



AVIONIC SERVICE GmbH / Srl

L.-Galvani-Str. 6/E Via L. Galvani | I-39100 Bozen / Bolzano

Tel. +39 0471 506 963 | Fax +39 0471 921 418

info@avionic-service.eu | avionic@pec.it | www.avionic-service.eu



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	4W	5W
Low power	1W	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	125 mm x 55 mm x 37 mm	
PMNN4600 slim battery	125 mm x 55 mm x 32 mm	
Weight ² with battery		
PMNN4598 high capacity battery	286g	
PMNN4600 slim battery	261g	
Battery life ³ (analogue / digital)		
PMNN4598 high capacity battery	19.5 hours / 26.5 hours	
PMNN4600 slim battery	17 hours / 22.5 hours	
Power supply	7.5V (nominal)	

¹Dimensions at grip area

²Excludes antenna

³Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.

Avionic Service



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 @ 12.5kHz / >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 kHz
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

¹Temperatures 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 (optional)	◦
Automatic gain control	•
Received audio levelling (optional)	•

SAFETY

Lone worker ¹	•
Digital emergency ¹	•
Emergency search tone ¹	•
Basic privacy ¹	•
Enhanced privacy ¹ (optional)	◦
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 (optional)	◦
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



Motorola Solutions Ltd. Nova South, 160 Victoria Street, London, SW1E 5LB, United Kingdom

Availability is subject to individual country law and regulations. All specifications shown are typical unless otherwise stated and are subject to change without notice. MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. © 2023 Motorola Solutions, Inc. All rights reserved. 04-2023 [EV05]

MOTOTRBO R2