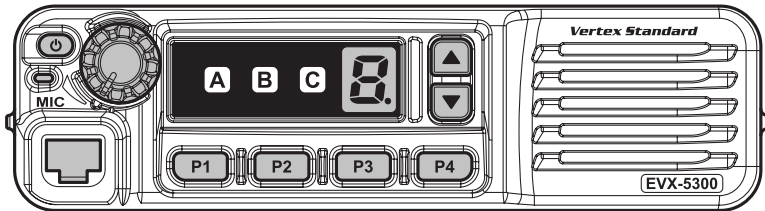


**Vertex Standard**

# EVX-5300

## OPERATING MANUAL



### PROGRAMMABLE FUNCTIONS/FEATURES

- 6 Programmable Function Keys
  - 2-Tone Encode/Decode\*
  - 5-Tone Encode/Decode\*
  - MDC-1200® Encode/Decode\*
  - Horn Alert
  - PA (Public Address)
  - Scan
  - Dual Watch
  - FM-Scan (Follow-Me Scan)
  - TA Scan
  - Privacy
  - Encryption\*
  - VOX
  - Talk Around
  - Emergency
  - Lone Worker
  - TX Save Disable
  - ARTS™/ARTSII™ (Auto Range Transpond System)
- \*: Analog mode only

# Congratulations!

You now have at your fingertips a valuable communications tool: a Vertex Standard two-way radio! Rugged, reliable and easy to use, your Vertex Standard radio will keep you in constant touch with your colleagues for years to come, with negligible maintenance downtime.

Please take a few minutes to read this manual carefully. The information presented here will allow you to derive maximum performance from your radio.

We're glad you joined the Vertex Standard team. Call on us anytime, because communications is our business. Let us help you get your message across.

## NOTICE !

There are no owner-serviceable parts inside the transceiver. All service jobs must be referred to an authorized Vertex Standard Service Representative. Consult your Authorized Vertex Standard dealer for installation of optional accessories.

## SAFETY/WARNING INFORMATION

**WARNING** - DO NOT operate the **EVX-5300** radio when any person(s) (bystanders) outside the vehicle are within the distances shown in the chart at the bottom of this section.

### Safety Training information:

Antennas used for this transmitter must not exceed an antenna gain of 0 dBi. The radio must be used in vehicle-mount configurations with a maximum operating duty cycle not exceeding 50 %, in typical Push-to-Talk configurations.

This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control the exposure limits of passengers and bystanders by maintaining the minimum separation distance shown below.

Failure to observe these restrictions will result in exceeding the FCC RF exposure limits.

### Antenna Installation:

For rear deck trunk installation, the antenna must be located at least the following distance away from rear-seat passengers in order to comply with the FCC RF exposure requirements.

For roof top installations, the antenna must be placed in the center of the roof.

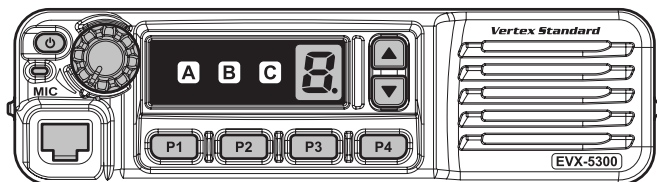
### Unsafe Radiation Distance

VHF Model	UHF Model
2.9 Feet (0.89 m)	2.1 Feet (0.64 m)

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# INTRODUCTION

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The **EVX-5300** is a full-featured Digital/Analog transceiver designed for flexible mobile and base station business communications in the VHF/UHF Land Mobile bands. This transceiver is designed for reliable business communications in a wide variety of applications for a wide range of operating capabilities.

The **EVX-5300** operates using the TDMA protocol for spectrum and power efficiency resulting in lower total equipment cost compared to FDMA. Digital eliminates noise and static from voice transmit to deliver only the intended voice message crisply and clearly. **EVX-5300** features the AMBE+2™ vocoder for enhanced voice quality.

This transceiver allows up to 8 memory channels. Important channel frequency data is stored in the flash memory, and is easily programmable by a Vertex Standard licensed dealer using a personal computer with Vertex Standard Programming equipment: **FIF-12** USB Programming Interface, **CT-104A** Connection Cable with **CE142** Software. Or, once a single radio is programmed, cloning cable **CT-4** can be used to program additional radios directly.

