

MOTOTRBO™ R5 portable two-way radios

MOTOTRBO R5 connects teams, helping boost efficiency and safety with loud, clear audio that cuts through background noise, plus intuitive status indications and controls so workers can focus on their tasks, all in a tough, compact device that's built to last.



Key features

- VHF and UHF
- Integrated GNSS location tracking¹
- Digital and analogue signalling
- 1.5" 132 x 48 px display¹
- Modern, intuitive user experience
- Wide suite of accessories
- Sleek and ergonomic form factor
- Automatic acoustic feedback suppression
- SINC+ Noise Suppression
- AI-trained Noise Suppression
- Intelligent Audio
- IMPRES™ audio and energy technology
- Programmable loudness up to 106 phons
- Wideband speaker
- Simple audio configuration
- Up to 32 hours battery life²
- IP67 dust-tight and waterproof
- Intrinsically safe option (UL TIA4950)
- Robust side accessory connector
- Rugged to MIL-STD 810H
- Enhanced 5 year warranty as standard with optional add-ons for enhanced cover

Specifications

GENERAL SPECIFICATIONS

	R5 LIMITED KEYPAD MODEL (LKP)		R5 NON-KEYPAD MODEL (NKP)	
Band	VHF	UHF	VHF	UHF
Frequency	136-174 MHz	400 - 527 MHz	136-174 MHz	400 - 527 MHz
High Power Output	5 W	4 W	5 W	4 W
Low Power Output	1 W			
Channel Spacing	12.5 kHz, 20 kHz, 25 kHz			
Channel Capacity	256		64	
Zone Capacity	50		4	
Display	132 x 48 px 1.5" monochrome display		n/a	
Power Supply (Nominal)	7.5 V			

MOTOTRBO R5 WITH SLIM IMPRES LI-ION IP67 2200 MAH BATTERY (PMNN4888)

Dimensions (h x w x d)	122 x 56 x 35 mm			
Weight	285 g		269 g	
Battery life ² (digital/analogue)	21.5 / 16 hours	20 / 15.5 hours	21.5 / 16 hours	20 / 15.5 hours
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)			

MOTOTRBO R5 WITH LI-ION IP67 2400 MAH BATTERY (PMNN4878)

Dimensions (h x w x d)	122 x 56 x 41 mm			
Weight	314 g		297 g	
Battery life ² (digital/analogue)	24 / 18 hours	22.5 / 17.5 hours	24 / 18 hours	22.5 / 17.5 hours
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)			

MOTOTRBO R5 WITH IMPRES LI-ION IP67 3200 MAH BATTERY (PMNN4889)

Dimensions (h x w x d)	122 x 56 x 41 mm			
Weight	318 g		301 g	
Battery life ² (digital/analogue)	32 / 24 hours	30 / 23 hours	32 / 24 hours	30 / 23 hours
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)			

MOTOTRBO R5 WITH IMPRES LI-ION IP67 TIA4950 3200 MAH BATTERY (PMNN4890)

Dimensions (h x w x d)	122 x 56 x 41 mm			
Weight	332 g		315 g	
Battery life ² (digital/analogue)	32 / 24 hours	30 / 23 hours	32 / 24 hours	30 / 23 hours
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)			



Specifications

TRANSMITTER SPECIFICATIONS

4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD 12.5 kHz Voice: 7K60F1E and 7K60FXE Combination of 12.5 kHz Voice and Data: 7K60F1W
Digital Protocol	ETSI TS 102 361-1, -2, -3 DMR Tier II
Conducted/Radiated Spurious Emissions (TIA603E)	-36 dBm, <1 GHz, -30 dBm >1 GHz
Adjacent Channel Power	60 dB @ 12.5 kHz 70 dB @ 20 kHz / 25 kHz
Frequency Stability	±0.5 ppm
Modulation Limiting	±2.5 kHz @ 12.5 kHz, ±4.0 kHz @ 20 kHz, ±5.0 kHz @ 25 kHz

RECEIVER SPECIFICATIONS

Analogue Sensitivity (12dB SINAD)	0.16 µV
Digital Sensitivity (5% BER)	0.14 µV
Intermodulation (TIA603E)	70 dB
Adjacent Channel Selectivity, (TIA603A)-1T	60 dB @ 12.5 kHz 70 dB @ 20 kHz / 25 kHz
Adjacent Channel Selectivity, (TIA603E)-2T	45 dB @ 12.5 kHz 70 dB @ 20 kHz / 25 kHz
Spurious Rejection (TIA603E)	70dB
Frequency Stability	±0.5 ppm

GNSS SPECIFICATIONS (LKP MODEL ONLY)

Constellation Support	GPS, GLONASS, BeiDou, Galileo
Time To First Fix, Cold Start	≤60 seconds
Time To First Fix, Hot Start	≤10 seconds
Horizontal Accuracy	<5 m

SERVICE COVERAGE

Included: Hardware repair (2 years), plus technical support and software updates (5 years)

Optional: Hardware repair (5 years) and accidental damage repair (5 years)

