

# VX-160E/180E SERIES

## VHF/UHF Portable Radios



**Rugged, Durable Portables with Unmatched Operating Ease**

- LIGHT WEIGHT AND COMPACT SIZE
- 16 CHANNEL CAPACITY
- 5 WATTS POWER OUTPUT (Selectable to 1 Watt)
- 8-CHARACTER ALPHANUMERIC DISPLAY (VX-180E)
- RUGGED CONSTRUCTION
- LOUD, CLEAR AUDIO OUTPUT
- 25/20/12.5 kHz BANDWIDTH PROGRAMMABLE BY CHANNEL
- 3 PROGRAMMABLE FRONT-PANEL FUNCTION KEYS (VX-180E)
- CTCSS/DCS ENCODE + DECODE
- AUTOMATIC NUMBER IDENTIFIER (ANI)
- 5 TONE ENCODE/DECODE
- MULTI-MODE SCAN (incl. Dual Watch, Priority, Follow-Me)
  - ARTS™ (Auto-Range Transpond System)
  - BCLO, BTLO, AND TOT FUNCTIONS
  - TX/RX BATTERY SAVER CIRCUIT
  - PC PROGRAMMING
  - RADIO-TO-RADIO CLONING
  - MIL-STD 810 C/D/E
  - IP54

**VX-160** **VX-180** (w / LCD + 3 Programmable keys)

Actual Size  
\* Simulated LCD display

**IP54**  
**CE**

## VX-160E/180E SERIES

### SUPER RUGGED CONSTRUCTION

Housed inside a high-impact case, the diecast chassis of the VX-180E provides a solid, rugged foundation for the VX-160E/180E's circuitry. Built to withstand the harshest world of the factory floor, construction site or fleet user, the VX-180E will provide many years of reliable communications.

### 8-CHARACTER ALPHANUMERIC DISPLAY (VX-180E)

Providing indication of either the channel number or an Alphanumeric Channel Label of up to 8 characters, the LCD display also provides convenient operation function icons to provide instant recognition of radio status.



### 3 PROGRAMMABLE OPERATING FUNCTION KEYS

The VX-180E radio functions and features can be assigned to the 3 front panel programmable keys. Functions include Keypad lock, Channel change, TX Power, Scan functions, Selective Call/Reset.



### CTCSS / DCS ENCODE + DECODE

High-performance Encoder/Decoder circuits for both CTCSS and Digital Code Squelch are provided, for access to tone/code controlled systems. DCS is ideal for crowded RF environments, providing superior immunity from false opening of squelch.

### AUTOMATIC NUMBER IDENTIFIER (ANI)

The VX-160E/180E includes an Automatic Number Identifier circuit, which will respond to an incoming ANI burst for selective paging of an individual portable.

### 5-TONE ENCODE/DECODE

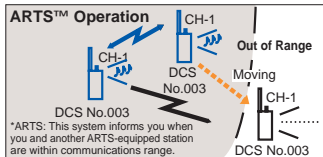
The VX-160E/180E also has a 5 Tone Encoder and Decoder built-in. The radio can respond to an individual or group call 5 tone sequence, and can generate 5 Tone calling sequences for individual or group call facilities.

### VERSATILE SCANNING FEATURES

The high-speed scanning capabilities of the VX-160E/180E with its all channel, dual watch, Priority channel, Last Busy and "Follow me" scanning options ensures that the VX-160E/180E can meet the most stringent user needs.

### ARTS™ (Auto Range Transponding System)

Included in the VX-160E/180E is Vertex Standard's exclusive ARTS™ feature, which can be critically important in search-and-rescue applications. ARTS™ provides a "hand-shake" with other ARTS™-equipped transceivers, and the display indicates if an "Out of Range" condition exists. The base station can then alert the field unit to move to a better location.



### BCL0, BTLO, AND TOT

To facilitate efficient channel management, the VX-160E/180E provides Busy Channel Lock-Out (BCL0) and Busy Tone Lock-Out (BTLO) features. What's more, the transmitter's Time-Out Timer (TOT) function prevents a "stuck microphone" condition from jamming a channel for an extended period of time.

### TX/RX BATTERY SAVER CIRCUIT

To maximize battery life, the VX-160E/180E includes both transmit- and receive-mode battery savers. On transmit, the portable will reduce power when the incoming signal is very strong. On receive, the radio will put itself into a pulsing "sleep" mode, periodically checking for channel activity.

### PC PROGRAMMING

The channel and feature configurations are easily programmed in minutes by the dealer, using the optional Programming Cable and Programming Software.

### RADIO TO RADIO CLONE FEATURE

For quick programming of VX-160/180E radios for fleet use, the "Clone" feature allows copying of all channel and other configuration data from one VX-160E/180E to another, using the optional Cloning Cable.