The pages which follow will detail the many advanced features provided by the **EVX-5300** Series transceiver. After reading this manual, you may wish to consult with your Network Administrator regarding precise details of the configuration of this equipment for use in your application.

## **For North American Users Regarding 406 MHz Guard Band**

The U.S. Coast Guard and National Oceanographic and Atmospheric Administration have requested the cooperation of the U.S. Federal Communications Commission in preserving the integrity of the protected frequency range 406.0 to 406.1 MHz, which is reserved for use by distress beacons. Do not attempt to program this apparatus, under any circumstances, for operation in the frequency range 406.0 - 406.1 MHz if the apparatus is to be used in or near North America.

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## **WARNING! FCC RF EXPOSURE REQUIREMENTS**

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THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THE GRANTEE IS NOT RESPONSIBLE FOR ANY CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE. SUCH MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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## WARNING! IC RSS GENERAL REQUIREMENTS

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### ENGLISH

- ❑ This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
- ❑ Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
- ❑ Antennas used for this transmitter (identify the device by certification number, or model number if Category II) must not exceed an antenna gain of 0 dBi. The radio must be used in vehicle-mount configurations with a maximum operating duty cycle not exceeding 50 %, in typical Push-to-Talk configurations. Antenna types having a gain greater than 0 dBi are strictly prohibited for use with this device.

### FRENCH

- ❑ Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- ❑ Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.
- ❑ Antennes utilisées pour cet émetteur (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie II) ne doit pas dépasser un gain de l'antenne de 0 dBi. La radio doit être utilisée dans des configurations de montage en véhicule avec un maximum d'utilisation en fonctionnement n'excédant pas 50 %, dans des configurations typiques de Push-to-Talk. Types d'antenne ayant un gain supérieur à 0 dBi sont strictement interdits pour une utilisation avec cet appareil.

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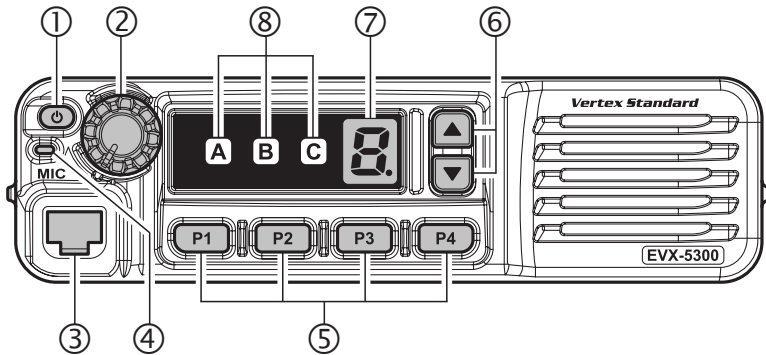
## CONTROLS & CONNECTORS

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### Front Panel

**Important!** - All buttons located on the Front Panel are Programmable Function (PF) keys, configured according to your network requirements and programmed by your Vertex Standard dealer. The instructions below describe a typically-configured radio.



#### ① PWR (⏻) Button

Press and hold in this button for 2 seconds to toggle the transceiver's power "on" and "off".

#### ② VOL Knob

Turn this control clockwise to increase the volume.

#### ③ Microphone Jack

Connect the microphone plug to this jack.

#### ④ TX/BUSY Indicator

Indicates transceiver's Transmit/Receive Status.

#### ⑤ [P1] - [P4] Keys (Programmable Function Keys)

These keys can be set up for special applications, such as High/Low power selection, Monitor, Talk-Around, etc., as determined by your network requirements and programmed by your Vertex Standard dealer.

#### ⑥ [▼]/[▲] Keys (Programmable Function Keys)

In the factory default, pressing either key changes the current channel.

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## CONTROLS & CONNECTORS

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### ⑦ Channel Number Indicator

Indicates the operating channel.

### ⑧ Transceiver Status Indicator

The “**A**”, “**B**”, and “**C**” indicators show current transceiver status, which can be customized via programming by your Vertex Standard dealer to meet your communications/network requirements. The possible indicators are explained below.

