

VXA-300 Operating Manual

Introduction

The Vertex Standard VXA-300 is a compact, stylish, solid hand-held transceiver providing communication (transmit and receive) capability on the International Aircraft Communication Band ("COM" band: 118 ~ 136.975 MHz), and it additionally provides VOR and CDI navigation features on the "NAV" band (108 ~ 117.975 MHz). What's more, it also is receiving on the Amateur Radio 144 MHz band.

The VXA-300 provides a 36-mm diameter Loudspeaker which outputs the 0.8 Watts audio power from the internal speaker, and it also provides an 8.33 kHz synthesize step for the newly narrow band channel plan.

The VXA-300 includes Temperature and Supply Voltage display with our exclusive Omni-Glow™ display back-light for minimal degradation of your night vision, NOAA weather band monitoring, 8-character Alpha/Numeric Display, 150 Memory Channels, and 100 "Book Memory" Channels.

We recommend that you read this manual in its entirety, so as to understand the many features of the VXA-300 completely. Keep this manual handy, so you may use it for reference.

NOTE: The VXA-300's VOR and CDI Navigation features are supplemental aids to navigation only, and are not intended to be a substitute for accurate (primary) VOR/CDI or landing service equipment.

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 down-time.

Please take a few minutes to read this manual carefully. The information presented here will allow you to derive maximum performance from your radio, in case questions arise later on. 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.

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.
- Always use Vertex Standard authorized accessories.**

Controls & Connectors (Top Panel)

Antenna Jack

This SMA jack accepts the supplied flexible antenna, or another antenna designed to provide 50 Ω impedance on the Aircraft Communication Band.

MIC/EAR Jack

You may connect the supplied CT-60 Headset Cable or the (optional) MH-44A4B Speaker/Microphone to this jack.

Never connect any Speaker/Microphone that is not recommended by the manufacturer. Because these jack connections are unique, using a Speaker/Microphone that is not specified by Vertex Standard may damage the VXA-300.

POWER/VOLUME (Inner) Knob

Turn this (inner) control clockwise to turn the radio on and to increase the volume. Counterclockwise rotation into the click-stop will turn the radio off.

Pressing this knob downward momentarily selects the tuning methods among the VFO (Variable Frequency Oscillator), MR (Memory Recall), BOOK (Pre-Programmed Memories), and WX (Weather Channel Memories) mode.

Note: The WX mode is available in the USA version only.

DIAL Selector (Outer) Knob

This (outer) 20-position detented rotary switch tunes the operating frequency or selects the memory channels.

Controls & Connectors (Front Panel) BUSY/TX Indicator Lamp

This lamp glows green when a signal is being received and red when transmitting.

Loudspeaker

The internal speaker is located in this position.

Microphone

Speak across this opening in a normal voice level while pressing the PTT switch, to transmit.

LCD (Liquid Crystal Display)

The display shows the selected operating conditions as indicated on the next page.

Keypad

Several keys have triple functions.

The primary functions are labeled on the key top (activated by simply pressing the key momentarily).

The secondary functions are labeled in yellow above the top edge of the key (activated by pressing the [F] key first, then the indicated key).

The third functions are labeled in black above the top edge of the key (activated by press and holding the indicated key for 2 second).

These functions are described in detail on page ??.

Battery Pack Latch

Open this latch for battery removal.

	Primary Function (Press Key)	Secondary Function (Press [F] + key)	Third Function (Press and Hold key)
[1(DVOR)]	Frequency Entry Digit 1	Activates DVOR mode.	None
[2(TO)]	Frequency Entry Digit 2	Activates "TO" VOR mode.	None
[3(FROM)]	Frequency Entry Digit 3	Activates "FROM" VOR mode.	None
[4(CDI)]	Frequency Entry Digit 4	Activates Deviation Indicator mode.	None
[5(TONE)]	Frequency Entry Digit 5	Activates Tone Control mode.	None
[6(TEMP)]	Frequency Entry Digit 6	Displays the Battery Voltage and Current Temperature inside the transceiver's case.	None
[7(SPL)]	Frequency Entry Digit 7	Activates Split (Duplex) mode.	None
[8(TIMER)]	Frequency Entry Digit 8	Activates the Stop watch timer.	None
[9(SKIP)]	Frequency Entry Digit 9	Allows Skipping of Channel during Scan.	None
[0(SQ)]	Frequency Entry Digit 0	Adjusts the Squelch threshold level.	None
[XFER(LOCK)]	Selects Memory Display Type.	Activates the Key Lockout feature.	Selects DVOR Display Type.
[121.5]	Selects Emergency Channel (121.5 MHz).	None	None
[USER]*	Activates the Automatic Noise Limiter during AM reception.	None	Switches the Tone Character of the Tone Control Circuit.
[MW(SPL-W)]	None	Split-Memory "Write" Command.	Memory "Write" Command.
[SCAN(DW)]	Switches the VFO mode "A" and "B."	Activates the Dual Watch feature.	Activates Scanning.
[F]	Activates "Secondary" key mode.	Cancel the "Secondary" key mode of the [F] key.	None

*: The primary and third function of the [USER] key may be customized by user via Menu mode. See page ?? for details.

Controls & Connectors (Left Side)

PTT (Push To Talk) Switch

Press this button to transmit when you are operating in the COM band. Release this button to return to the "Receive" mode. See page ?? for details.

MONITOR Switch

This button may be pressed to "open" the squelch manually, allowing you to listen for very weak signals. Press and hold this button for 2 seconds to "open" the squelch continuously. Press this button again to resume normal (quiet) monitoring. See page ?? for details.

Controls & Connectors (Right Side)

EXT DC Jack

When an external 12-Volt DC power source is available, you may connect the (optional) E-DC-5B External DC Cable here.

Do not connect any wire to this jack if that wire is connected directly to a 28-Volt DC source. Connecting the VXA-300 directly to a source which exceeds 15.0 Volts DC will result in damage to the unit.

