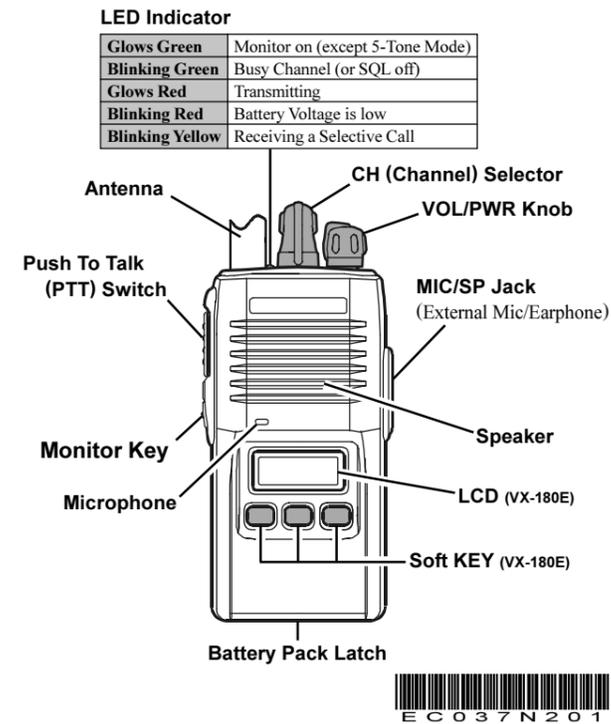


# VX-160E/-180E Operating Manual

## Controls & Connectors



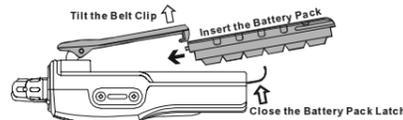
### LED Indicator

Glows Green	Monitor on (except 5-Tone Mode)
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 battery 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 too low, substitute a freshly charged battery and recharge the depleted pack. The **TX/BUSY** indicator on the top of the radio will blink **red** (on the **VX-180E**, the "CA" icon will appear on the LCD) when the battery voltage is low.
- Avoid recharging Ni-MH 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).

## Important Notice!

- Please read this manual carefully to become familiar with the features of this transceiver.
- When transmitting, hold the radio in a vertical position with its microphone 2.5 to 5 cm away from your mouth and keep the antenna at least 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 (PTT) configurations. **DO NOT** transmit for more than 50% of total radio use time (50% duty cycle). Transmitting more than 50% of the time can cause RF exposure compliance requirements to be exceeded. The radio is transmitting when the red LED on the top of the radio is illuminated. You can cause the radio to transmit by pressing the PTT button.
- DO NOT** transmit when the radio is used in Body Worn configuration with the following accessory: belt-clip (Parts # CP7321001). It must be used **ONLY** for (1) there is a 4 cm distance from the body during transmitting, (2) monitoring purposes, using the speaker only and (3) for carrying purposes.
- Battery Pack shall not be exposed to excessive heat such as sunshine, fire or the like.
- Always use Vertex Standard authorized accessories.

### Notice!

There are no owner-serviceable parts inside the transceiver. All service jobs must be referred to an authorized VERTEX STANDARD Service Representative. Consult your Authorized VERTEX STANDARD Dealer for installation of optional accessories.

**VERTEX STANDARD CO., LTD.**  
4-8-8 Nakameguro, Meguro-Ku, Tokyo 153-8644, Japan

**VERTEX STANDARD US Headquarters**  
10900 Walker Street, Cypress, CA 90630, U.S.A.

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

**VERTEX STANDARD HK LTD.**  
Unit 1306-1308, 13F., Millennium City 2, 378 Kwun Tong Road,  
Kwun Tong, Kowloon, Hong Kong

**VERTEX STANDARD (AUSTRALIA) PTY., LTD.**  
Tally Ho Business Park, 10 Wesley Court, East Burwood, VIC, 3151

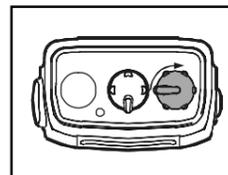
## Operation

### Preliminary Steps

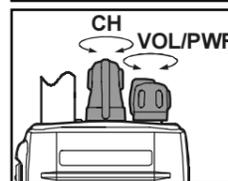
- Install a charged battery pack onto the transceiver, as described previously.
- Screw the supplied antenna onto the Antenna jack. Never attempt to operate this transceiver without an antenna connected.
- If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the **VX-160E/-180E**.