#### TRANSCEIVER STATUS INDICATOR

STATUS	INDICATOR			DESCRIPTION
	A	B	C	
<b>MONI</b>				The indicator is illuminated constantly when the signaling feature is disabled. The indicator blinks while the audio is passing normally.
<b>SCAN CH</b>				Indicator is illuminated when the scan enabled channel is recalled.
<b>Low Power</b>				Indicator is illuminated when the radio's transmitter is set to the “Low Power” mode.
<b>TA (Talk Around)</b>				Indicator is illuminated when the “Talk Around” function is activated.
<b>Privacy (Digital) Encryption (Analog)</b>				Indicator is illuminated when the “Privacy” (Digital mode) or “Voice Scrambler” (Analog mode) function is enabled.
<b>Emergency</b>				Indicator is illuminated when the “Emergency” feature is activated.
<b>Horn Alert</b>				Indicator is illuminated when the “Horn Alert” feature is activated.
<b>PA (Public Address)</b>				Indicator is illuminated when the radio is turned to a PA amplifier.
<b>Lock</b>				Indicator is illuminated when the “Lock” feature is activated.
<b>ACC2</b>				Indicator is illuminated when the output port “2” on the Accessory Connector is turned to “ON”.
<b>RFC</b>				Indicator is illuminated when the radio is in the “Ready for Communication” condition while operating with the 2-Tone or 5-Tone signaling.

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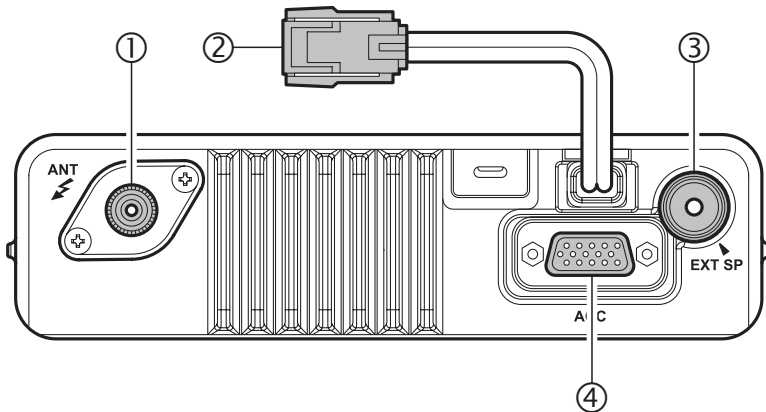
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## CONTROLS & CONNECTORS

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### Rear Panel



#### ① Antenna Jack

The 50-Ohm coaxial feedline to the antenna must be connected here, using a mini-UHF plug.

#### ② 13.6V DC Cable Pigtail with Connector

The supplied DC power cable must be connected to this 2-pin connector. Use only the supplied fused cable, extended if necessary, for power connection.

**⚠ Replace only with the same or equivalent type fuse.**

#### ③ External Speaker Jack

An external loudspeaker may be connected to this 2-contact, 3.5-mm mini-phone jack.

**Caution:** Do not connect either wire of this line to ground, and be certain that the speaker has adequate capability to handle the audio output (12 W) from the radio.

#### ④ D-Sub 15-Pin Accessory Connector

External TX audio line input, PTT (Push To Talk), Squelch, and external RX audio line output signals may be obtained from this connector for use with accessories such as data transmission/reception modems, and external Channel control input, etc.



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## BASIC OPERATION

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**Important!** - Before turning on the radio the first time, confirm that the power connections have been made correctly and that a proper antenna is connected to the antenna jack.

### Switching Power ON/OFF

- ❑ Press and hold in the **PWR**() button for 2 seconds to turn the radio on. The channel number indicator will indicate the operating channel.
- ❑ Press the [**▼**]/[**▲**] key to choose the desired operating channel. The radio announces the channel number if the Channel Announcement Feature is enabled via the clone editor software.

### Setting the Volume

- ❑ Turn the **VOL** knob clockwise to increase the volume and counterclockwise to decrease it.