Before You Begin

Precautions

- This apparatus is capable of two-way communication on channels used for critical aviation safety communications. Therefore, it is important that this radio be kept away from children or other unauthorized users at all times.
- When making DC connections via the (optional) E-DC-5B DC cable, be absolutely certain to observe the proper voltage level and polarity guidelines. Do not connect this radio directly to any 24 ~ 28 Volt DC source, nor to AC power of any kind. Connecting the VXA-300 directly to a source which exceeds 15.0 Volts DC will result in damage to the unit.
- Do not dispose of the Ni-Cd Battery Pack in a fire. Do not carry a Ni-Cd Battery Pack in your pocket, where keys or coins could short the terminals. This could create a serious fire/burn danger, and possibly cause damage to the Ni-Cd pack.
- Although the VXA-300 is designed to be water resistant, the enclosure is not "waterproof." Do not allow the radio to become submersed in water, and do not expose it and/or its Ni-Cd Battery Pack to water spray under pressure.

Battery 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 lift the battery upward and out from the radio while tilting the Belt Clip upward.

Do not attempt to open any of the rechargeable Ni-Cd packs, as personal injury or damage to the Ni-Cd pack could occur if a cell or cells become accidentally short-circuited.

Battery Charging

It is necessary to fully charge the Ni-Cd battery before its first use. Follow these procedures:

- Install the supplied FNB-64 Ni-Cd battery pack onto the transceiver. Ensure that the transceiver is switched off.
- Plug the NC-?? into the AC line outlet.

- ❑ Insert the transceiver and battery pack into the NC-??; the antenna jack should be at the left side when viewing the charger from the front.
- ❑ If the transceiver and battery pack are inserted correctly, the RED indicator will glow. A fully-discharged pack will be charged completely in 10 hours.

Important Notes:

- The NC-?? is not designed to power the transceiver for operation (reception or transmission).
- Do not leave the charger connected to the transceiver for continuous periods in excess of 24 hours. Long term overcharging can degrade the Ni-Cd battery pack and significantly shorten its useful life.
- If using a charger other than the NC-??, or if using a battery pack other than the FNB-64, follow the appropriate instructions provided with the charger/battery. Contact your Dealer if you have any doubts about the appropriateness of the particular charger or battery pack you intend to use.

Low Battery Indication

- ❑ As your battery discharges during use, the voltage will gradually become lower. When the battery voltage reaches 6.0 Volts, the "BATTERY" icon will blink on the LCD display, indicating that the battery pack must be recharged before further use.
- ❑ Avoid recharging Ni-Cd batteries before the "Low Battery" indicator is observed, as this can degrade the charge capacity of your Ni-Cd battery pack. Vertex Standard recommends that you carry an extra, fully-charged pack with you so you will not lose communications capability due to a depleted Ni-Cd battery. This "Deep cycling" practice will help to maintain longer overall battery life after many recharging cycles.

Installing the FBA-25 (option) Alkaline Battery Case

The optional FBA-25 Battery Case allows operation of the VXA-300 using six "AA" size Alkaline batteries.

When installing batteries, insert the (-) end first, then press in the (+) end so the battery snaps into place. Always replace all six batteries at the same time, paying attention to the polarity indicated inside the case.

The FBA-25 must not be used with rechargeable cells. The FBA-25 does not contain the thermal and over-current protection circuits (provided in the "FNB" series of Ni-Cd Battery Packs) required when utilizing Ni-Cd cells.

Basic Operation

Preliminary Steps

- Install a charged battery pack onto the transceiver, as described previously.
- Screw the supplied antenna onto the Antenna jack. Never operate this transceiver without an antenna connected.
- If you have an optional Speaker/Microphone or headset, we recommend that it not be connected until you are familiar with the basic operation of the VXA-300.

Operation Quick Start

- ❑ To turn the radio on, rotate the (inner) VOLUME knob out of the click-stop.
- ❑ A channel frequency should appear on the display. If not, press downward (momentarily) on the VOLUME knob (repeatedly, if necessary) so that "- VFO -" appears on the display, followed by a channel frequency.
- ❑ Directly entering frequencies from the keypad is the easiest method if you know the frequency on which you wish to operate. Just enter the five digits of the frequency to move to that frequency.

For example, to set 134.35 MHz, press [1] → [3] → [4] → [3] → [5].

To set 118.275 MHz, you do not need to press the final "5" in the frequency:

[1] → [1] → [8] → [2] → [7].

- You may also turn the top panel's (outer) DIAL selector knob to choose the desired operating frequency. The channel frequency will appear on the LCD.
- Rotate the VOLUME knob to set the volume level. If no signal is present, press and hold the MONITOR button for 2 seconds; background noise will now be heard, and you may use this noise to set the VOLUME knob for the desired audio level. Press the MONITOR button momentarily to silence the noise and resume normal (quiet) monitoring.
- To turn the radio off, turn the VOLUME knob fully counter-clockwise into the click stop position.

Squelch Adjustment

- Press the [F] key momentarily, then press the [0(SQ)] key. This instantly recalls Menu Item 01 "SQL" which adjusts the threshold level of the squelch circuit.
- Rotate the DIAL selector knob to set the squelch threshold (0 to 8) so that the receiver is just silenced. A higher number indicates that a higher signal level is required in order to open the squelch.
- Press downward on the VOLUME knob to save your new setting.
- Press the PTT switch to exit the Menu ("SET") mode.

Accessing the 121.5 MHz Emergency Frequency

The VXA-300 can quickly access the 121.500 MHz Emergency Frequency. This function can be activated even when the keypad lock function (described on page ??) is in use.

- To access the Emergency Frequency, press the [121.5] key momentarily.
- To exit the Emergency Frequency, press downward on the VOLUME knob.

Transmission

- To transmit, press and hold the PTT switch. Speak into the microphone area of the front panel grille in a normal voice level.
- To return to the receive mode, release the PTT switch.

