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, 3 kHz 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 (2.5 cm) 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 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 P-T-T button.
- ❍ Always use Vertex Standard authorized accessories.

About the BRS (Business Radio Service) Radio

The BRS frequencies are a part of the FCC's Industrial/Business Pool for the operation of a commercial activity.

You must obtain a license for a BRS system. Application for a BRS license is made on a FCC Form 601. Form 601 and 159 (Remittance Advice) can be downloaded via the Internet at www.fcc.gov/forms.

Call 1-800-418 FORM to have the forms mailed to you, or call 1-202-418-0177 from your FAX machine to have them faxed to you on the FCC Fax-On-Demand System.

Before your filling up your FCC Form 601 Application Technical Data Section, you must

decide the frequency (or frequencies) which you will operate on.

Applications for BRS may be mailed to Federal Communications Commission, Wireless Bureau Applications, P.O. Box 358130, Pittsburgh, PA 15251-5130.

NOTICE

- ❒ There are no user-serviceable points inside this transceiver. All service jobs must be referred to your Authorized Service Center.
- ❒ An FCC License is required for operation on BRS (Business Radio Service) channels.

Introduction

The Vertex Standard VXA-710 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 operational on the BRS (Business Radio Service) band, for those operators appropriately licensed by the FCC (or the appropriate licensing authority in your country).

The VXA-710 includes Temperature 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, 70 Memory Channels, and 90 "Book Memory" Channels.

We recommend that you read this manual in its entirety, so as to understand the many features of the VXA-710 completely. Keep this manual handy, so you may use it for reference.

NOTE: The VXA-710'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.

Controls & Connectors (Top Panel)

1. Antenna Jack

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

2. MIC/SP Jack

   You may connect the supplied CT-96 Headset Cable, optional MH-44B4B 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-710.

3. VOL Knob

   This control adjusts the audio volume level. Clockwise rotation increases the volume level.

4. DIAL Selector Knob

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

Controls & Connectors (Front Panel)

1. LCD (Liquid Crystal Display)

   The display shows the current operating conditions, including frequency, etc.

2. PWR (Power) Switch

   Press and hold this switch for 3 seconds to toggle the transceiver 痴 power on and off.

3. 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 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 seconds).

   These functions are described in detail on the page 6.

4. BUSY/TX Indicator Lamp

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

   You may customize the color setup via the Menu mode.

5. Loudspeaker

The internal speaker is located in this position.

6. Microphone

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

7. Battery Pack Latch

   Open this latch for battery removal.

	Primary Function (Press Key)	Secondary Function (Press + [F])	Third Function (Press & Hold)
[1(VOR)TN]	Frequency entry digit "1."	Activates VOR mode.	Recalls Menu Item "SQL Type" (for activating the CTCSS or DCS operation on the BRS mode).
[2(TO)CD]	Frequency entry digit "2."	Selects "TO" VOR mode	Recalls Menu Item "TONE Set" (for selecting the CTCSS tone frequency on the BRS mode)
[3(FROM)DT]	Frequency entry digit "3."	Selects "FROM" VOR mode	Activates the DTMF Autodialer function.
[4(CDI)]	Frequency entry digit "4."	Activates the Course Deviation Indicator mode.	None
[5(APO)]	Frequency entry digit "5."	None	Recalls Menu Item "APO" (for setting of the Automatic Power Off time).
[6(TAG)]	Frequency entry digit "6."	Selects the display type (Frequency or Alpha-numeric Tag) during Memory operation.	None
[7(SPL)ST]	Frequency entry digit "7."	None	Recalls Menu Item "Step" (for setting of the synthesizer steps).
[8(BEEP)]	Frequency entry digit "8."	None	Recalls Menu Item "Beep" (for setting of the keypad beeper).
[9(SKIP)]	Frequency entry digit "9."	None	Sets the Memory Skip (Omit) feature to the current memory channel.
[0(SQ)]	Frequency entry digit "0."	None	Recalls Menu Item "SQL" (for setting the squelch

			threshold level.
[BAND(MODE)]	Select the operation band between the AIR band and FM BC band in the VFO mode.	Select the operation mode between the FM and Narrow FM on the BRS mode.	None
[121.5(HOME)]	Selects the Emergency Channel (121.5 MHz).	Switches operation to the “Home” (favorite frequency) channel.	None
[MW(SPL.W)]	None	Split-Memory “Write” Command.	Memory “Write” Command.
[SCAN(DW)MT]	Activates the Scanner.	Activates Dual Watch.	Activates the “Memory Tune” mode while in the Memory Recall mode.
[SEL(SET)]	Select the tuning methods among the VFO, MR, BMR, WX, and BRS[1].	Enter the “Set” (Menu) mode.	None
[USER(KEY)][2]	Activate the Automatic Noise Limiter during AM reception.	Lock the Keypad.	Switches the frequency display between the “Large Character” and “Small Character” mode.
[F]	Activates the “Secondary” key mode.	None	None

1: VFO: Variable Frequency Oscillator
MR: Memory Recall
BMR: Pre-Programmed Memories
WX: Weather Channel Memories
BRS: Business Radio Service

2: The Primary and Third function of the [USER(KEY)] key may be customized by user via the Menu mode. See page ??.

Controls & Connectors (Side Panel)

1. PTT (Push To Talk) Switch
   Press this button to transmit when you are operating in the COM band or BRS band. Release this button to return to the “Receive” mode. See page 15.
2. 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 17.

3. EXT DC Jack

   When an external 12-Volt DC power source is available, you may connect the (optional) E-DC-5B DC Cable w/Noise Filter or E-DC-6 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-710 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-710 directly to a source which exceeds 15.0 Volts DC will result in damage to the unit.
- ❍ Do not dispose of the LI-ion Battery Pack in a fire. Do not carry a LI-ion 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 LI-ion pack.

How to Install the Quick Draw Belt Clip

- ❒ Connect the hanger to the rear of the VXA-710, with the notch pointing directly up, using the supplied screw (Figure 1). Use only the screw included with the clip to mount the clip to the back of the VXA-710!
- ❒ Clip the Quick-Draw Belt Clip onto your belt (Figure 2).
- ❒ To install the VXA-710 into the Quick-Draw Belt Clip, align the hanger with the Quick-Draw Belt Clip, and slide the VXA-710 into its slot until a click is heard (Figure 3).
- ❒ To remove the VXA-710 from the Quick-Draw Belt Clip, rotate the VXA-710 180 degrees, then slide the VXA-710 out from the Quick-Draw Belt Clip (Figure 4).

Installation of FNB-80LI Battery Pack

The FNB-80LI is a high-performance Lithium-Ion battery providing high capacity in a very compact package. Under normal use, the FNB-80LI may be used for approximately 300

charge cycles, after which operating time may be expected to decrease. If you have an old battery pack which is displaying capacity which has become diminished, you should replace the pack with a new one.

❒ Install the FNB-80LI as shown in the illustration.