### Transmitting

- ❑ To transmit, monitor the channel and make sure it is clear.
- ❑ Press the **PF** key which is programmed to the Monitor feature to listen for channel activity.
- ❑ When receiving a call, transmit only after the incoming call ends. The radio cannot receive a call and transmit simultaneously.
- ❑ Press the **PTT** switch.
- ❑ If the channel is clear, the **TX/BUSY** indicator will glow red (on the Analog Channel) or blue (on the Digital Channel). The radio is now transmitting. While holding in the **PTT** switch, speak across the face of the microphone in a clear and normal voice. For best transmission, hold the microphone about 1-1/2 to 2 inches (4 ~ 5 cm) away from your mouth. Release the **PTT** switch to receive.
- ❑ If the BCLO (Busy Channel Lockout) feature has been programmed on an *analog channel*, the radio will not transmit when a carrier is present. Instead, the radio will generate short beep three times. Release the **PTT** switch and wait for the channel to be clear of activity.
- ❑ If the BTLO (Busy Tone Lockout) feature has been programmed on an *analog channel* or CCLO (Color Code Lockout) feature has been programmed on a *digital channel*, the radio can transmit only when there is no carrier being received or when the carrier being received includes the correct tone (CTCSS tone or DCS code) on an *analog channel* or correct code on a *digital channel*.

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## BASIC OPERATION

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### Transmit Time-Out Timer

If the selected channel has been programmed for automatic time-out, you must limit the length of each transmission. While transmitting, a beep will sound 10 seconds before time-out. Another beep will sound just before the deadline; the red “**TX**” indicator will disappear and transmission will cease soon thereafter. To resume transmitting, you must release the **PTT** switch and wait for the “penalty timer” to expire (if you press the **PTT** switch before this timer expires, the timer restarts, and you will have to wait another “penalty” period).

### Key Lock

In order to prevent accidental operating function/feature change or inadvertent transmission, various aspects of the front panel’s keys may be locked out.

To activate the Locking feature, press and hold in the [**P1**] key while turning the radio on. To disable the Locking feature, repeat this power-on procedure.

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## ADVANCED OPERATION

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### Programmable Function (PF) Keys

The **EVX-5300** Series includes six Programmable Function (**PF**) keys. These **PF** keys can be customized, via programming by your Vertex Standard dealer, to meet your communications/network requirements.

The possible **PF** key programming features are illustrated on the next page, and these functions are explained beginning after page 8. For further details, contact your Vertex Standard dealer.

In this chapter, the following icons are used to indicate features supported in either the “Analog” mode or “Digital” mode:

-  Indicates a “Analog” mode only feature.
-  Indicates a “Digital” mode only feature.

For features that are available in both “Analog” and “Digital” modes, no icon is shown.

For future reference, check the box next to each function that has been assigned to the **PF** key on your particular radio and keep it handy.

