VX-530 Series Operating Manual

Important Notice!
FCC RF Exposure Compliance Requirements for Occupational Use Only: This Radio has been tested and complies with the Federal Communications Commission (FCC) RF exposure limits for Occupational Use/Controlled exposure environment. In addition, it complies with the following Standards and Guidelines: FCC 96-326, Guidelines for Evaluating the Environmental Effects of Radio-Frequency Radiation. FCC OET Bulletin 65 Edition 97-01 (1997) Supplement C, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields. ANSI/IEEE C95.1-1992, IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz. ANSI/IEEE C95.3-1992, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave. **This radio is NOT approved for use by the general population in an uncontrolled environment. This radio is restricted to occupational use, work related operations only where the radio operator must have the knowledge to control its RF exposure conditions.** **When transmitting, hold the radio in a vertical position with its microphone 1 to 2 inches (2.5 to 5 cm) away from your mouth and keep the antenna at least 1 inch (2.5cm) away from your head and body.** **The radio must be used with a maximum operating duty cycle not exceeding 50 %, in typical Push-to-Talk (PTT) configurations.** **DO NOT transmit for more than 50 % of total radio use time (50 % duty cycle). Transmitting more than 50 % of the time can cause FCC RF exposure compliance requirements to be exceeded.** **The radio is transmitting when the red LED on the top of the radio is illuminated. You can cause the radio to transmit by pressing the PTT button.** **DO NOT transmit when the radio is used in Body Worn configuration.** **It must be used ONLY for (1) there is a 4 cm distance from the body during transmitting, (2) monitoring purposes, using the speaker only and (3) for carrying purposes.** **Always use Vertex Standard authorized accessories.**

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Controls & Connectors

- **LED Indicator**
    Glows Green: Scan active
    Blinks Green: Busy Channel (or SQL off)
    Glows Red: Transmit
    Blinks Red: Battery Voltage is low
- **Antenna Jack**
- **PTT (Push to Talk) Switch**
- **Monitor Button**
- Lamp Button
- CH (Channel) Selector
- **VOL/PWR Knob**
- **LCD**
- **SEL1 KEY**
- **SEL2 KEY**
- **Toggle SW**
- **MIC/SP Jack (External MIC/SP)**
- **Speaker**
- **Main Microphone**
- **Sub Microphone (Noise Canceling Microphone)**
- **Battery Pack Latch**

Before You Begin

Battery Pack Installation and Removal

  To install the battery, hold the transceiver with your left hand, so your palm is over the speaker and your thumb is on the top of the belt clip. Insert the battery pack into the battery compartment on the back of the radio while tilting the Belt Clip outward, then close the Battery Pack Latch until it locks in place with a "Click."

  To remove the battery, turn the radio off and remove any protective cases. Open the Battery Pack latch on the bottom of the radio, then slide the battery downward and out from the radio while unfolding the Belt Clip.

Caution! : Do not attempt to open any of the rechargeable Li-ion packs, as they could explode if accidentally short-circuited.

Low Battery Indication

  As the battery discharges during use, the voltage gradually becomes lower. When the battery voltage reaches 6.0 volts, substitute a freshly charged battery and recharge the depleted pack. The **TX/BUSY** indicator on the top of the radio will blink *red* when the battery voltage is low.

  Avoid recharging Li-ion batteries often with little use between charges, as this can degrade the charge capacity. We recommend that you carry an extra, fully-charged pack with you so the operational battery may be used until depletion (this "deep cycling" technique promotes better long-term battery capacity).

Operation

Preliminary Steps

  Install a charged battery pack onto the transceiver, as described previously.

  Screw the supplied antenna onto the Antenna jack. Never attempt to operate this transceiver without an antenna connected.

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If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the VX-530.

Operation Quick Start

To turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.

Pull and turn the top panel's **CH** selector knob to choose the desired operating channel. A channel number or channel name will appear on the LCD.

Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold the Monitor button (the third button on the left side) more than 2 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.

Press and hold the Monitor button more than 2 seconds (or press the Monitor button twice) to quiet the noise and resume normal (quiet) monitoring.

To transmit, press and hold the **PTT** switch. Speak into the microphone area of the front panel grille (center right-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.

Press the top panel's **SEL1** and left side panel's **SEL2** button to active one of the preprogrammed functions that may have been enabled at the time of programming by the dealer. See the next section for details regarding the available features.