Advanced Operation

Tuning Methods

Throughout this manual, you will see references to several different frequency setting methods. Each will be particularly useful in a particular operating situation, and they are described below:

- VFO (Variable Frequency Oscillator)
The VFO is a "Tuning dial" system which allows you to tune through the NAV, COM or 2-m Amateur bands using the DIAL selector, the Keypad, or the scanner.
- MR (Memory Recall)
The MR (Memory Recall) mode of the VXA-300 provides the user with the ability to store and recall as many as 150 channels in the radio's main memory bank. These memory channels may also be labeled by you with an alpha/numeric name of up to 8 characters in length, to aid in quick identification of the channel. See page ?? for details on creating alpha/numeric labels.
- BOOK (Pre-Programmed) Memories
The Book memories are pre-programmed, either at the factory or by your Dealer (depending on your country's requirements), typically including the major COM and NAV band station frequencies used in your area. The Book memories can be changed by the user. See page ?? for details.
- WX (Weather Channel) Memories (USA version only)
Ten Weather Channels are pre-programmed at the factory. The VXA-300 will

automatically scan this special bank when it is selected by the user.

Reception of Weather Channel Broadcasts (USA version only)

The VXA-300 can receive VHF Weather Channel broadcasts, which may assist your flight planning. The VXA-300 includes a ten-channel auto-search feature, which simplifies access to Weather Channels when you are in an unfamiliar location.

- To receive Weather Channels, press the VOLUME knob (repeatedly, if necessary) to select the Weather Channel mode. In the Weather Channel mode, “- WX -” will appear on the display.
- The VXA-300 will now scan quickly through the ten standard Weather Channels, and will stop on the first active station found.
- If there are two or more weather channels audible in your area, you may select the alternate channel(s) by pressing the PTT switch. Pressing the PTT switch re-initiates the scanning process.
- If there are no Weather Channels in your area, the scanner will not stop. Press the MONITOR button to stop the scanner.
- You can also select Weather Channels manually by rotating the DIAL selector knob.
- To confirm the current Weather Channel frequency, press the [XFER(LOCK)] key momentarily. The display changes to frequency indication. Press the [XFER(LOCK)] key again to return to normal display.
- To exit the Weather Channel mode, press the VOLUME knob momentarily to return to the VFO mode.

Note 1: In the event of extreme weather disturbances, such as storms and hurricanes, the NOAA (National Oceanic and Atmospheric Administration) sends a weather alert accompanied by a 1050 Hz tone and subsequent weather report on one of the NOAA weather channels. You may setup the Alert function when receiving the Weather Alert signal via Menu Item 20 “WXAF,” if desired. See page ?? for details.

Note 2: The Weather Channel mode memorizes the last Weather Channel you have used, and will retain this information until the radio is turned off.

Monitor Key

When listening to a very weak signal from an aircraft or ground station, you may observe the signal disappearing periodically as the incoming signal strength becomes too weak to override the squelch threshold setting.

To disable the squelch temporarily, press and hold the MONITOR key for 2 seconds on the left side of the radio, just below the PTT button. The squelch will remain open and you should have a better chance of hearing weak signals.

To return to normal operation, press the MONITOR key momentarily.

ANL (Automatic Noise Limiter) Feature

For reduction of impulse noise, such as that produced by an engine’s ignition system, the ANL feature may prove helpful. The ANL feature is only activated in the AM mode.

- To activate the ANL feature, press the [USER] key momentarily. The “ANL” icon will appear on the display, and you should observe a reduction in the ignition noise.
- To turn the ANL feature off, repeat the above step; the “ANL” icon will disappear from the display.

Temperature/Battery Voltage Display

The VXA-300 can measure the current temperature inside the transceiver’s case and current battery voltage.

- To display these items, press [F] → [6 (TEMP)].
- The display will now indicate the current temperature inside the transceiver’s case or current battery voltage.

Press the VOLUME knob to switch the display between “current temperature” and

- “current battery voltage.”
- When the VXA-300 display “current temperature,” pressing the [XFER(LOCK)] key to switch the temperature unit between “Celsius: °C” and “Fahrenheit: °F.”
 - To return to the normal operation, press [F] → [6 (TEMP)] again.
- If the temperature display is incorrectly, it can be re-calibrated via Menu Item 14 “TEMP.” See page ?? for details.

LOCK Function

The lock function prevents accidental changes to the frequency setting and the keypad controls.

- To activate the lock feature, press [F] → [XFER(LOCK)].
- In the LOCK mode, the display will show “- LOCK -” when you rotate the DIAL selector knob, press the VOLUME knob, or touch a key on the keypad.
- To turn the lock feature off, press [F] → [XFER(LOCK)] again.
- You can still access the 121.500 MHz Emergency Frequency when the LOCK function is on.
Simply press the [121.5] key momentarily (this key *never* locks). Pressing this key also unlocks the radio.

You may choose the lockout combination to your desired. See page ?? for details.

Receive Battery Saver Setup

An important feature of the VXA-300 is its Receive Battery Saver, which “puts the radio to sleep” for a time interval, periodically “waking it up” to check for activity. If somebody is talking on the channel, the VXA-300 will remain in the “active” mode, then resume its “sleep” cycles. This feature significantly reduces quiescent battery drain, and you may change the amount of “sleep” time between activity checks using the Menu System:

- Press the [F] key, then press the VOLUME knob to activate the Menu (“SET”) mode.
- Rotate the DIAL selector knob to select Menu Item 06 “RSAV.”
- Press the VOLUME knob to enable adjustment of this Menu item.
- Rotate the DIAL selector knob to select the desired “duty cycle” (receive:sleep). The selections available are 1:1, 1:2, 1:3, 1:4, 1:5, and ABS* or oFF. The default value is 1:1.
- When you have made your selection, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.

*ABS: Automatic Battery Saver, based on activity on the receiver.

The setting of 1:5 will promote the greatest conservation of battery capacity, but the receiver’s response time to incoming calls will be slowed somewhat.

Note: This feature does not operate during Scan or Dual Watch.

Beep On/Off

The VXA-300’s key/button beeper provides convenient audible feedback whenever a button is pressed. Each key and button has a different beep pitch, and each function has a unique beep combination.

When you are scanning, the beeper will be heard each time the scanner halts on a busy channel. This may be distracting in some environments; if you want to turn the beeper off (or back on again):

- Press the [F] key, then press the VOLUME knob to activate the Menu (“SET”) mode.
- Rotate the DIAL selector knob to select Menu Item 05 “BEEP.”
- Press the VOLUME knob to enable adjustment of this Menu item.
- Rotate the DIAL selector knob to select the desired “beeper.” The selections available are on, DTM, and oFF.
on: Sounds a beep corresponding to a musical note.
DTM: Sounds a beep corresponding to a DTMF tone.
oFF: Disables the key beeper.
- When you have made your selection, press the VOLUME knob to save the new setting,

and then press the PTT key exit to normal operation.