### 500 mW AUDIO OUTPUT

Ideal for reception in noisy environments, the VX-160E/180E's high-powered audio is coupled to a large internal speaker, assuring solid copy throughout difficult construction site or field operations.

### MIL-STD 810 C/D/E

Built to meet or exceed the requirements of the U.S. MIL-STD 810 C/D/E standard, the VX-160E/180E is designed to survive under difficult operating conditions of shock, vibration, and driving rain. Cost-performance begins with durability, and the Mil-Spec toughness of the VX-180E is your guarantee of its design quality.



Water Resistant Construction

### APPLICABLE MIL-STD

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures
Low Pressure		500.2/Procedure I	500.3/Procedure I
High Temperature		501.2/Procedure I, II	501.3/Procedure I, II
Low Temperature		502.2/Procedure I, II	502.3/Procedure I, II
Temperature Shock		503.2/Procedure I	503.3/Procedure I
Solar Radiation		505.2/Procedure I	505.3/Procedure I
Rain		506.2/Procedure II	506.3/Procedure II
Humidity		507.2/Procedure II	507.3/Procedure II
Salt Fog		509.2/Procedure I	509.3/Procedure I
Dust		510.2/Procedure I	510.3/Procedure I
Vibration	514.2/Procedure VIII	514.3/Procedure I Cat. 10	514.4/Procedure I Cat. 10
Shock	516.2/Procedure I	516.3/Procedure I, IV	516.4/Procedure I, IV

## Specifications

	VX-160E/180E(VHF)	VX-160E/180E(UHF)
<b>General Specifications</b>		
Applicable Standard	EN 300 086, EN 301 489, EN 60065	
Frequency Range	134-160 MHz (A) 146-174 MHz (C)	400-430 MHz (AS1) 440-470 MHz (CS)
Number of Channels	16 ch	
Channel Spacing	25 / 20 / 12.5 kHz	
PLL Steps	5 / 6.25 kHz	
Operating voltage	7.5 VDC ± 20 %	
Battery Life (5-90 duty) @5 W		
w/FNB-V67LI (2000mAh)	14.8 hrs. (18 hrs. w/saver)	12.8 hrs. (15.3 hrs. w/saver)
w/FNB-V57 (1100 mAh)	8.2 hrs. (9.9 hrs. w/saver)	7.1 hrs. (8.5 hrs. w/saver)
Temperature Range	-20° C to +55° C	
Frequency Stability	±1.5 kHz	
Case size(WxHxD)	58 x 120 x 34 mm (w/FNB-V67LI)	58 x 120 x 31 mm (w/FNB-83)
Weight (Approx)	320 g (w/FNB-V67LI, Antenna, Belt clip)	365 g (w/FNB-83, antenna, belt clip)

### Receiver Specifications

	VX-160E/180E(VHF)	VX-160E/180E(UHF)
Sensitivity	20 dB SINAD	
Adjacent Channel Selectivity	65 dB	
Intermodulation	65 dB	
Spurious response rejection	70 dB	
Hum & Noise	45 dB (TIA/EIA)	
Audio output	500 mW @ 4 Ohm, 10 % THD	

### Transmitter Specifications

Power Output	5.0/1.0 W	
Modulation Limiting (EN)	±5.0 kHz at 25 kHz ±4.0 kHz at 20 kHz ±2.5 kHz at 12.5 kHz	
Type of emission	16K0F3E / 14K0F3E / 11K0F3E(TIA/EIA)	
Conducted Spurious Emissions	-36 dBm @ ≤1 GHz, -30 dBm @ > 1 GHz	
FM Noise	45 dB/45 dB/40dB (TIA/EIA)	
Modulation distortion (@ 1 kHz)	3 %	

Specification are subject to change without notice or obligation.

## Accessories & Options


## ANTENNA LIST

UHF	ATU-6A	400-430 MHz
	ATU-6C	440-470 MHz
VHF	ATV-6A	134-151 MHz/3.5"
	ATV-6B	150-163 MHz/3.5"
	ATV-6C	161-174 MHz/3.5"
	ATV-6XL	VHF UNTUNED
	ATV-8A	134-151 MHz
	ATV-8B	150-163 MHz
	ATV-8C	161-174 MHz

- LCC-180 / S Leather Case (S for swivel belt clip)
- CT-27 Radio to Radio Cloning Cable
- CLIP-17C Swivel Belt Clip

Programming Cable **USB** **FIF-10/A + CT-106** **RS-232C** **CT-29 + CT-28** Programming Software **CE51**

\*B for 120 VAC / C for 240 VAC / U for 230 VAC



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