AUDIO SPECIFICATIONS

Digital Vocoder Type	AMBE+2™
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 20 kHz / 25 kHz
Audio Response (TIA603E)	+1, -3 dB
Audio Output Power (Rated/Max)	1 W / 3 W
Audio Distortion at Rated Audio	≤3%
Maximum Speech Loudness, Default (ISO532B)	101 phon @ 30 cm
Maximum Programmable Speech Loudness (Digital) (User Selectable Audio Profile Level 3)	106 phon @ 30 cm

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature ³	-30 °C to 60 °C (-22 °F to 140 °F)
Storage Temperature	-40 °C to 85 °C (-40 °F to 185 °F)
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
Electrostatic Discharge	IEC 61000-4-2 Level 4
Dust and Water Intrusion	IP67
Salt Fog	5% NaCl for 8 hrs at 35 °C, 16 hrs standing
Packaging Test	MIL-STD 810D and E

HAZLOC CERTIFICATION

ANSI/TIA4950 and CAN/CSA C22.2 No. 157-92 as intrinsically safe for use in Class I, II, III, Division 1, Groups C, D, E, F, G, Division 2, Groups A, B, C, D when properly equipped with Motorola UL-Approved battery

MILITARY STANDARDS (MIL-STD 810)

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE	METHOD	PROCEDURE
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.6	II	500.6	II
High Temp	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 Temp	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II	502.6	I, II	502.7	I, II
Temp Shock	503.1	I	503.2	A1/C3	503.3	A1/C3	503.4	I	503.6	I-C	503.7	1-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	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.7	I, IV	516.8	I, IV



Feature Comparison

R5 is available with limited keypad (LKP) and non-keypad (NKP) versions.

	R5 LKP	R5 NKP
GENERAL		
VHF 5 W, UHF 4 W	●	●
Limited keypad	●	—
Monochrome display	●	—
Analogue and digital	●	●
Voice and data	●	●
Canned text messaging	●	● ⁴
Outdoor location tracking (GNSS)	●	—
Voice operated transmit (VOX)	●	●
Voice announcement	●	●
Home channel reminder	●	●
Late entry	●	●
Priority scan	●	●
AUDIO		
Intelligent Audio in digital mode	●	●
IMPRES audio	●	●
Received audio leveling	●	●
Automatic acoustic feedback suppressor	●	●
Microphone distortion control	●	●
User-selectable audio profile	●	●
Trill enhancement	●	●
AI-trained noise suppression	●	●
Single mic noise cancellation (SINC+)	●	●
SYSTEMS		
Dual Capacity Direct Mode	●	●
Conventional	●	●
IP Site Connect	●	●
Capacity Plus single site	○	○
Capacity Plus multi-site	○	○

	R5 LKP	R5 NKP
MANAGEMENT		
CPS 2.0 and Radio Management	●	●
Over-the-air programming (via DMR)	●	●
IMPRES energy	○	○
IMPRES battery management	○	○
Over-the-air battery management	○	○
SAFETY		
Emergency button	●	●
Lone worker	●	●
IP67	●	●
Rugged to MIL-STD 810	●	●
Basic privacy	●	●
Enhanced privacy	●	●
Transmit Interrupt	●	●
Digital emergency	●	●
Emergency search tone	●	●
Remote monitor	●	● ⁵
Radio disable / enable	●	● ⁵
Secure processor	●	●
Hazloc certification	●	●
CUSTOMIZATION		
Slim GCAI accessory port	●	●
Programmable buttons ⁶	5	3
NFC / RFID tags (Requires aftermarket installation)	○	○

● Included ○ Optional — Not included

¹ Limited keypad model only.

² Typical battery life, 5/5/90 profile at maximum transmitter power with GNSS disabled. Actual observed runtimes may vary.

³ Radio only. Battery minimum operating temperature -20 °C.

⁴ R5 NKP models support canned text message send only.

⁵ Decode only.

⁶ Including emergency button which can also be programmed for other functions.

To learn more about MOTOTRBO, visit: www.motorolasolutions.com/mototrbo



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Brochure

MOTOTRBO™ R5 portable two-way radios

Cut through the noise.
Focus on the task. Built to last.

MOTOTRBO R5 portable two-way radios



Be
efficient





MOTOTRBO R5 connects teams, helping boost efficiency and safety with loud, clear audio that cuts through background noise, plus intuitive status indications and controls so workers can focus on their tasks, all in a tough, compact device that's built to last.





Cut through the noise

R5's loud, clear audio helps the message get through the first time, whether conditions are noisy or quiet.

Loud

If workers can't hear messages above noisy vehicles, a cheering crowd or heavy plant machinery, safety and efficiency can be compromised. R5's powerful built-in speaker delivers loud audio so workers can hear messages above background noise and users can even select an extra-loud audio profile for up to 106 phons loudness in extremely noisy environments. A wide selection of headsets and earpieces is also available to allow workers to hear messages discreetly or in high-noise workplaces.

Clear

R5 features a sophisticated AI-trained noise suppression algorithm for advanced background noise reduction to help ensure messages are transmitted clearly. Software embedded in the device distinguishes between the talker's voice and the various types of surrounding noise such as vehicles, crowds and heavy machines; speech is retained while ambient noise is significantly reduced. The MOTOTRBO R5's low distortion wideband speaker plays received messages loud and clear to help prevent miscommunication.