### Operation Quick Start

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

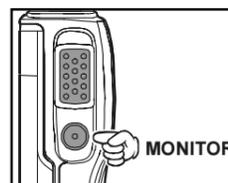


- Turn the top panel's **CH** selector knob to choose the desired operating channel.

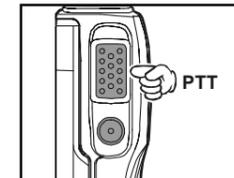


- Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold in the **MONITOR** key (the lower button on the left side) for more than 1.5 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.

- Press and hold in the **MONITOR** key for more than 1.5 seconds (or press the **MONITOR** key twice) to quiet the noise and resume normal (quiet) monitoring (default).

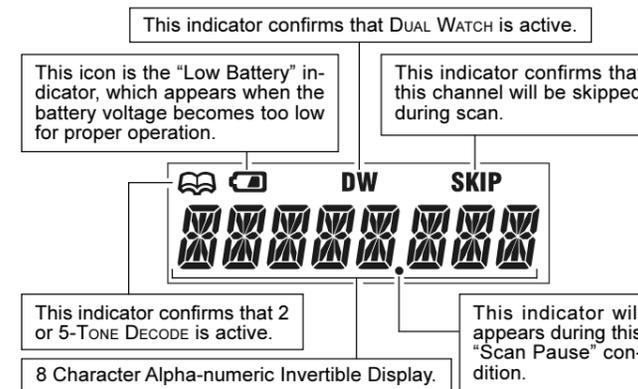


- To transmit, press and hold in the **PTT** switch. Speak into the microphone area of the front panel grille (lower left-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.



- If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then insert the plug from the Speaker/Microphone into the **MIC/SP** jack; secure the plug using the screws 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.

## Display Icons & Indicators (VX-180E Only)



## Key Functions

The **VX-180E** provides programmable [A], [B], and [C] function keys, and both the **VX-160E** and **VX-180E** provide programmable **MONITOR** keys. These "Soft" keys functions can be customized (set to other functions), via programming by your **VERTEX STANDARD** dealer, to meet your communications/network requirements. The possible **Soft** key programming features are illustrated below, and their functions are explained in the next chapter. For further details, contact your **VERTEX STANDARD** dealer. For future reference, check the box next to each function that has been assigned to the **Soft** key on your particular radio, and keep it handy.

## Accessories & Options

<b>FNB-83</b>	7.2 V 1400 mAh Ni-MH Battery
<b>FBA-25A</b>	Alkaline Battery Case
<b>CD-30</b>	Desktop Charger
<b>PA-38C</b>	230 VAC AC Adapter
<b>PA-38U</b>	230 VAC AC Adapter
<b>MH-45B4B</b>	Speaker/Microphone
<b>MH-37A4B</b>	Earpiece Microphone
<b>VC-25</b>	VOX Headset
<b>ATV-8A</b>	VHF Antenna, 134~151 MHz (Stubby)
<b>ATV-8B</b>	VHF Antenna, 150~163 MHz (Stubby)
<b>ATV-8C</b>	VHF Antenna, 161~174 MHz (Stubby)
<b>ATV-6XL</b>	VHF Antenna, 134~174 MHz (Untuned)
<b>ATU-6A</b>	UHF Antenna, 410~430 MHz
<b>ATU-6C</b>	UHF Antenna, 440~470 MHz
<b>CT-42</b>	PC Programming Cable
<b>CT-27</b>	Radio to Radio Programming Cable
<b>CE51</b>	Programming Software

Function	Soft Key						MONITOR Key	
	[A] Press	[A] Press and Hold	[B] Press	[B] Press and Hold	[C] Press	[C] Press and Hold	Press	Press and Hold
None								
Monitor								
Squelch off								
Low Power								
Lock*								
Lamp*								
Channel Up*								
Channel Down*								
Scan								
Follow-me Scan								
Dual Watch								
Talk Around								
Add/Del*								
Reset								
Speed Dial								
TX Save Off								
Call 1								
Call 2								
Call 3								
Code Select*								
Code Up*								
Code Down*								
Emergency	—		—		—		—	
Group**								

\* VX-180E only  
\*\* 32 Channel Version only

## Description of Operating Functions

### Monitor

Press the assigned **Soft** key momentarily to override (disable) the Tone squelch (For the 5-Tone mode, please ask to your nearest Vertex Standard dealers).