Changing the Channel Step

The VXA-300's synthesizer provides the option of utilizing channel steps of 8.33/25 kHz per step for the NAV and COM bands, and 5/10/12.5/15/20/25/50 kHz per step for the 2 m amateur band.

The VXA-300 is set up the default channel step to "25 kHz" (NAV, COM and 2 m amateur bands). If you need to change the channel step increments the procedure to do so is very easy.

- Press the [F] key, then press the VOLUME knob to activate the Menu ("SET") mode.
- Rotate the DIAL selector knob to select Menu Item 30 "STEP."
- Press the VOLUME knob to enable adjustment of this Menu item.
- Rotate the DIAL selector knob to select the new channel step size.
- When you have made your selection, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.

Important Note

- 1) When you select the channel step to 8.33 kHz in the NAV and COM band, the channel display differs from actual operating frequency, see below chart. However, the operator (pilot, tower, control, etc) call the frequency by the display .

Operating Frequency	Display	
	8.33 kHz Step	25 kHz Step
1xx.0000 MHz	1xx.005 MHz	1xx.000 MHz
1xx.0083 MHz	1xx.010 MHz	
1xx.0166 MHz	1xx.015 MHz	
1xx.0250 MHz	1xx.030 MHz	1xx.025 MHz
1xx.0333 MHz	1xx.035 MHz	
1xx.0416 MHz	1xx.040 MHz	
1xx.0500 MHz	1xx.055 MHz	1xx.050 MHz
1xx.0583 MHz	1xx.060 MHz	
1xx.0666 MHz	1xx.065 MHz	
1xx.0750 MHz	1xx.085 MHz	1xx.075 MHz
1xx.0833 MHz	1xx.085 MHz	
1xx.0916 MHz	1xx.090 MHz	

When you select the channel step to 8.33 kHz in the NAV and COM band, "□" icon will appears in the display.

- 2) The 8.33 kHz step allows to receive function only, transmit function is disabled.
- 3) The adjacent channel selectivity is grown to worse while receiving the signal by the 8.33 kHz channel step.

Tone Control

The VXA-300 provides/choose four receiver audio responses to allows most comfortable listening.

- Press the [F] key momentarily, then press the [5(TONE)] key. This instantly recalls Menu Item 31 "EQLZ" which is selects the receiver audio responses of radio.
- Rotate the DIAL selector knob to select desired receiver audio response. Available selections are:
 - OFF: The receiving audio signal does not passes through the equalizer circuit.
 - MD1:
 - MD2:
 - MD3:
 - USER: The receiving audio signal passes through the user customized equalizer circuit which is made up the audio response via Menu Item 26 "UT_L," 27 "UT_M," and 28 "UT_H."
- When you have made your selection, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.

VOX Operation

The VOX system provides automatic transmit/receive switching based on voice input to the microphone. With the VOX system enabled, you do not need to press the PTT key in order to transmit, and it is not necessary to use a VOX headset in order to utilize VOX operation.

- Press the [F] key, then press the VOLUME knob to activate the Menu ("SET") mode.
- Rotate the DIAL selector knob to select Menu Item 21 "VOX."
- Press the VOLUME knob to enable adjustment of this Menu item.
- Rotate the DIAL selector knob to select "on" (to enable the VOX system).
- When you have made your selection, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.
- Without pressing the PTT key, speak into the microphone in a normal voice level. When you start speaking, the transmitter should be activated automatically. When you finish speaking, the transceiver should return to the receive mode (after a short delay).
- To cancel VOX and return to PTT operation, just repeat the above procedures, selecting "off" in step 4 above.

When the VOX system is activated, the **V** icon will appear on the display.

The VXA-300 provides for adjustment of the VOX Gain via the Menu, to prevent accidental transmitter activation in a noisy environment. To set a VOX Gain:

- Press the [F] key, then press the VOLUME knob to activate the Menu ("SET") mode.
- Rotate the DIAL selector knob to select Menu Item 23 "VSNS."
- Press the VOLUME knob to enable adjustment of this Menu item.
- While speaking into the microphone, rotate the DIAL selector knob to the point where the transmitter is quickly activated by your voice, without causing background noise to activate the transmitter.
- When you have selected the optimum setting, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.

The VXA-300 also provides for adjustment of the "Hang-Time" of the VOX system (the transmit-receive delay after the cessation of speech) via the Menu. The default delay is 0.1 second. To set a different delay time:

- Press the [F] key, then press the VOLUME knob to activate the Menu ("SET") mode.
- Rotate the DIAL selector knob to select Menu Item 22 "VDLY."
- Press the VOLUME knob to enable adjustment of this Menu item.
- Rotate the DIAL selector knob to select the delay time among "05," "10," "15," and "20" (x0.1 sec).
- When you have made your selection, press the VOLUME knob to save the new setting, and then press the PTT key exit to normal operation.

PA Operation

The PA mode allows the VXA-300 to be used as a Public Address System when an optional MH-44A4B Microphone is connected.

Note: If you wish to operate the PA mode, change the [USER] key assignment to the "PA" item, at first. See page ?? for detail.

- Press (or Press and hold) the [USER] key to activate the PA mode.
- Press the microphone's PTT switch to speak through the VXA-300 internal speaker. The "Course Deviation Needle" defect accordance with the voice level. Rotate the VOLUME knob to control the AF output level.
- To exit the PA mode, press (or Press and hold) the [USER] key again.

Memory Operation

The VXA-300 provides 150 user-programmable “Main” memories, labeled “CH-001” through “CH-150,” and up to 100 pre-programmed memories, designated “Book” Memories. The “BOOK” icon appears when “Book” Memory Mode is activated.

The Main memories and “Book” Memories can be assigned alpha-numeric names of up to eight characters.

