MOTOTRBO R2

PORTABLE TWO-WAY RADIO

An everyday workhorse, the MOTOTRBO R2 marries durability and ergonomics to ensure confident, easy handling. And with long range, configurable audio and seamless integration, the R2 is a reliable addition to an uninterrupted workday.

KEY FEATURES

- UHF, VHF
- 64 channels
- Analogue only or analogue / digital models
- Transmit Interrupt
- Dual priority scan
- PL / DPL / QCII / MDC1200
- Secure Enhanced Linux operating system
- Enhanced privacy (optional)
- Analogue scrambling
- Radio disable/enable
- Lone worker
- Remote monitor
- Voice announcement
- Pre-programmed text messaging
- Loudness up to 101 phons
- SINC+ noise suppression (optional)
- Acoustic feedback suppression
- User selectable audio profiles
- Automatic gain control
- Received audio levelling (optional)
- Sleek & ergonomic form factor
- Rugged to MIL-STD 810
- IP55 (dust and water ingress protection)
- 2 programmable buttons
- Home channel reminder
- Rental timer

SPECIFICATIONS

GENERAL SPECIFICATIONS		
Frequency	400-480 MHz	136-174 MHz
Typical RF output High power Low power	 4W 1W	 5W 1W
Channel spacing	12.5 / 20.0 / 25.0 kHz	
Channel capacity	64	
Dimension[1] (H x W x D) with battery PMNN4598 high capacity battery PMNN4600 slim battery	 125 mm x 55 mm x 37 mm 125 mm x 55 mm x 32 mm	
Weight[2] with battery PMNN4598 high capacity battery PMNN4600 slim battery	 286g 261g	
Battery life[3] (analogue / digital) PMNN4598 high capacity battery PMNN4600 slim battery	 19.5 hours / 26.5 hours 17 hours / 22.5 hours	
Power supply	7.5V (nominal)	

[1] Dimensions at grip area
[2] Excludes antenna
[3] Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.

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 DMR Tier II
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

Analogue sensitivity (12dB SINAD)	0.18 µV (typical)
Digital sensitivity (5% BER)	0.16 µV (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 kHzz
Spurious rejection (TIA603D)	> 70 dB
Frequency stability	± 0.5 ppm

AUDIO SPECIFICATIONS

Digital vocoder type	AMBE+2
Audio response	TIA603E
Audio output power (Rated/Max)	1 W / 3 W
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]	-30 °C to 60 °C
Storage temperature[1]	-40 °C to 85 °C
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 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	-	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]Temperatures listed are for radio only. Minimum operating temperature with battery is -20° C.

FEATURES

GENERAL	
Analogue only[3] or dual analogue and digital models	•
DMR standards compliant[1]	•
64 channels	•
2 programmable buttons	•
Pre-programmed text messaging	•
Voice announcements	•
Home channel reminder	•
Late entry[1]	•
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 "R"s	•
SINC+ noise suppression	○
Automatic gain control	•
Received audio levelling	○

SAFETY	
Lone worker[1]	•
Digital emergency[1]	•
Emergency search tone[1]	•
Basic privacy[1]	•
Enhanced privacy[1]	○
Transmit interrupt[1,2]	•
Remote monitor[2]	•
Radio disable / enable[2]	•

SYSTEMS	
Single-site conventional	•
Dual Capacity Direct Mode[1]	•
Extended Range Direct Mode[1]	•
IP Site Connect[1]	○
Capacity Plus single site, two repeaters[1]	○

ANALOGUE FEATURES	
Lone worker	•
Emergency alert	•
Analogue scrambling	•
PL / DPL / QCII / MDC1200 capable	•

• Feature is standard
○ Feature is optional
[1] Digital feature
[2] Decode only
[3] Optional upgrade to analogue and digital operation available

For more information, please visit
motorolasolutions.com/R2

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MOTOROLA SOLUTIONS

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