Front Panel Control and Switches

(1) **POWER** Switch
Turn this knob clockwise (straight down) to turn the radio on. Counterclockwise rotation will turn the radio off.

(2) **SEL** Knob
This is 20-position detended rotary switch selects the memory channels or tunes the operating frequency.

(3) **VOL** Knob
This control adjusts the audio volume level. Clockwise rotation increases the volume level.

(4) **CLAR** Knob
This control allows you to offset the receiving frequency from that originally displayed (and used for transmission) frequency by up to 200 Hz in 10 Hz/step (SSB, CW, and DATA mode), or up to 400 Hz in 20 Hz step (AM mode).

(5) **GND** Terminal
If an earth ground connection point is available at the operating site, this terminal may be connected to it to provide improved performance and safety.

(6) **ANT** Jack
This jack accepts the 50Ω antenna. If an optional antenna tuner is installed, the optional whip antenna can be connecting to this connector directly. Use only type PL-259 (type M) plug.

(7) **SQL** Switch
Turn this switch to “upper” position to keep the receiver quiet until a signal is received. Turn this switch to “lower” position to “open” the noise squelch manually, allowing you to listen for very weak signals.
This switch function can be customized, via programming by your dealer. See page XX for details regarding the available feature.

(8) **LAMP** Switch
Turn this switch to “upper” position to illuminate the LCD lamp continuously. To disable the LCD lamp, turn this switch to “lower” position.
This switch function can be customized, via programming by your dealer. See page XX for details regarding the available feature.

(9) LCD (Liquid Crystal Display)
Display the current operating channel.

(10) LED Indicator
This LED indicates the current status of the transceiver.
Glows Green: Busy Channel (or Squelch off)
Glows Yellow: Transmission in progress
Blinking Yellow:
Blinking Red: Battery voltage is nearing depletion. Prepare to replace the battery.
Glows Red: Battery voltage is critically low. Replace the battery immediately.

Rear Panel Connectors

(1) **CHG** Terminal
This 4-pin coaxial jack allows connection to the optional **CD-17** Rapid Charger or **PA-25** AC adapter.

(2) Battery Compartment
This compartment allows installation of the **FNB-66LI** Lithium-Ion Battery Pack.

Before You Begin

Battery Pack Installation and Removal

To install the Battery Pack, insert the Battery Pack into the battery compartment on the bottom of the radio, then secure the Battery Pack using the screws on the Battery Pack.
To remove the Battery Pack, turn the radio off and remove any protective cases. Unscrew the screws on the Battery Pack, then slide out the Battery Pack from the radio.
(!) Do not attempt to open the Rechargeable Battery Pack, as personal injury or damage to pack could occur if a cell or cells become accidentally short-circuited.

Battery Charging

It is necessary to fully charge the Battery Pack before its first use.
1. Install the Battery Pack into the transceiver. Ensure that the transceiver is switched off.
2. Plug the **CD-17** Charger into the AC line outlet.
3. Insert the cable plug from the **CD-17** Charger into the **CHG** terminal on the bottom of the transceiver. A fully discharged pack will be charged completely in 5 hours.
4. Unplug the cable from the **CHG** terminal, then disconnect the **CD-17** Charger from the AC line outlet.

(!) Do not connect an improper Charger into the **CHG** terminal.

Operation

Preliminary Steps

(1) Install a charged Battery Pack onto the transceiver, as described previously.
(2) Connect the **MH-50A7A** Speaker/Microphone onto the transceiver; align the connector of the **MH-50A7A** to the connector on the left side of the transceiver body, then secure the connector pin using the screws supplied with the **MH-50A7A** Speaker/Microphone.
(3) If you use this transceiver with the optional **YA-30** antenna kit, setup the **YA-30** antenna kit then connect the coaxial plug from the **YA-30** onto the **ANT** jack of the transceiver.
(4) If you use this transceiver with the optional **YHA-61** whip antenna, connect the **YHA-61** whip antenna onto the **ANT** jack of the transceiver then connect the good earth ground onto the **GND** terminal of the transceiver using heavy braided cable.

Whip Antenna Setup

(1) Connect the optional **YHA-61** whip antenna and good ground earth onto the transceiver, as described previously.
(2) Turn the transceiver on by rotating the **POWER** switch clockwise (set to straight

down) while press and holding the **CHANNEL** selector knob. Appear the "TU ADJ" in the display for three seconds, then return to the frequency display.
(3) Press and hold the **CHANNEL** selector knob for 1/2 second to initiate antenna tuning.
(4) Repeat step (3) on the all-operating channels.
(5) Turn the transceiver off to save the new setting.

Operation Quick Start
(1) Turn the transceiver on by rotating the **POWER** switch clockwise.
(2) Rotate the **SEL** knob to select the desired Memory Channel.
(3) Rotate the **VOL** knob to set the comfortable volume level.
(4) Turn the **SQL** switch (ANT side Toggle switch) to "upper" position to keep the receiver quiet until a signal is received.
(5) To transmit, press and hold the microphone's **PTT** switch, and speak into the microphone in a normal voice level. To return to the receive mode, release the **PTT** switch.
(6) If you listen a very weak signals, turn **SQL** switch to "lower" position to "open" the noise squelch manually.
(7) If the station you are receiving should start to drift, rotate the **CLAR** knob to follow the drifting signal without requiring you to move your transmit frequency.
(8) In the night time operation, turn the LAMP switch (LCD side Toggle switch) to "upper" position to illuminate the LCD display.