❒ Close the Battery Pack Latch on the bottom of the radio.

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

Battery Charging

If the battery has never been used, or its charge is depleted, it may be charged by connecting the NC-72B/C Battery Charger, as shown in the illustration, to the EXT DC jack. If only 12 ~ 16 Volt DC power is available, the optional E-DC-5B DC Cable (w/cigarette lighter plug) or E-DC-6 DC Cable may also be used for charging the battery, as shown in the illustration. The “Now Charging . . .” will blink in the display while the battery is being charged. When charging is finished (approximately five hours), the display will change to indicate “Complete” and the BUSY/TX indicator will blink blue.

Important Notes:

❍ Do not leave the charger connected to the transceiver for continuous periods in excess of 24 hours. Long term overcharging can degrade the LI-ion battery pack and significantly shorten its useful life.

❍ If using a charger other than the NC-72B/C, or if using a battery pack other than the FNB-80LI, 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.

Installation of FBA-23 Alkaline Battery Case (Option)

The optional FBA-23 Battery Case allows receive monitoring using two “AA” size Alkaline batteries.

To Install Alkaline Batteries into the FBA-23

❒ Slide the batteries into the FBA-23 as shown in the illustration, with the Negative (–) side of the batteries touching the spring connections inside the FBA-23.

❒ Open the Battery Pack Latch on the bottom of the radio.

❒ Install the FBA-23 into the battery compartment on the back of the transceiver, then close the Battery Pack Latch on the bottom of the radio.

The FBA-23 does not provide connections for charging, since Alkaline cells cannot be re-charged. Therefore, the NC-72B/C, E-DC-5B, or E-DC-6 may safely be connected to the EXT DC jack when the FBA-23 is installed.

Notes:

- ❍ The FBA-23 is designed for use only with AA-type Alkaline cells.
- ❍ If you do not use the VXA-710 for a long time, remove the Alkaline batteries from the FBA-23, as battery leakage could cause damage to the FBA-23 and/or the transceiver.

Low Battery Indication

- ❍ As your battery discharges during use, the voltage will gradually become lower. When the “BATTERY” icon will blink on the LCD display, the battery pack must be recharged before further use.
- ❍ Avoid recharging Li-Ion batteries before the “Low Battery” indicator is observed, as this can degrade the charge capacity of your Li-Ion 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 Li-Ion battery.

  This “deep cycling” practice will help to maintain longer overall battery life after many recharging cycles.

AC Operation Using NC-72B/C (Receiving only)

The VXA-710 may be operated from your house current by use of the supplied NC-72B/C Battery Charger. The NC-72B/C should only be used for reception, because it is not capable of supplying sufficient current to support transmission.

To use the NC-72B/C, turn the transceiver off, then plug the miniature connector of the Battery Charger into the EXT DC jack on the side of the radio. Now plug the Battery Charger into the wall outlet. You may now turn on the transceiver.

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-710.

Operation Quick Start

- ❒ To turn the radio on, press and hold in the PWR Switch for 3 seconds.
- ❒ The opening message will appear on the display, then frequency display will appear.
- ❒ Press the [BAND(MODE)] key to switch the operating band between the AIR band and

FM BC band.

- ❒ 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. However, there is a short-cut for frequencies ending in zero - press the [SCAN(DW)MT] key after the last non-zero digit.

  For example, to set 134.35 MHz:

  press [1] → [3] → [4] → [3] → [5].

  To set 118.000 MHz:

  press [1] → [1] → [8] → [SCAN(DW)MT].

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

  press [1] → [1] → [8] → [2] → [7].

  Note: When the entered frequency is outside of the current operating band, the entry is ignored (i.e. VXA-710 does not permit entry of a FM BC band frequency while operating in the AIR band).
- ❒ You may also turn the top panel's DIAL selector knob to choose the desired operating frequency. The channel frequency will appear on the LCD.
- ❒ To change frequency in 1 MHz steps, press the [F] key momentarily, then rotate the DIAL selector knob to select the MHz digit desired. Press the [F] key once more to resume normal channel step.
- ❒ Rotate the VOL knob to set the volume level. If no signal is present, press and hold in the MONITOR button for 2 seconds; background noise will now be heard, and you may use this noise to set the VOL 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, press and hold in the PWR switch for 3 seconds.

Squelch Adjustment

- ❒ Press and hold in the [0(SQ)] key for 3 seconds. This instantly recalls Menu Item "SQL:" on the AM or FM mode or "WSQL:" on the WFM mode (for the Broadcasting Station).
- ❒ Press the [SEL(SET)] key to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to set the squelch threshold (0 - 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.
- ❒ When you have made your setting, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Accessing the 121.5 MHz Emergency Frequency

The VXA-710 can quickly access the 121.500 MHz Emergency Frequency. This function

can be activated even when the keypad lock function is in use.

❒ To access the Emergency Frequency, press the [121.5(HOME)] key momentarily.

❒ To exit the Emergency Frequency, press the [121.5(HOME)] key momentarily.

Tuning Methods

Throughout this manual, you will see references to several different frequency setting methods by pressing the [SEL(SET)] key. 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 AIR band and FM BC band using the DIAL selector, the Keypad, or the scanner. To select these bands, press the [BAND(MODE)] key momentarily.

❍ MR (Memory Recall)

The MR (Memory Recall) mode of the VXA-710 provides the user with the ability to store and recall as many as 68 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 of the Memory Channel Operation.

❍ 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 AIR 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-710 will automatically scan this special bank when it is selected by the user. See page ?? for details of the WX Memory Channel Operation.

❍ BRS (Business Radio Service) Memories

21 BRS Channels are pre-programmed at the factory. See page ?? for details of the BRS Memory Channel Operation.

Transmission

❒ To transmit, press and hold in 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.

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 in the AM mode, such as that produced by an engine's ignition system, the ANL feature may prove helpful.

- ❒ To activate the ANL feature, press the [USER(KEY)] 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, press the [USER(KEY)] key again; the "ANL" icon will disappear from the display.

Note: The ANL feature is only activated on the Air Band.

LOCK Function

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

- ❒ To activate the lock feature, press the [F] key followed by [USER(KEY)] key.
- ❒ In the LOCK mode, the "LOCK" icon will appear on the display.
- ❒ To turn the lock feature off, press the [F] key followed by [USER(KEY)] key again.
- ❒ You can still access the 121.500 MHz Emergency Frequency when the LOCK function is on. Simply press the [121.5(HOME)] key momentarily (this key never locks). Pressing this key also unlocks the radio.

Beep On/Off

The VXA-710'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 and hold the [8(BEEP)] key for 2 seconds. This instantly recalls Menu Item "Beeper."