# ADVANCED OPERATION

FUNCTION	PROGRAMMABLE KEY (PRESS KEY/PRESS & HOLD KEY)						MICROPHONE KEY (PRESS KEY/PRESS & HOLD KEY)					
	P1	P2	P3	P4	▲	▼	A	B	C	D	*	#
None	/	/	/	/	/	/	/	/	/	/	/	/
Monitor	/	/	/	/	/	/	/	/	/	/	/	/
Monitor -Momentarily-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-
Lamp	/	/	/	/	/	/	/	/	/	/	/	/
Low Power	/	/	/	/	/	/	/	/	/	/	/	/
Privacy / Encryption	/	/	/	/	/	/	/	/	/	/	/	/
SQL OFF	/	/	/	/	/	/	/	/	/	/	/	/
SQL OFF -Momentarily-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-
Beep Off	/	/	/	/	/	/	/	/	/	/	/	/
AF Minimum Volume	/	/	/	/	/	/	/	/	/	/	/	/
CH Announcement	/	/	/	/	/	/	/	/	/	/	/	/
Whisper	/	/	/	/	/	/	/	/	/	/	/	/
VOX	/	/	/	/	/	/	/	/	/	/	/	/
VOX Anti-Trip	/	/	/	/	/	/	/	/	/	/	/	/
Horn Alert	/	/	/	/	/	/	/	/	/	/	/	/
PA (Public Address)	/	/	/	/	/	/	/	/	/	/	/	/
EXT ACC 1	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-
EXT ACC 2	/	/	/	/	/	/	/	/	/	/	/	/
Emergency	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-	/-
Lone Worker	/	/	/	/	/	/	/	/	/	/	/	/
CH Up	/	/	/	/	/	/	/	/	/	/	/	/
CH Down	/	/	/	/	/	/	/	/	/	/	/	/
PRI-2 Set	/	/	/	/	/	/	/	/	/	/	/	/
PRI-2 Disable	/	/	/	/	/	/	/	/	/	/	/	/
PRI-2	/	/	/	/	/	/	/	/	/	/	/	/
Direct CH 1	/	/	/	/	/	/	/	/	/	/	/	/
Direct CH 2	/	/	/	/	/	/	/	/	/	/	/	/
Direct CH 3	/	/	/	/	/	/	/	/	/	/	/	/
Direct CH 4	/	/	/	/	/	/	/	/	/	/	/	/
Scan	/	/	/	/	/	/	/	/	/	/	/	/
Dual Watch	/	/	/	/	/	/	/	/	/	/	/	/
FM Scan (Follow-Me Scan)	/	/	/	/	/	/	/	/	/	/	/	/
SCAN Set	/	/	/	/	/	/	/	/	/	/	/	/
TA Scan	/	/	/	/	/	/	/	/	/	/	/	/
Talk Around (TA)	/	/	/	/	/	/	/	/	/	/	/	/
RESET	/	/	/	/	/	/	/	/	/	/	/	/
Call 1	/	/	/	/	/	/	/	/	/	/	/	/
Call 2	/	/	/	/	/	/	/	/	/	/	/	/
Call 3	/	/	/	/	/	/	/	/	/	/	/	/
Call 4	/	/	/	/	/	/	/	/	/	/	/	/
Call 5	/	/	/	/	/	/	/	/	/	/	/	/
Speed Dial	/	/	/	/	/	/	/	/	/	/	/	/
Call	/	/	/	/	/	/	/	/	/	/	/	/
Duty	/	/	/	/	/	/	/	/	/	/	/	/
TX Save Disable	/	/	/	/	/	/	/	/	/	/	/	/
Lock	/	/	/	/	/	/	/	/	/	/	/	/

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## ADVANCED OPERATION

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### Description of Operating Functions

#### **MONITOR**

Press, (or press and hold), the assigned **PF** key to cancel any signaling features.

#### **MONITOR -MOMENTARILY-**

Cancel any signaling features while pressing the assigned **PF** key.

#### **LAMP**

Press, (or press and hold), the assigned **PF** key to toggle the back light of the keypad “On” and “Off”.

#### **LOW POWER**

Press, (or press and hold), the assigned **PF** key to set the radio’s transmitter to the “Low Power” mode. Press, (or press and hold), the **PF** key again to return to “High Power” operation when in difficult terrain.

When the radio’s transmitter is set to “Low Power” mode, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Low Power**” status is assigned to one of the Transceiver Status Indicators.

#### **PRIVACY**

Press, (or press and hold), the assigned **PF** key to toggle the Privacy feature “On” and “Off”. The Privacy feature initiates an encryption algorithm that will protect your communication from unauthorized eavesdropping.

When the Privacy feature is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate, if the “**Privacy**” status is assigned to one of the Transceiver Status Indicators.

#### **ENCRYPTION**

When the Voice Scrambler feature is enabled, press, (or press and hold), the assigned **PF** key to toggle the voice encryption “On” and “Off”.

When the Voice Scrambler feature is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Encryption**” status is assigned to one of the Transceiver Status Indicators.

#### **SQL OFF**

Press, (or press and hold), the assigned **PF** key to open the SQL to hear background noise (unmute the audio).

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## ADVANCED OPERATION

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### **SQL OFF -MOMENTARILY-**

Opens the SQL to hear background noise (unmute the audio) when pressing the assigned **PF** key.

### **BEEP OFF**

Press, (or press and hold), the assigned **PF** key to disable the radio beeps and the channel announcement (if activated) temporarily. Press again, (or press and hold), the assigned **PF** key to enable the radio beeps and the channel announcement.

### **AF MINIMUM VOLUME**

Press, (or press and hold), the assigned **PF** key to reduce the audio output to the (lower) level programmed by your Vertex Standard dealer.

### **CH ANNOUNCEMENT**

Press, (or press and hold), the assigned **PF** key to select the channel change confirmation between “beep” and “announcement”.

### **WHISPER**

Press, (or press and hold), the assigned **PF** key to increase the microphone gain; allowing you to speak in a low voice (whisper) temporarily. Press again, (or press and hold), the assigned **PF** key to resume normal microphone gain.

