MOTOROLA SOLUTIONS
Channel Partner

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.

speedcast

Key features

- VHF and UHF
- Digital and analogue signalling
- 1.5" 132 x 48 px display[1]
- 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 life[2]
- IP67 dust-tight and waterproof
- Intrinsically safe option (UL TIA4950)
- Robust side accessory connector
- Rugged to MIL-STD 810H
- 5 years of hardware repair and software updates 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 hrs	20 / 15.5 hrs	21.5 / 16 hrs	20 / 15.5 hrs
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 hrs	22.5 / 17.5 hrs	24 / 18 hrs	22.5 / 17.5 hrs
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 hrs	30 / 23 hrs	32 / 24 hrs	30 / 23 hrs
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 hrs	30 / 23 hrs	32 / 24 hrs	30 / 23 hrs
Operating temperature	-20 °C to 60 °C (-4 °F to 140 °F)			
SERVICE COVERAGE				
Included: Hardware repair, technical support and software updates (5 years)				
Optional: Accidental damage hardware repair (5 years)				
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				
MARITIME CERTIFICATION				
R5 UHF models are maritime certified to EN 300 720 V2.1.1 and IEC / EN 60945:2002 standards for use on board vessels				

Specifications

TRANSMITTER SPECIFICATIONS	
FM Modulation	12.5 kHz: 11K0F3E 20 / 25 kHz: 16K0F3E
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 Emissions (TIA603E / ANSI C63.26, C63.4)	-36 dBm, <1 GHz, -30 dBm >1 GHz
Adjacent Channel Power (TIA603E)	60 dB @ 12.5 kHz 70 dB @ 20 kHz / 25 kHz
Frequency Stability	±0.5 ppm
Modulation Limiting (TIA603E)	±2.5 kHz @ 12.5 kHz, ±4.0 kHz @ 20 kHz, ±5.0 kHz @ 25 kHz

RECEIVER SPECIFICATIONS	
Analogue Sensitivity (12dB SINBAD)	0.16 µV
Digital Sensitivity (5% BER)	0.14uV
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

AUDIO SPECIFICATIONS	
Digital Vocoder Type	AMBE+2™
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 20 kHz / 25 kHz
Audio Response (TIA603E / ANSI C63.26)	+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

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

Features

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	●	●
5 tone signalling	○	○
Voice and data	●	●
Canned text messaging	●	●[4]
Voice operated transmit (VOX)	●	●
Voice announcement	●	●
Home channel reminder	●	●
Late entry	●	●
Priority scan	●	●
AUDIO		
Intelligent Audio in digital mode	●	●
IMPRES audio	●	●
Received audio levelling	●	●
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	○	○

● Included ○ Optional — Not included

	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	●	●
Enhanced privacy	○	○
Transmit Interrupt	●	●
Digital emergency	●	●
Emergency search tone	●	●
Remote monitor	●	●[5]
Radio disable / enable	●	●[5]
Secure processor	●	●
Hazloc certification	●	●
CUSTOMISATION		
Slim GCAI accessory port	●	●
Programmable buttons[6]	5	3
NFC / RFID tags (Requires aftermarket installation)	○	○

[1] Limited keypad model only.
[2] Typical battery life, 5/5/90 profile at maximum transmitter power. 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.

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These models are available in Motorola Solutions APAC region only. Availability varies and is subject to individual country law and regulations. All specifications shown are typical unless otherwise stated and are subject to change without notice.

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