Specifications

	VX-7100 (VHF)	VX-7200 (VHF)	VX-7100 (UHF)	VX-7200 (UHF)
General Specifications				
Frequency range	134 - 174 MHz		380 - 450 MHz 450 - 512 MHz	
Number of Channels	8	501	8	501
Number of Groups	1	32	1	32
Channel spacing	12.5 / 20 / 25 kHz			
Operating voltage	13.6 VDC ±15%			
Current drain				
Standby	0.4 A			
Receive	2.5 A			
Transmit	11.0 A			
Operating Temperature	-22° F to + 140° F (-30° C to +60° C)			
Frequency Stability	±2.5 ppm			
Dimensions (W x H x D)	6.5" x 1.7" x 6.1" (165 x 43 x 155 mm)			
Weight	3.1 lbs. (1.4 kg)			
Receiver Specifications	Measurements made per TIA/EIA-603 (Analog), TIA-102 CAAA (Digital)			
Sensitivity				
Analog 12dB SINAD	0.25 µV		0.30 µV	
Digital 5% BER	0.25 µV		0.30 µV	
Digital 1% BER	0.35 µV		0.40 µV	
Adjacent Channel Selectivity				
Analog (W/N)	85 / 75 dB		80 / 72 dB	
Intermodulation				
Analog (W/N)	80 / 75 dB		80 / 75 dB	
Spurious and Image Rejection				
Analog (W/N)	90 dB		85 dB	
Hum and Noise				
Analog (W/N)	50 / 44 dB		46 / 40 dB	
Audio Output	Internal: 2 W @ 32 Ohms 5 % THD External: 12 W @ 4 Ohms 5 % THD			
Transmitter Specifications	Measurements made per TIA/EIA-603 (Analog), TIA-102 CAAA (Digital)			
RF power output	50 / 25 / 10 W		45 / 25 / 10 W	
Modulation				
Analog (W/N)	16K0F3E / 11K0F3E			
Digital	8K10F1D / 8K10F1E			
FM Hum and Noise				
Analog (W/N)	46 / 40 dB			
Spurious Emissions	70 dB			
Audio Distortion	Less than 3 % @ 1kHz			

Measurements per EIA standards unless noted above. Specifications are subject to change without notice or obligation.

Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
Low Pressure	500.1/Procedure II	–	500.3/Procedure I, II	500.4/Procedure I, II
High Temperature	501.1/Procedure I, II	500.2/Procedure I, II	–	–
Low Temperature	502.1/Procedure I	502.2/Procedure I, II	502.3/Procedure I, II	502.4/Procedure I, II
Temperature Shock	503.1/Procedure I	503.2/Procedure	503.3/Procedure	503.4/Procedure I, II
Solar Radiation	505.1/Procedure I	–	–	505.4/Procedure I, Cat. A1
Rain	506.1/Procedure I, II	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, II
Humidity	507.1/Procedure I, II	507.2/Procedure II, III	507.3/Procedure II, III	507.4/Procedure I
Salt Fog	509.1/Procedure I	509.2/Procedure	509.3/Procedure I	509.4/Procedure
Sand and Dust	510.1/Procedure I	510.2/Procedure I	510.3/Procedure	510.4/Procedure I, III
Vibration	514.2/Procedure VIII, X	514.3/Procedure Cat. 8	514.4/Procedure Cat. 8	514.5/Procedure Cat. 24
Shock	516.2/Procedure I, III, V	516.3/Procedure I, IV, V, VI	516.4/Procedure I, IV, V, VI	516.5/Procedure I, IV, V, VI

Accessories & Options

MH-25A8J Microphone

MH-700D DTMF Back-lit Microphone

MD-11A8J Desktop Microphone

MD-12A8J Desktop Microphone

FP-1023A External Power Supply

FP-1030A External Power Supply

MLS-100 Mobile Loudspeaker (12 W Peak Power)

MLS-200 External Loudspeaker (12 W Peak Power)

SRX-1 Multi Band Receive Unit for UHF (450-512 MHz)

SRX-2 Multi Band Receive Unit for VHF (134-174 MHz)

LF-1 Line Filter

VPL-1 Programming Kit

CT-104/A PC Programming Cable

FIF-10/A USB Programming Interface

CE76 Programming Software

Various accessories listed may not be available in some countries.

