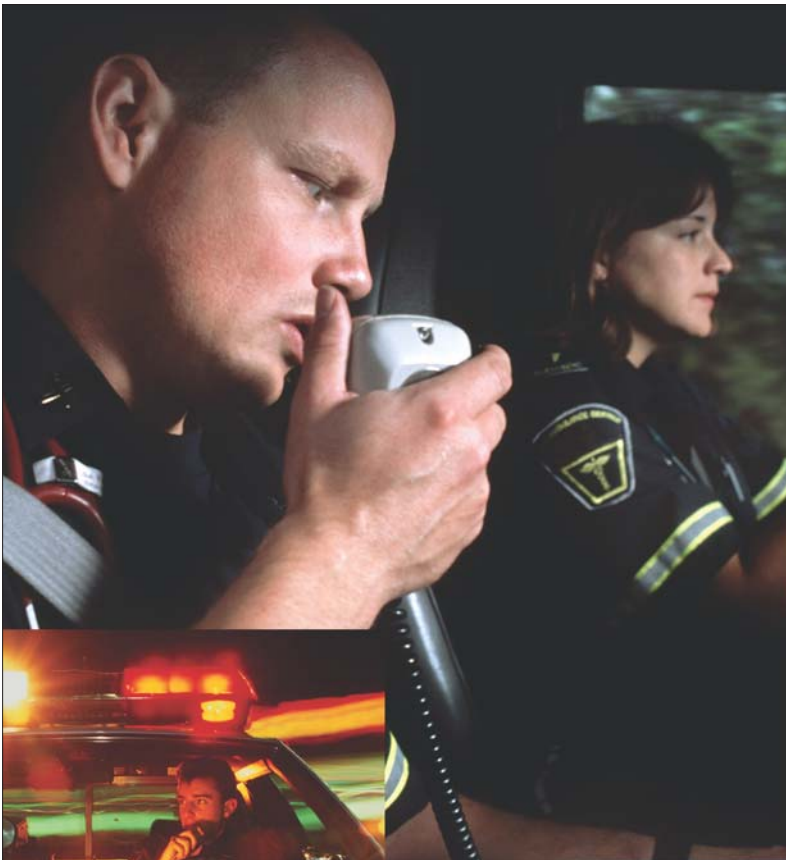


# VX-5500 SERIES

LOW BAND/ VHF/UHF Mobile Radios



- 250 CHANNEL CAPACITY
- POWER OUTPUT: 70 W (LOW BAND), 50 W (VHF), 45 W (UHF)
- 12.5 / 25 kHz BANDWIDTH PROGRAMMABLE PER CHANNEL
- 2.5 kHz STEP FOR VHF
- 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
- USER SELECTABLE TONES / CODES
- CTCSS / DCS ENCODE + DECODE
- EMERGENCY FUNCTIONS
- ENCRYPTION
- RADIO TO RADIO CLONE FEATURE
- TALK AROUND
- BCLO, BTLO, AND TOT FUNCTIONS
- BUILT IN 25 PIN (DB-25) ACCESSORY CONNECTOR
- MIL- STD 810 C/D/E
- HEAVY-DUTY PUBLIC SAFETY MICROPHONE AVAILABLE



 **Vertex Standard**  
We make a difference

# VX-5500

## SERIES

High Specs, reliable construction, multiple remote configurations, and power to get your message through make the VX-5500 an easy call to make. Flexibility in programming, along with large, easy-to-use controls and display, make this radio the perfect fit for public safety applications. The many built-in features, and the fully customizable programming software, give you the options you really need, without the clutter and sea of buttons found on many other mobiles.

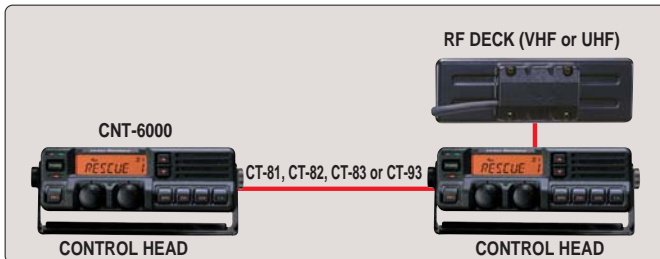
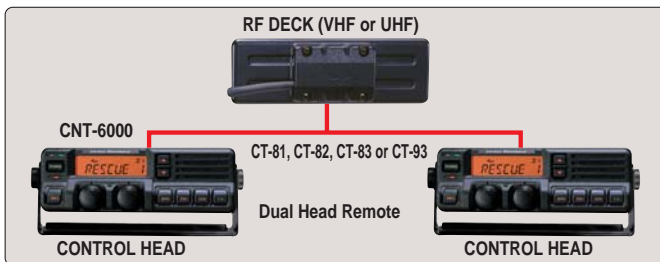
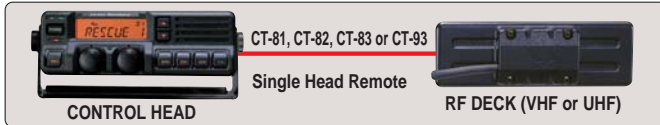


