westcan ACS
ADVANCED COMMUNICATIONS SOLUTIONS

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
- Wi-Fi 2.4/5.0 GHz
- WPA3 Wi-Fi security protocol compliant
- Bluetooth® Core Version 5.2
- Digital and analog signaling
- 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 / CSA C22.2)
- 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 - 512 MHz	136-174 MHz	400 - 512 MHz
High Power Output	5 W	4 W	5 W	4 W
Low Power Output	1 W			
Channel Spacing	12.5, 25 kHz			
Channel Capacity	256		64	
Zone Capacity	50		4	
Display	132 x 48 px 1.5” monochrome display		n/a	
FCC Description	AZ489FT7181	AZ489FT7182	AZ489FT7181	AZ489FT7182
IC Description	109U-89FT7181	109U-89FT7182	109U-89FT7181	109U-89FT7182
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 (4.82 x 2.2 x 1.37 inches)			
Weight	285 g		269 g	
Battery life[2] (digital/analog)	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 IMPRES LI-ION IP67 3200 MAH BATTERY (PMNN4889)				
Dimensions (h x w x d)	122 x 56 x 41 mm (4.82 x 2.2 x 1.6 inches)			
Weight	318 g		301 g	
Battery life[2] (digital/analog)	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 (4.82 x 2.2 x 1.6 inches)			
Weight	332 g		315 g	
Battery life[2] (digital/analog)	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 Emissions (TIA603E)	-36 dBm, <1GHz, -30 dBm > 1GHz
Adjacent Channel Power	60 dB @ 12.5 kHz 70 dB @ 25 kHz
Frequency Stability	±0.5 ppm
Modulation Limiting	±2.5 kHz @ 12.5 kHz ±5.0 kHz @ 25 kHz

RECEIVER SPECIFICATIONS	
Analog 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 @ 25 kHz
Adjacent Channel Selectivity, (TIA603E)-2T	45 dB @ 12.5 kHz 70 dB @ 25 kHz
Spurious Rejection (TIA603E)	70 dB
Frequency Stability	±0.5 ppm

WI-FI SPECIFICATIONS	
Frequency Range	2.4 GHz, 5 GHz
Standards Supported	Wi-Fi 5 / IEEE 802.11a/b/g/n/ac
Security Protocol Supported	WPA3, WPA2
Maximum Number of SSIDs	128 (64 for NKP Models)

SERVICE COVERAGE
Included: Hardware repair, technical support and software updates (5 years)
Optional: Accidental damage hardware repair (5 years)

BLUETOOTH SPECIFICATIONS	
Bluetooth Technology	Bluetooth, Bluetooth Classic, Bluetooth LE, Bluetooth Dual Mode
Core Version	Qualified against Bluetooth Core 5.2
Range	Class 2, 10 m (33 ft)
Supported Profiles	Bluetooth Headset Profile (HSP), Serial Port Profile (SPP), Personal Area Network (PAN), Generic Attributes (GATT), In-door location (Passive Scanning)
Simultaneous Connections	1 audio accessory and up to 4 data devices

AUDIO SPECIFICATIONS	
Digital Vocoder Type	AMBE+2™
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 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	●	—
Analog and digital	●	●
Voice and text	●	●
Integrated Wi-Fi	●	●
Canned text messaging	●	●[4]
Bluetooth audio	●	●
Bluetooth data	●	●
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)	●	●
Over-the-air software update (via Wi-Fi)	●	●
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

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MOTOROLA SOLUTIONS

These models available in Motorola Solutions NA 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.