VX-7100/7200SERIES

P25 VHF/UHF Mobile Radios

- High Power 50 / 25 / 10W (VHF), 45 / 25 / 10W (UHF)
- Wide Band
  - VHF: 134 - 174 MHz
  - UHF: 380 - 450 MHz, 450 - 512MHz
- VX-7200 series: Maximum 501 Channels / 32 Groups
- VX-7100 series: Maximum 8 Channels / 1 Group
- Large LCD (Dot Matrix / 12 Characters + 7 Segments / 3 Characters)*
- D-Sub 15-pin Accessory Connector
- MIL-STD 810 C/D/E & F
- PC Programmable

Analog (FM) Mode / P25 Digital Mode
- Minimum Volume
- Programmable Function Keys
- Versatile Scanning
- Built-in Emergency Microphone
- User Set Mode *
- Public Address / Horn Alert
- Emergency Feature

Analog (FM) Mode
- Wide / Narrow (12.5 / 20 / 25 kHz per channel)
- DTMF ANI / DTMF Paging *
- 2-Tone Encode and Multi-2-Tone Decoding
- CTCSS / DCS Encode / Decode
- BCLO / BTLO and TOT
- User Selectable Tone *
- ARTS™ (Auto-Range Transpond System)
- Compander (Wide and Narrow Band)

P25 Digital Mode
- P25 Digital Conventional
- AMBE+2™ Vocoder
- NAC (Network Access Code)
- Talk Group ID
- Individual ID Lists *
- Caller ID Display *
- RSSI Audible Alert
- Mixed Mode
- BCLO and TOT
- AES / DES Encryption Options

*: VX-7200 only

VX-7100

POLICE-TAC-1

VX-7200

![Vertex Standard logo] **Vertex Standard** *We make a difference*

VX-7100/7200 SERIES

P25

P25 VHF/UHF Mobile Radios

Public Safety applications require three essential elements: reliability, ruggedness, and performance versatility. These three elements are found in the VX-7100 (8-Channel) and VX-7200 (501-Channel) series of FM Mobiles from Vertex Standard. New interoperability Receiver (Option), wide programmable frequency coverage, high power output (50 W VHF/45 W UHF), leading-edge signaling capability, and a 12-character alpha-numeric display are just a few of the many reasons why the VX-7100 and VX-7200 are the best choice for the most demanding Public Safety environments.

P25 DIGITAL MODE

NAC (Network Access Code)
NAC (Network Access Code) are programmable and are typically used to control network access but may also be used to steer repeater operations. NAC codes are used the same way as an analog CTCSS tone (or DCS code). There are 4096 unique NAC codes.

AMBE+2™ Vocoder
For superior voice quality in narrow-band, digital, P25 mode of operation our products use the AMBE+2™ Vocoder protocol from DVSI, Inc.

P25 Digital Conventional
Because our products are fully TIA/EIA 102 Series compliant, you are assured of broad compatibility within a wide range of P25 Digital Mode systems.

RSSI Warning
VX-7100/7200 Series feature an audible indication of low receive signal strength. When received signal strength falls to a level not suitable for reliable communications, an alert tone will sound.

VX-7100 Series
- 3 PROGRAMMABLE FRONT PANEL KEYS

VX-7200 Series
- 5 PROGRAMMABLE FRONT PANEL KEYS
- HIGH CONTRAST LCD DISPLAY
- GENEROUS CHANNEL CAPACITY
- DIRECT CHANNEL ACCESS

VX-7100

VX-7200

Talk Group ID
Talk Group IDs (TGIDs) provide for the logical grouping of radio users into distinct organizations and can also be used to minimize co-channel interference. There are more than 65,000 unique TGID addresses.

Caller ID Display (Units with LCD only)
The calling station will be identified either by their Alphanumeric Tag (if defined in the Individual ID List), or by their ID number (if a Tag is not defined).

Mixed Mode
Channels can be programmed for analog only, digital only or Mixed Mode dual Analog/Digital operation. The radio will automatically switch to the appropriate format when it receives a call. This capability provides seamless switching between Analog and Digital systems saves available channel programming capacity and simplifies user operation of the unit.

Individual ID List / Paging Group
In P25 operation each transceiver can be programmed with a unique Unit ID. There are over 16 Million possible Unit IDs available. Additionally, using the Paging Group feature, each unique Unit ID can be identified with an Alphanumeric Tag, making selective calling by name is possible. What's more, if no Paging call list has been defined, direct input of the Unit ID number is possible, permitting direct calling of any particular user. When receiving, the Alphanumeric Tag (Name) of the calling station will be shown (LCD models only). If no call list has been defined, only the transmitting station's Code number will be displayed. The Paging Group may be subdivided into up to 15 sub-groups, and each channel may be assigned to a sub-group in advance.