Consistent

R5 is designed to optimise audio performance across a wide range of workplace environments and worker profiles so users don't need to constantly adjust the radio volume. Its IMPRES™ technology and Received Audio Levelling smooth out the differences in users' voice level and microphone placement. Intelligent Audio adjusts the radio output to avoid blaring messages or missed calls, adapting to changes in the background volume or as workers move between noisy and quiet environments.



Focus on the task

Optimised controls, tactile buttons and long battery runtime make R5 easy and intuitive to use all day long so workers can focus on their job, not their radio.

Optimised controls

Intuitive controls make R5 easy to use with minimal training. Its large rotary volume and channel selector control knobs are simple to operate, even when wearing gloves. The large, tactile push-to-talk (PTT) button gives precise performance, programmable buttons are quick shortcuts to frequently used features and a dedicated orange emergency button makes calling for assistance easy. The bright, clear display provides icons to show radio status and can be configured to show two or three lines to match user preference.

Long talk-time

MOTOTRBO R5 batteries are small and light, but packed with enough power to keep the radio running through multiple work shifts, with up to 32 hours runtime from a single charge¹. Optimise the performance of R5's IMPRES battery with an IMPRES charger that helps keep the battery in peak condition for longer, extending the battery's usable lifetime.

Connected

A built-in GNSS receiver² allows the R5 to be located and tracked in real-time, helping coordinate workers and assets to enhance safety and productivity. RFID and NFC tags can be added to R5 for asset tracking, inventory management, and personnel identification, or to assign Motorola Solutions VB400 body cameras to a specific radio user.

¹Typical battery life, 5/5/90 profile at maximum transmitter power with GNSS disabled. Actual observed runtimes may vary.

²LKP models only.



Built to last

R5 has been designed to withstand the knocks and drops of the workplace so it will work as well in the future as it does today.

Durable

When you need a reliable two-way radio for use in harsh conditions, whether inside or outdoors, you can trust MOTOTRBO R5 to perform. It is dust-tight and waterproof, rated IP67 for protection against dirt and water and meets MIL-STD-810 requirements for resilience against harsh environmental conditions like drops, vibration, temperature changes and humidity.

Resilient

MOTOTRBO R5 is designed, tested and built to the highest standards to help ensure each device performs as required, not just on day one but for years to come. For additional peace of mind, warranty and service coverage provides access to software updates and hardware repair to keep radios operating to the latest levels.

Reliable

When users rely on their two-way radios for day-to-day operations, they need reliable equipment that lasts. Like all MOTOTRBO Radios, R5 has undergone Motorola's unique Accelerated Lifecycle Testing (ALT), a rigorous regime that simulates 5 years of use to ensure that the radios can withstand the demands of real-world use, giving users confidence that their Motorola devices will perform as needed when it counts the most.

Safe

Working in hazardous locations needs equipment fit for the job. MOTOTRBO R5 is available with ANSI TIA4950 intrinsically safe (IS) certification for use in areas where flammable substances may present a fire or explosion hazard, helping keep workers connected safely.



Built to last

Customise your MOTOTRBO R5 with Motorola Solutions original accessories that are designed and tested with our radios to provide optimal performance and to meet regulatory requirements. Choose from a wide range including remote speaker microphones (RSMs), earpieces, headsets, batteries, chargers and carry cases.

Audio

Clear, comfortable and convenient

Fine-tune your audio experience with an audio accessory designed to complement the R5's performance. Select from a range of audio accessories including remote speaker microphones, earpieces and headsets.



Energy

Powerful and long-lasting

You need a battery that's as powerful as your radio. Our long-lasting, lightweight batteries last a full shift, ensuring the MOTOTRBO R5 works when you need it. A variety of flexible charging solutions enables you to charge one or up to six batteries simultaneously, so your radios are always ready for the next shift.



Carry

Secure, easy access

Our range of carry cases, straps and clips allows users to work handsfree by safely securing R5 to their waist, hip or chest, and ensures the radio is easily to hand when needed.



Protect your investment

MOTOTRBO R5 is built to last, and is supplied as standard with two year repair cover for manufacturing defects and five years of access to software updates to help keep devices current. For even greater peace of mind, optional service packages are available to provide enhanced or extended cover.



MOTOTRBO R5 within the Motorola Solutions safety and security ecosystem

Our ecosystem of technologies helps protect people, property and places. Voice, video and data are unified, so information flows, operations run and collaboration improves to help strengthen safety everywhere. Built to seamlessly evolve and scale, and grounded in nearly 100 years of close customer and community collaboration, it's the technology ecosystem that's solving for safer.

MOTOTRBO R5 is built into this ecosystem so you can get more out of your communications investment. Keep your teams aware and streamline critical communications by receiving automatic notifications from your video security and access control systems, sensors and more directly on your device. Control and consolidate instant voice communications from your desktop using innovative computer-aided dispatch solutions. And extend communications beyond your radio network with interoperability with flexible broadband push-to-talk solutions



To learn more visit,
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