- ❒ Press the [SEL(SET)] key to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to select the desired selection.
  On: Sounds a keypad beeper corresponding to a musical note.
  DTMF: Sounds a keypad beeper corresponding to a DTMF tone.
  Off: Keypad beeper is "off."
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Reception of Weather Channel Broadcasts (USA version only)

The VXA-710 can receive VHF Weather Channel broadcasts, which may assist your flight planning. The VXA-710 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 [SEL(SET)] key (repeatedly, if necessary) to select the Weather Channel mode. In the Weather Channel mode, "WX" will appear upper left corner of the display.
- ❒ The VXA-710 will now scan quickly though 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 exit the Weather Channel mode, press the key 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 (6. Misc Setup, 3. WX Alert), if desired.

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.

Receive Battery Saver Setup

An important feature of the VXA-710 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-710 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 [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “3. Receive,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “5. RX Save,” then press the key.
- ❒ Press the [SEL(SET)] key again 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 ABS.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits 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, Dual Watch, or Spectrum Scope Monitoring.

Memory Operation

The VXA-710 provides 70 user-programmable Main memories, labeled “MR1” through “MR68,” “MRLch,” and “MRUch,” up to 90 pre-programmed memories, designated “Book” Memories, labeled “BMR1” through “BMR90,” and one Home channel, allowing storage and quick recall of favorite operating frequency.

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

Memory System Operation

The VXA-710’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, Weather channel, or BRS channel to be stored in the Main Memory.

- ❒ Press and hold in the [MW(SPL.W)] key for 2 seconds. The display will indicate “MW” 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, an “Open Door” icon will appear at the right of the channel number to indicate if the memory channel is vacant.
- ❒ Now press and hold in the [MW(SPL.W)] key for 2 seconds; you will now see the blinking “A” character on the LCD. To attach an alpha/numeric name (label) to the memory, proceed to the next step; otherwise press and hold in 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 125 available characters (including letters, numbers, and special symbols). Press the [USER(KEY)] key repeatedly to recall the desired letter, number, and symbol in the first character slot (a → . → 0 → A → a ...). When the desired first character appears, press the [SEL(SET)] key momentarily to select it and move on to the next character.
- ❒ Select succeeding characters in the same manner, pressing the [SEL(SET)] key 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.

Recalling the Memories

- ❒ Press the [SEL(SET)] key, repeatedly if necessary, until “MR” (Memory Recall) appears on the display. In the MR mode, you will see the previously-selected channel number appearing at the bottom of the “MR” icon on the LCD.
- ❒ Rotate the DIAL selector knob to select the desired memory channel.
- ❒ You may change the readout structure of the Memory display between “Frequency Indication” and “Frequency Indication plus Alpha-numeric Label” by pressing the [F] key followed by [6(TAG)] key.
- ❒ To exit the Memory mode, press the [SEL(SET)] key three times to return to the VFO mode.

Note 1: In either the Memory mode or the “Book” Memory mode, an easy way to recall memories is to key in the memory channel number (except memory channel “Lch” and “Uch.” For example, to recall memory channel #06, press the [0] key followed by [6] key. To recall memory channel #60, press the [6] key followed by [0] key.

Note 2: In either the Memory mode or the “Book” Memory mode, you can change memory channels in 10-channel steps: press the [F] key momentarily, then rotate the DIAL selector

knob. The “F” icon will show at the left bottom of the display when the 10-channel-step tuning mode is active. Press the [F] key once more to resume normal channel selection in one-channel steps.

Memory Offset Tuning

Once you have recalled a particular memory channel, you may easily tune off that channel, as though you were in the “VFO” mode.

- ❒ With the VXA-710 in the Memory Recall mode, select the desired memory channel.
- ❒ Now press and hold in the [SCAN(DW)MT] key for 2 seconds. The “MR” indicator will be replaced by one which says “MT” (Memory Tuning).
- ❒ Rotate the DIAL selector knob, as desired, to tune to a new frequency. The synthesizer steps selected for VFO operation on the current band will be the steps used during Memory Tuning.
- ❒ If you wish to return to the original memory frequency, press and hold in the [SCAN(DW)MT] key for 2 seconds. The “MT” indicator will be replaced by “MR.”
- ❒ If you wish to store a new frequency set during Memory Tuning, just press and hold in the [MW(SPL.W)] key for 2 seconds, per normal memory storage procedure.

Note: The Memory Tune feature dose not activated on the memory channel which is stored the WX or BRS channel frequency.

Deleting Memories

- ❒ With the VXA-710 in the Memory mode, rotate the DIAL selector knob to select the memory channel you wish to delete.
- ❒ Press the [F] key, then press and hold the [MW(SPL.W)] key for 2 seconds. The previously-selected memory will be deleted.

Note: Once deleted, channel data cannot be recovered!

Home Channel Memory

A special “HOME” channel is available, to allow quick recall of a favorite operating frequency. Memory storage is simple to accomplish:

- ❒ Select the desired frequency in the VFO mode, or recall the “Book” Memory channel, Weather channel, or BRS channel to be stored in the “HOME” channel.
- ❒ Press and hold in the [MW(SPL.W)] key for 2 seconds. The display will indicate “MW” and a channel number will blink on the LCD.
- ❒ Within five seconds of pressing the [MW(SPL.W)] key, press and hold in the [121.5(HOME)] key for 2 seconds. The frequency and other data (if any) will now be stored in the special “HOME” channel register.

❒ To recall the “HOME” channel, press the [F] key followed by [121.5(HOME)] key.

You may also attach an alpha/numeric name (label) to the “HOME” channel.

❒ Recall the “HOME” channel, by pressing the [F] key followed by [121.5(HOME)] key.
❒ Now press and hold in the [MW(SPL.W)] key for 2 seconds; you will now see the blinking “A” character on the LCD. Use the DIAL selector knob to select any of the 125 available characters (including letters, numbers, and special symbols). Press the [USER(KEY)] key repeatedly to recall the desired letter, number, and symbol in the first character slot (a → . → 0 → A → a ...). When the desired first character appears, press the [SEL(SET)] key momentarily to select it and move on to the next character.
❒ Select succeeding characters in the same manner, pressing the [USER(KEY)] key 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.
❒ Press the [F] key followed by [6(TAG)] key to change the readout structure of the Memory display between “Frequency Indication” and “Frequency Indication plus Alpha-numeric Label.”

Scanning Operation

Basic Scan

The VXA-710 allows you to scan automatically in the VFO*1, Main Memory, “Book” Memory, Weather Channel*2, or BRS channel 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 current operating band (AIR band or FM BC band). Furthermore, on the AIR band, 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 below.

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

❒ Press the [SCAN(DW)MT] key momentarily 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 [SCAN(DW)MT] key momentarily.

The VXA-710'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)MT] key to start the manual scanner. Scanning will continue as long as the key is depressed.
- ❒ Release the [SCAN(DW)MT] 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-710 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, WX, or BRS modes), if you like, so as not to interfere with automatic channel scanning:

- ❒ Recall the Memory Channel to be skipped during scanning.
- ❒ Press and hold the [9(SKIP)] key for 2 seconds. The " icon will appear at the left of the frequency display, indicating that the channel is to be ignored during scanning.
- ❒ Later, to re-enable the memory channel for scanning, repeat the first two steps. The " 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.

