VX-6000 SERIES

HIGH POWER VHF/UHF Mobile Radios

- 250 CHANNEL CAPACITY
- POWER OUTPUT: 120 W (LOW BAND), 110 W (VHF), 100 W (UHF)
- 12.5 / 25 kHz BANDWIDTH PROGRAMMABLE PER CHANNEL
- 2.5 kHz STEP FOR VHF/UHF
- LARGE 8-DIGIT ALPHANUMERIC DISPLAY
- 7 PROGRAMMABLE BACKLIT KEYS
- PRIORITY SCAN / GROUP SCAN
- DUAL BAND CAPABILITY
- ONE RF DECK TO MULTI HEAD CAPABILITIES
- DTMF SIGNALING & DIALING FEATURES
- AUDIO COMPANDER
- USER SELECTABLE TONES / CODES
- CTCSS / DCS ENCODE + DECODE
- EMERGENCY FUNCTIONS
- ROLLING CODE ENCRYPTION RADIO TO RADIO CLONE FEATURE
- TALK AROUND
- BCLO, BTLO, AND TOT FUNCTIONS
- BUILT IN 25 PIN (DB-25) ACCESSORY CONNECTOR
- HEAVY-DUTY PUBLIC SAFETY MICROPHONE AVAILABLE
- MIL- STD 810 C/D/E

Vertex Standard

VX-6000

SERIES

High Power, High Spec, Reliability, Ruggedness and Versatility: these are the essential elements in a successful communications system. Vertex Standard VX-6000 provides the features, performance, and toughness to get your message through under the most demanding public safety operating conditions. It's a perfect blend of rugged design, flexible signaling options, superb ergonomics, and expandability, making the VX-6000 series an outstanding choice for your future communications needs.
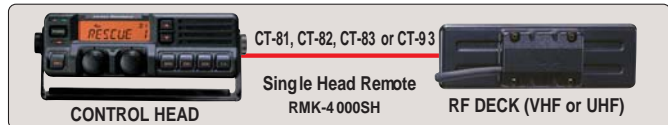
VERSATILITY

MULTI CONFIGURATION SYSTEM

ONE RF DECK TO MULTIPLE HEAD CAPABILITIES

A single VX-6000 RF Deck may be controlled by two different Control Heads, allowing control of the radio from more than one location. Depending on the installation requirements, both Control Heads may be connected directly to the RF Deck, or the two Control Heads may be connected in a series "Daisy Chain" configuration.

CT-81, CT-82, CT-83 or CT-93
Single Head Remote
RMK-4000SH
CONTROL HEAD — **RF DECK (VHF or UHF)**

RF DECK (VHF or UHF)
CNT-6000
CT-81, CT-82, CT-83 or CT-93
Dual Head Remote
RMK-4000DH
CONTROL HEAD — **CONTROL HEAD**

RF DECK (VHF or UHF)
RMK-4000DH
CNT-6000
CT-81, CT-82, CT-83 or CT-93
CONTROL HEAD — **CONTROL HEAD**

DUAL BAND CAPABILITY

Two VX-6000 Control Heads and RF Decks, on different bands, may be networked to allow multi-band operation. VHF, UHF, or VHF Low Band radios may be combined to meet complicated communications requirements involving federal, state, and local government and/or forestry operations.

RF DECK (VHF) — CT-81, CT-82, CT-83 or CT-93 — RF DECK (UHF)
Dual Band, Single Head Remote
RMK-4000DB
CONTROL HEAD

RF DECK (VHF) — CT-81, CT-82, CT-83 or CT-93 — RF DECK (UHF)
RMK-4000DBH
CONTROL HEAD — **CONTROL HEAD**

RF DECK (VHF) — CT-81, CT-82, CT-83 or CT-93 — RF DECK (UHF)
RMK-4000DBH
Dual Band, Dual Head Remote
CONTROL HEAD — **CONTROL HEAD**

250 CHANNEL CAPACITY

Huge 250-channel capacity may be partitioned into as many as 20 Memory Groups, with no limit on the number of channels in each Group. A single radio may therefore be programmed with channel sets for a number of different jurisdictions or organizations.

PRIORITY SCAN

The VX-6000's versatile scanning system includes a Priority Scan function, which provides scanning of all channels (or channels within a Memory Group) while maintaining a priority watch on a particularly important channel. Scanning will halt immediately, and operation will revert to the Priority Channel if activity is detected on the Priority Channel.

