VX-800 Operating Manual

1,Controls & Connectors

LED Indicator

Glows Green: Scan active
Blinks Green: Busy Channel (or SQL off)
Glows Red: Transmit
Blinks Red: Battery Voltage is low

Antenna Jack
PTT (Push to Talk) Switch
Monitor Button
Lamp Button
CH (Channel) Selector
VOL/PWR Knob
LCD
SEL1 KEY (Left)
SEL2 KEY (Right)
Toggle SW
MIC/SP Jack (External MIC/SP)
Speaker
Main Microphone
Sub Microphone (Noise Canceling Microphone)
Battery Pack Latch
16-Button DTMF Keypad (16-key version only)

2,Before You Begin

Battery Pack Installation and Removal

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

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

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

Low Battery Indication

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

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

3,Operation

Preliminary Steps

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

❒ Screw the supplied antenna onto the Antenna jack. Never attempt to operate

this transceiver without an antenna connected.

- If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the VX-800.

Operation Quick Start

- To turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.
- Pull and turn the top panel's **CH** selector knob to choose the desired operating channel. A channel number or channel name will appear on the LCD.
- Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold the Monitor button (the center button on the left side) more than 2 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.
  Press and hold the Monitor button more than 2 seconds (or press the Monitor button twice) to quiet the noise and resume normal (quiet) monitoring.
- To transmit, press and hold the **PTT** switch. Speak into the microphone area of the front panel grille (lower right-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.
- Press the top panel's **SEL1/SEL2** button to active one of the preprogrammed functions which may have been enabled at the time of programming by the dealer. See the next section for details regarding the available features.
- Switch the top panel's **Toggle SW** position to active one of the preprogrammed functions which may have been enabled at the time of programming by the dealer. There are three positions of [A (left)], [B (center)] and [C (right)] in the toggle switch. See the next section for details regarding the available features.
- Press the **DTMF** keys on the telephone keypad to send DTMF tones.(16-key version only)
- If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then make the connector of the Speaker/Microphone touch; secure the connector pin using the screw supplied with the Speaker/Microphone. Hold the speaker grille up next to your ear while receiving. To transmit, press the PTT switch on the Speaker/Microphone, just as you would on the main transceiver's body. Note: Save the original plastic cap and its mounting screws. They should be re-installed when not using the Speaker/Microphone.

4,KEY and TOGGLE Functions

VX-800 have the **[SEL1], [SEL2], [MON], [LAMP] Key, ([A], [B], [C], [D] Key**: only 16-key version) and **Toggle SW**. The Key and SW function can be customized, via programmed by YAESU dealer, to meet your communications requirements. Some features may require the purchase and installation of optional internal accessories. The possible KEY and SW programming features are illustrated below.

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

Monitor (Generally, it sets to MON Key)
Lamp (Generally, it sets to LAMP Key)
Channel Scan
Dual Watch
High/Low Power
Talk Around
TX Save Disable

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Encryption Disable (only, when using DTMF/Encryption Unit)
Follow-Me DW
Group Up
Group Down
Channel Up
Channel Down
SET Mode
Call/Reset (only, when using DTMF/Encryption Unit)
Speed Dial (only, when using DTMP/Encryption Unit)
Emergency (only, when using DTMF/Encryption Unit)
LCD Invert

TOGGLE Switch
Channel Scan
Dual Watch
High/Low Power
Talk Around
TX Save Disable
Encryption Disable (only, when using DTMF/Encryption Unit)
Follow-Me Scan
Lock
LCD Invert

5,Understanding Radio Waves

Radio waves travel from one point to another by several different means. The general term for these methods of wave travel is "propagation". You may know that "short-wave" signals can be propagated over distances of several thousand miles by reflection off of the upper regions of the atmosphere.

Your hand-held transceiver, on the other hand, operates on the so-called VHF (Very-High Frequency) band. On this band, radio waves usually do not reflect off of the atmosphere. Instead, the radio waves behave almost as light: they travel in a straight line, and when they meet a building or obstruction, they go no further in that direction.

Therefore, it is important that you be as high and free from obstructions as possible to cover the greatest distance when using your radio. If you operate from inside a car or building, any metal around you can absorb much of the signal, both transmitted and received. Coverage may therefore be very poor under those conditions. However, if you must operate from indoors, moving next to a window will improve communications.

In view of the factors just discussed, you can easily see the potential benefit of holding the radio up high near your mouth while transmitting. In this way the antenna is high and clear, and coverage is best.

On final note regarding propagation is useful in improving coverage. Because radio waves at VHF is similar to light waves, they do reflect, to varying degrees, off of hills, buildings, and the like. In a crowded urban area, with many close buildings close together, many reflections may occur, and interfere with one another, causing variations in signal strength at different locations.

Therefore, if a signal is weak and you walk a few feet in any direction, reception may suddenly become clear, because a particular reflection path may become dominant. Reflections are frequently useful, as they can allow for communications between two stations over a highly obstructed path.

6,Specifications

GENERAL

Frequency Range:	148-174 MHz
Number of Channels:	200 channels
Channel Spacing:	12.5/25/30 kHz
Battery Voltage:	7.5 VDC
Temperature Range:	–30 °C to +60 °C
Case Size (W x H x D):	@@@ x @@@ x @@@ mm w/FNB-V57
Weight (approx.):	@@@ grams with FNB-V57, antenna, belt clip

RECEIVER

Circuit Type:	Double-conversion superheterodyne
IFs:	22.05 MHz & 450 kHz
12-dB SINAD Sensitivity:	< 0.2 µV
Squelch Sensitivity:	< 0.25 µV
Selectivity:	> 70 dB
Intermodulation:	> 70 dB
Spurious Rejection:	> 70 dB
Image Rejection:	> 70 dB
AF Output:	0.5 W @ 16 Ω, 5 % THD (BTL output)

TRANSMITTER

Power Output:	5.0/1.0 W (Selectable)
Frequency Stability:	better than ±2.5 ppm
Modulation System:	Direct FM
Maximum Deviation:	±2.5 kHz (12.5 kHz)/±5 kHz (25 kHz)
FM Noise:	> 35 dB (12.5 kHz)/> 40 dB (25 kHz)
Spurious Emission:	> 60 dB below carrier
AF Distortion (@ 1 kHz):	< 5 %
Microphone Type:	2-kΩ condenser

Specifications are subject to change without notice or obligation.

Accessories & Options

FVP-25	Encryption/DTMF Pager Unit
FNB-V57	7.2 V 1100 mAh Ni-Cd Battery
FBA-25	Battery Case
NC-73	13.8 VDC Rapid Desk-top Charger
NC-73B	120 VAC Rapid Desk-Top Charger
NC-73C	230-240 VAC Rapid Desk-Top Charger
NC-73U	230 VAC Rapid Desk-Top Charger
NC-76	Overnight Desktop Charger
VTP-50	VX-Trunk Unit
MH-45B4B	Speaker/Microphone
MH-37A4B	Earpiece Microphone
VC-25	VOX Headset
CT-42	PC Programming Cable
CT-27	Radio-to-Radio Programming Cable

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