Programmable (Band Limit) Memory Scan (PMS)

This feature allows you to set sub-band limits for either scanning or manual VFO operation. For example, you might with to set up a limit of COM band (118.000 MHz to 136.975 MHz.

Here's how to do this:

- ❒ Set the radio to the VFO mode by pressing the [SEL(SET)] key and set the radio to the AIR band by pressing the [BAND(MODE)] key, if necessary.
- ❒ Using the techniques learned earlier, store 118.000 MHz into Memory Channel "Lch" (the "Lch" designates the Lower sub-band limit).
- ❒ Likewise, store 136.975 MHz into Memory Channel "Uch" (the "Uch" designates the Upper sub-band limit).
- ❒ Switch to the Memory mode by pressing the [SEL(SET)] key once, then rotate the DIAL to select Memory Channel "Lch."
- ❒ Press and hold in the [SCAN(DW)MT] key for 2 seconds to start PMS operation; the "MR" label will be replaced by "PMS" in the upper left-hand corner of the display.
- ❒ Tuning and scanning (pressing the [SCAN(DW)MT] key) will now be limited within the just-programmed range.

Note: The PMS feature does not activated on the WX and BRS frequencies.

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-710 looks for activity on each channel.

- ❒ To start Dual Watch, press the [F] key followed by [SCAN(DW)MT] key.
- ❒ 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 the [F] key followed by [SCAN(DW)MT] key.
- ❒ 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, "Book" memory, and BRS channel modes) or Memory Channel "1" (when using the Main Memory mode).

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 “PRI Time.” 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 “DW/PRI” must be set to the “PRI” mode (instead of “DW”). See page ?? for details.

- ❒ To start Priority Dual Watch, press the [F] key followed by [SCAN(DW)MT]. 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 the [F] key followed by [SCAN(DW)MT].

Spectrum Scope Monitor

If you assign the Spectrum Scope Monitor feature to the [USER(KEY)] key (see page ??), you may view operating activity on channels above and below the current operating channel while operating in the VFO, Memory Tune, and PMS modes.

The display indicates the relative signal strength on channels immediately adjacent to the current operating frequency.

- ❒ Set the radio to the VFO mode by pressing the [SEL(SET)] key, if necessary.
- ❒ Press (or press and hold in) the [USER(KEY)] key to activate the Spectrum Scope Monitor.
- ❒ Once the Spectrum Scope Monitor is activated, press the [SEL(SET)] key to change the visible bandwidth between ±15 channel and ±30 channel (default: ±30 channels). The visible bandwidth, however, depends on the selected channel step size, so match the channel step to those typically used in your area.
- ❒ To turn the Spectrum Scope Monitor off and operate on the centered (and displayed) channel, simply press PTT switch.

Note: Audio output will be interrupted during Spectrum Analyzer operation. This is normal.

VOR Navigation (Air Band)

To Select the VOR Mode

- ❒ When entering the NAV band (108.000 - 117.975 MHz), the VXA-710 selects the VOR mode automatically. The “Course Indicator” will appear on the display, and the “TO” or “FROM” indicator will appear at the right of the “Course Indicator” on the display.

  Note: The “Course Indicator” indicates “---°” when either your aircraft is too far away from the VOR station or if 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] key followed by [3(FRM)DT] key or press the [F] key followed by [2(TO)CD] keys, respectively.
- ❒ The (small) frequency indication may be toggled to display using larger characters (but “Course Indicator” and “TO”/“FROM” flag are reduced in size), if you assign the “XFER” feature to the [USER(KEY)] key. See page ?? for details.

Flying to a VOR Station

The VXA-710 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 the [F] key followed by [4(CDI)] key to change to the CDI (Course Deviation Indicator) mode. The “Course Deviation Arrow” will appear 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 the [F] key followed by [1(VOR)TN] key.

Entering a Desired Course

The VXA-710 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.

- ❒ Change the “TO” or “FROM” indication to “TO,” if it is not in that mode already.
- ❒ Press the [F] key followed by [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-digit input; e.g. for 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 (see below) 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 “υ” appears on the right side, select a heading plus 10 degrees to the desired course; if the overflow indicator “τ” appears on the left side, select a heading minus 10 degrees.

Auto Bearing Center System (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 VOR 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 VOR 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.

- ❒ Press the [SEL(SET)] key, repeatedly if necessary, to select the VFO mode.
- ❒ Set the desired VOR station 痴 frequencies in the NAV band (108.000 - 117.975 MHz) using the DIAL selector knob or keypad.

- ❒ Press the [F] key followed by [MW(SPL.W)] key. The "±" 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.
- ❒ 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, set the receiving frequency to any frequency outside of the NAV band (the "±" icon will disappear).

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.

BRS channel Operation

NOTICE! An FCC License is required for operation on BRS (Business Radio Service) channels.

Recalling the BRS channels

- ❒ Press the [SEL(SET)] key, repeatedly if necessary, until "BRS" (Business Radio Service) appears on the display. In the BRS mode, you will see the previously-selected channel number appearing at the bottom of the "BRS" icon on the LCD.
- ❒ Rotate the DIAL selector knob to select the desired BRS channel.
- ❒ You may change the readout structure of the BRS channel display between "Frequency Indication" and "Frequency Indication plus Alpha-numeric Label" by pressing the [F] key followed by [6(TAG)] key.
- ❒ To exit the BRS mode, press the [SEL(SET)] key momentarily to return to the VFO mode.

Note 1: In the BRS mode, an easy way to recall memories is to key in the BRS channel number. For example, to recall BRS channel #04, press the [0] key followed by [4] key. To recall memory channel #21, press the [2] key followed by [1] key.

Note 2: You may change the configuration of the BRS channel temporally, as following procedures. However, the BRS channel does not keep the . We recommended that the into the memory channel. See page ??

CTCSS Operation

The CTCSS operation allows to silently monitor for calls on busy channels and to transmit CTCSS tone. The decode function monitors receiver audio through a narrow filter at the same subaudible frequency, keeping the squelch closed until a matching tone is received, while the transmit (encode) function superimpose a subaudible tone (at a frequency too low to be heard) on the transmit carrier.

The CTCSS setup involves two actions: setting the Tone Mode and then setting of the Tone Frequency. These actions are set up by using the [1(VOR)TN] and [2(TO)CD] keys, or Menu Items (SQL Type) and (TONE Set).