GROUP SCAN

The versatile scanning options allow simple scanning of selected channels, and scanning with a priority channel. The group scan feature allows scanning of multiple groups at the same time. This is critical for those mutual aid and disaster preparedness situations where communications among many agencies is a must.
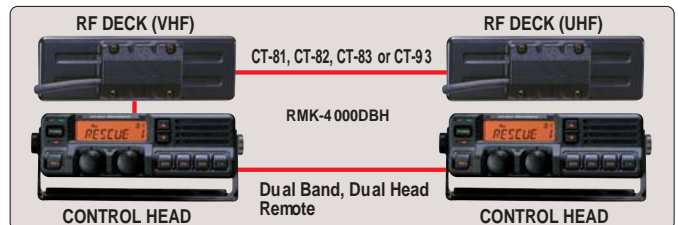
DTMF SIGNALING & DIALING FEATURES

When used with the optional MH-53B7A DTMF Microphone, the VX-6000 may be configured for both manual and Speed Dial DTMF calling. All versions provide programmable PTT ANI for business or fleet applications.

CTCSS / DCS ENCODE + DECODE

Field programming of the CTCSS tones or DCS codes is available, allowing access to multiple systems or quick configuration for multi-jurisdictional operations.

USER SELECTABLE TONES / CODES

High-performance Encoder/Decoder circuits for both CTCSS and Digital Code Squelch are provided for access to tone/code controlled systems.

BUILT IN 25 PIN (DB-25) ACCESSORY CONNECTOR

The VX-6000 includes a built-in standard DB-25 connector, for ease of integration of the radio into your communications system. The DB-25 connector includes a number of logic status lines, Squelch state and level indicators, and Data I/O connections. Horn Alert and other accessories also can be connected through the DB-25 connector.

INTERNAL ACCESSORY INTERFACING

The VX-6000 Series is easily interfaced to 3rd-party accessories. The optional CN-6 Interface Unit provides a quick interconnection platform for signaling, control, and other accessory boards used in public safety environments.

HIGH PERFORMANCE

POWER OUTPUT: 120 W (LOW BAND), 110 W (VHF), 100 W (UHF)
The VX-6000's construction includes a massive, die-cast outer case which doubles as the heatsink. And the Automatic Power Control (APC) circuit ensures stable power output over a very wide range of ambient temperatures.

WIDE-BAND COVERAGE
Coverage beyond typical frequency limits allows programming in "guard band" channel allocations, and ensures compatibility for programming in a wide variety of locations.

12.5/25 kHz BANDWIDTH PROGRAMMABLE PER CHANNEL
The VX-6000 may be programmed with Wide or Narrow operating bandwidths, channel by channel, to conform to your local channel environment. Ideal for multi-jurisdiction operations.

2.5 kHz STEP FOR VHF/UHF
Ensuring full compatibility with all channel loading requirements, the VX-6000's synthesizer provides 2.5 kHz resolution. Channel programming therefore is straightforward in all configuration situations.
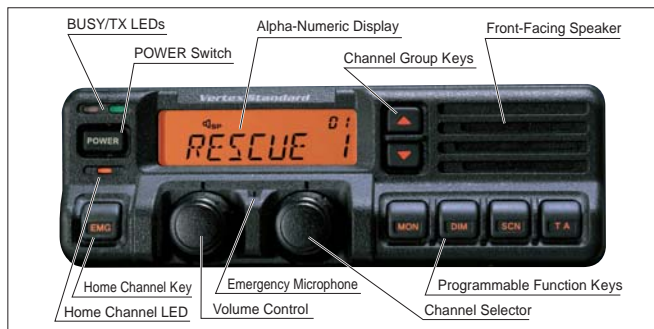
COMPANDER INCLUDED
For narrow-band channel applications, the built-in Audio Companding system compresses the voice waveform during transmission, and expands it during reception, allowing full-sounding audio despite the restricted transmission bandwidth.

EASY USER INTERFACE

LARGE 8-DIGIT ALPHANUMERIC DISPLAY
Providing indication of either the channel number or an Alphanumeric Channel Label of up to 8 characters, the LCD display utilizes large, bold characters on its high-intensity backlit amber LED display to provide excellent visibility over a wide range of viewing angles and in difficult lighting situations.