### Squelch OFF

Press (or Press and hold) the assigned **Soft** key to hear background noise (unmute the audio).

Background noise or incoming signals will now be heard whether or not a matching tone is present on the signal.

Press and hold in the assigned **Soft** key for more than 1 seconds to override both the Noise and Tone squelch. Again press and hold in the assigned **Soft** key for more than 1 seconds (or press the assigned **Soft** key twice) to resume normal (quiet) Noise and Tone squelch action.

### Low Power

Press (or Press and hold) the assigned **Soft** key to set the radio's transmitter to the "Low Power" mode, thus extending battery life. Press the assigned **Soft** key again to return to "High Power" operation when in difficult terrain.

### Lock

Press (or Press and hold) the assigned **Soft** key to lock the **Soft** keys (except **Emergency**, **Lock** and **Monitor** key); thus, the [A], [B], [C], and **MONITOR** keys can be disabled to prevent radio settings from being disturbed.

### Lamp

Press (or Press and hold) the assigned **Soft** key to illuminate the LCD for five seconds.

### Channel Up

Press (or Press and hold) the assigned **Soft** key to switch to a higher operating channel number.

### Channel Down

Press (or Press and hold) the assigned **Soft** key to switch to a lower operating channel number.

### Scan

The Scanning feature is used to monitor multiple channels programmed into the transceiver. While scanning, the radio will check each channel for the presence of a signal, and will stop on a channel if a signal is present.

- To activate scanning:

Press (or Press and hold) the assigned **Soft** key.

The scanner will search the channels, looking for active ones; it will pause each time it finds a channel on which someone is speaking.

- To stop scanning:

Press (or Press and hold) the assigned **Soft** key.

Operation will revert to the channel to which the CH knob is set.

### Follow-Me Scan

"Follow-Me" Scan feature checks a *User-assigned* Priority Channel regularly as you scan the other channels. Thus, if only Channels 1, 3, and 5 (of the 8 available channels) are designated for "Scanning," the user may nonetheless assign Channel as the "User-assigned" Priority Channel via the "Follow-Me" feature.

Press the assigned **Soft** key to activate "Follow-Me" scanning, then turn the CH selector knob to the channel which you want to designate as the "User-Assigned Priority Channel". When the scanner stops on an "active" channel, the User-assigned Priority Channel will automatically be checked every few seconds.

### Dual Watch

The Dual Watch feature is similar to the Scan feature, except that only two channels are monitored: the current operating channel, and the "Priority" channel.

- To activate Dual Watch:

Press (or Press and hold) the assigned **Soft** key.

The scanner will search the two channels; it will pause each time it finds a channel on which someone is speaking.

- To stop Dual Watch:

Press the assigned **Soft** key.

Operation will revert to the channel to which the CH knob is set.

### Talk Around

Press (or Press and hold) the assigned **Soft** to activate the Talk Around feature when you are operating on duplex channel systems (separate receive and transmit frequencies, utilizing a "repeater" station). The Talk Around feature allows you to bypass the repeater station and talk directly to a station that is nearby. This feature has no effect when you are operating on "Simplex" channels, where the receive and transmit frequencies are already the same.

Note that your dealer may have made provision for "Talk Around" channels by programming "repeater" and "Talk Around" frequencies on two adjacent channels. If so, the key may be used for one of the other Pre-Programmed Functions.

### Add/Del

The Add/Del feature allows the user to arrange a custom Scan.

Press (or Press and hold) the assigned **Soft** key to delete/restore the current channel to/from your scanning list.

When you delete a current channel, "**SKIP**" will appear on the LCD after pressing the **Soft** key. When you restore a current channel, "**SKIP**" indicator on the LCD will turn off.