- ❒ Press and hold the [1(VOR)TN] key for 3 seconds. This instantly recalls Menu Item (SQL Type).
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob so that “T” appears at the bottom right corner on the display; this activates the CTCSS Encoder, which allows transmit a CTCSS tone only.
  Note: You may notice an additional “DCS” icon appearing while you rotate the DIAL selector knob in this step. We’ll discuss the Digital Code Squelch system shortly.
- ❒ Rotating the DIAL selector knob in above step will occasionally cause “TSQ” to appear. When “TSQ” appears, this means that the Tone SQuelch system is active, which mutes your VXA-710’s receiver until it receives a call from another radio sending out a matching CTCSS tone. This can help keep your radio quiet until a specific call is received, which may be helpful while operating in congested areas.
- ❒ When you have made your selection of the CTCSS tone mode, press the [SEL(SET)] key momentarily, then rotate the DIAL selector knob one click clockwise to select Menu Item (TONE Set). This Menu selection allows setting of the CTCSS tone frequency to be used.
- ❒ Press the [SEL(SET)] key to enable the adjustment of the CTCSS frequency.
- ❒ Rotate the DIAL selector knob until the display indicates the Tone Frequency you need to be using.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

DCS Operation

Another form of tone access control is Digital Code Squelch, or DCS. It is a newer, more advanced tone system which generally provides more immunity from false paging than does CTCSS. The DCS Encoder/Decoder is built into your VXA-710, and operation is very similar to that just described for CTCSS.

Note: Just as in CTCSS operation, DCS requires that you set the Tone Mode to DCS and

that you select a Tone Code.

- ❒ Press and hold the [1(VOR)TN] key for 2 seconds. This instantly recalls Menu Item (SQL Type).
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob until “DCS” appears on the display; this activates the DCS Encoder/Decoder.
- ❒ Press the [SEL(SET)] key momentarily, then rotate the DIAL selector knob two clicks clockwise to select Menu Item (DCS Set).
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob until the desired DCS Code (a three-digit number). Just set up the DCS Code to be the same as that used by your group.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Note: Remember that the DCS is an Encode/Decode system, so your receiver will remain muted until a matching DCS code is received on an incoming transmission. Switch the DCS off when you’re just tuning around the band!

CTCSS/DCS Bell Operation

During CTCSS Decode or DCS operation, you may set the VXA-710 up such that a ringing “bell” sound alerts you to the fact that a call is coming in. Here is the procedure for activating the CTCSS/DCS Bell:

- ❒ Set the transceiver up for CTCSS Decode (“Tone Squelch”) or DCS operation, as described previously.
- ❒ Press the [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “2. Sound,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “2. Bell,” then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to select “ON” (to enable the CTCSS/DCS Bell).
- ❒ Press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

When the CTCSS/DCS Bell feature is enabled, the “BELL” icon appears at the bottom center of the display. When a station calls you whose transceiver is sending a CTCSS tone or DCS code which matches that set into your decoder, the “BELL” icon will blinks, flashes the BUSY/TX indicator in sequential colors, and a ringer sounds to get your attention.

Selecting the Operating Mode

The VXA-710's BRS Band provides the two operating modes (Narrow-FM and FM). You may select the operating mode by pressing the [F] key followed by [BAND(MODE)] key.

Note: If Narrow-FM (NFM) is selected, the receive audio revel is increased slightly to compensate for the reduced deviation. The receiver IF filter bandwidth is not changed via this selection.

DTMF Operation

The VXA-710's 16-button keypad allows easy DTMF dialing for Autopatch. Besides numerical digits [0] through [9], the keypad includes the [☂] and [#] digits, plus the [A], [B], [C], and [D] tones often used for repeater control.

Manual DTMF Tone Generation

You can generate DTMF tones during transmission manually.

- ❒ Press the PTT switch to begin transmission.
- ❒ While transmitting, press the desired numbers on the keypad.
- ❒ When you have sent all the digits desired, release the PTT key.

DTMF Autodialer

Ten DTMF Autodial memories are provided, allowing you to store telephone numbers for autopatch use. You can also store short autopatch access code streams so as to avoid having to send them manually.

Here is the DTMF Autodial storage procedure:

- ❒ Press and hold in the [3(FRM)DT] key for 3 seconds to activate the DTMF Autodialer function. The "TELEPHONE" icon will appear at the center bottom on the display.
- ❒ Press the [F] key, then press and hold in the [3(FRM)DT] key for 3 seconds to activate the DTMF Memory Edit mode.
- ❒ Rotate the DIAL selector knob to select the DTMF Memory register into which you wish to store this DTMF string.
- ❒ Key in the DTMF digits you wish to store into this register.
- ❒ Press the [SEL(SET)] key to save the setting. To store other numbers, repeat this process, using a different DTMF memory register.
- ❒ Press the PTT key to exit to normal operation.

To send the telephone number:

- ❒ Press and hold in the [3(FRM)DT] key for 3 seconds, if needed, to activate the DTMF Autodialer function.

- ❒ Press the PTT key to begin transmission.
- ❒ Press the numerical key (“1” through “0”) corresponding to the DTMF memory string you wish to send. Once the string begins, you may release the PTT key, as the transmitter will be held “on the air” until the DTMF string is completed.

Miscellaneous Setting

Changing the Channel Step

The VXA-710’s FM BC Band provides the option of utilizing channel steps of 5/10/12.5/15/20/25/50/100 kHz per step (factory default: 100 kHz). If you need to change the channel step, the procedure to do so is very easy.

- ❒ Press and hold in the [7(SPL)ST] key for 2 seconds. This instantly recalls Menu Item (Step).
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob select the new channel step size.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exit to normal operation.

Automatic Power-Off (APO) Feature

The APO feature helps conserve battery life by automatically turning the radio off after a user-defined period of time within which there has been no dial or key activity. The available selections for the time before power-off are 0.5/1/8 hours, as well as APO Off.

The default condition for the APO is OFF, and here is the procedure for activating it:

- ❒ Press the [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “6. Misc Setup,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “1. APO,” then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to select the desired time period after which the radio will automatically shut down.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

When the APO is activated, the “TIMER” icon will appear at the center bottom on the LCD. If there is no action by you within the time interval programmed, the “TIMER” icon blinks and a ringer sounds one minute before the APO shut-down time; one minute thereafter, the microprocessor will shut down the radio automatically.

Just press and hold in the (PWR) switch for 3 seconds to turn the transceiver back on after an APO shutdown, as usual.

Transmitter Time-Out Timer (TOT)

The TOT feature provides a safety switch which limits transmission to a pre-programmed value. This will promote battery conservation by not allowing you to make excessively-long transmissions, and in the event of a stuck PTT switch (perhaps if the radio or a Speaker/Mic is wedged between aircraft's seats) it can prevent interference to other users as well as battery depletion. As configured at the factory the TOT feature is set to OFF, and here is the procedure for activating it:

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu ("SET") mode.
- ❒ Rotate the DIAL selector knob to select Menu Item "4. Transmit," then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item "4. T.O.T." then press the key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to set the Time-Out Timer to the desired "Maximum TX" time (1 minute, 3 minutes or 5 minutes).
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exit to normal operation.

Note 1: When your transmitting time is within 10 seconds of the Time-Out Timer expiration, an alert bell will provide an audible warning from the speaker.