Memory System Operation

The VXA-300’s Main Memory system allows the user to store, label, and recall channel frequencies which you may want to use frequently. You may store VFO frequencies, Book Memory frequencies, and/or Weather Channel frequencies (USA version only) into the Main Memory system.

Memory Storage

- Select the desired frequency in the VFO mode, or recall the Book Memory channel or Weather channel to be stored in the Main Memory.
- Press and hold the [MW(SPL-W)] key for 2 seconds. The display will indicate “CH-XXX” and a channel number will blink on the LCD.
- Within five seconds of pressing the [MW(SPL-W)] key, rotate the DIAL selector knob to select the desired memory channel number for storage.
In order to prevent writing over memory channels, a under bar will appear under the hyphen (located between “CH” and the channel number) to indicate a vacant memory channel.
- Now press and hold in the [MW(SPL-W)] key for 2 seconds; you will now see “A - - - - -” on the LCD. To attach an alpha/numeric name (label) to the memory, proceed to the next step; otherwise press and hold [MW(SPL.W)] for 2 seconds to save the entry and exit.
- To label a memory with an alpha/numeric name, the next step is to use the DIAL selector knob to select any of the 48 available characters (including letters, numbers, and special symbols). When the desired first character appears, press the VOLUME knob momentarily to move on to the next character.
- Select succeeding characters in the same manner, pressing the VOLUME knob momentarily after each selection.
- After entering the entire name (eight characters maximum), press the [MW(SPL-W)] key for 2 seconds to save all data for the channel and exit.

Note: If you have stored a Weather Channel, the “WX-001 ~ WX-010” labels utilize the alphanumeric memory, and other labels may not be stored.

Recalling the Memories

- Press the VOLUME knob, repeatedly if necessary, until “- MR -” (Memory Recall) appears on the display. In the MR mode, you will see “CH-” and the previously selected channel number appearing on the LCD.
- Rotate the DIAL selector knob to select the desired memory channel.
- You may change the title structure of the Memory display type among:
 1. Channel Indication (sequential Channel Number, e.g. CH-001, CH-002, etc.);
 2. Frequency Indication (e.g. 122.500); or
 3. Alphanumeric Label (e.g. LAX FSS).
- To change the Memory display title, press the [XFER(LOCK)] key repeatedly, if necessary, until you get the desired display title structure.
- To exit the Memory mode, press the DIAL selector knob three times to return to the VFO mode.

Note: In either the “MR” or the “Book” Memory mode, an easy way to recall memories is to key in the memory channel number, then press the [SCAN(DW)] key. For example, to recall memory channel #14, press [1] → [4] → [SCAN(DW)].

Scanning Operation

The VXA-300 allows you to scan automatically in the VFO*¹, Main Memory, “Book” Memory, or Weather Channel*² modes. It pauses on signals encountered, so you can talk to the station(s) on that frequency, if you like.

*1: In the VFO mode, the automatic scanner is only available in the COM band (118.000 - 136.975 MHz); when the scanner reaches the uppermost frequency in the COM band, it will revert to the bottom end of the COM band and repeat the scanning process until you cancel the scanning process.

*2: USA version only.

If you wish to scan in the NAV band (108.000 - 117.975 MHz), you can do so manually, as described at the right.

Scanning operation is basically the same in each of the above modes.

- Press and hold the [SCAN(DW)] key for 2 seconds to start the automatic scanner upward (toward a higher frequency or a higher channel number).
- When the scanner encounters a signal, scanning pauses and the radio remains on that channel until one second after the signal disappears, after which scanning will resume.
- While the scanner remains paused on a frequency, the decimal point of the frequency display blinks. The display will be illuminated unless the Scan Lamp Feature is turned off.
- To change the scan direction, turn the DIAL selector knob one click in the opposite direction.
- To stop the automatic scanner, press the PTT switch or the VOLUME knob momentarily. You may also just press the [SCAN(DW)] key.

The VXA-300’s automatic scanner is not operational in the NAV band (108.000 - 117.975 MHz), because the NAV stations (ILS, etc.) transmit constantly (thereby causing the scanner to stop repeatedly). However, you can scan manually in the NAV band, per the following procedure:

- Press and hold the [SCAN(DW)] key to start the manual scanner. Scanning will continue as long as the key is depressed.
- Release the [SCAN (DW)] key to stop the manual scanner immediately.

Note: When scanning upward in frequency, when the frequency reaches the COM Band (118.000 - 136.975 MHz) via manual scanning, The VXA-300 will switch to the automatic scanner mode.

Channel-Skip Scanning

Continuous-carrier stations like ATIS (Automatic Terminal Information Service) or Weather Broadcast stations inhibit scanner operation. Since these stations are always active, the scanner will be halted repeatedly on their channels. Such channels can be set to be “skipped” during Memory scanning (MR, Book or WX modes), if you like, so as not to interfere with automatic channel scanning:

- Recall the Memory Channel to be skipped during scanning.
- Press [F] → [9(SKIP)]. The “SKIP” icon will appear at the upper right of the channel number, indicating that the channel is to be ignored during scanning.
- You can also designate a channel to be skipped while scanning. When the receiver is halted on a channel that you wish to skip, press and hold the [SCAN(DW)] key for 2 seconds (the “SKIP” icon will appear next to the channel to be skipped).
- Later, to re-enable the memory channel for scanning, repeat the first two steps. The “SKIP” icon will disappear by the channel you have just re-enabled.

Note: A memory set to be “skipped” is still accessible for manual memory selection using the DIAL selector knob.

Dual Watch Operation

The Dual Watch feature automatically checks for activity on a “priority” channel* while you are operating on another channel. During Dual Watch operation, the current channel and the Priority channel will each be polled for a 500 ms interval, as the VXA-300 looks for activity on each channel.

- To start Dual Watch, press [F] → [SCAN(DW)].
- The “DW” icon will appear on the display.
- While receiving on the “current” channel (not the Priority channel), you may push the PTT switch at any time to transmit on that channel.
- When a signal is received on the Priority channel, operation immediately shifts to the Priority channel, the “DW” icon will blink, and the display will become illuminated.
- While receiving on the priority channel, if you momentarily press the PTT switch, Dual Watch will be disabled. You may then transmit on the Priority Channel.
- To stop Dual Watch, press [F] → [SCAN(DW)].
- If you wish, you may use both the Dual Watch and Scan features simultaneously. To do this, start the Dual Watch first, then start the Scanner.

