VX-350 Series Operating Manual

Controls & Connectors

- LED Indicator
  - Glows Green: Monitor on
  - Blinking Green: Busy Channel (or SQL off)
  - Glows Red: Transmitting
  - Blinking Red: Battery Voltage is low
  - Yellow: Receiving a Selective Call
- Antenna Jack
- Push To Talk (PTT) Switch
- Side1 Switch (Case side)
- Side2 Switch (Case side)
- CH (Channel) Selector
- VOL/PWR knob
- LCD (LCD version only)
- A Key (LCD version only)
- B Key (LCD version only)
- C Key (LCD version only)
- D Key (LCD version only)
- MIC/SP Jack (External Mic/Earphone)
- Speaker
- Internal 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 titling the Belt Clip outward.
- To remove the battery, turn the radio off and remove protective cases. Slide the Battery Pack Latch on the bottom of the radio, and 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 becomes to low, 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)

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SAFETY TRANING INFORMATION

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.

(!) WARNING: This radio generates RF electromagnetic energy during transmit mode. This radio is designed for and classified as Occupational Use Only, meaning it must be used only during the course of employment by individuals aware of the hazards, and the ways to minimize such hazards. This radio is not intended for use by the General Population in an uncontrolled environment.

(!) CAUTION: To ensure that your exposure to RF electromagnetic energy is within the FCC allowable limits for occupational use, always adhere to the following guidelines:

* **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 or by using the VOX headset, model VC-25.
* **DO NOT transmit when the radio is used in Body Worn configuration with the following accessory: belt-clip (CLIP-18).**
   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.**

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to assure that this radio operates with the FCC RF exposures limits of this radio.

Electromagnetic Interference/Compatibility
During transmissions, this radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so.
Do not operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, health care facilities, aircraft, and blasting sites.

FCC LICENSE INFORMATION
This radio operates on communications frequencies which are subject to FCC (Federal Communications Commission) RUles and Regulations. FCC Rules require that all operators using Private Land Mobile radio frequencies obtain a radio license before operating their equipment.

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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.
・ If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the VX-350 series.

Operation Quick Start

・ To turn the top panel's VOL/PWR knob clockwise to turn on the radio on.
・ Turn the top panel's CH selector knob to choose the desired operating channel.
・ Rotate the VOL/PWR knob to set the volume level. If no signal is present, press and hold in the Soft key assigned to MONOTOR for more than 1 second; 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 in the Soft key assigned to MONITOR for more than 1 second (or press the MONITOR key twice) to quiet the noise and resume normal (quiet) monitoring.
・ To transmit, monitor the channel and make sure it is clear.
 THIS IS AN FCC REQUIREMENT!
・ To transmit, press and hold the PTT switch. Speak into the microphone area of the front panel grill (lower right-hand corner) in a normal voice level. To return to the Receive mode, release the PTT switch.
・ If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then insert the plug from the Speaker/Microphone into the MIC/SP jack; secure the plug 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 Functions

The VX-350 series has [side1] key, [side2] key, [A], [B], [C] and [D] function keys, and both the LCD version and non-LCD version provide programmable Side 1 and 2 switches. These "Soft" key functions can be customized (set to other functions), via programming by your VERTEX STANDARD dealer, to meet your communications/network requirements. Some features may require the purchase and installation of optional internal accessories. The possible Soft key programming features is illustrated below, and their functions are explained next chapter. For further details, contact your VERTEX STANDARD dealer.

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

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Functions	Soft Key (Press / Press and hold)					
	[A]	[B]	[C]	[D]	[Side 1]	[Side 2]
Monitor	/	/	/	/	/	/
Squelch Off	/	/	/	/	/	/
Low Power	/	/	/	/	/	/
Lock *	/	/	/	/	/	/
Lamp *	/	/	/	/	/	/
Channel Up *	/	/	/	/	/	/
Channel Down *	/	/	/	/	/	/
Scan	/	/	/	/	/	/
Follow-Me Scan	/	/	/	/	/	/
Dual Watch	/	/	/	/	/	/
Talkaround	/	/	/	/	/	/
Add/Del *	/	/	/	/	/	/
Reset	/	/	/	/	/	/
Speed Dial	/	/	/	/	/	/
Tx Save Off	/	/	/	/	/	/
Call 1	/	/	/	/	/	/
Call 2	/	/	/	/	/	/
Call 3	/	/	/	/	/	/
Code Select *	/	/	/	/	/	/
Code Up *	/	/	/	/	/	/
Code Down *	/	/	/	/	/	/
Emergency	- /	- /	- /	- /	- /	- /
ACC 1	/	/	/	/	/	/
ACC 2	/	/	/	/	/	/
Encryption	/	/	/	/	/	/

* LCD version only

Description of Operating Functions
Monitor
   Press (or press and hold) the assigned Soft key momentarily to disable the Tone squelch.
 Squelch Off
   Press (or press and hold) the assigned Soft key to disable the Noise and Tone squelch.
   Repeatedly press (or press and hold) the assigned Soft key to resume the Noise.
Low Power
   Press (or press and hold) the assigned Soft key to set the radio's transmitter to the "Low Power" mode, thus extending battery life. Press (or press and hold) the assigned Soft key again to return to "High Power" operation when in difficult terrain.
Lock
   Press (or press and hold) the assigned Soft key to lock the Soft keys (except *Lock* key); thus, the [A], [B], [C] and [D] keys can be disabled to prevent radio settings from being disturbed.
Lamp
   Press (or press and hold) the assigned Soft key to illuminate the LCD for five seconds.
Channel Up
   Press (or press and hold) the assigned Soft key to increase operating channel.

