VRX1000 VEHICLE RADIO EXTENDER

Public safety agencies and utilities seeking alternative methods for portable radio coverage enhancement can safely rely on the VRX1000 Vehicle Radio Extender.

The VRX1000 is a compact 3W simplex radio extender integrated with Motorola APX™2500, APX™4500, APX™5500, APX™6500 and APX™7500 mobile radios. A scaled down version of the industry leading 10W full duplex DVRS, the VRX1000 improves portable radio coverage while keeping users connected to either conventional or trunked networks.The small size of VRX1000 allows it to be easily installed in patrol cars and utility trucks.

Key Features & Benefits

- Programmable output power: 0.5 – 3 watts
- Simplex operation.
- Analog operation with P25 software upgrades available.
- Available in VHF, UHF, 700/800 MHz bands.
- Integrates with remote mount APX™2500, APX™4500, APX™5500, APX™6500 and APX™7500 mobile radios.
- In-Band or Cross-Band configurations.
- Operated through mobile radio control head.
- Sold exclusively through Motorola Solutions.

General Specifications

Dimensions: Height / Width / Depth:
45 mm (1.7”) x 175 mm (6.8”) x 160 mm (6.2”)
(cross band, no filters)

Weight:
2kg / 4.4 lbs (cross band, no filters)

Channel Spacing:
12.5 or 25 kHz programmable

Number of Channels:
192 (1 Channel when in VRS750 compatible mode)

Number of VRX Enabled Mobile Radio Channels:
2047 entries

CTCSS/DCS:
Programmable per Analog Channel

Power Supply:
13.8V DC +/- 20%, negative ground only

General Specifications (cont'd)

DC Current Drain (VRX1000 Only):

VRX1000 Off	*0.01 A Max*
VRX1000 Standby	*0.8 A*
VRX1000 Receive	*0.8 A*
VRX1000 Transmit	*3.0 A*

External Connectors:

Antenna	*Mini UHF*
Computer Interface	*Mini USB*
Mobile Radio	*DB25*
Auxiliary / Options	*DB15 (Y cable)*
DC Power	*M12 Circular*

Operating Temperature:
-30°C to + 60°C

Storage Temperature:
-40°C to + 85°C

Protection Against Liquids:
IP54

Antenna Impedance:
50 Ohms

Duty Cycle:
50% Receive / 50% Transmit

Equipment Type Acceptance

	VHF	UHF	700 / 800
FCC	*LO6-VRX1000VHF*	*LO6-VRX1000UHF*	*LO6-VRX1000700800*
Industry Canada	*2098B-VRX1000VHF*	*2098B-VRX1000UHF*	*2098B-VRX10007800*
Safety	*EN60950-1*	*EN60950-1*	*EN60950-1*

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Transmitter Specifications

	VHF	UHF	700 / 800
Frequency Band FCC [MHz]	*136-174*	*380-406* *406.1-512*	*764-775* *851-869*
Frequency Band IC [MHz]	*138-174*	*406.1-430* *450-470*	*768-776* *851-869*
Power Output @ Antenna Port	*Programmable 0.5 – 3 Watts*		
TCT Option	*15 sec to 15 min or Disabled*		
Max Spurious Output	*-20 dBm*		
Frequency Stability (-30°C to +60°C; +25°C Ref.)	*+/- 0.75ppm*		
FM Hum and Noise 12.5 / 25 kHz	*34 dB / 40 dB*		
Audio Response	*+1, -3 dB of 6 dB / octave pre-emphasis characteristic over 300 Hz – 3 kHz*		
Audio Distortion	*< 2%*		

Receiver Specifications

	VHF	UHF	700 / 800
Frequency Band FCC [MHz]	*136-174*	*380-406* *406.1-512*	*764-775* *851-869*
Frequency Band IC [MHz]	*138-174*	*406.1-430* *450-470*	*768-776* *851-869*
Receiver Sensitivity	*Analog 12 dB SINAD: -115 dBm* *Digital P25 5% BER: -115 dBm*		
Frequency Stability (-30°C to +60°C; +25°C Ref.)	*+/- 0.75ppm*		
Selectivity 12.5 / 25 kHz	*60 dB / 70 dB*		
Intermodulation	*70 dB*		
Spurious Rejection	*70 dB*		
Analog Mode Deviation 12.5 / 25 kHz	*+/-2.5 kHz / +/-5 kHz*		
Frequency Deviation for C4FM (P25)	*Low Level: 841 – 1037 Hz* *High Level: 2543 – 3110 Hz*		
Analog Mode FM Hum and Noise 12.5 / 25 kHz	*34 dB / 40 dB*		
Audio Output (Repeater Detect Audio)	*600 mV RMS nominal, flat response*		
Audio Response	*+1, -3 dB of 6 dB / octave de-emphasis characteristic over 300 Hz – 3 kHz*		
Audio Distortion	*< 2%*		

Military Standards Compliance

	MIL-STD-810G
High Temperature	*501.6 I - A1* *501.6 II (Operational)*
Low Temperature	*502.6 I - C3* *502.6 II (Operational)*
Temperature Shock	*503.6 - C Procedure I*
Rain	*506.6 III*
Humidity	*507.6 Procedure II (Aggravated)*
Salt Fog	*509.6*
Vibration	*514.7 - I Category 24*
Mechanical Shock	*516.7 Procedure I (Function)* *516.7 Procedure VI (Bench Handling)*

NOTE: Specifications subject to change without notice.

VRX1000 shown with APX™ Mobile radio

To Ensure interference-free performance when both the Mobile Radio and the VRX are active, the two antennas must be mounted in such way as to provide 30dB minimum antenna isolation.

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Tel. 1-800-701-9180 or (905) 660-5548
www.futurecom.com
sales@futurecom.com

8Q100X20 Rev 4