SDS messaging in TMO and DMO Supports concatenated SDS (1000 characters)
Short data	Short data applications Callout (simple, full, E2EE) Access to SDS during an emergency call
Packet data	Supports up to 4 slots packet data transmission
TETRA network protocol Type I (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
DMO REPEATER	
	ETSI type 1A DMO repeater for channel efficient operation
	Repeats DMO voice and tone signalling on selected talkgroup
DMO repeater mode features and functions	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
Protocols - security classes	Class 1 (Clear) Class 2 (SCK) Class 3 (DCK/CCK) Class 3G (GCK)
End-to-end encryption	AES128 or AES256 end-to-end encryption for voice and short data with OTAK supported through optional hardware security module Optional SIM based encryption including BSI
Other security features	Temporary disable (stun) Permanent disable (either ETSI standard or customer restoreable type are available)



MTP6650 SPECIFICATIONS¹

CONNECTIVITY

BLUETOOTH	
Bluetooth Versions Supported	Bluetooth 2.1 + EDR and 4.1, 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	Head Set Profile (HSP), Fast PTT with Motorola Solutions Accessories
Bluetooth Data Services	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
OTHER	
Wi-Fi	Wi-Fi hardware ready
RFID	Optional 866-868 MHz RFID Knob

LOCATION SERVICES

SATELLITE/OUTDOOR NAVIGATION SERVICE	
Constellations supported	GPS plus one of: GLONASS, and BDS (BeiDou), Satellite-based augmentation systems (SBAS) including QZSS
Antenna	Integrated internal antenna
Simultaneous satellites	12
GNSS tracking sensitivity	GPS: -162dBm (guaranteed); -163dBm (typical) BDS (BeiDou): -154dBm (guaranteed); -155dBm (typical) GLONASS: -154dBm (guaranteed); -155dBm (typical)
Horizontal accuracy, 2D	<2m (95% probable at -130dBm)
Protocols	ETSI LIP (short and long), Motorola Solutions LRRP
TTF cold start	<60 sec (typical)
TTF hot start	<10 sec (typical)
INDOOR NAVIGATION SERVICE	
BTLE indoor location	iBeacon™ / Bluetooth low energy beacon
Protocols	ETSI LIP (extended)

USER INTERFACE

Display	Large 2" QVGA transfective display with 262K vivid colours
	Backlight, flip screen, large icons and scalable text font options
	Screen saver GIF image and text (user defined)
	Universal time display
Controls	Multiple display languages, user selectable
	Large PTT button with enhanced tactility Emergency Button Programmable multi-function rotary switch 2 programmable side keys
	Keypad
Keypad	Backlit with user configurable one touch buttons & keys, extensive list of functions
	Menu
Menu	Customisable menu
	Menu shortcuts
Talkgroup Management	User friendly, flexible, fast and efficient interface
Talkgroups	TMO folders: up to 256, TMO talkgroups: up to 10,000 DMO folders: up to 128, DMO talkgroups: up to 2,000
Favourite talkgroup folders	3
Scan lists	40 lists of up to 20 groups
Country/network code list	100
Contacts management	Rapid search
Contacts	Up to 1,000 contacts with 6 numbers per contact, (max 2,000 unique numbers)
Dialling methods	Dialling Direct, Scroll, Speed, One touch button/key
Call alert	Vibrate alert and multiple ring tones
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) ² At least 10 entries for inbox (long messages) ²
Status list	400 pre-defined messages assignable to one touch buttons
Other features	Intelligent keypad text input
	Covert Mode
	Vibrate alert
	Multiple ringtones



MTP6650 SPECIFICATIONS¹

LICENSED OPTIONS

Please refer to software features catalogue for a full list - motorolasolutions.com/tetra-devicesoftware

DEVICE MANAGEMENT SOLUTIONS

Customer programming software (CPS)	Program individual radios with Motorola Solutions CPS
Motorola Solutions integrated terminal management (iTM)	Manage large fleets in multiple locations using Motorola Solutions iTM

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-30°C to +60°C ³
Storage temperature	-45°C to +85°C
Humidity (condensation and 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	IP68 (1m, 1hr), IP67, IP66, IP65 per IEC 60529
Compliance to US military standard 810	Please refer to the table below

MIL-STD 810⁴

	MIL-STD 810C		MIL-STD 810D		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, III/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

ACCESSORIES

For a full list of accessories for the MTP6650 please visit: motorolasolutions.com/tetra_accessories

RECOMMENDED SERVICES

Service from the Start with Comprehensive Coverage⁵
For more information please visit: motorolasolutions.com/services

¹ Some features require optional software licences.

² Long messages of up to 1,000 characters.

³ Performance may be limited when operating at extreme temperatures.

⁴ Where a test method has multiple procedures, the applicable procedures are listed.

A tick ✓ indicates that there is only one procedure, and it was carried out.

⁵ Availability may vary by country. Please check with your local Motorola Solutions representative for full details.

For more information, please visit:
MotorolaSolutions.com/MTP6650