# VERSATILITY

## MULTI CONFIGURATION SYSTEM

### ONE RF DECK TO MULTIPLE HEAD CAPABILITIES

A single VX-5500 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.



### 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-5500'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

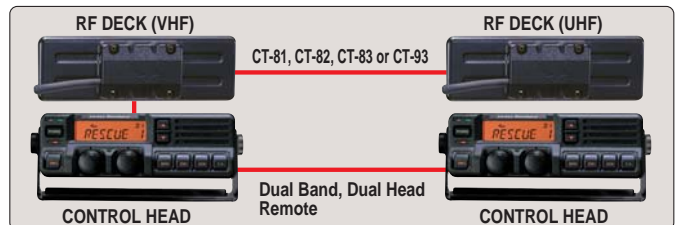
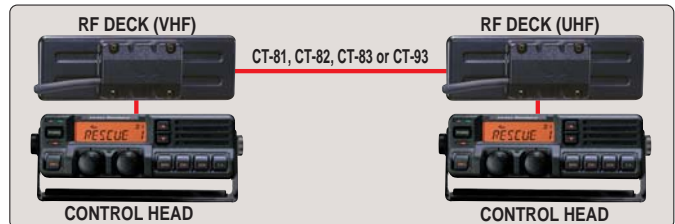
When used with the optional MH-53B7A DTMF Microphone, the VX-5500 may be configured for both manual and Speed Dial DTMF calling. All versions provide programmable PTT ANI for business or fleet applications.

### 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.

### DUAL BAND CAPABILITY

Two VX-5500 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.



### 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-5500 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-5500 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: 70 W (LOW BAND), 50 W (VHF), 45 W (UHF)

The VX-5500'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-5500 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

Ensuring full compatibility with all channel loading requirements, the VX-5500's synthesizer provides 2.5 kHz resolution. Channel programming therefore is straightforward in all configuration situations.

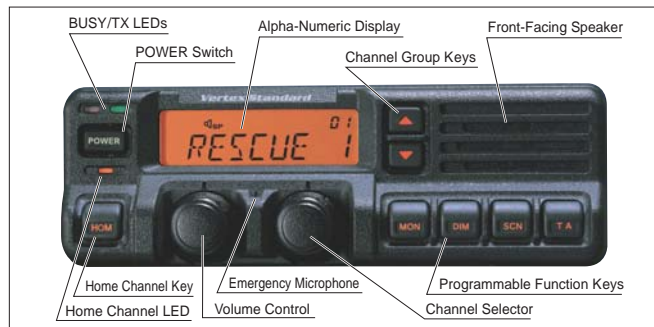
### COMPANDER INCLUDED

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.



### 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-5500's high-powered audio (5 Watts standard, 10 Watts optional by rear ext. speaker jack) 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-5500 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-5500 radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-5500 to another, using the optional CT-72 Cloning Cable.



## SECURITY

### EMERGENCY FUNCTIONS

The VX-5500 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-5500 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-5500 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.



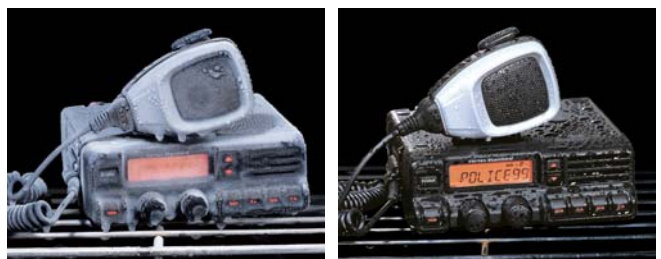
### HIGH-RELIABILITY CONSTRUCTION

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-5500, 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

				
<b>MH-25B7A</b>	<b>MH-53C7A</b>	<b>MH-53A7A</b>	<b>MH-53B7A</b>	<b>MLS-100</b>
Standard Microphone	Heavy Duty Microphone	Heavy Duty Noise Canceling Microphone	Heavy Duty Noise Canceling DTMF Microphone	Mobile Loud Speaker (12 W Peak Power)