Note 2: Since brief transmissions are the mark of a good operator, try setting up your radio's TOT feature for a maximum transmission time of 1 minute. This will significantly improve battery life, too!

Programming the Key Assignments

The [USER(KEY)] key is a user-programmable key that may be set up for a pair of functions you use particularly frequently. The default [USER(KEY)] key functions, as set up at the factory, have been assigned to the ANL feature (press key) and to the "Large Font" feature (press and hold key) at the factory. These may be changed by the user, if you wish to utilize another function or functions.

To program the function assigned to a key:

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu ("SET") mode.
- ❒ Rotate the DIAL selector knob to select Menu Item "5. Key Set," then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item "3. USER 1" (for the "press key" function) or "4. USER 2" (for the "press and hold key" function), then press the

[SEL(SET)] key.

- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to select the function you wish to assign to the button you selected in the previous step. The available choices are:
  ANL: Activates the Automatic Noise Limiter in the AM mode.
  TX Power: Selects the FM transmit power output level on the BRS band.
  XFER: Exchanges the display locations between the “Frequency” and “Alpha-numeric Tag” modes while operate on the “Memory,” “Book Memory,” and “WX” modes. This also may be used to exchange the display location between the “Frequency” and “Course Indicator and TO/FROM flag” options while operating on the “NAV” band.
  SPEC Start: Activates the Spectrum Scope Monitor feature.
  Large Font: Switches the frequency display between the “Large Character” and “Small Character” modes.
  None
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Busy Channel Lock-Out (BCLO)

The BCLO feature prevents the radio’s transmitter from being activated if a signal strong enough to break through the “Noise” squelch is present. On a frequency where stations using different CTCSS or DCS codes may be active, BCLO prevents you from disrupting their communications accidentally (because your radio may be muted by its own Tone Decoder). The default setting for the BCLO is OFF, and here is how to change that setting:

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “4. Transmit,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “1. BCLO,” then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to select “ON” (thus activating the BCLO feature).
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Display Customization

Display Contrast

The LCD’s contrast may be adjusted using the Menu.

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.

- ❒ Rotate the DIAL selector knob to select Menu Item “1. Display,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “4. Contrast,” then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to adjust the contrast. As you make the adjustment, you will be able to see the effects of your changes.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Display Dimmer

The LCD illumination may be adjusted using the Menu, as well.

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “1. Display,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “5. Dimmer,” then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of this Menu Item.
- ❒ Rotate the DIAL selector knob to adjust the display illumination for a comfortable brightness level. As you make the adjustment, you will be able to see the effects of your changes.
- ❒ When you have made your selection, press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

TX/BUSY Indicator Customization

Default TX/BUSY illumination colors have been assigned at the factory. These may be changed by the user, if you wish to utilize another custom-designed color hue. The Red, Green, and Blue elements of each color’s composition may be adjusted individually!

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu (“SET”) mode.
- ❒ Rotate the DIAL selector knob to select Menu Item “1. Display,” then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select Sub Menu Item “8. RX LED” when you wish to change the BUSY indicator’s color, or Sub Menu Item “9. TX LED” when you wish to change the TX indicator’s color, then press the [SEL(SET)] key.
- ❒ Press the [SEL(SET)] key again to enable adjustment of the selected Menu item.
- ❒ Rotate the DIAL selector knob to adjust the “R” (red) element of the color; you will be able to see the effects of your changes. The degree of color hue is designated in a

numerical scale of “000” through “255,” and you may adjust the display’s red component until it is just the way you want it. As you make the adjustment, you will be able to see the effects of your changes.

- ❒ Press the [SEL(SET)] key again, then rotate the DIAL selector knob to adjust the “G” (green) element of the color.
- ❒ Repeat the process described above to adjust the “B” (blue) element of the color.
- ❒ Press the [SEL(SET)] key to save the new setting, then press the PTT key repetitively until the radio exits to normal operation.

Note: You may also change the indicator’s color of the Emergency lamp, Weather Alert lamp, and Over-Heating lamp by the Menu Items. See page ?? for details.

Field Programming Mode

The VXA-710’s “Book” Memories also allow the user to store, label, and recall channel frequencies which you may want to use frequently by placing the VXA-710 into the “Field Programming mode.”

Memory Storage

- ❒ Press and hold in both the PTT switch and [MW(SPL.W)] key, while turning the radio on, to activate the Field Programming Mode. “FD” will appear at the upper left corner on the display.
- ❒ Select the desired frequency to be stored in the Book Memory.
- ❒ Press and hold in the [MW(SPL.W)] key for 2 seconds. The display will indicate a “Book” memory channel number will blink on the LCD.
- ❒ Within five seconds of releasing 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 “Open Door” icon will appear at the right of the channel number to indicate if the memory channel is vacant.
- ❒ Now press and hold in the [MW(SPL.W)] key for 3 seconds; you will now see the blinking “A” character on the LCD. To attach an alpha/numeric name (label) to the memory, proceed to the next step; otherwise press and hold in 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 125 available characters (including letters, numbers, and special symbols). Press the [USER(KEY)] key repeatedly to recall the desired letter, number, and symbol in the first character slot (a → . → 0 → A → a ...). When the desired first character appears, press the [MW(SPL.W)] key momentarily to select it and move

on to the next character.

- ❒ Select succeeding characters in the same manner, pressing the [SEL(SET)] key 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.
- ❒ Turn the radio off, then turn the radio back on again to begin normal operation.

Deleting Memories

- ❒ Press and hold in both the PTT switch and [MW(SPL.W)] key, while turning the radio on, to activate the Field Programming Mode. “FD” will appear at the upper left corner on the display.
- ❒ Press and hold in the [MW(SPL.W)] key for 2 seconds. The display will indicate a “Book” memory channel number will blink on the LCD.
- ❒ Within five seconds of releasing the [MW(SPL.W)] key, rotate the DIAL selector knob to select the memory channel number you wish to delete.
- ❒ Press the [SEL(SET)] key momentarily. The previously-selected memory will be deleted.
- ❒ Turn the radio off, then turn the radio back on again to begin normal operation.

CPU Resetting

In some instances of erratic or unpredictable operation, the cause may be corruption of data in the microprocessor (due to static electricity, etc.). If this happens, resetting of the microprocessor may restore normal operation. Note that all memories will be erased if you do a complete microprocessor reset, as described below.

To clear all memories and other settings to factory defaults:

- ❒ Turn the radio off.
- ❒ Press and hold in the [MW(SPL.W)] key, and the MONITOR button, while turning the radio on.

Timer Mode

The VXA-710 is provided the “STOP WATCH” timer and “COUNT DOWN” timer. These can be used for a variety of time-keeping purposes.

- ❒ Press and hold in the [MW(SPL.W)] key while tuning the radio on, activate the Timer Mode.
- ❒ Press the MONITOR key to toggle the Timer between “STOP WATCH” timer and “COUNT DOWN” timer. If you select the “COUNT DOWN” timer, rotate the DIAL knob to

set the values for the timers (1 minutes -59 minutes).

