

VX-4100E/4200E SERIES

VHF/UHF Mobile Radios



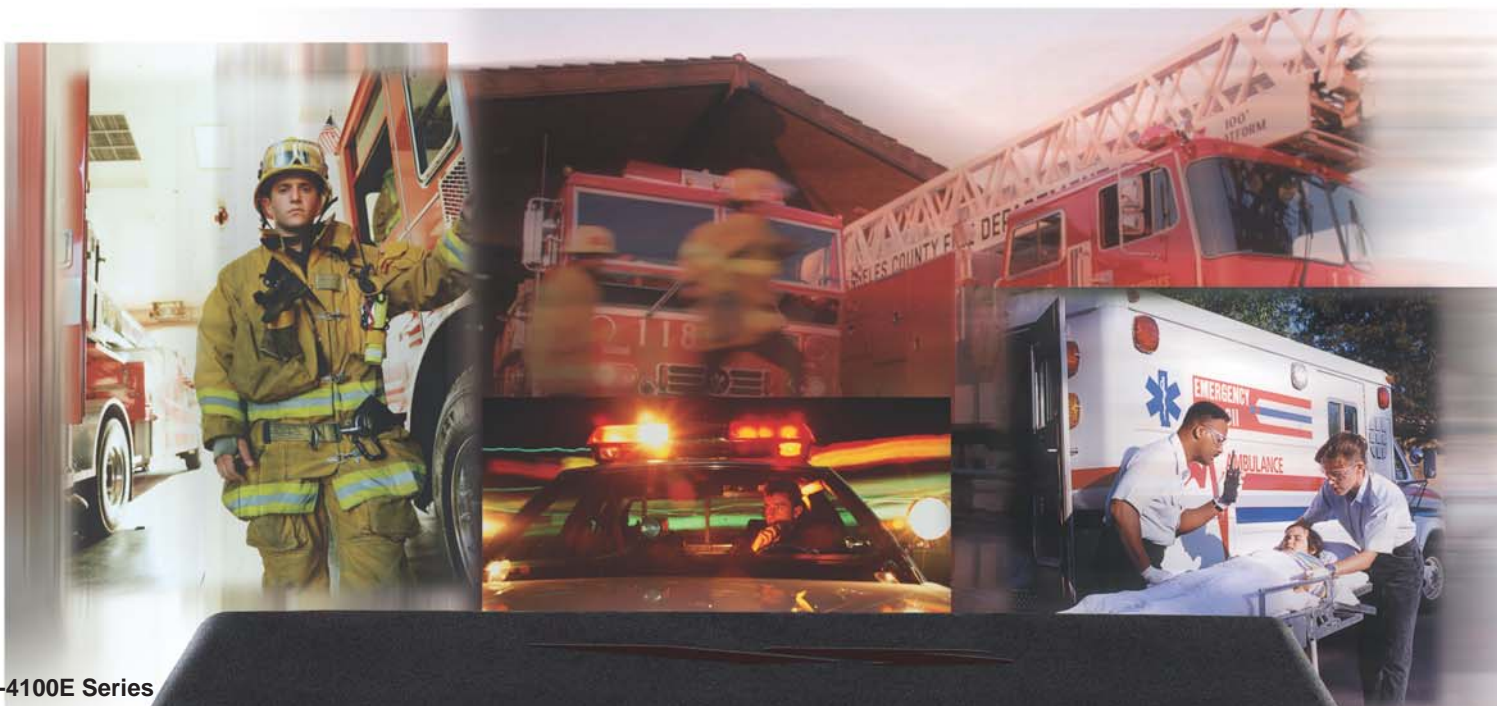
- POWER OUTPUT : 25 W
- WIDE FREQUENCY SPAN
 - 134-174 MHz (VX-4104E/4204E)
 - 400-470 MHz (VX-4107E/4207E)
- 501 CHANNELS/32 GROUPS (VX-4200E SERIES)
- 8 CHANNELS (VX-4100E SERIES)
- LARGE LCD WITH 12-CHARACTER ALPHA-NUMERIC LABELS AND OPERATING STATUS ICONS (VX-4200E)
- WIDE/NARROW DEVIATION (12.5/20/25 kHz), PROGRAMMABLE PER CHANNEL
- CTCSS AND DCS ENCODE/DECODE
- DTMF ANI AND PAGING
- 2-TONE ENCODE AND MULTIPLE 2-TONE DECODE
- 5-TONE SIGNALLING BUILT IN
- USER-SELECTABLE TONES
- CHANNEL SCAN PLUS PRIORITY SCAN, DUAL WATCH, AND FOLLOW-ME SCAN/DW
- BUILT-IN EMERGENCY MICROPHONE
- AUDIO COMPANDER (WIDE/NARROW-BAND)
- LOUD 2 AUDIO OUTPUT FRONT SPEAKER
- BCLO, BTLO, AND TOT
- REMOTE RADIO STUN/KILL/REVIVE (5-TONE)
- PUBLIC ADDRESS/HORN ALERT
- PROGRAMMABLE MINIMUM VOLUME
 - PROGRAMMABLE FUNCTION KEYS
 - USER "SET" (MENU) MODE
 - D-SUB 15-PIN ACCESSORY CONNECTOR
 - ARTS™ (AUTO-RANGE TRANSPONDER SYSTEM)
 - OPTIONAL ENCRYPTION
 - OPTIONAL VOICE STORAGE
 - MIL-STD 810 C/D/E