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Channel Down
Press (or press and hold) the assigned Soft key to decrease operating channel.
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 signal is present.
・ To activate scanning:
Press (or press and hold) the assigned Soft key.
The scanner will search the channels, looking for active ones; it will pause each time it finds a channel on which someone is speaking.
・ To stop scanning:
Press (or press and hold) the assigned Soft key.
Operation will revert to the channel to which the [CH] knob is set.
Follow-Me Scan
"Follow-Me" 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 nonetheless assign Channel as the "User-assigned" Priority Channel via the "Follow-Me" feature.
Press the assigned Soft key to activate "Follow-Me" scanning, then turn the CH selector knob to the channel which you want to designate as the "User-Assigned Priority Channel" When the scanner stops on an "Active" channel, the User-assigned Priority Channel will automatically be checked every few seconds.
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" channel.
・ To activate Dual Watch:
Press (or press and hold) the assigned Soft key.
The scanner will search the two channels; it will pause each time it finds a channel on which someone is speaking.
・ To stop Dual Watch:
Press (or press and hold) the assigned Soft key.
Operation will revert to the channel to which the [CH] knob is set.
Talk Around
Press (or press and hold) the assigned Soft 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 in nearby. This feature has no effect when you are operating on "Simplex" channels, where the receive and transmit frequencies are already the same.
When the "TA" function is activated, the "<->" icon will be indicated on the display.
Note that your 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.
Add/Del
Add/Del feature can be arranged Scan list by the User.
Press (or press and hold) the assigned Soft keys to delete/restore the current channel to/from you're scanning list. When you delete a current channel, "-SKIP-" will appear on the LCD for one second after pressing the Soft key. When you restore a current channel, "-STOP-" will appear on the LCD for one second after pressing the Soft Key.
Speed Dial
Your Dealer may have pre-programmed Auto-Dial telephone number memories into your radio. To dial a number, just press (or press and hold) the Dealer-assigned Soft key for Speed Dialing. The DTMF tones sent during the dialing sequence will be heard in the speaker.

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TX Save Off
Press (or press and hold) the assigned Soft key to disable the Transmit Battery Saver, if you are operating in a location where high power is almost always needed.
The Transmit Battery Saver helps extend battery life by reducing transmit power when a very strong signal from an apparently nearly station is being received. Under some circumstances, though, your hand-held radio may not be heard well at the other end of the communication path, and high power may be necessary at all times.

Call 1-3/Reset
When the 2-Tone or 5-Tone selective calling system is enabled, press (or press and hold) the assigned Soft key to silence the receiver and reset for another call, when a communication is finished.

Code Select
Press (or Press and hold) the assigned Soft key to enable the changing the 5-Tone Paging code which is recalled by the [Call1] key.

Code Up, Down
Press (or Press and hold) the assigned Soft key to switch to a higher (or lower) paging code number for the 5-Tone Paging System.

Emergency
The VX-350 series includes an "Emergency" feature, which may be useful, if you have someone monitoring on the same frequency as your transceiver's channel. For further details contact your VERTEX STANDARD dealer.

ACC 1 and 2
When the optional unit is installed, these functions are various uses.

Encryption
When the voice scrambler feature is enabled, pressing the assigned Soft key of the "Encryption" toggles the scrambler "on" and "off".

ARTS (Auto Range Transpond System: LCD version only)

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

During ARTS operation, your radio automatically transmits for about 1 second every 55 seconds in an attempt to shake hands with the other station.

If you have out of range for more than two minutes, your radio senses that no signal has been receives, a ringing beeper will sound, and "IN RANGE" will appear on the LCD. If you subsequently move back into range, as soon as the other station transmits, your beeper will sound and "OUT RANGE" will appear on the LCD.

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Accessories & Options

FNB-V95LI	7.4V 2000mAh Li-Ion Battery Pack
FNB-V96LI	7.4V 2000mAh Li-Ion Battery Pack
VAC-300 (CD-34+PA-42B)	Desktop Rapid Charger
VAC-6300	6-Unit Multi Charger
VCM-2	Mobile Mounting Bracket for VAC-300
MH-45B4B	Speaker/Microphone
MH-360S	Speaker/Microphone
MH-450S	Speaker/Microphone
VC-25	VOX Headset
FVP-25	DTMF Pager Unit
FVP-35	Encryption Unit (Rolling code voice scrambler)
FVP-36	Encryption Unit
VME-100	ANI encoder Unit
ATV-8A	Rubber Antenna, 134-151 MHz
ATV-8B	Rubber Antenna, 150-163 MHz
ATV-8C	Rubber Antenna, 161-174 MHz
ATV-6XL	Rubber Antenna, 134-174 MHz, Untuned
ATU-6A	Rubber Antenna, 400-430 MHz
ATU-6B	Rubber Antenna, 420-450 MHz
ATU-6C	Rubber Antenna, 440-470 MHz
ATU-6D	Rubber Antenna, 450-490 MHz
ATU-6F	Rubber Antenna, 485-520 MHz
FIF-10A	USB Programming Interface

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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