*: The “priority” Channel is defined as the last-used Memory Channel (when using the VFO mode) or Memory Channel 1 (when using the Main Memory or Book Memory modes).

Priority Dual Watch Operation

Similar to Dual Watch operation (described on previous page), Priority Dual Watch is an enhanced version which includes the following additional features:

- The receiving time interval (ratio) between the current channel and the Priority channel may be customized via the Menu Item 09 “PRTM.” See page ?? for details.
- Irrespective of which channel is currently being received, when the PTT button is pushed transmission will always occur on the Priority channel.

Before initiating Priority Dual Watch, Menu Item 10 “DWMD” must be set to the “PRI: Priority” mode (instead of “DW: Dual Watch”). See page ?? for details.

- To start Priority Dual Watch, press [F] → [SCAN(DW)]. The “DW” icon will appear on the display.
- While receiving on the “current” (non-Priority) channel, pressing the PTT button once causes the radio to switch to the Priority channel and cancels Dual Watch. Press the PTT button again to transmit on the Priority channel.
- When a signal is received on the Priority channel, reception immediately shifts to the Priority channel, the “DW” icon will blink, and the display will become illuminated unless the Scan Lamp Feature is turned off.
While receiving on the priority channel, if you momentarily press the PTT switch, Priority Dual Watch will be disabled. You may then transmit on the Priority Channel.
- To stop Priority Dual Watch, press [F] → [SCAN(DW)].

VOR Navigation

To Select the DVOR Mode

- When entering the NAV band (108.000 - 117.975 MHz), the VXA-300 selects the DVOR mode automatically. The “Course Indicator” field will appear at the upper left corner on the display, and the “TO” or “FROM” indicator will appear below the “Course Indicator” field on the display.
Note: The “Course Indicator” indicates “- - -” when either your aircraft is too far away from the VOR station or the frequency is not correctly set to that of the VOR station. Conversely, the “Course Indicator” will indicate “Loc” when a localizer signal is being received.
- The “TO” or “FROM” flag indicators indicate whether the VOR navigation information is

- based on a course leading to the VOR station or leading away from the VOR station.
- ❑ To change the flag from “TO” to “FROM” or vice versa, press the [F] → [3(FROM)] or [2(TO)] key, respectively.
 - ❑ The small “Course Indicator” and “TO/FROM” flag indicators may be toggled to the larger “Frequency” portion of the display. To do this, press and hold in the [XFER(LOCK)] key for 2 seconds to toggle to the larger display area. Press the [XFER(LOCK)] key momentarily again to return to the smaller displays.

Flying to a VOR Station

The VXA-300 can indicate the deviation from the direct course to a VOR station.

- ❑ Select a VOR station on your aeronautical chart and turn the DIAL selector knob (or enter the frequency directly with the keypad) to the frequency of the VOR station.
- ❑ To indicate the deviation between your current flight path and the desired course, press [F] → [4(CDI)] to change to the CDI (Course Deviation Indicator) mode. The “Course Deviation Arrow” will appear above the frequency field on the display when your aircraft is off the direct course to the VOR station.
- ❑ When your aircraft is off course to the **right**, the Course Deviation Arrow display will show bars to the left side of the diamond (“||□”). When your aircraft is off course to the left, the Course Deviation Arrow display will show bars to the right side of the diamond (“□||”). Correct your course until no bars appear on either side of the CDI “Diamond” (only “□”) will be visible when the heading is correct).
- ❑ To return to the DVOR mode, press [F] → [1(DVOR)].

Entering a Desired Course

The VXA-300 can also be configured to indicate the deviation from the desired course, not only the deviation from the path to the VOR station.

- ❑ Set the frequency to the desired VOR station.
- ❑ To change the “TO” or “FROM” flag to “TO,” if it is not in that mode already.
- ❑ Press [F] → [4(CDI)] key to change to the CDI mode.
- ❑ Set the desired course to the VOR station using the DIAL selector knob or keypad (three digits input; e.g. 47°, press [0] → [4] → [7]).

Note 1: The (“||□”) or (“□||”) indication will appear on the display when your aircraft is off the desired course.

Note 2: When your heading is correct, the ABCS function may be more useful than the course input option.

- ❑ The Course Deviation Arrow points to the right when your aircraft is off course to the left, and it points to the left when your aircraft is off course to the right.

Note 1: To get back on course, fly right more than the number of degrees indicated by the Course Deviation Arrow.

Note 2: If the overflow indicator “ ” appears on the right side, select a heading plus 10 degrees to the desired course; if the overflow indicator “ ” appears on the left side, select a heading minus 10 degrees.

ABCS Mode

In the CDI mode, the Auto Bearing Center System (ABCS) adds or subtracts the number of degrees indicated by the CDI from the Omni Bearing Selector (OBS).

Position Cross-checking

- ❑ Select two VOR stations on your aeronautical chart.
- ❑ Set the frequency of one of the VOR stations in the DVOR mode. The course indicator will show the course deviation from the VOR radial. Note the radial you currently are on.
- ❑ Now set the frequency of the other VOR station in the DVOR mode. Note the radial from the station you are on.

- ❑ Extend the radials from each VOR station on the chart. Your aircraft is located at the point where the lines intersect.

Split Operation

The split operation feature allows you to transmit a call to a Flight Service Station using the COM band frequencies, while receiving a VOR station (in the NAV band). VOR stations equipped with this capability typically are shown, on navigation charts, with the voice calling frequency in parenthesis above the navigation frequency.

Programming a Transmit Frequency

- ❑ Press the VOLUME knob, repeatedly if necessary, to select the VFO mode.
- ❑ Set a NAV band (108.000 - 117.975 MHz) frequency using the DIAL selector knob or keypad.
- ❑ Press [F] → [MW(SPL-W)]. The “SPL” icon will blink, and the transmit frequency will appear on the display.
- ❑ Now set your radio’s transmit frequency, where the Flight Service Station will be listening for calls, using the DIAL selector knob or keypad.
- ❑ Press and hold in the [MW(SPL-W)] key for 2 seconds to save the transmit frequency and return to the NAV band frequency.