VX-4100E/VX-4200E

SERIES

Public Safety applications require three essential elements: reliability, ruggedness, and performance versatility. These three elements are found in the VX-4100E (8-Channel) and VX-4200E (501-Channel) series of FM Mobiles from Vertex Standard. Wide programmable frequency coverage, leading-edge signaling capability, and a 12-character alpha-numeric display are just a few of the many reasons why the VX-4100E and VX-4200E are the best choice for the most demanding Public Safety environments.



VX-4100E Series



VX-4200E Series

Actual Size

VX-4100E Series 8 Channels VHF/UHF Mobile Radios

3 PROGRAMMABLE FRONT KEYS

The programmable keys allow for customizing the radio to suit your needs. Programmable functions include (but not limited to): Monitor, Home Channel, Direct access (channel #), External accessory control, Scan and many many more. The radio can be configured for your needs, and leave out the features you don't need to worry about.



VX-4200E Series 501 Channels VHF/UHF Mobile Radios

5 PROGRAMMABLE FRONT PANEL KEYS

The [P1] - [P4] and [A] keys of the VX-4200E allow even more operating flexibility. The available functions include (but are not limited to): Monitor, Squelch, Dimmer, Home Channel, Direct Access (channel #), External Accessory control, and a host of others. Program in the features you need, and leave out the ones you don't.

HIGH CONTRAST LCD DISPLAY

The high contrast LCD allows for 12-character alphanumeric channel tags, enough characters to name the channel while still providing large character size. Besides the Channel and Group name, the display tells you Scan status, Power level, Priority Scan status, Voice Message (received) status, plus Channel and Group numbers in a sub display.

GENEROUS CHANNEL CAPACITY

Every time you need a lot of channels, we have you covered, with 501 channels assignable into as many as 32 groups. With no restrictions on how channels may be assigned into groups, you have complete flexibility, whether you need 15, 50, or 501 channels.

DIRECT CHANNEL ACCESS

Despite the 501-channel capacity of the VX-4200E, we know you always have one or two channels that are your primary operating slots. So we provide for assignment of the programmable keys as (up to) four Direct Channel Access keys, so you can jump to an often-used channel instantly, even if it's in a different memory group.



HIGH PERFORMANCE

WIDE BANDWIDTH

For communicating with other agencies, companies, or even within your own communications system, the wide bandwidth of this radio will let you operate anywhere within the 40 MHz (VHF) or 70 MHz (UHF) band.

WIDE / NARROW (12.5 / 20 / 25 kHz PER CHANNEL)

The VX-4100E/VX-4200E may be programmed with Wide or Narrow operating bandwidths, channel by channel, to conform to your local channel environment. Ideal for multi-jurisdiction operations.

AUDIO COMPANDING

For narrow-band channel applications, the built-in Audio Companding system compresses the voice waveform during transmission, and expands it during reception, allowing full-sounding audio despite the restricted transmission bandwidth.

LOUD AUDIO OUTPUT FRONT SPEAKER

The VX-4100E/VX-4200E's high-powered audio (2 Watts) is coupled to a large, front-facing speaker, producing high-quality, crisp audio that will punch through even in the noisy environments experienced by public safety officers.



VERSATILITY

POPULAR 2-TONE ENCODE AND DECODE FUNCTIONS

2-Tone encode and decode gives you the selective calling used nationwide. Encode and decode functions for the 2-tone format include multiple decode pairs as well as multiple encode tones. DTMF paging and identification is also built-in to allow selective paging and to see who is calling you.

BUILT-IN 5-TONE SIGNALLING

The 5-Tone signaling feature gives you many features found on much higher priced competitors. Features such as remote Stun, Kill, Revive, Remote listen (remote TX), 100 unique status messages, ANI Tag display, and many more.

REMOTE STUN/KILL/REVIVE

Need to disable a radio in the field? No problem. The VX-4100E/4200E gives you the ability to Stun, Kill, and Revive over the air in the 5-Tone signalling. Another built-in feature you can use to your system's advantage.

OPTIONAL VOICE STORAGE

With the optional DVS-5 Voice Storage unit installed, you can hear page transmissions while away from the vehicle. When activated (programmable softkey), the voice storage unit waits for a page, then begins recording. Upon return, you will see the "Message Icon" alerting you of the page and message.

