

# VXD-720

## Digital Portable Radio

SPECIFICATION SHEET

DMR TIER 2 STANDARD

### Clear, Quality Communications

Easily convert to digital with the VXD-720 conventional portable radio, providing the essential voice and text communications needed. The VXD digital radio series operates on the most widely-used Digital Mobile Radio (DMR) protocol, making it compatible to work with other DMR models and brands. The VXD Series can also be used with any existing analog two-way radios for an easy transition to new equipment and maximum return on investment.

### Invest Today In Digital – Convert From Analog As Needed

The VXD-720 can operate in both analog and digital mode providing an easy path to digital when ready. This flexibility enables conversion to digital one radio at a time, one channel at a time or the entire system based on functional or fiscal needs. Includes dual-mode analog and/or digital scan and mixed mode priority scan to easily operate in digital and still scan and communicate with analog radio users of any brand.

### Digital Doubles Call Capacity With One License

All Vertex Standard VXD radios use Time-Division Multiple-Access (TDMA) 6.25 kHz efficient digital technology that doubles the capacity for the price of one frequency license. The radios support twice as many talk groups or calls without adding more licensing costs.

### Digital Delivers Consistent, Clear Audio Quality

Experience enhanced voice clarity and reduced noise over a greater range versus analog for consistently crisp, clear communications.

### Digital Delivers Longer Battery Life

Achieve greater cost savings with increased battery life performance. The VXD-720 can operate up to 40 percent longer than most analog radios because TDMA cuts the transmit time in half -- reducing overall battery consumption per call.

### Digital Delivers Integrated Voice and Text for Efficiency

Includes text messaging in digital mode to communicate between radios. Send either free-form or pre-set text messages.

### Submersible And Weatherproof

The VXD-720 radio meets international standard IP57 for dust and water protection where water does not harm the radio when submersed to a depth of 3 feet for up to 30 minutes.

### FCC Narrowbanding Compliant

Meets the FCC Part 90 requirement for using 12.5 kHz channels by January 1, 2013. VXD radios enable users to keep existing 12.5 kHz channels and double the call capacity with the two-slot TDMA technology. Using digital meets the FCC recommendation to convert directly to 6.25 kHz efficient equipment for greater spectrum efficiency.



### The Vertex Standard Difference

Our number one goal is achieving superior customer satisfaction by delivering products and services that exceed your expectations. Vertex Standard radios are built to last and are backed by an industry-leading 3 year warranty – another great reason to choose Vertex Standard. Ask your Dealer for more details.

## Additional Features

- 512 Channel capacity
- Five programmable keys
- 40 Character alphanumeric display
- Tri-color LED custom call alert
- Digital encode/decode: call alert, private call, emergency, selective radio inhibit, radio check and remote monitor
- MDC-1200<sup>®</sup> analog encode/decode: call alert, emergency and PTT ID
- 2-Tone Analog paging: call alert, call alert with voice and select call
- Basic privacy (digital mode only)
- Voice activated transmit (VOX)
- Contact list for up to 1,000 records
- Scan options: dual mode (analog or digital); mixed mode (digital only)
- AMBE+2<sup>™</sup> Digital vocoder
- Radio-to-radio cloning

## Accessories

- MH-66A7A: Submersible, noise cancelling speaker mic
- FNB-VI17LI: 2200 mAh Li-Ion battery
- FNB-VI16: 1300 mAh Ni-MH battery
- VAC-6030: 6-Unit multi charger
- VAC-40: Single unit charger
- CSC-96: Nylon carry case with fixed belt loop
- CLIP-21: Belt clip
- ATU-14A: UHF 403-470 MHz whip antenna
- ATU-14D: UHF 450-512 MHz whip antenna
- ATV-15C: VHF 136-174 MHz wideband antenna

## VXD-720 Specifications

	VHF	UHF
<b>General Specification</b>		
Frequency Range	136 – 174 MHz	403 – 470 MHz 450 – 512 MHz
Number of Channels and Groups	512 channels and 512 Groups	
Power Supply Voltage	7.5 V nominal	
Channel Spacing	12.5 / 25 kHz	
Battery Life (5-5-90 duty w/battery saver)		
2200 mAh FNB-VI17LI	19 hrs (digital) / 13.5 hrs (analog)	
1300 mAh FNB-VI16	11 hrs (digital) / 8 hrs (analog)	
IP Rating	IP 57	
Operating Temperature Range	-22° F to +140° F (-30° C to +60° C)	
Frequency Stability	±0.5 ppm	
Dimension (H x W x D)	5.18 x 2.5 x 1.39 inches (131.5 x 63.5 x 36.2 mm) (w/FNB-VI17LI)	
Weight (Approx.)	13.17 oz (375 g) (w/FNB-VI17LI) 15.2 oz (430 g) (w/FNB-VI16)	
<b>Receiver Specification: measured by TIA/EIA-603C</b>		
Sensitivity:		
Analog 12dB SINAD	0.35 µV 0.22 µV typical	
Digital	5% BER: 0.3 µV	
Adjacent Channel Selectivity:		
TIA603	60 dB @ 12.5 kHz, 70 dB @ 25 kHz	
TIA603C	45 dB @ 12.5 kHz, 70 dB @ 25 kHz	
Intermodulation	70 dB	
Spurious Rejection	70 dB	
Audio Output	500 mW	
Hum and Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz	
Conducted Spurious Emission	-57 dBm	
<b>Transmitter Specification: measured by TIA/EIA-603C</b>		
Output Power		
	VHF: 5 W / 1 W	UHF: 4 W / 1 W
Modulation Limiting		
	± 2.5 kHz @ 12.5 kHz ± 5.0 kHz @ 25 kHz	
Conducted/Radiated Emission		
	-36 dBm < 1 GHz -30 dBm > 1 GHz	
FM Hum & Noise	-40 dB @ 12.5 kHz -45 dB @ 25 kHz	
Audio Distortion	3%	
FM Modulation	11K0F3E, 16K0F3E	
4FSK Digital Modulation	12.5 kHz Data Only: 7K60FXD 12.5 kHz Data & Voice: 7K60FXE	
Digital Protocol	ETSI TS 102 361-1, -2, -3	

## Applicable MIL-STD

Standard	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
Low Pressure	500.3 / II	500.4 / II
High Temperature	501.3 / I/A, II/AI	501.4 / I/HOT, II/HOT
Low Temperature	502.3 / I/C3, II/C1	502.4 / I/C3, II/C1
Temperature Shock	503.3 / I/A, IC3	503.4 / I
Solar Radiation	505.3 / I	505.4 / I
Rain	506.3 / I,II	506.4 / I, III
Humidity	507.3 / II	-
Salt Fog	509.3 / I	509.4 / I
Dust	510.3 / I	510.4 / I
Vibration	514.4 / I Cat. 10, II/3	514.5 / I Cat. 24
Shock	516.4 / I, IV	516.5 / I, IV

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