					
<b>RMK-4000B</b>	<b>CT-93</b>	<b>F2D-8</b>	<b>F5D-14</b>	<b>VTP-50</b>	<b>MDC1200 ANI</b>
Cover for RF DECK	Cable for RMK-4 000 33 ft (10 m)	2-Tone Decode Unit (Requires FIF-7A)	5-Tone ENC/DEC Unit (Requires FIF-7A)	VX-Trunk Unit (Requires FIF-7A)	Digital ANI Encoder Unit (Requires FIF-7A)
					
<b>RMK-4000H</b>	<b>CT-81</b>	<b>FVP-25</b>	<b>FVP-35</b>	<b>FIF-7A</b>	<b>CN-6</b>
Cover for CNT-6000	Cable for RMK-4 000 20 ft (6 m)	Encryption/DTMF Pager Unit (Requires FIF-7A)	Rolling Code Encryption Unit (Requires FIF-7A)	Interface Board for	Interface Board for after market product
					
<b>CNT-6000</b>	<b>CT-82</b>	<b>FP-1023</b>	<b>MMB-75</b>	<b>MMB-76</b>	
Control Head	Cable for RMK-4 000 8 ft (2.5 m)	External Power Supply (13.8 V, 23 A)	Mobile Mounting Bracket	Locking Mobile Mounting Bracket	
					
<b>RF DECK w/ MMB-75</b>	<b>CT-83</b>	<b>CT-70</b>	<b>CT-71</b>	<b>CT-72</b>	<b>CE49</b>
RF Deck for Multi Band Operation	Cable for RMK-4 000 2 ft (0.6 m)	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-5500L	VX-5500V	VX-5500U
	LOW	VHF	UHF
<b>General Specifications</b>			
Frequency Range	29.7-37 MHz (A) 37-50 MHz (B)	134-160MHz (A) 148-174 MHz (C)	400-430 MHz (A) 450-490 MHz (D) 480-512 MHz (F)
Number of Channels	250 Channels		
Channel Spacing	20 kHz	12.5/25/30 kHz	
PLL Steps	5/6.25 kHz	2.5/5/6.25 kHz	
Power Supply Voltage	13.6 V DC ±1.5 %		
Current Consumption	14 A	12 A	13 A
TX			
RX		2.1 A	
STBY		600 mA	
Operating Temperature Range	-22° F to 140 F (-30° C to +60° C)		
Frequency Stability	Better than ±5 ppm	Better than ±2 ppm	
RF Input-Output Impedance	50 Ohms		
Audio Output Impedance	4 Ohms		
Dimensions (WHD)	7" x 2.4" x 7" (178 x 60 x 195 mm)		
Weight	4.9 lb. (2.2 kg)		
<b>Receiver Specifications</b>			
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 / 77 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 %THD (ex t. speaker jack)		
<b>Transmitter Specifications</b>			
Measurements made per EIA standard TIA/EIA-603			
Power Output	70 W/30 W	50 W/5 W	45 W/ 5 W
Modulation	16K0F3E	16K0F3E , 11 K0F3E	
Maximum Deviation	5 kHz	5.0 / 2.5 kHz	
Conducted Spurious Emissions	80 dB Below Carrier		
Audio Distortion (@1 kHz)	< 2 %		
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 II	500.3/Procedure II
High Temperature	501.1 /Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II
Low Temperature	502.1 /Procedure I	502.2/Procedure I, II	502.3/Procedure I, II
Temperature Shock	503.1 /Procedure I	503.2/Procedure I	503.3/Procedure I
Solar Radiation	505.1 /Procedure I	505.2/Procedure I	505.3/Procedure I
Rain*		506.2/Procedure I, II	506.3/Procedure I, II
Humidity	507.1 /Procedure II	507.2/Procedure II	507.3/Procedure II
Salt Fog		509.2/Procedure I	509.3/Procedure I
Dust		510.2/Procedure I	510.3/Procedure I
Vibration	514.2/Procedure VIII, X	514.3/Procedure I Cat. 10	514.4 /Procedure I Cat. 10
Shock	516.2/Procedure I, V	516.3/Procedure I, IV	516.4 /Procedure I, IV

\* Control Head Only



Sukagawa Division  
Trondule Co., Ltd.  
ISO9001 certification



Sukagawa Division  
Trondule Co., Ltd.  
ISO14001 certification



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