### **VOX**

Press, (or press and hold), the assigned **PF** key to turn the VOX function “On” or “Off”. You may disable the VOX function temporarily by pressing the **PTT** switch.

### **VOX ANTI-TRIP**

Press, (or press and hold), the assigned **PF** key to toggle the VOX Anti-Trip feature “On” and “Off”. When the VOX Anti-Trip feature is set to “On”, the transceiver does not activate the transmitter section from the receiver audio or own beep sound.

### **HORN ALERT**

Press, (or press and hold), the assigned **PF** key to turn the Horn Alert function “On” or “Off”. If you receive a call from the base station with the signaling, horn alert will be activated and your vehicles horn will sound.

When the Horn Alert function is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Horn Alert**” status is assigned to one of the Transceiver Status Indicators.

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## ADVANCED OPERATION

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### PA (PUBLIC ADDRESS)

Press, (or press and hold), the assigned **PF** key to use the transceiver as a PA amplifier. The Public Address can be used even while scanning and receiving a call.

When the Public Address function is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Public Address**” status is assigned to one of the Transceiver Status Indicators.

### EXT ACC 1

Activates the output port “1” of the D-Sub 15-pin Accessory Connector when pressing the assigned **PF** key.

### EXT ACC 2

Press, (or press and hold), the assigned **PF** key to toggle the output port “2” of the D-Sub 15-pin Accessory Connector “On” and “Off”.

### EMERGENCY

The **EVX-5300** series includes an “Emergency” feature in either analog or digital modes, which may be useful for alerting another party assistance may be required, when monitoring the same frequency as your transceiver’s channel.

Press the assigned **PF** key to initiate an emergency call on the pre-defined channel. For further details contact your Vertex Standard dealer.

When the Emergency feature is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Emergency**” status is assigned to one of the Transceiver Status Indicators.

### LONE WORKER

Press (or press and hold) the assigned **PF** key to toggle the Lone Worker feature “On” and “Off”.

The Lone Worker feature is designed to emit an alarm for 30 seconds when the Lone Worker Timer (programmed by your Vertex Standard dealer) has expired. If the user does not reset the timer by pressing the **PTT** switch, the radio switches to Emergency mode.

### CH UP/DOWN

Press, (or press and hold), the assigned **PF** key (generally the [▲]/[▼] key) to select a different channel.

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## ADVANCED OPERATION

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### **PRI-2 SET**

Press, (or press and hold), the assigned **PF** key to toggle the current channel to the priority channel 2 “enable” and “disable”.

### **PRI-2 DISABLE**

Press, (or press and hold), the assigned **PF** key to disable the priority channel 2 of the group temporarily.

### **PRI-2**

Press, (or press and hold), the assigned **PF** key to recall the pre-programmed PRI-2 (Priority-2) Channel directly. This channel is pre-programmed by your Vertex Standard dealer.

### **DIRECT CH 1 TO DIRECT CH 4**

Press, (or press and hold), the assigned **PF** key to recall the pre-programmed channel directly. This is pre-programmed by your Vertex Standard dealer.

### **SCAN**

The Scanning feature is used to monitor multiple channels programmed into the transceiver. While scanning, the transceiver will check each channel for the presence of a signal and will stop on a channel if a signal is present. **EVX-5300** series can scan both digital and analog frequency programmed channels simultaneously.

#### **To activate scanning:**

- Press, (or press and hold), the assigned **PF** key to activate scanning.
- The scanner will search the channels in the scan list, looking for a transmitting channel. The Scan function will pause each time it finds a channel on which someone is speaking.
- Press, (or press and hold), the assigned **PF** key again to disable scan mode. Operation will revert to the programmed revert channel.

**Note:** Your Vertex Standard dealer may have programmed your radio to stay on one of the following channels if you press the **PTT** switch during the scanning pause:

- “Scan Pause” channel (“Talk Back”)
- “Last Busy” channel
- “Priority-2” channel
- “User Programmed” channel (“Select Channel”)
- “Scan Start” channel

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## ADVANCED OPERATION

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### DUAL WATCH

The Dual Watch feature is similar to the SCAN feature, except that only two channels are monitored:

- The current operating channel; and
- The Priority-2 channel.