Note: You have now stored the separate transmit frequency, but you have not yet activated the split-frequency function; go on to the next section.

Operating in the Split Mode

- ❑ It is assumed that you have already set the desired VOR station’s frequencies (in the NAV band) per the above instructions.
- ❑ Press [F] → [7(SPL)] to turn on the “Split” function. The “SPL” icon will appear on the display.
- ❑ Press and hold in the PTT switch to transmit on the split transmit frequency.
- ❑ Release the PTT switch to return to the receive mode.
- ❑ To disable the “Split” function, press [F] → [7(SPL)] again.

Note: A split frequency can be programmed into each memory channel independently. Set a transmit frequency before programming the memory channel, if desired. The split function on/off setting can also be programmed into a memory channel.

Field Programming Mode

The VXA-300’s Book Memories also allow the user to store, label, and recall channel frequencies which you may want to use frequently while the VXA-300 is in the Field Programming mode.

Memory Storage into the Book Memory

- ❑ Press and hold the PTT and VOLUME knob while turning the radio on, to activate the Field Programming Mode.
- ❑ Select the desired frequency to be stored in the Book Memory.
- ❑ Press and hold the [MW(SPL-W)] key for 2 seconds. The display will indicate “-BOOK –” and a channel number will blink on the LCD.
- ❑ Within five seconds of pressing the [MW(SPL-W)] key, rotate the DIAL selector knob to select the desired memory channel number for storage.
- ❑ Now press and hold in the [MW(SPL-W)] key for 2 seconds; you will now see “A - - - - -” on the LCD. To attach an alpha/numeric name (label) to the memory, proceed to the next step; otherwise press and hold the [MW(SPL-W)] key for 2 seconds to save the entry and exit.
- ❑ To label a memory with an alpha/numeric name, the next step is to use the DIAL selector knob to select any of the 48 available characters (including letters, numbers, and special

symbols). When the desired first character appears, press down on the VOLUME knob momentarily to move on to the next character.

- Select succeeding characters in the same manner, pressing down on the VOLUME knob momentarily after each selection.
- After entering the entire name (eight characters maximum), press the [MW(SPL-W)] key for 2 seconds to save all data for the channel.
- Repeat this procedure to store additional frequencies into the Book Memory section, as desired.
- Turn the radio off, then turn the radio back on again to begin normal operation.

Menu ("Set") Mode

The Menu system allows certain aspects of your radio's configuration to be customized for your personal operating convenience. We do not recommend that any of the default settings be changed, however, until you are thoroughly familiar with the operation of the VXA-300.

1. Press the [F] key, then press the VOLUME knob to activate the Menu ("SET") mode.
2. Rotate the DIAL selector knob to select the Menu item (feature) you wish to view and/or modify.
3. Once you have selected the desired Menu Item, press the VOLUME knob once to enable adjustment of this Menu item. The current setting value will be blinking.
4. Rotate the DIAL selector knob to change the setting of the item ("on" to "off," etc.).
5. Press the VOLUME knob to save your new setting.
6. If you need to change more than one Menu item, repeat steps 2 - 5.
7. Press the PTT switch to exit the Menu ("SET") mode.

MENU Listing

A listing of the Menu items available via the SET mode may be found below.

01 [SQL]

Function: Squelch Level Setting.

Available Values: 0 ~ 8

Default Setting: 6

Select a setting for this Menu item which just silences the receiver when no signal is present. Use the lowest setting which will keep the receiver quiet between incoming transmissions.

02 [MCLR]

Function: Memory Channel Clear ("MR" memory only).

To clear a Memory channel:

- Select the Menu Item MCLR.
- Press the VOLUME knob, then rotate the DIAL selector knob to recall the memory channel to be erased.
- Press the VOLUME knob to clear the Memory channel (Memory channel number will return to "001").

Important Notice: An "erased" channel cannot be restored, and "CH-001" cannot be erased, as it is used for "Priority Channel" operation.

03 [RESM]

Function: Scan-Resume Mode Setting.

Available Values: 5S/CAR

Default Setting: 5S

"5S" (5-Second Pause) mode: the scanner will halt for five seconds only, after which scanning will resume (whether or not the other station is still transmitting).

"CAR" (Carrier Drop) mode: the scanner will remain halted for as long as there is a carrier present on the channel; after the carrier drops at the end of the other station's transmission, the scanning will resume.

04 [SCNL]

Function: Scan Lamp On/Off (while paused).

Available Values: on/oFF

Default Setting: on

If you set this function to “on,” the lamp will be illuminated whenever the scanner pauses. The lamp will go off automatically when scanning resumes.

05 [BEEP]

Function: Keypad Beeper On/Off.

Available Values: on/DTM/oFF

Default Setting: on

on: Sounds a beep corresponding to a musical note.

DTM: Sounds a beep corresponding to a DTMF tone.

off: Disables the key beeper.

If you do a lot of scanning, you may wish to set this Menu item to “oFF,” as the Beeper will be heard each time the scanner pauses.

06 [RSAV]

Function: Selects the Receive-mode Battery Saver “sleep” ratio.

Available Values: 1:1 ~ 1:5/oFF/ABS*

Default Setting: ABS

The setting of 1:5 will promote the greatest conservation of battery capacity, but the receiver’s response time to incoming calls will be slowed somewhat.

*ABS: Automatic Battery Saver, based on activity on the receiver.

Note: This feature does not operate during Scan or Dual Watch.

07 [LAMP]

Function: Display and Keypad Illumination Mode.

Available Values: KEY/oFF/CNT

Default Setting: KEY

“KEY” mode: The illumination lamp will be activated for 5 seconds when any front panel key, VOLUME knob, and DIAL knob is operated.

“oFF” mode: Disables the illumination lamp.

“CNT” mode: Illuminates the Display/Keypad continuously.

08 [SFT]

Function: CPU Clock Shift.

Available Values: on/oFF

Default Setting: oFF

This function is only used to move a spurious response “birdie” should it fall on a desired frequency. Consult your Vertex Standard dealer for details regarding this function.

