MOTOTRBO R2

PORTABLE
TWO-WAY RADIO

A next-level workhorse, the MOTOTRBO R2 marries durability and ergonomics to ensure confident, easy handling. And with superior range, configurable audio and seamless integration, the R2 is a reliable addition to an uninterrupted workday.

KEY FEATURES

Sleek & ergonomic form factor	Dual-Capacity Direct Mode	IP55 (dust and water ingress protection)
UHF, VHF	Loudness up to 101phons	Received audio leveling
Home channel reminder	Single-site conventional	Rugged to MIL-STD 810
64 Channels	2 programmable buttons	Voice announcement
Secure enhanced Linux operating system	Remote monitor	Dual priority scan
Acoustic feedback suppression	Selectable audio profiles	Quik Call II / MDC1200 Capable
Transmit interrupt	Rental timer	SINC noise suppression
Extended Range Direct Mode	Radio disable/enable	Enhanced privacy

MOTOROLA *SOLUTIONS*

SPECIFICATIONS

GENERAL SPECIFICATIONS

	400-470 MHz	136-174 MHz
Frequency	400-470 MHz	136-174 MHz
Typical RF Output High Power Low Power	4W 1W	5W 1W
Channel Spacing	12.5 /20.0/ 25.0[1] kHz	
Channel Capacity	64	
Dimension[2] (H x W x D) with battery PMNN4598 High Capacity Battery PMNN4600 Slim Battery	125mm x 55mm x 36.8 mm 125mm x 55mm x 31.7mm	
Weight[3] with battery PMNN4598 High Capacity Battery PMNN4600 Slim Battery	286g 261g	
Battery Life[4] PMNN4598 High Capacity Battery PMNN4600 Slim Battery	19.5 hrs / 26.5 hrs (analog / digital) 17 hrs / 22.5 hrs (analog / digital)	
Power Supply	7.5V (nominal)	
FCC Description	AZ489FT4971	AZ489FT3852
IC Description	109U-89FT4971	109U-89FT3852

(1) 25 kHz channels not available in USA
(2) Dimensions at grip area
(3) Excludes antenna
(4) Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.

SPECIFICATIONS

TRANSMITTER SPECIFICATIONS

4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD 12.5 kHz Voice: 7K60F1E and 7K60FXE Combination: 7K60F1W
Digital Protocol	ETSI TS 102 361-1, -2, -3
Conducted/Radiated Spurious Emissions (TIA603E)	<-36 dBm for < 1 GHz ; <-30 dBm for > 1 GHz
Adjacent Channel Power	>60 dB @ 12.5 kHz / >70 dB @ 20/25 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

Analog Sensitivity (12dB SINAD)	0.18uV (typical)
Digital Sensitivity (5% BER)	0.16uV (typical)
Conducted/Radiated Spurious Emissions (TIA603E)	<-57 dBm
Intermodulation (TIA603E)	>70 dB
Adjacent Channel Selectivity, (TIA603A) - 1T	>60 dB @ 12.5 kHz / >70dB @ 20/25 kHz
Adjacent Channel Selectivity, (TIA603E) - 2T	>55 dB @ 12.5 kHz / >70dB @ 20/25 kHz
Spurious Rejection (TIA603E)	>70 dB
Frequency Stability	± 0.5 ppm

AUDIO SPECIFICATIONS

Digital Vocoder Type	AMBE+2
Audio Response	TIA603E
Audio Output Power (Rated/Max)	1W / 3W
Audio Distortion at Rated Power	3% (typical)
Maximum Speech Loudness (ISO 532B)	101 phon
Hum and Noise	-40 dB @ 12.5 kHz / -45 dB @ 20/25 kHz

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[1]	-30ºC to 60ºC
Storage Temperature	-40ºC to 85ºC
Thermal Shock	Per MIL-STD 810C/D/E/F/G/H
Humidity	Per MIL-STD 810C/D/E/F/G/H
Electrostatic Discharge	IEC 61000-4-2 Level 4
Dust and Water Intrusion	IEC60529 IP55
Salt Fog	Per MIL-STD 810C/D/E/F/G/H
Packaging Test	Per MIL-STD 810C/D/E/F/G/H

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	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	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.7	I, IV	516.8	I, IV

(1) Radio only. Minimum operating temperature with battery is -4ºF (-20ºC).

FEATURES

GENERAL	
Analog and Digital	●
DMR Standards Compliant[1]	●
64 Channels	●
2 Programmable Buttons	●
Canned Text Messaging[1]	●
Voice Announcements	●
Home Channel Reminder	●
Late Entry[r1]	●
Dual Priority Scan	●
Nuisance Channel Delete	●
Secure Enhanced Linux Operating System	●
TLS-PSK CPS/RM - Radio/Repeater Authentication	●
Rental Timer	●
Internal Voice Operated Transmission (VOX)	●
Wide Range of Accessories	●
IP55 Dust and Water Ingress Protection	●
Rugged to MIL-STD 810	●

AUDIO	
Acoustic Feedback Suppressor[1]	●
User-Selectable Audio Profile	●
Trill Enhancement for Rolling Rs	●
SINC Noise Suppression	○
Automatic Gain Control	●
Received Audio Leveling	●

SAFETY	
Enhanced Privacy[1]	○
Transmit Interrupt[1,2]	●
Remote Monitor[2]	●
Radio Disable / Enable[2]	●

SYSTEMS	
Dual Capacity Direct Mode[1]	●
Single-Site Conventional	●
Extended Range Direct Mode[1]	●
IP Site Connect	●
Capacity Plus Single Site, Two Repeaters	○

ANALOG FEATURES	
Lone Worker	●
Emergency Alert	●
Analog Scrambling	●
Quik Call II / MDC1200 Capable	●

- ● Feature is standard
- ○ Feature is optional
- (1) Feature is only available in digital mode
- (2) decode

For more information, please visit
motorolasolutions.com/R2

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