MXP600

Frontline safety, today and tomorrow

Being on the front line is tough. Who knows what the day will bring, and what conditions your people will face? The right radio can make all the difference.

We've listened to what frontline workers want and built the MXP600 for them: a rugged and lightweight yet fully capable TETRA portable radio.

The MXP600 is easy to carry and easy to use. It has innovative audio technology so they can hear and be heard. So that vital messages get through, the MXP600 has the option to ramp up to Class 3 TETRA transmission power. Its rugged design copes with extreme environments, and its extended battery life outlasts a shift.

If an MXP600 user goes outside of TETRA coverage, the radio can automatically switch to available Wi-Fi broadband, maintaining DIMETRA™ features and workflows via DIMETRA Connect.[1]

Bluetooth® 5.3 and NFC enable rich collaboration, providing a leading-edge user experience today and ready for mission-critical communications tomorrow.

Over-The-Air-Programming and Over-The-Air Updates help keep your radios up to date and reduce expensive and time-consuming radio management chores to become lightning fast and cost effective.

The MXP600 is a radio that gives your frontline staff the confidence to focus and efficiently and effectively get the job done.

[1] For more information about DIMETRA Connect, visit: motorolasolutions.com/dimetraconnect

MOTOROLA SOLUTIONS

Key attributes

- Rugged and dependable
- Small and light
- Easy to carry and easy to wear
- Easy to use
- High receiver sensitivity
- Class 3 transmission power option
- Loud and clear audio
- Adaptive multi-microphone beam-forming noise suppression
- Adaptive wind noise mitigation

- Automatic howling suppression
- Supports GPS, BeiDou, Galileo and GLONASS
- Dedicated emergency button
- Long battery life
- Compact wired accessory connector
- Secure communications
- Large 2.4 inch colour screen
- Bluetooth® 5.3

- Integrated NFC
- Hardware ready for High Definition (HD) voice
- Wi-Fi 2.4 GHz and 5 GHz
- TETRA Over-The-Air Programming
- Wi-Fi Over-The-Air Programming and firmware updates
- Works with DIMETRA™ Connect over Wi-Fi to help stay connected outside of TETRA coverage

GENERAL SPECIFICATIONS

Dimensions	Height: 120 mm Width: 54 mm Depth: 25 mm (with IMPRES2 1900 mAh battery) 30 mm (with IMPRES2 2900 mAh or 3400 mAh battery)
Weight	200 g (with 1900 mAh battery, without antenna) 212 g (with 1900 mAh battery and 60 mm antenna)
Battery options	1900 mAh IMPRES2 battery 2900 mAh IMPRES2 battery[2] 3400 mAh IMPRES2 battery
Housing colour	Black Green (selected models)

AUDIO

Audio power at rated	2 W
Audio distortion at rated	<1%
Audio power at maximum	2.2 W
Max loudness	99 Phon (standard profile) & 102 Phon (loud profile)
Noise supression	Adaptive Multi-Microphone Beam-Forming
Number of microphones	3 dedicated + 1 loudspeaker as mic
HD Voice	Capable (8 kHz bandwidth)

TETRA SERVICES

RF

Frequency bands	350-470 MHz
Transmitter RF power	Class 3 (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	-116 dBm (guaranteed); -118 dBm (typical)
Receiver dynamic sensitivity	-107 dBm (guaranteed); -109 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, 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 (including voice control)
AT serial multiplexer	Up to four virtual ports
Expandable memory	Up to 32 GB with a Micro SD or Micro SDHC card

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, OTAR-CCK, OTAR-SCK) Class 3G (GCK, OTAR-GCK)
End-to-end encryption	AES128 or AES256 for voice and short data with OTAK supported through optional Hardware Security Module (HSM)
	SIM based encryption including BSI
Other security features	Temporary disable (stun)
	Permanent disable (either ETSI standard or customer restorable)

[2] Recommended for low temperature environments.

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
	Emergency alert
	Emergency status message 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

DIMETRA™ CONNECT (TETRA OVER IP)	
Supported networks	Supports DIMETRA Connect [3] over Wi-Fi
DIMETRA Connect security	Certificate based authentication between radio and DIMETRA Connect gateway
	256-bit AES encryption over IP between radio and DIMETRA Connect gateway
	Maintains TETRA authentication, TETRA end-to-end encryption, TETRA temporary/permanent disable over Wi-Fi
	TLS 1.3 for DIMETRA Connect over Wi-Fi

