Ver

VX-

VHF Band
Service Manual

EC020N90B

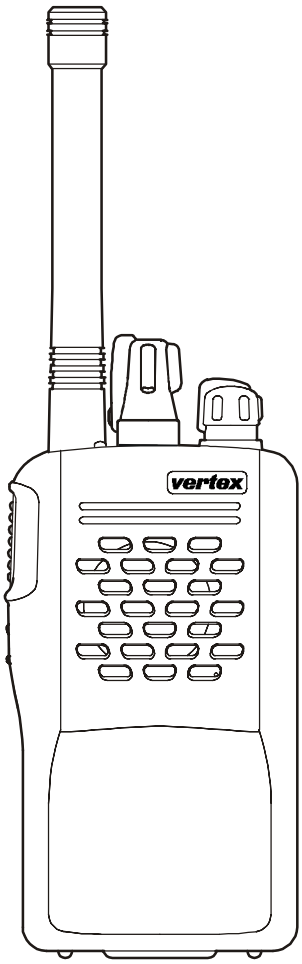
:O., LTD.
Tokyo 153-8644, Japan

CA 90630, U.S.A.

hol, The Netherlands

YAESU UK LTD.
Unit 12, Sun Valley Business Park, Winnall Close
Winchester, Hampshire, SO23 0LB, U K.

VERTEX STANDARD HK LTD.
Unit 5, 20/F., Seaview Centre, 139-141 Hoi Bun Road,
Kwun Tong, Kowloon, Hong Kong



Introduction

The Vertex VX-210AV is a compact hand portable transceiver for the VHF land mobile band that offers the convenience of small size, light weight, and simple operation.

The VX-210AV can be simply programmed by your VERTEX STANDARD Dealer with up to 16 channels for single and split frequency operation. The VX-210AV provides up to 5 watts of RF output power and includes a flexible quick-connect antenna.

The transceiver and Ni-Cd battery packs are constructed of thick high-impact polycarbonate plastic, with special attention paid by the designers to tight seals and ruggedness, assuring years of reliable operation even in harsh environments.

The following pages describe the operation, features and accessories of the VX-210AV. With proper care and operation, the transceiver will provide many years of reliable communications.

Contents

Specifications

General

Frequency Range:	134-160 MHz (A), 148-174 MHz (C)
Number of Channels:	16 channels
Channel Spacing:	12.5/15/25/30 kHz
PLL Steps:	2.5/6.25 kHz
Power Supply Voltage:	7.5 V DC ±20 %
Battery Life (5-5-90 duty):	8.2 hrs. (9.9 hrs. w/saver) @5 W
Operating Temperature Range:	–22° F to +140° F (–30° C to +60° C)
Frequency Stability:	±2.5 ppm
Dimensions:	4.21" (W) × 2.28" (H) × 1.0" (D) (108 × 58 × 26 mm)
Weight (Approx):	0.75 lb. (340 g) w/FNB-V57

Receiver (Measurements made per EIA standard TIA/EIA-603)

Sensitivity:	EIA 12 dB SINAD: 0.20 μV
	20 dB Quieting: 0.30 μV
Adjacent Channel Selectivity:	65 dB (25 kHz)/60 dB (12.5 kHz)
Intermodulation:	65 dB
Spurious and Image Rejection:	65 dB
Hum & Noise:	45 dB
Audio Output:	500 mW @4 Ohms, 5% THD

Transmitter (Measurements made per EIA standard TIA/EIA-603)

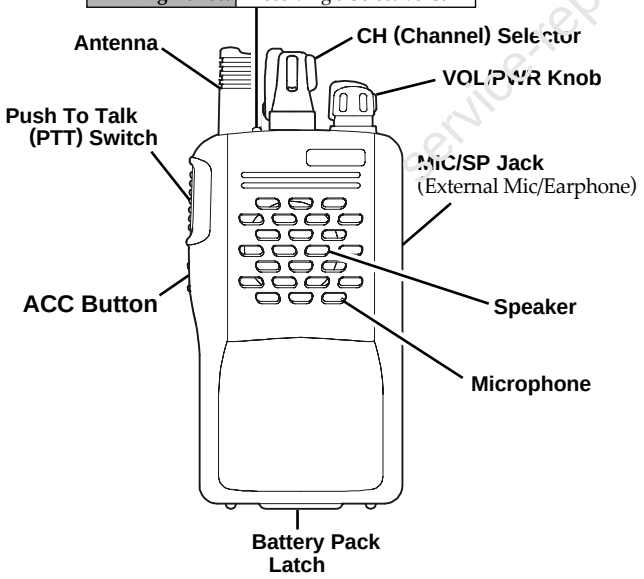
Power Output:	5 / 1 W (Selectable) or 3.5 / 1 W (Selectable) w/FBA-25
Modulation:	16K0F3E / 11K0F3E (Direct FM)
Conducted Spurious Emission:	60 dB Below Carrier
FM Hum & Noise:	40 dB (25 kHz) / 35 dB (12.5kHz)
Audio Distortion (@1 kHz):	< 5 %

Specifications subject to change without notice or obligation.

Contorols & Connectors

LED Indicator

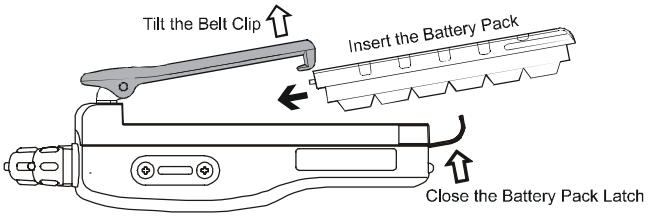
Glows Green	ACC on
Blinking Green	Busy Channel (or SQL off)
Glows Red	Transmitting
Blinking Red	Battery Voltage is low
Blinking Yellow	Receiving a Selective Call



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 holding 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 becomes to low, substitute a freshly charged battery and recharge the depleted pack. The **TX/BUSY** indicator on the top of the radio will blink ***red*** when the battery voltage is low.

❒ Avoid recharging 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).

Operation

Preliminary Steps

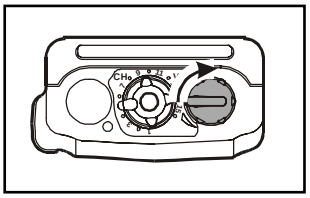
❒ Install a charged battery pack onto the transceiver, as described previously.

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

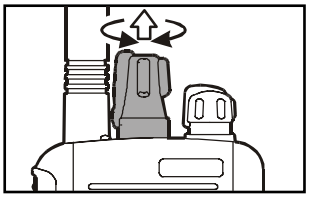
❒ If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the **VX-210A**.

Operation Quick Start

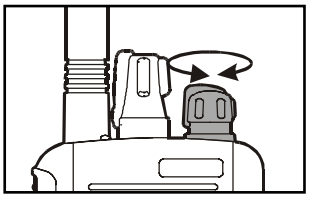
❒ Turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.



❒ *Pull and turn* the top panel's **CH** selector knob to choose the desired operating channel.



❒ Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold in the **ACC** button (the lower button on the left side) for more than 1 second (when "MONITOR" is assigned to the **ACC** button); background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.



❒ Press and hold in the **ACC** button (when "MONITOR" is assigned to the **ACC** button) for more than 1 second (or press the **ACC** button twice) to quiet the noise and resume normal (quiet) monitoring.