AES / DES Encryption Options
Data Encryption Standard (DES) is an older format system based on a 64 bit encryption algorithm...
Advanced Encryption Standard (AES) is a newer and more robust system based on 256 bit algorithm. Encryption Keys Multiple encryption keys can be stored in the unit as required.

VERSATILITY

INTEROPERABILITY RECEIVER (OPTION)
VX-7100/7200 allows you to receive vital communications on multi bands for interoperability with multiple agencies. Improves the coordination of communications for first responders in emergency or day to day operations.
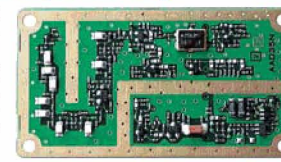
Multi Band Receiver Unit SRX-1 (UHF), SRX-2 (VHF)

POPULAR 2-TONE ENCODE AND DECODE FUNCTIONS
2-Tone encode and decode gives you the selective calling used nationwide. Encode and decode functions for the 2-tone format include multiple decode pairs as well as multiple encode tones. DTMF paging and identification is also built-in to allow selective paging and to see who is calling you.

PROGRAMMABLE MINIMUM VOLUME
Another feature to ensure all calls are heard. The radio can be programmed for a minimum volume level. If the radio is on, the minimum volume level will ensure the audio of a call will be heard.

HIGH PERFORMANCE

WIDE BANDWIDTH
For communicating with other agencies, companies, or even within your own communications system, the wide bandwidth of this radio will let you operate anywhere within the 40 MHz (VHF) or 70 / 62 MHz (UHF) band.

WIDE / NARROW (12.5 / 20 / 25 kHz PER CHANNEL)
The VX-7100/VX-7200 may be programmed with Wide or Narrow operating bandwidths, channel by channel, to conform to your local channel environment. Ideal for multi-jurisdiction operations.

AUDIO COMPANDING
For narrow-band channel applications, the built-in Audio Companding system compresses the voice waveform during transmission, and expands it during reception, allowing full-sounding audio despite the restricted transmission bandwidth.

LOUD AUDIO OUTPUT FRONT SPEAKER
The VX-7100/VX-7200's high-powered audio (2 W) is coupled to a large, front-facing speaker, producing high-quality, crisp audio that will punch through even in the noisy environments experienced by public safety officers.

VERSATILE SCANNING FEATURES
The VX-7100 provides scan of all or some of the eight channels programmed. Also, if a channel is flagged as Priority, that channel is monitored even during non-priority calls. Besides the normal Scan and Priority Scan modes, the VX-7200 adds Group Scan. You can scan all Groups or selected Groups.

ARTS™ (AUTO-RANGE TRANSPOND SYSTEM)
The Auto-Range Transpond System, a Vertex Standard exclusive, alerts the operator when another ARTS™ equipped station (for example, a hand-held unit) moves out of communication range. You can then advise the other user to move to a better location.

SECURITY

EMERGENCY MODE
When the Emergency feature is activated, the radio will switch to an emergency channel and transmit with live mic audio through a front panel mounted microphone. Among the many programmable features of the emergency mode are: Live TX time, RX Live time, and more.

P1

DURABLE CONSTRUCTION

BUILT TOUGH, BUILT TO LAST
Rugged design to meet MIL-STD 810 C/D/E/F will allow this radio to last. The Ultra-rugged design enables this mobile to pass a torrent of MIL-STD tests listed in this brochure. The extraordinary design and construction ensures many years of reliable service, even in high vibration, dusty or extreme temperature environments.

OTHER FEATURES

D-SUB 15 PIN ACCESSORY CONNECTOR
The included D-Sub 15 pin connector on the rear panel allows for access to Audio In, Audio Out, Ext PTT, RSSI, and many more functions making this radio perfect for third party interfaces.

TOT, BCLO, BTLO FEATURES
Among the most useful protection features of the VX-7100/7200 are the transmitter Time-Out Timer (TOT), Busy Channel Lock-Out (BCLO), and Busy Tone Lock-Out (BTLO) / (Except for Digital Mode) to ensure efficient network performance at all times.

RADIO TO RADIO CLONE FEATURE
For quick programming of VX-7100/7200 radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-7100/7200 to another, using the optional CT-4 Cloning Cable.