- ❒ Press the PTT switch to start/stop the timer.
- ❒ Turning the radio off, then on again, will return the VXA-710 to 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-710.

Here is the procedure for initiating Menu configuration changes:

- ❒ Press [F] key followed by [SEL(SET)] key to activate the Menu ("SET") mode.
- ❒ Rotate the DIAL selector knob to select the "Main" Menu, then press the [SEL(SET)] key.
- ❒ Rotate the DIAL selector knob to select the "Sub" Menu item you wish to view and/or modify, then press the [SEL(SET)] key.
- ❒ Once you have selected the desired Menu Item, press the key once to view the current setting for the item.
- ❒ Rotate the DIAL selector knob to change the setting of the item (ON to OFF, etc.).
- ❒ Press the [SEL(SET)] key again to save your new setting.
- ❒ Press the PTT key repetitively until the radio exits to normal operation.

MENU Listing

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

<u>1. Display</u>

1. Scan Lamp

Function: Enables/Disables the Scan lamp while paused during scanning.

Available Values: On/Off

Default Setting: On

2. Backlight

Function: Selects the Display illumination Mode.

Available Values: Key/Off/On

Default Setting: Key

Key: Illuminates the Display Lamp for 5 seconds when any front panel key is pressed.

Off: Disables the Display lamp.

On: Illuminates the Display lamp continuously.

3. Large Font

Function: Selects the frequency display between the “Large Character” and “Small Character” modes.
Available Values: Off/On
Default Setting: On

4. Contrast
Function: Setting of the display contrast.
Available Values: 00 - 15
Default Setting: 06

5. Dimmer
Function: Setting of the display brightness level.
Available Values: LV 1 - LV 4
Default Setting: LV 3

6. Meter Symbol
Function: Selects the S- & TX PO meter symbol.
Available Values: Four patterns
Default Setting:

7. Display Mode
Function: Selects the display of the sensor units・information.
Available Values: Off/Temp/Volt
Default Setting: Off
Off: Disables the sensor information.
Temp: Indicates the current temperature inside the transceiver 痴 case.
Volt: Indicates the battery voltage and battery type.

8. RX LED
Function: Edits the BUSY indicator color.
Available Values: Individual adjustments of the Red, Green, and Blue color hue may be performed, on a numerical scale of “000” to “255.” See page ?? for details.
Default Setting: Green (R000, G065, B000)

9. TX LED
Function: Edits the TX indicator color.
Available Values: Individual adjustments of the Red, Green, and Blue color hue may be

performed, on a numerical scale of “000” to “255.” See page ?? for details.
Default Setting: Red (R111, G000, B000)

10. EMG LED
Function: Edits the Emergency lamp color.
Available Values: Individual adjustments of the Red, Green, and Blue color hue may be performed, on a numerical scale of “000” to “255.” See page ?? for details.
Default Setting: White (R127, G127, B127)

11. Alert LED
Function: Edits the Weather Alert lamp color.
Available Values: Individual adjustments of the Red, Green, and Blue color hue may be performed, on a numerical scale of “000” to “255.” See page ?? for details.
Default Setting: Green (R000, G127, B000)

12. TEMP LED
Function: Edits the Over Heating lamp color. This is a display seen when the temperature exceeds the threshold set via the “TEMP Set” setting (see page ??).
Available Values: Individual adjustments of the Red, Green, and Blue color hue may be performed, on a numerical scale of “000” to “255.” See page ?? for details.
Default Setting: Light Blue (R127, G000, B127)

2. Sound

1. Beeper
Function: Select the Keypad beeper tone.
Available Values: On/DTMF/Off
Default Setting: On
On: Enables the keypad beeper.
DTMF: Enables the keypad beeper with DTMF tones.
Off: Disables the keypad beeper.

2. Bell
Function: Enables/disables the Bell Ringer function.
Available Values: On/Off
Default Setting: Off

3. Power On Beep

Function: Selects the Power-on beep.
Available Values: Off/Mode 1/Mode 2/Mode 3
Default Setting: Mode 1

4. ARTS Beep
Function: Selects the beep option during ARTS operation.
Available Values: On/Off
Default Setting: On

3. Receive
1. SQL
Function: Sets the Squelch threshold level for the AM and FM modes.
Available Values: 0 - 8
Default Setting: 6

2. WSQL
Function: Sets the Squelch threshold level for the Wide FM mode (for the Broadcasting Station).
Available Values: 0 - 8
Default Setting: 3

3. Resume
Function: Selects the Scan Resume mode.
Available Values: 5secs/Busy
Default Setting: 5secs
5secs: The scanner will hold for 5 seconds, then resume whether or not the other station is still transmitting.
Busy: The scanner will hold until the signal disappears, then will resume when the carrier drops.

4. DW/PRI
Function: Selects the Dual Watch/Priority Function.
Available Values: DW/PRI
Default Setting: DW

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

Available Values: ABS/1:1/1:2/1:3/1:4/1:5/Off

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 cannot be activated during Scan or Dual Watch/Priority operation.

6. Step

Function: Setting of the synthesizer steps on the FM BC Band.

Available Values: 5k/10k/12.5k/15k/20k/25k/50k/100k

Default Setting: 100k.

7. SQL Type

Function: Selects the Tone Encoder and/or Decoder mode.

Available Values: Off/T/TSQ/DCS

Default Setting: Off

T: CTSCC Encoder

TSQ: CTCSS Encoder/Decoder

DCS: Digital Coded Squelch Encoder/Decoder

Note: This Menu Item is only selectable on the Amateur Band (you may only access this Menu item while operating on the Amateur band).

8. TONE Set

Function: Setting of the CTCSS Tone Frequency.

Available Values: 39 standard CTCSS tones.

Default Setting: 67.0Hz

9. DCS Set

Function: Setting of the DCS Code.

Available Values: 106 standard DCS codes.

Default Setting: 023

10. PRI Time

Function: Selects the Priority Checking Time.

Available Values: 500ms/1s/1.5s/2s/2.5s/3s

Default Setting: 2s

This Menu Item allows you to define how often the Priority Channel will be checked for

activity.

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

11. SPECT Width

Function: Selects the visible bandwidth of the Spectrum Analyzer.

Available Values: ±30ch/±15ch

Default Setting: ±30ch

4. Transmit

1. BCLO

Function: Enables/disables the Busy Channel Lock-Out feature.

Available Values: On/Off

Default Setting: Off

2. ARTS

Function: Enables/disables ARTS operation.

Available Values: Off/RX/TX/TRX

Default Setting: Off

Off: Disables the ARTS feature.

RX: Use this mode if you only want your radio to listen, and not poll the other station (in which case their radio should be set to the “TX” mode). Here, your radio will beep and display “In Service” or “Out Service” to indicate the state of connection.