FUNCTION Switch Functions

The VX-1210's Function (Toggle) switches are determined to LAMP on/off (LCD side), HI/LOW switch (Center), and SQL off (ANT side) on default. Therefore, these switches functions can be customized, via programming by your Vertex Standard dealer. The possible switch programming features are illustrated below, and their functions are explained below. For future reference, check the box next to each function that has been assigned to the Function Switch on your particular radio, and keep it handy.

FUNCTIONS	[**A**] Switch (LCD Side)	[**B**] Switch (Center)	[**C**] Switch (ANT side)
Sell Call Function on/off			
Noise Blanker on/off			
Tuner on/off			
Antenna Tuning			
Encryption on/off			
LCD Display (Tag/Frequency)			
Public Amplifier on/off			
Tel Call Function on/off			
Squelch on/off			
Speaker Select			
LAMP on/off			
VFO/MR Select			

Description of Operating Functions
Sell Call Function
Enable/disable the (optional) Sell Call Unit which allow paging and selective calling,

if installed. Describe details for the Sell Call feature on page XX.

Noise Blanker on/off

Enable/disable the IF Noise Blanker. When the Noise Blanker is activated, reduce many different types of manmade impulse noise (but not atmospherics).

Tuner on/off

Enable/disable the (optional) inner **FC-XX** Automatic Antenna Tuner, if installed.

Antenna Tuning

Press and hold this switch into the "ON" position for 1/2 second to initiate antenna tuning, if an (optional) inner **FC-XX** Automatic Antenna Tuner is installed. The "WAIT" will appear on the display during tuning, and will disappear when a match has been achieved.

If the tuning is succeeded, appear the "TUNE OK" on the display. If a satisfactory match cannot be achieved by the tuner, the "TUNE NG" will appear on the display and will sound a beep, you should make adjustments or repairs to your antenna system to resolve the problem.

Encryption on/off

Enable/disable the (optional) voice encryption unit.

When the voice encryption unit is enabled, the clarifier is disabled.

Remember that disabling the encryption will mean that your transmission are no longer secure. Return to the encrypted mode as soon as possible, and do not discuss any critical or confidential information while in the non-encrypted mode of operation.

LCD Display (Tag/Frequency)

Select the display indication between the channel's frequency and the channel's Alpha/Numeric label.

Public Amplifier on/off

Enable/disable the Public Amplifier Unit, if the optional Jack & Run Unit is connected onto the rear panel.

When enable the Public Amplifier Unit, combination of the VX-1210's microphone and loudspeaker turns to Public Amplifier.

Tel Call Function

Enable/disable the Tel Call Function (DTMF dialing for Autopatch,) if the optional Sell Call Unit is installed. Describe details for the Tel Call Function on page XX.

Squelch on/off

Turn on this switch to "open" the noise squelch manually, allowing you to listen for very weak signals. Turn off this switch to resume normal (quiet) monitoring.

To Adjust the Squelch threshold level:

(1) Rotate the **SEL** knob to select a clear channel (where no signals are present).
(2) Turn the **Toggle** switch (assigned to the "squelch on/off" feature) to the "on" position.
(3) Press and hold the **SEL** knob for 5 seconds to enable modification of the squelch threshold level.
(4) Rotate the **SEL** knob to the point where the background noise will disappears;

this is point of maximum sensitivity to weak signals.

(5) Press the **SEL** knob momentarily to save the new setting and exit to the normal operation.

Speaker Select

Select the AF output between the "internal speaker" or the "optional **MH-50A7A** Speaker/Microphone."

LAMP on/off

This feature differ on the switch type.

Toggle Switch Type: Turn on this switch to illuminate the LCD lamp continuously. To disable the LCD lamp, turn off this switch.

Momentarily Switch Type: Press this switch momentarily, (A) illuminate the LCD lamp for three seconds, after which the lamp will automatically shout off, or (B) illuminate the LCD lamp until you press this switch once more (no time limit).

These functions are determined via programming by your vertex Standard Dealer.

VFO/MR Select

Select the frequency control between the "VFO" and "Memory System."

(1) Press and hold this switch for 1/2 second, copy the memory channel data to the VFO and switch the frequency control to the VFO.

(2) Press this switch momentarily, return the frequency control to the Memory System (this switch select the frequency control between the "VFO" and "Memory System").

Sell Call Operation

The VX-1210 Sell Call feature allow paging and selective calling using 4-digit codes transmitted as DTMF sequence. Your receiver remains silent until it receives four DTMF digit that match those stored in a dedicated code memory.

When the Sell Call feature is activated, the clarifier is disabled.

Receiving a Sell Call

When a Sell Call is decoded, sounds an alert ringer 30 seconds and appear the ID code of calling stations (such as "ID1234") in the display. If a private Sell Call is detected, the VX-1210 send the answer back signal to the calling station automatically before sounds as alert ringer.