BUSY/TX LEDs · POWER Switch · Alpha-Numeric Display · Channel Group Keys · Front-Facing Speaker · Home Channel Key · Home Channel LED · Emergency Microphone · Volume Control · Programmable Function Keys · Channel Selector

7 PROGRAMMABLE BACKLIT KEYS
The front panel keys may be programmed by the dealer for a variety of operating functions, allowing customization of the front panel functions to your unique requirements. The keys are illuminated from behind, as well, for easy viewing at night.

LOUD 5W/10W AUDIO OUTPUT
The VX-6000's high-powered audio (5 Watts standard, 10 Watts optional) 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.

STATUS QUICK-CHECK (SQC) FEATURE
The VX-6000 can be programmed to include the Status Quick Check (SQC) feature, which allows the user to check the configuration of all controls, keys, and knobs on the radio. This enables the operator to avoid missing important communications in the event that a control or switch is set to the wrong position.

RADIO TO RADIO CLONE FEATURE
For quick programming of VX-6000 radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-6000 to another, using the optional CT-72 Cloning Cable.

SECURITY

EMERGENCY FUNCTIONS
The VX-6000 may be programmed to transmit an Emergency DTMF ANI burst, with or without a live microphone engaged, to alert the dispatcher to an emergency situation requiring assistance to the user.

ENCRYPTION
The FVP-25 Encryption Unit or FVP-35 Rolling code encryption Unit provides security for your important public safety and private security communications, and it also includes a DTMF Paging function(FVP-25) for selective calling.

INTERNAL EMERGENCY MICROPHONE
In an emergency situation, the VX-6000 can transmit using an internal microphone should the regular microphone become damaged or otherwise unusable.

DURABLE CONSTRUCTION

DIE-CAST CONSTRUCTION ALUMINUM CHASSIS/ENCLOSURE
The one-piece die-cast enclosure for the VX-6000 doubles as its chassis, yielding extreme strength for resistance against shock and vibration. This uniquely rugged construction ensures that specifications and functionality will be maintained for many years, despite the shock, vibration, and other abuse typically experienced by radios in public safety use.

HIGH-RELIABILITY CONSTRUCTION
The ABS front panel is sealed by a robust O-ring, and all switches are covered by U-shaped silicone rubber gaskets to protect the internal circuitry from dust, humidity, salt fog, and driving rain.

WATER-SHIELD MICROPHONE CONNECTION
The multi-pin microphone connector on the side of the VX-6000, sealed for protection against weather, provides a convenient connection point for the available microphones. Its gold-plated contacts ensure many years of reliable service.

OTHER FEATURES:
● TALK AROUND ● BCLO, BTLO, AND TOT FUNCTIONS

Accessories & Options

RMK-4 000SH	**MH-25B7A**	**MH-53C7A**	**MH-53A7A**	**MH-53B7A**
Remote Kit for Single Transceiver	Standard Microphone	Heavy Duty Microphone	Heavy Duty Noise Canceling Microphone	Heavy Duty Noise Canceling DTMF Microphone

MLS-100
Mobile Loud Speaker (12 W Peak Power)

RMK-4 000DH	**CT-9 3**
Remote Kit for Dual-Head Installations	Cable for RMK-4000 33 ft (10 m)
RMK-4 000DB	**CT-81**
Remote Kit for Dual Band Installations	Cable for RMK-4000 20 ft (6 m)
	CT-82
	Cable for RMK-4000 8 ft (2.5 m)
RMK-4 000DBH	**CT-83**
Remote Kit for Dual Band plus Dual Head Installations	Cable for RMK-4000 2 ft (0.6 m)

F2D-8	**F5D-14**	**VTP-50**	**FVP-25**
2-Tone Decode Unit (Requires FIF-7)	5-Tone ENC/DEC Unit (Requires FIF-7)	VX-Trunk Unit (Requires FIF-7)	Encryption/DTMF Pager Unit (Requires FIF-7)
MDC1200	**FVP-3 5**	**FIF-7**	**CN-6**
Digital ANI Encoder Unit (Requires FIF-7)	Rolling Code Encryption Unit (Requires FIF-7)	Interface Board for F2D-8, F5D-14, VTP-50, FVP-25	Interface Board for Accessories

FP-103 0A	**MMB-79**	**MMB-77**
External Power Supply (13.8 V, 30 A)	Mobile Mounting Bracket	Locking Mobile Mounting Bracket

CNT-6 000	**RF DECK w/ MMB-77**	**CT-70**	**CT-71**	**CT-72**	**CE4 9**
Control Head	RF Deck for Multi Band Operation	Radio Programming Cable (Requires VPL-1)	Radio to PC Programming Cable	Radio to Radio Programming Cable	Programming Software

Various accessories listed may not be available in some countries.