TX: Likewise, this puts your radio into a transmit-only “beacon” mode where you won’t hear the polling beeps (but you can still hear when the other station talks). When activated, you have no display of whether the other station is in range, or not (“In Service” and “Out Service” do not appear).

TRX: Activates the ARTS feature with both operating modes.

3. ARTS Itvl

Function: Selects the polling interval during ARTS operation.

Available Values: 15secs/25secs

Default Setting: 25secs

4. T.O.T

Function: Setting of the Time-Out Timer Countdown Time.

Available Values: Off/1min/3min/5min

Default Setting: Off

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

5. TX Power
Function: Selects the TX Output Power on the BRS channel.
Available Values: Low/High
Default Setting: High

5. Key Set
1. Lock Mode
Function: Selects the Control Locking lockout combination.
Available Values: DIAL/KEY/KEY+DIAL/PTT/DIAL+PTT/KEY+PTT/ALL
Default Setting: KEY

2. [121.5]
Function: Selects the [121.5(HOME) key function.
Available Values: 121.5/HOME
Default Setting: 121.5
121.5: Pressing this key instantly recall a 121.5 MHz “Emergency” channel.
HOME: Pressing this key instantly recalls a favorite “Home” channel.

3. USER 1
Function: Programming the key assignment (momentary-press mode).
Available Values: ANL/TX Power/ARTS/XFER/SPEC Start/Large Font/None
Default Setting: ANL
See page ?? for details.

4. USER 2
Function: Programming the key (press and holding) assignment.
Available Values: ANL/TX Power/ARTS/XFER/SPEC Start/Large Font/None
Default Setting: Large Font
See page ?? for details.

6. Misc Setup
1. APO
Function: Selects the Auto Power Off time (time before power goes off).
Available Values: Off/0.5h/1h/8h

Default Setting: Off

2. Emergency

Function: Selects the Emergency feature.

Available Values: 121.5/LED+121.5/LED

Default Setting: LED+121.5

121.5: Pressing the [121.5(HOME)] key momentarily, accesses the 121.5 MHz Emergency Frequency.

LED+121.5: Pressing the [121.5(HOME)] key momentarily, accesses the 121.5 MHz Emergency Frequency and flashes the BUST/TX lamp.

LED: Pressing the [121.5(HOME)] key momentarily, flashes the BUST/TX lamp.

3. WX Alert

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

Available Values: Alrt Off/Beep/LED/Beep+LED

Default Setting: Alrt Off

Alrt Off: Disables the Alert function

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

LED: Illuminate the BUST/TX lamp when receive the Weather Alert Signal

Beep+LED: Sounds a loud beep and illuminates the BUSY/TX lamp when receiving the Weather Alert Signal.

4. TEMP Unit

Function: Selects the measurement units for the Temperature sensor.

Available Values: °F/°C

Default Setting: °F

5. TEMP Check

Function: Enables/Disables the Over-Heating Alarm

Available Values: Off/On

Default Setting: Off

6. TEMP Set

Function: When the “TEMP Check” Menu item is set to “on,” and the temperature passes through the threshold set in this step, the BUSY/TX indicator will change colors, to alert you to the high temperature condition. The color of the “High Temperature” indication is set via

the “TEMP LED” Menu setting (page ??).
Available Values: [32.0 °F (0 °C)] - [230.0 °F (110 °C)]
Default Setting: [230.0 °F (110 °C)]
Note: When the temperature reaches approximately 220 °F (105 °C), the radio will disable transmission, to allow the radio to cool off.

7. Option

1. Internal MIC
Function: Internal Microphone On/Off
Available Values: Off/On
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-96 Headset Cable) is in use. In most applications, set this Menu Item to “off” for proper operation (this disables the internal microphone). The internal microphone will still function normally when the external microphone is disconnected.

2. TEMP Offset
Function: Correcting the Thermometer setting
Available Values: [–22.8 °F (–12.7 °C)] - [+22.8 °F (+12.7 °C)]
Default Setting: 0.0 °F (0.0 °C)
This allows you to calibrate the internal thermometer with a known-to be-accurate source.

3. Clock Shift
Function: CPU Clock Shift
Available Values: Off/On
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.

Specifications

General

Frequency Range:	TX	118-136.975 MHz (Air), 151.5125-158.4 MHz (BRS)
	RX	88-108 MHz, 108-136.975 MHz, 151.5125-158.4 MHz, and WX-01-WX-10
Channel Spacing:		5, 10, 12.5, 20, 25, 50, 100kHz (FM BC Band)
Emission Type:	TX	AM (AIR Band), FM (BRS Band)
	RX	AM (AIR Band), FM (WX & BRS Band), & WFM (FM BC Band)
Supply Voltage:		4.5 to 15 VDC
Temperature Range:		-22 °F to +140 °F (-30 °C to +60 °C)
Case Size (W x H x D):		2.36” x 3.78” x 1.12” (60 x 96 x 28.5 mm)
Weight (Approx.):		9.9 oz (280 g) with FNB-80LI & Antenna

Receiver

IFs:	AM & NFM	35.4 MHz & 450 kHz
	WFM:	45.65 MHz & 10.7 MHz

Sensitivity:

@12 dB SINAD with 1 kHz, 22.5 kHz deviation:	<2.0 µV (6 dBµ)	88-108 MHz (WFM)
@6 dB S/N with 1 kHz, 30% modulation:	<1.0 µV (0 dBµ)	108-136.975 MHz (AM)
@12 dB SINAD with 1 kHz, 3.5KHz deviation:	<0.32 µV (-10 dBµ)	BRS Band (FM/NFM)
@12 dB SINAD with 1 kHz, 3.5 kHz deviation:	<0.4 µV (-8 dBµ)	WX-01 - WX-10 (FM)

Selectivity:		>8 kHz/–6 dB (AM/FM)
		>200 kHz/–6 dB (WFM)
AF Output:	@7.2V	0.4W @ 8 Ω, 10% THD

Transmit

Power Output:	@ 7.2V	5 W (PEP), 1.5 W (Carrier), 118-136.975MHz, AM
		2 W BRS Band, FM
Frequency Stability:		Better than ± 2.5ppm (-30 °C to +60 °C)
Modulation System:		Low Level Amplitude Modulation (AM)
		Variable reactance (FM)
Spurious Emission:		60 dB below carrier
Ext. Mic. Impedance:		150 Ω

Specifications are subject to change without notice.

Accessories & Options

Supplied Accessories

LI-ion Battery Pack (7.2V, 1300 mAh) FNB-80LI 1

Battery Charger NC-72 1

Helical Antenna ATV-?? 1

Headset Cable CT-96 1

Operating Manual 1

Warranty Card 1

Available Options

MH-44B4B	Speaker Microphone
FBA-23	Alkaline Battery Case
CD-15A	Desktop Rapid Charger
E-DC-5B	DC Cable w/Noise Filter
E-DC-6	DC Cable; plug and wire only
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.