If you press the **PTT** switch after receiving a Sell Call, the transceiver sends the calling station's ID Code, a DTMF "star (*)" followed by your own four-digit code all automatically to respond to the calling station.

Unless you are responded, the alert beeper every three seconds and scroll the "[CALL RECEIVED] plus calling station's ID Code" in the display the for the until you are responded.

Sending a Sell Call

(1) Press the **Toggle** switch (assigned to the "Sell Call" feature) momentarily to enable to select the code memory.

(2) Rotate the **SEL** knob to select (display) the code memory of the station you want to

cell call.

(3) Within five seconds of selecting the code memory, press and hold the **Toggle** switch (assigned to the "Sell Call" feature) for 1/2 second to send a sell call.

Manual Sending

If your VX-1210 has not program the 4-digit codes for the Sell Call feature into the code memory, you can pre-program and send 4-digit codes temporarily.

Here is the Sell Call manual sending procedure:

(1) Press the **Toggle** switch (assigned to the "Sell Call" feature) momentarily.
(2) Rotate the **SEL** knob to select (display) the "AUX xxxx."
(3) Press the **SEL** knob momentarily, then rotate the **SEL** knob to select the first number of 4-digit codes you want to send.
(4) Press the **SEL** knob momentarily to step to the next digit's place. Use the **SEL** knob to again select a number and to step to the next entry.
(5) After entering all four numbers you want to send, press and hold the **SEL** knob for 1/2 second to save the 4-digits into the code memory temporarily.
(6) Press and hold the **Toggle** switch (assigned to the "Sell Call" feature) for 1/2 second to send a sell call.

Tel Call Operation

The VX-1210 allows easy Tel Call Operation (DTMF dialing) for Autopatch.

When the Tel Call feature is activated, the clarifier is disabled.

Sending a Tel Call (DTMF Autodialer)

(1) Press the **Toggle** switch (assigned to the "Tel Call" feature) momentarily to enable to select the code memory.
(2) Rotate the **SEL** knob to select the DTMF memory string you wish to send.
(3) Within five seconds of selecting the DTMF memory, press and hold the **Toggle** switch (assigned to the "Tel Call" feature) for 1/2 second to send a DTMF tone corresponding a telephone number.
(4) When finish the communication, press and hold the **Toggle** switch for 2 second while press and holding the **SEL** knob to send the "Hand-up" signal.

Manual DTMF Tone Generation

If your VX-1210 has not store the telephone number into the DTMF memory, you can pre-program and send a telephone number temporarily.

Here is the manual DTMF tone generation procedure:

(1) Press the **Toggle** switch (assigned to the "Tel Call" feature) momentarily.
(2) Rotate the **SEL** knob to select (display) the "AUX xxxx."
(3) Press the **SEL** knob momentarily, then rotate the **SEL** knob to select the first number of telephone number you want to send.
(4) Press the **SEL** knob momentarily to step to the next digit's place. Use the **SEL** knob to again select a number and to step to the next entry.
(5) After entering the telephone number you want to send, press and hold the **SEL** knob for 1/2 second to save the telephone number into the DTMF memory temporarily.
(6) Press and hold the **Toggle** switch (assigned to the "Tel Call" feature) for 1/2 second to send a DTMF tone corresponding a telephone number.

Specifications

General

Frequency Range: 1.705 ~ 30 MHz
Emission Modes: J3E (LSB/USB)
Synthesizer Steps: 100Hz
Antenna Impedance: 50Ω, Unbalanced
Operating Temperature Range: –10 °C to + 50 °C
Frequency Stability: ±1 ppm (–10 °C to + 50 °C)
Power Requirements: DC 13.2V Ni-Cd Battery, DC 14.4V Lithium-ion Battery or DC 13.8V Negative Ground
Current Consumption: Receive (Saver off) 0.5 A, Receive (Saver on) 0.1 A, Transmit 5A
Case Size: 193 (W) x 74 (H) x 274 (D) mm
Weight (approx.): 3.2 kg with **FNB-66LI** Lithium-Ion Battery Pack

Transmitter

Power Output: 20W (PEP)
Modulation Type: Balanced Modulator
Spurious Radiation: At least 56 dB down
Carrier Suppression: At least 50 dB
Undesired Sideband Suppression: At least 50 dB @1.5 kHz tone
Audio Response: 350 to 2650 Hz (–6 dB)
3rd-order IMD: –31 dB
Microphone Impedance: 2 kΩ, condenser

Receiver

Circuit Type: Double Conversion Superheterodyne
Intermediate Frequencies: 47.055 MHz & 10.7MHz
Sensitivity: 0.4 µV (10 dB S/N)
Squelch Sensitivity: 2 µV
IF Rejection: Better than 70 dB
Image Rejection: Better than 70 dB
Selectivity (–6 dB/–60 dB): 2.2 kHz/5.2 kHz
Audio Output: At least 1.5 W into 4 Ω @ 10% THD
Clarifier Adjustment Range: ±200 Hz