### Reset

Press (or Press and hold) the assigned soft key to reset the 2-Tone or 5-Tone sequential signaling System.

### Speed Dial

Your Dealer may have pre-programmed Auto-Dial telephone number memories into your radio.

To dial a number, just press (or Press and hold) the Dealer-assigned **Soft** key for Speed Dialing. The DTMF tones sent during the dialing sequence will be heard in the speaker.

### TX Save Off

Press (or Press and hold) the assigned **Soft** key to disable the Transmit Battery Saver, if you are operating in a location where high power is almost always needed.

The Transmit Battery Saver helps extend battery life by reducing transmit power when a very strong signal from an apparently nearby station is being received. Under some circumstances, though, your hand-held radio may not be heard well at the other end of the communication path, and high power may be necessary at all times.

### Call 1

Press (or Press and hold) the assigned **Soft** key to send the 5-Tone sequential Code which is set to the present channel.

### Call 2 / 3

Press (or Press and hold) the assigned **Soft** Key to send the pre-programmed 5-Tone sequential Code.

### Code Select

Press (or Press and hold) the assigned **Soft** Key to engage the setting of the 5-Tone sequential Code.

While setting the sequential code, press (or Press and hold) this key to move the cursor to the next character.

### Code Up

Press (or Press and hold) the assigned **Soft** Key to switch to a higher paging code number for the 5-Tone sequential signaling System.

While setting the sequential code, press (or Press and hold) this key to switch to a higher sequential Code number.

### Code Down

Press (or Press and hold) the assigned **Soft** Key to switch to a lower paging code number for the 5-Tone sequential signaling System.

While setting the sequential code, press (or Press and hold) this key to switch to a lower sequential Code number.

### Emergency

The **VX-160E/-180E** includes an "Emergency" feature which may be useful if you have someone monitoring on the same frequency as your transceiver's channel. For further details contact your nearest Vertex Standard dealer.

### Group (32 Channel Version only)

The **32-channel Version** is capable of separating its 32 channels into either of 2 groups (Group-A: CH 1~CH 16, Group-B: CH17~CH32). Press (or press and hold in) the assigned **Soft** Key to change the between Group-A and Group-B.



## Declaration of Conformity

We, YAESU UK Ltd. declare under our sole responsibility that the following equipment complies with the essential requirements of the Directive 1999/5/EC.

Type of Equipment:	FM Transceiver
Brand Name:	VERTEX STANDARD
Model Number:	VX-160EV, VX-160EU, VX-180EV, and VX-180EU
Manufacturer:	Vertex Standard Co., Ltd.
Address of Manufacturer:	4-8-8 Nakameguro Meguro-Ku, Tokyo 153-8644, Japan

Applicable Standards:

This equipment is tested and conforms to the essential requirements of directive, as included in following standards.

Radio Standard:	EN 300 086-2 V1.1.1
EMC Standard:	EN 301 489-1 V1.6.1 EN 301 489-5 V1.3.1
Safety Standard:	EN 60065 (2006)

The technical documentation as required by the Conformity Assessment procedures is kept at the following address:

Company: YAESU UK Ltd.  
Address: Unit 12, Sun Valley Business Park, Winnall Close  
Winchester, Hampshire, SO23 0LB, U.K.

### ATTENTION IN CASE OF USE

This transceiver works on frequencies which are not generally permitted.

For frequency allocation, apply for a licence at your local spectrum management authority.

For actual usage contact your dealer or sales shop in order to get your transceiver adjusted to the allocated frequency range.

List of the practicable area					
AUT	BEL	BGR	CYP	CZE	DEU
DNK	ESP	EST	FIN	FRA	GBR
GRC	HUN	IRL	ITA	LTU	LUX
LVA	MLT	NLD	POL	PRT	ROU
SVK	SVN	SWE	CHE	ISL	LIE
NOR					

### Disposal of your Electronic and Electric Equipment

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Electronic and Electric Equipment should be recycled at a facility capable of handling these items and their waste byproducts.

In EU countries, please contact your local equipment supplier representative or service center for information about the waste collection system in your country.

