

# VX-410/420 Series

## VHF/UHF Portable Radios

### SPECIFICATION SHEET

## Dependable and Discreet Communications

The Vertex Standard VX-410/420 Series provides a host of built-in features in compact convenience for the quality communications you need.

### Large Channel Capacity for Group Communications

For large group communications, the VX-420A option provides 256 channel capacity that can be divided into 2-16 groups. Or get 32-channel capacity, divided into two 16-channel groups with the VX-410/420 radios for quick and convenient channel access.

### Discreet Communications and Security

Includes Voice Encryption for private communications and programmable key lock control to prevent inadvertent channel change or unwanted function changes, which may be important when the radio is concealed and subject to accidental pressure on the keys.

These radios also support over-the-air Stun, Kill and Revive to disable a lost or stolen radio – mitigating any breach of security from unwanted listeners.

Add the optional DVS-5 Voice Storage unit to record and store up to 120 seconds for keeping an audible record of important messages.

### When Safety Counts

Includes built-in Emergency notification that will switch to a designated channel and send an emergency alert. For enhanced worker safety, the Lone Worker mode is a built-in timer that requires the user to reset at a predetermined interval. If not reset, the radio automatically switches to Emergency mode to alert help.

### Maximise Battery Life

Includes RX/TX (receive and transmit) battery saver capability. During receive, the radio will go into saver mode while periodically checking for channel activity. During transmit, the VX-410/420 Series will automatically reduce power when the incoming signal is very strong.

### Exclusive Auto-Range Transpond System – ARTS™

Only Vertex Standard radios are designed to inform you when you and another ARTS™-equipped station are within communication range. If out of range for more than 2 minutes, your radio senses no signal has been received and beeps to alert you. The base station can then alert the field unit to move back in range. A great solution to keep your workers co-ordinated.



## The Vertex Standard Difference

Our number one goal is achieving superior customer satisfaction by delivering products and services that exceed your expectations. Count on Vertex Standard for radios that are built to last and designed to provide more features for a better return on your investment. Ask your Dealer for more details.

### Additional Features

- Six programmable keys (VX-420/420A)
- Two programmable keys (VX-410)
- 8-Character alphanumeric display (VX-420/420A)
- DTMF ANI
- 2-Tone Encode + Dual 2-Tone Decode
- CTCSS / DCS Encode and Decode
- 5-Tone signaling
- Compander
- BCLO, BTLO and TOT Functions
- Programmable alert tone
- Priority scan
- Dual Watch scan
- Follow-me scan
- Talk Around scan
- Radio-to-radio cloning

### Accessories

- MH-360S: Compact speaker microphone
- MH-374AB: Earpiece microphone
- MH-450S: Speaker microphone
- MH-45B4B: Noise cancelling speaker microphone
- VH-115S: Behind-the-head headset w/boom mic
- VH-215S: Over-the-head single-muff headset
- VC-25: Over-the-head VOX headset
- VH-120S: 3-Wire earpiece mic w/palm PTT switch
- VH-130S: 2-Wire earpiece w/palm mic and PTT switch
- FNB-V67LI: 2000 mAh Li-Ion battery
- FNB-V94: 1800 mAh NiMH battery
- FNB-83: 1400 mAh NiMH battery
- FBA-25A: Alkaline battery case (6 AA size)
- Desktop chargers available
- 6-Unit rapid chargers available
- VCM-1: Vehicle mounting bracket for battery charger
- LCC-410S: Leather case w/swivel belt clip (VX-410)
- LCC-420S: Leather case w/swivel belt clip (VX-420A)
- CLIP-17C: Swivel belt clip

### Option Boards

- FVP-25: Voice Inversion Encryption & DTMF Paging
- FVP-35: Rolling Code Encryption
- DVS-5: Digital voice storage
- VME-100: MDC-1200® / GE-STAR® ANI Encode
- VMDE-200: MDC-1200® / GE-STAR® ANI Enc./Dec.

### VX-410/420 Series Specifications

	VHF	UHF
<b>General Specification</b>		
Frequency Range	134 - 160 MHz (A) [VX-410/420] 146 - 174 MHz (C)	300 - 340 MHz (K) [VX-417], 350 - 380 MHz (L) 400 - 440 MHz (AS2), 420 - 450 MHz (B) 440 - 470 MHz (CS) [VX-420A] 450 - 490 MHz (D), 490 - 520 MHz (F)
Number of Channels	256 and 2 - 16 groups (VX-420A) 32 (16 channels x 2 groups)	
Power Supply Voltage	7.5 V DC ±20 %	
Channel Spacing	12.5/20/25 kHz	
PLL Steps	2.5 / 6.25 kHz	5 / 6.25 kHz
Battery Life (5-5-90 duty) 2000 mAh FNB-V67LI	16 hrs (12.5 hrs w/o saver)	15 hours (11.5 hrs w/o saver)
IP Rating	IP 54	
Operating Temperature Range	-30° C to +60° C	
Frequency Stability	± 2.5 ppm	
Dimension (H x W x D)	108.5 x 58 x 30 mm (w/FNB-67LI)	
Weight (Approx.)	300 g (w/FNB-V67LI, ANT, Belt Clip)	
<b>Receiver Specification: measured by TIA/EIA-603</b>		
Circuit Type	Double-conversion Super-heterodyne	
IFs	50.85 MHz & 450 kHz	
Sensitivity 12 dB SINAD	0.25 µV	
Squelch Sensitivity	< 0.20 µV	
Adjacent Channel Selectivity	> 70 dB (25/20 kHz) / > 65 dB (12.5 kHz)	
Intermodulation	> 70 dB	
Spurious and Image Rejection	> 70 dB	
Audio Output	500 mW @ 4 Ohms 5% THD	
<b>Transmitter Specification: measured by TIA/EIA-603</b>		
Output Power	5 / 1 W	
Modulation	16K0F3E, 11K0F3E	
Conducted Spurious Emissions	70 dB below carrier	
FM Hum & Noise	> 45 dB	
Audio Distortion	< 3% @1kHz	
Microphone Type	2-k Ohms condenser	

### Applicable MIL-STD

Standard	MIL 810D Methods/ Procedures	MIL 810E Methods/ Procedures	MIL 810F Methods/ Procedures
Low Pressure	500.2/Procedure I, II	500.3/Procedure I, II	500.4/Procedure I, II
High Temperature	501.2/Procedure I, II	501.3/Procedure I, II	501.4/Procedure I, II
Low Temperature	502.2/Procedure I	502.3/Procedure I, II	502.4/Procedure I, II
Temperature Shock	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I, II
Rain	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, III
Humidity	507.2/Procedure II, III	507.3/Procedure II, III	507.4/Procedure I
Salt Fog	509.2 /Procedure I	509.3 /Procedure I	509.4 /Procedure I
Dust	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I
Vibration	514.3/Procedure Cat. 10	514.4/Procedure Cat. 10	514.5/Procedure Cat. 10
Shock	516.3/Procedure I, V	516.4/Procedure I, IV	516.5/Procedure I, IV

Specifications are subject to change without notice or obligation.

VERTEX STANDARD is registered in the US Patent & Trademark Office. All other product or service names are the property of their respective owners. © Vertex Standard Co. Ltd. 2009 EXPSS\_410\_420\_05/2009