Switch the top panel's **Toggle SW** position to active one of the preprogrammed functions which may have been enabled at the time of programming by the dealer. There are three positions of [**A** (left)], [**|** (center)] and [**B** (right)] in the toggle switch. See the next section for details regarding the available features.

Press the **DTMF** keys on the telephone keypad to send DTMF tones. (If option is installed)

If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then make the connector of the Speaker/Microphone touch; secure the connector pin using the screw supplied with the Speaker/Microphone.

Hold the speaker grille up next to your ear while receiving. To transmit, press the PTT switch on the Speaker/Microphone, just as you would on the main transceiver's body.

Note: Save the original plastic cap and its mounting screws. They should be re-installed when not using the Speaker/Microphone.

KEY and TOGGLE Functions

VX-530 have the **[SEL1], [SEL2], [MON], [LAMP] Key, ([A], [B], [C], [D] Key**: **if option is installed)** and **Toggle SW**. The Key and SW function can be customized, via programmed by *Vertex Standard* dealer, to meet your communications requirements. Some features may require the purchase and installation of optional internal accessories. The possible KEY and SW programming features are illustrated below.

[SEL1], [SEL2], [MON], [LAMP],[A], [B], [C] and [D] Key

Monitor (Generally, it sets to MON Key)
Lamp (Generally, it sets to LAMP Key)
Channel Scan
Dual Watch
High/Low Power
Talk Around
TX Save Disable
Encryption Disable (only, when using DTMF/Encryption Unit)
Follow-Me DW
Group Up
Group Down
Channel Up
Channel Down

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SET Mode
Call/Reset (only, when using DTMF/Encryption Unit)
Speed Dial (only, when using DTMP/Encryption Unit)
Emergency (only, when using DTMF/Encryption Unit)
LCD Invert
<u>TOGGLE Switch</u>
Channel Scan
Dual Watch
High/Low Power
Talk Around
TX Save Disable
Encryption Disable (only, when using DTMF/Encryption Unit)
Follow-Me Scan
Lock

Understanding Radio Waves
  Radio waves travel from one point to another by several different means. The general term for these methods of wave travel is "propagation". You may know that "short-wave" signals can be propagated over distances of several thousand miles by reflection off of the upper regions of the atmosphere.
  Your hand-held transceiver, on the other hand, operates on the so-called UHF (Ultra-High Frequency) band. On this band, radio waves usually do not reflect off of the atmosphere. Instead, the radio waves behave almost as light: they travel in a straight line, and when they meet a building or obstruction, they go no further in that direction.
  Therefore, it is important that you be as high and free from obstructions as possible to cover the greatest distance when using your radio. If you operate from inside a car or building, any metal around you can absorb much of the signal, both transmitted and received. Coverage may therefore be very poor under those conditions. However, if you must operate from indoors, moving next to a window will improve communications.
In view of the factors just discussed, you can easily see the potential benefit of holding the radio up high near your mouth while transmitting. In this way the antenna is high and clear, and coverage is best.
  On final note regarding propagation is useful in improving coverage. Because radio waves at UHF is similar to light waves, they do reflect, to varying degrees, off of hills, buildings, and the like. In a crowded urban area, with many close buildings close together, many reflections may occur, and interfere with one another, causing variations in signal strength at different locations.
Therefore, if a signal is weak and you walk a few feet in any direction, reception may suddenly become clear, because a particular reflection path may become dominant. Reflections are frequently useful, as they can allow for communications between two stations over a highly obstructed path.

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Accessories & Options

FNB-29AIS	7.2V 1100mAh Ni-Cd Intrinsically safe Battery Pack
FNB-29ALIS	7.2V 1700mAh Ni-Cd Intrinsically safe Battery Pack
VAC-520	Desktop Rapid Charger
PA-23B	AC Adapter for VAC-520
MH-50C7A	Speaker/Microphone
VTP-50	VX-Trunk Unit
F2D-8	2-Tone Decoder
F5D-14	5-Tone Encoder/Decoder
FVP-25	DTMF Pager/Encryption Unit
CT-29	PC Programming Cable (PC side)
CT-70	PC Programming Cable (Transceiver side)
CT-71	PC Programming Cable (CT-29 + CT-70)
CT-72	Clone Cable (Set-to-Set Cloning)
ATU-5D	Antenna
ATU-5EF	Antenna

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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This device complies with Part 15 of the FCC Rules.
Operation is subject to the condition that this device does not cause harmful interference.

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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