Specifications

	VX-6 000L	VX-6 000V	VX-6 000U
General Specifications			
Frequency Range	29.7-37 MHz (A) 37-50 MHz (B)	148-174 MHz (C)	450-480 MHz (D)
Number of Channels	250 Channels		
Channel Spacing	20 kHz	12.5/25 kHz	
PLL Steps	5/6.25 kHz	2.5/5/6.25 kHz	
Power Supply Voltage	13.4 V DC ±15 %		
Current Consumption	LOW	VHF	UHF
TX	22 A	25 A	28 A
RX	2.2 A	2.2 A	2.2 A
STBY	0.6 A	0.6 A	0.6 A
Operating Temperature Range	−22° F to +140° F (—30° C to +60° C)		
Frequency Stability	Better than ±5.0 ppm	Better than ±2.0 ppm	
RF Input-Output Impedance	50 Ohms		
Audio Output Impedance	4 Ohms		
Dimensions (WHD)	7" x 2.4" x 11.9" (178 x 60 x 301 mm)		
Weight	15.4 lb. (6.9 kg)		
Receiver Specifications	Measurements made per EIA standard TIA/EIA-603		
Circuit Type	Double-conversion Super-heterodyne		
Sensitivity(EIA 12 dB SINAD)	0.25 µV		
Adjacent Channel Selectivity	85 dB	85 / 80 dB	85 / 77 dB
Intermodulation	80 dB	80 / 75 dB	80 / 75 dB
Spurious and Image Rejection	90 dB	90 dB	90 dB
Audio Output	5 W @ 4 Ohms 3 % THD (10 W @ 4 Ohms 3 % / Optional MLS-100)		
Transmitter Specifications	Measurements made per EIA standard TIA/EIA-603		
Power Output	120 W/50 W	110 W/50 W	100 W/ 50 W
Modulation	16K0F3E	16K0F3E , 11K0F3E	
Maximum Deviation	5 kHz	5.0 / 2.5 kHz	
Conducted Spurious Emissions	80 dB Below Carrier		
Audio Distortion (@1 kHz)	< 2 % @1kHz		
Microphone type	Dynamic		
Microphone impedance	600 ohms		

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

Applicable MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures
Low Pressure		500.2/Procedure 2	500.3/Procedure 2
High Temperature	501.1/Procedure 1, 2	501.2/Procedure 1, 2	501.3/Procedure 1, 2
Low Temperature	502.1/Procedure 1	502.2/Procedure 1, 2	502.3/Procedure 1, 2
Temperature Shock	503.1/Procedure 1	503.2/Procedure 1	503.3/Procedure 1
Solar Radiation	505.1/Procedure 1	505.2/Procedure 1	505.3/Procedure 1
Rain*		506.2/Procedure 1, 2	506.3/Procedure 1, 2
Humidity	507.1/Procedure 2	507.2/Procedure 2	507.3/Procedure 2
Salt Fog		509.2/Procedure 1	509.3/Procedure 1
Dust		510.2/Procedure 1	510.3/Procedure 1
Vibration	514.2/Procedure 8, 10	514.3/Procedure 1 Cat. 10	514.4/Procedure 1 Cat. 10
Shock	516.2/Procedure 1, 5	516.3/Procedure 1, 4	516.4/Procedure 1, 4

* Control Head Only

ISO9001
PERRY JOHNSON REGISTRARS, INC.
ANSI·RAB QMS ACCREDITED
Sukagawa Division
Trondule Co., Ltd.
ISO9001 certification

ISO14001
PERRY JOHNSON REGISTRARS, INC.
MGMT. SYS. RwA C118
Sukagawa Division
Trondule Co., Ltd.
ISO14001 certification