#### To activate Dual Watch:

- Press, (or press and hold), the assigned **PF** key.
- The scanner will search the two channels and pause each time it finds a channel on which someone is speaking.

#### To stop Dual Watch:

- Press, (or press and hold), the assigned **PF** key.
- Operation will revert to the “Dual Watch Start” channel.

### FM-SCAN (FOLLOW-ME SCAN)

The FM-Scan feature checks a user-assigned priority channel regularly as you scan the other channels. Thus, if only Channels 1, 3, and 5 (of the 8 available channels) are designated for “scanning”, the user may assign Channel 2 as the “user-assigned” priority channel via FM-Scan.

To activate FM-Scan, first select the channel you want to designate as the “user-assigned priority channel” and press, (or press and hold), the assigned **PF** key. Then press, (or press and hold), the Channel Up/Down key (generally the [▲]/[▼] key) to recall to the “Scanning Start” channel which has been programmed by your dealer to activate the scanner. When the scanner stops on an “Active” channel, the user-assigned priority channel will automatically be checked every few seconds. If activity is found on the user-assigned priority channel, the radio will switch between it and the dealer-assigned priority channel, if any.

### SCAN SET

Press, (or press and hold), the assigned **PF** key to add/delete the current channel to/from your scanning list.

When you choose to delete a channel, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will turn off if the “SCAN CH” status is assigned to one of the Transceiver Status Indicators. To restore a particular channel to your scanning list, press, (or press and hold), the assigned **PF** key again and the Transceiver Status Indicator will illuminate when the “SCAN CH” status is assigned to one of the Transceiver Status Indicators.

When the scanner is stopped, you may remove the channel from the scan list temporarily by pressing, (or press and holding), the same key.



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## ADVANCED OPERATION

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### TA SCAN

Press, (or press and hold), the assigned **PF** key to toggle the TA (Talk Around) scan feature “On” and “Off.”

While TA scan is enabled, the transceiver will search both the transmit and receive frequencies. When a signal is encountered on the receive frequency, the transceiver will pause until the signal disappears. When a signal is encountered on the transmit frequency, the transceiver will check for activity on the receive frequency every few seconds (interval programmed by your Vertex Standard dealer).

*Note:* The TA Scan feature does not activate on a Simplex Channel.

### TALK AROUND

Press, (or press and hold), the assigned **PF** key to activate the Talk Around feature when you are operating on duplex channel systems (separate receive and transmit frequencies, utilizing a “repeater” station). The Talk Around feature allows you to bypass the repeater station and talk directly to a station that is nearby. This feature has no effect when you are operating on “simplex” channels, as the receive and transmit frequencies are already the same.

When the Talk Around feature is activated, the Transceiver Status Indicator (“**A**”, “**B**” or “**C**”) will illuminate if the “**Talk Around**” status is assigned to one of the Transceiver Status Indicators.

Note that your Vertex Standard dealer may have made provision for “Talk Around” channels by programming “repeater” and “Talk Around” frequencies on two adjacent channels. If so, the key may be used for one of the other Pre-Programmed Functions.

*Note:* The Talk Around feature does not activate on a Simplex Channel.

### RESET

Press, (or press and hold), the assigned **PF** key to reset the RFC (Ready for Communication) condition.

### CALL 1 TO CALL 5

Press, (or press and hold), the assigned **PF** key to send a pre-programmed call signal of the 2-Tone, 5-Tone, MDC1200® or Digital Call.

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## ADVANCED OPERATION

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### **SPEED DIAL**

Press, (or press and hold), the assigned **PF** key to prepare the “Speed Dial” function. Press the **PTT** switch within pre-defined period time of releasing the key to send a pre-defined DTMF tone.

### **CALL**

Press, (or press and hold), the assigned **PF** key to send a 2-tone or 5-tone sequential tone.

### **DUTY**

Press, (or press and hold), the assigned **PF** key to toggle the Duty function of the 2-tone, 5-tone, MDC1200® or Digital Call decoder “On” and “Off”.

When the Duty function is set to “On”, the user will always hear (depending on the sub-audio signaling) all traffic on the paging channel. The radio will sound the paging alert when it receives the programmed 2-tone, 5-tone, MDC1200® or Digital Call code.