CONNECTIVITY	
WI-FI	
IEEE standards supported	802.11 a, b, g, n, ac
Wi-Fi Bands	2.4 GHz and 5 GHz
Authentication and encryption	WPA WPA2 WPA2 Enterprise (EAP-TLS) WPA3 WPA3 Enterprise
ANTENNA	
Connector	SMA
Impedance	50 Ω
Car kit	Compatible with external antenna
NFC	
Tag type	ISO/IEC 15693

[3] For more information about DIMETRA Connect, visit:
motorolasolutions.com/dimetraconnect

RFID	
Tag type	866-868 MHz or 902-928 MHz

BLUETOOTH®	
Bluetooth versions supported	Bluetooth 5.3, 5.2, 5.1, 4.2, 4.1, 4.0, and 2.1 + EDR
Bluetooth security	Supports AES encryption for both Bluetooth standard and low energy, complying to security service mode 4, level 4 with Secure Connections as recommended by NIST
Bluetooth profiles	Headset Profile (HSP) Serial Port Profile (SPP) Generic Access Profile Generic Attributes Profile (GATT) including Heart Rate Profile, Battery Service Profile, Devices Info Profile

LOCATION SERVICES			
SATELLITE / OUTDOOR NAVIGATION SERVICE			
Constellations supported	GPS plus one of: Galileo, GLONASS, and BDS (BeiDou), Satellite-Based Augmentation Systems (SBAS) including QZSS		
GNSS antenna	Internal antenna		
Gnss tracking sensitivity	GPS:	-163 dBm (guaranteed)	-164 dBm (typical)
	BDS (BeiDou):	-155 dBm (guaranteed)	-156 dBm (typical)
	GLONASS:	-157 dBm (guaranteed)	-160 dBm (typical)
	Galileo:	-155 dBm (guaranteed)	-157 dBm (typical)
Horizontal accuracy, 2D	1.0 m (95% probable, -130 dBm, >15 SVs Galileo and GPS)		
TTFF cold start	<50 sec (95% probable at -130 dBm)		
Protocols	ETSI LIP (short and long), Motorola Solutions LRRP		
INDOOR NAVIGATION SERVICE			
BTLE indoor location	iBeacon™ / bluetooth low energy beacon		
Protocols	ETSI LIP (extended)		

DEVICE MANAGEMENT SOLUTIONS	
Customer Programming Software (CPS)	Supports CPS version 7.6 onwards
Integrated Terminal Management (iTM)	Supports iTM version 7.6 onwards
Over-The-Air Updates	Supports Over-The-Air-Programming (OTAP) for selected configuration (codeplug) information via TETRA network
	Supports Over-The-Air-Programming (OTAP) for configuration (codeplug) and Over-The-Air Updates (OTA Updates) for firmware via Wi-Fi
OTAP security	TLS 1.2 for OTAP

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature[4]	-30 °C to +70 °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	IP68 (2m, 2hr), IP67, IP66, IP65 per IEC 60529
Lab accreditation	ISO/IEC 17025:2017

[4] Performance may be limited when operating at extreme temperatures.

USER INTERFACE

Display	2.4" transflective display with 65K colours
	Easy to read modern user interface
	Backlight option
	Flip screen option
	Scalable text size option
	Customisable screensaver image
	Universal time display
	Configurable time out
	User configurable multiple display languages
Controls	Backlit keypad
	Dual function rotary knob
	3 configurable side buttons
	Configurable one touch keypad
Sensors	Accelerometer Ambient light
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	Up to 3

Scan lists	40 lists of up to 20 groups
Country/network code list	Up to 100
Menu	Customisable menu list catering each user's need
	Menu shortcuts are available
Contacts management	Rapid search to find the contact easily
Contacts	Up to 1000 contacts with 6 numbers per contact, (maximum 2000 unique numbers)
Multiple dialling methods	Dialling Direct, Scroll, Speed, One touch button/key
Call alert	Vibrate alert and multiple ring tones
Message management	Distinct folders for each message type for flexible message management
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
Text entry	Intelligent keypad text input
Covert mode	Turns the device into stealth mode for undercover operation
Safety	Fall alert (man down)

US MILITARY STANDARD MATRIX

	MIL-STD 810 C		MIL-STD 810 D		MIL-STD 810 E		MIL-STD 810 F		MIL-STD 810 G		MIL-STD 810 H	
Applicable MIL-STD	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	I	502.2	I, II	502.3	I, II	502.4	I, II	502.6	I, II	502.7	I, II
Temperature Shock	503.1	I	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	Yes	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	Yes	509.6	Yes	509.7	Yes
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,III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI

RECOMMENDED SERVICES

Services for TETRA radios	www.motorolasolutions.com/mxp600

To learn more, visit: www.motorolasolutions.com/MXP600

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.

MOTOROLA *SOLUTIONS*

All specifications are subject to change without notice.