09 [PRTM]

Function: Selects the Priority Checking Time.

Available Values: 05/10/15/20/25/30 (x0.1 sec)

Default Setting: 20 (2 seconds)

This Menu item allows you to define how often the Priority Channel will be checked for activity.

Note: The Dual Watch Polling time is 500 mS (fixed).

10 [DWMD]

Function: Selects the Dual Watch/Priority Function.

Available Values: DW/PRI

Default Setting: DW

“DW” mode: The VXA-300 will activate the Dual Watch feature when you press [F] → [SCAN(DW)].

“PRI” mode: The VXA-300 will activate the Priority feature when you press [F] → [SCAN(DW)].

11 [POBP]

Function: Select the Power on Beep.

Available Values: MD1/MD2/MD3/oFF
Default Setting: MD1

12 [IMIC]

Function: Internal Microphone On/Off.
Available Values: on/oFF
Default Setting: oFF

This controls the status of the radio's internal microphone when an external microphone (such as the MH-44A4B Speaker Microphone or an aviation headset connected via the CT-60 Headset Cable) is in use. In most applications, set 12 [IMIC] to "oFF" for proper operation (this disables the internal microphone). The internal microphone will still function normally when the external microphone is disconnected.

13 [EMRG]

Function: Emergency channel On/Off.
Available Values: on/oFF
Default Setting: on

This controls the operation of the Emergency [121.5] key. When set to "oFF," this key will not function. You can still use the frequency 121.5 MHz either by entering it on the keypad in the VFO mode, or by recalling it on a previously-stored memory channel.

14 [TEMP]

Function: Correcting the thermometer setting.
Available Values: -127 ~ +127 (x0.1 °C)
Default Setting: 000 (°C)

This allows you to calibrate the internal thermometer with a known-to be-accurate source.

15 [UNIT]

Function: Selects the measurement units for the temperature sensor.
Available Values: °F/°C
Default Setting: °F

16 [TOT]

Function: Setting of the Time-Out Timer countdown time.
Available Values: 1/3/5/oFF (minute)
Default Setting: oFF

The Time-Out Timer shuts off the transceiver after continuous transmission exceeds the programmed time.

17 [DIMM]

Function: Setting of the display brightness level.
Available Values: LV1 ~ LV4
Default Setting: LV3

18 [KEY1]

Function: Programming the primary (momentary press mode) [USER] key assignment.
Available Values: no/ANL/PA/EQ
Default Setting: ANL
See page ?? for details.

19 [KEY2]

Function: Programming the third (press and hold mode) [USER] key assignment.
Available Values: no/ANL/PA/EQ
Default Setting: EQ
See page ?? for details.

20 [WXAF]

Function: Selects the Alert functions when receiving the Weather Alert Signal on the WX channel.

Available Values: BP/LED/B+L/oFF

Default Setting: oFF

BP: Sounds a loud beep when receiving the Weather Alert Signal.

LED: Flashes the BUSY/TX indicator when receiving the Weather Alert Signal.

B+L: Sounds a loud beep and flashes the BUSY/TX indicator when receiving the Weather Alert Signal.

oFF: Disable the Alert function.

21 [VOX]

Function: Enables/disables the VOX operation.

Available Values: on/oFF

Default Setting: oFF

22 [VDLY]

Function: Selects the VOX delay (“hang”) time.

Available Values: 05/10/15/20 (x0.1 sec)

Default Setting: 10 (x0.1 sec)

23 [VSNS]

Function: Sets the VOX sensitivity.

Available Values: 0 ~ 255

Default Setting: 127

24 [HPLV]

Function: Sets the Headphone audio level.

Available Values: 0 ~ 7

Default Setting: 6

25 [PASP]

Function: Enables/disables the External Speaker while operating on the PA function.

Available Values: on/oFF

Default Setting: oFF

26 [UT_L]

Function: Selects the low-frequency audio response for the user customized tone control of the audio amplifier in the receiver.

Available Values: +/-/oFF

Default Setting: oFF

27 [UT_M]

Function: Selects the audio response .

Available Values: +/-/oFF

Default Setting: oFF

28 [UT_H]

Function: Selects the audio response .

Available Values: +/-/oFF

Default Setting: oFF

29 [LOCK]

Function: Selects the control locking lockout combination.

Available Values: K/KD/P/PD/PK/PKD/D

Default Setting: KD

K: Keypad (includes pressing the VOLUME knob function), D: DIAL knob, P: PTT switch

30 [STEP]

Function: Selects the synthesizer step on the Air band.

Available Values: 25 kHz/8 kHz

Default Values: 25 kHz

31 [EQLZ]

Function: Selects the equalizer (tone control) circuit of the audio amplifier in the receiver.

Available Values: oFF/MD1/MD2/MD3/USER

Default Values: MD3

oFF: The receiving audio signal does not pass through the equalizer circuit.

MD1:

MD2:

MD3:

USER: The receiving audio signal passes through the user customized equalizer circuit which is made up of the audio response via Menu Item 26 "UT_L," 27 "UT_M," and 28 "UT_H."

Accessories & Options

Supplied Accessories

Ni-Cd Battery Pack (7.2V, 700mAh)	FNB-64
Overnight Desktop Charger	NC-??B/C/U*
Helical Antenna	ATV-?
Headset Cable	CT-60
Belt Clip	CLIP-14
Operating Manual	
Warranty Card	

*: "B" suffix is for use with 120 VAC,
"C" suffix is for use with 230-240 VAC, or
"U" suffix is for use with 230 VAC.

Available Options

MH-44A4B	Speaker Microphone
FNB-V57	Ni-Cd Battery Pack (7.2V, 1100mAh)
FBA-25	Alkaline Battery Case
VAC-300	Desktop Rapid Charger
E-DC-5B	External Power Cable
CN-3	Antenna Adapter (SMA to BNC)

Availability of accessories may vary. Some accessories are supplied as standard per local requirements, while others may be unavailable in some regions. Consult your Vertex Standard Dealer for details regarding these and any newly-available options.

Connection of any non-Vertex Standard-approved accessory, should it cause damage, may void the Limited Warranty on this apparatus.

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.