When the Duty function is set to “Off”, the user will NOT hear normal radio traffic on the paging channel. The radio will sound the paging alert and unmute only when it receives the programmed 2-tone, 5-tone, MDC1200® or Digital Call code.

### **TX SAVE DISABLE**

Press, (or press and hold), the assigned **PF** key to disable the Transmit Saver, if you are operating in a location where high power is almost always needed.

The Transmit Saver reduces the transmit power when a very strong signal from an apparently nearby station is being received.

### **LOCK**

Press, (or press and hold), the assigned **PF** key to lock the functionality of the front panel’s keys. The precise lockout configuration must be programmed by your Vertex Standard dealer.

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## **ARTS™ (AUTO RANGE TRANSPOND SYSTEM)**

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This system is designed to inform you when you and another ARTS™-equipped station are within communication range.

During ARTS™ operation, when the radio receives an incoming ARTS™ signal, a short beep will sound. If you move out of range for more than two minutes, your radio senses that no signal has been received; a short triple-beep will sound. If you subsequently move back into communication range, as soon as the other station transmits, a short beep will sound again.

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## **ARTSII™ (AUTO RANGE TRANSPOND SYSTEM)**

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The ARTSII™ system is enhanced feature of the ARTSII™ which can be finding out the communication range of the radio individually by using the MDC-1200® Encode/Decoder or Digital mode operation.

*Note:* **EVX-5300** will be able to be decoded by display radios with ARTSII™ enabled, but will not be able to decode the other radios encode signals.

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## OPTIONAL ACCESSORIES

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<b>MH-67A8J</b>	Standard Microphone
<b>MH-75A8J</b>	16-Keypad Microphone
<b>MD-12A8J</b>	Desktop Microphone
<b>MLS-100</b>	External Speaker (12 W Peak Power)
<b>LF-6</b>	Line Filter
<b>CE142</b>	PC Programming Software
<b>CT-4</b>	Programming Cable (Radio to Radio Clone Cable)
<b>FIF-12</b>	USB Programming Interface
<b>CT-104A</b>	Connection Cable for FIF-12 (8-pin DIN ↔ 8-pin Modular)

*Availability of accessories may vary; some accessories are supplied standard per local requirements, others may be unavailable in some regions.*

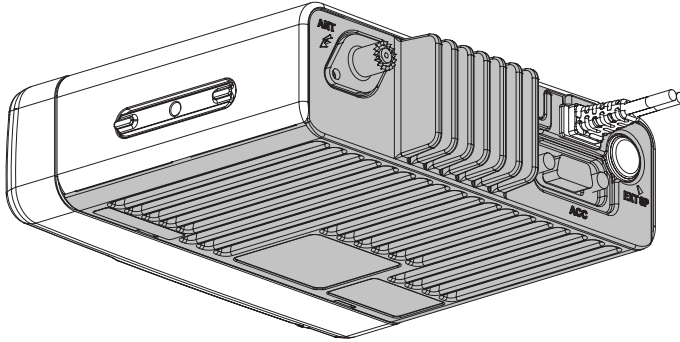
*Check with your Vertex Standard Dealer for changes to this list.*

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⚠ **WARNING** ⚠

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This transceiver's body is designed as the heat sink. Therefore, the bottom and back sides of the transceiver (show in Gray Color at the illustration below) become very hot during transmission. When install the transceiver, take the setting method that does not touch these areas during usage.



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## **WARRANTY POLICY**

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Vertex Standard warrants, to the original purchaser only, its Vertex Standard manufactured communications products against defects in materials and workmanship under normal use and service for a given period of time from the date of purchase.

Limited Warranty Details:

- North America customers (USA and Canada):  
<http://www.vertexstandard.com/lmr/warranty-terms.aspx>
- Customers outside of North America:  
contact the authorized dealer in your country.

The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form.

U.S. Pat. Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

### **DISPOSAL OF YOUR ELECTRONIC AND ELECTRIC EQUIPMENT**

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste by products.



In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.

### **NOTICE !**

There are no owner-serviceable parts inside the transceiver. All service jobs must be referred to an authorized Vertex Standard Service Representative. Consult your Authorized Vertex Standard Dealer for installation of optional accessories.

Part 15.21: Changes or modifications to this device not expressly approved by Vertex Standard could void the user's authorization to operate this device.



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