Data Sheet

Mag One BPR 50dX

portable two-way radio

Built for the fast-paced world of business

The Mag One BPR 50dX is a versatile and high-performing device for your business workforce. Whether managing a retail store, coordinating events or overseeing campus activity, the BPR 50dX connects your team with static-free, reliable communication – in a world where every second counts.

→ Take control

A radio this versatile should be able to keep up. With 23 hours of talk time, your radio should last an entire shift and then some. But just in case, the USB-C port also lets you charge your radio with an ordinary USB charger.

→ Listen up

With its 3-watt maximum audio power output, the BPR 50dX is the loudest radio in the Mag One family. Noise cancellation means clear audio, even in a noisy environment.

→ Stay safe

With features like a dedicated emergency button, Lone Worker and remote monitoring, the BPR 50dX helps protect you and your staff.

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Ready to work

A connected workforce makes for smooth operations; with improved range performance, your team enjoys clear communication across a wide expanse. And at IP55, the BPR 50dX can handle the wear-and-tear of a high-energy workday.

Product Features

GENERAL
Analog and digital
DMR standards compliant[1]
64 channels
USB-C (charging and programming)
3 programmable buttons
Voice announcements
Custom channel announcements
Dual priority scan
Nuisance channel delete
Voice operation transmission (VOX)
IP55 dust and water ingress protection
Rugged to MIL-STD 810

AUDIO
Enhanced audio power
Noise cancellation
SAFETY
Emergency alert[1]
Lone worker[1]
Remote monitor
Radio disable / enable
SYSTEM
Dual-capacity direct mode[1]
ANALOG FEATURES
Analog scrambling

[1] Digital feature

Specifications

GENERAL SPECIFICATIONS		
BAND	**UHF**	**VHF**
FREQUENCY	**400 - 470 MHZ**	**136 - 174 MHZ**
Typical RF output		
High power	4 W	5 W
Medium power	2.5 W	
Low Power	1 W	
Channel capacity	64 channels	
Channel spacing	12.5 / 25.0 kHz[1]	
Dimension[2] (H x W x D) with battery	4.8 x 2.1 x 1.2 inches (122 x 54 x 30 mm)	
Weight with battery, antenna, belt clip	10.6 oz (300 g)	
Battery life[3] (analog / digital)	16 hours / 23 hours	
Power supply (Nominal)	7.2 V	

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 @ 25 kHz
Frequency stability	± 1.5 ppm
Modulation limiting	± 2.5 kHz @ 12.5 kHz / ± 5.0 kHz @ 25 kHz

RECEIVER SPECIFICATIONS	
Analog sensitivity (12dB SINAD)	0.18 µV (typical)
Digital sensitivity (5% BER)	0.18 µV (typical)
Conducted / radiated spurious emissions (TIA603E)	< -57 dBm for < 1 GHz ; < -47 dBm for > 1 GHz
Intermodulation (TIA603E)	> 65 dB
Adjacent channel selectivity (TIA603A)-1T	> 60 dB @ 12.5 kHz / > 70 dB @ 25 kHz
Spurious Rejection (TIA603D)	> 70 dB
Frequency stability	± 1.5 ppm

AUDIO SPECIFICATIONS	
Digital vocoder type	AMBE+2
Audio output power (Rated / Max)	1 W / 3 W
Audio distortion at rated power	3% (typical)
Hum and noise	-40 dB @ 12.5 kHz / -45 dB @ 25 kHz

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature [4]	-22°F to 140°F (-30°C to +60°C)
Storage temperature	-40°F to 185°F (-40 °C to 85 °C)
Temperature 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

[1] 25 kHz channels not available in USA
[2] Dimensions at grip area
[3] Typical battery life, 5/5/90 profile at maximum transmitter power. Actual observed runtimes may vary.
[4] Temperature listed are for radio specification. Li-Ion battery discharge: -4°F to 140°F (-20°C to +60°C).

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	501.5	I/A1, II/A2	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I, II	502.3	I, II	502.4	I, II	502.5	I, II	502.7	I, II
Temperature Shock	503.1	I	503.2	A1/C3	503.3	A1/C3	503.4	I	503.5	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I/A1	505.3	I/A1	505.4	I/A1	505.5	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	—	507.5	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	—	509.5	—	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/F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24, II/5	514.6	I/24, II/5	514.8	I/24, II/5
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
Contamination by Fluids									504.2	II	504.3	2.2.6 b

To learn more, visit: **motorolasolutions.com/bpr50dx**

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