PROGRAMMABLE MINIMUM VOLUME

Another feature to ensure all calls are heard. The radio can be programmed for a minimum volume level. If the radio is on, the minimum volume level will ensure the audio of a call will be heard.

VERSITILE SCANNING FEATURES

The VX-4100E provide scan of all or some of the eight channels programmed. Also, if a channel is flagged as Priority, that channel is monitored even during non-priority calls. Besides the normal Scan and Priority Scan modes, the VX-4200E adds Group Scan. You can scan all Groups or selected Groups.

ARTS™ (AUTO RANGE TRANSPONDER SYSTEM)

The Auto-Range Transponder System, a Vertex Standard exclusive, alerts the operator when another ARTS™-equipped station (for example, a hand-held unit) moves out of communication range. You can then advise the other user to move to a better location.

SECURITY

EMERGENCY MODE

When the Emergency feature is activated, the radio will switch to an emergency channel and transmit with live mic audio through a front panel mounted microphone. Among the many programmable features of the emergency mode are: Live TX time, RX Live time, RX dead time, and more.



OPTIONAL VOICE ENCRYPTION MODULES

With options for simple inversion or rolling code, we have the right encryption level to fit your requirements and budget.

DURABLE CONSTRUCTION

BUILT TOUGH, BUILT TO LAST

Rugged design to meet Mil-Std 810 C/D&E will allow this radio to last. The Ultra-rugged design enables this mobile to pass a torrent of Mil-Std tests listed in this brochure. The extraordinary design and construction ensures many years of reliable service, even in high vibration, dusty or extreme temperature environments.



OTHER FEATURES

D-SUB 15 PIN ACCESSORY CONNECTOR

The included D-Sub 15 pin connector on the rear panel allows for access to Audio In, Audio Out, Ext PTT, RSSI, and many more functions making this radio perfect for third party interfaces.



TOT, BCLO, BTLO FEATURES

Among the most useful protection features of the VX-4100E/4200E are the transmitter Time-Out Timer (TOT), Busy Channel Lock-Out (BCLO), and Busy Tone Lock-Out (BTLO), to ensure efficient network performance at all times.

RADIO TO RADIO CLONE FEATURE

For quick programming of VX-4100E/4200E radios for an emergency task force, the Clone feature allows copying of all channel and other configuration data from one VX-4100E/4200E to another, using the optional CT-4 Cloning Cable.

● TALK AROUND ● PUBLIC ADDRESS/HORN ALERT

Accessories & Options

| | | | |
|---|--|--|---|
|  |  |  |  |
| MH-25A8J | MH-64A8J | MH-700D | MD-11A8J |
| Standard Microphone | Remote Control 16 Keypad Microphone | DTMF Dial Microphone | Desktop Microphone |
|  |  |  |  |
| MLS-200 | MLS-100 | FP-1030A | FVP-25 |
| Mobile Loud Speaker (15 Watts Peak Power) | Mobile Loud Speaker (12 Watts Peak Power) | External Power Supply (13.8 VDC 30 A) | DTMF Paging + Encryption unit |
|  |  |  |  |
| FVP-35 | DVS-5 | VTP-50 | MDC1200 |
| High Level Encryption unit | Voice storage Unit | VX-Trunk Unit | ANI Signaling Unit |
|  |  |  |  |
| MMB-85 | LF-1 | VPL-1 | CT-4 (T9101411) |
| Quick Release Mobile Mounting Bracket | Line Filter | Programming Kit (Computer to Radio) | Cloning Cable |
|  |  | | |
| CE59 | | | |
| Programming Software | | | |

Specifications

| | VX-4104E (VHF) | VX-4204E (VHF) | VX-4107E (UHF) | VX-4207E (UHF) |
|--|--|----------------|-------------------------------|----------------|
| General Specifications | | | | |
| Frequency range | 134-174 MHz | | 400-470 MHz | |
| Number of Groups | 1 | 32 | 1 | 32 |
| Number of Channels | 8 channels | 501 channels | 8 channels | 501 channels |
| Channel Spacing | 12.5 / 20 / 25.0 kHz | | | |
| PLL Stepping | 5/6.25 kHz | | | |
| Operating voltage | 10.8 – 15.6 VDC | | | |
| Current drain | 0.3 A | | | |
| Standby | 0.3 A | | | |
| Receive | 2.5 A | | | |
| Transmit | 6.0 A | | | |
| Operating Temperature range | -22° F to 140° F (-30° C to +60° C) | | | |
| Frequency Stability | ±1.5 kHz | | | |
| Dimensions (WxHxD) | 6.5" x 1.7" x 6.1" (165 mm x 43 mm x 155 mm) | | | |
| Weight | 3.1 lbs. (1.4 kg) | | | |
| Receiver Specifications | | | | |
| Sensitivity 20dB SINAD (W/N) | -4 dB μ V / -2 dB μ V | | -3 dB μ V / -2 dB μ V | |
| Adjacent Channel Selectivity (W/N) | 85 / 70 dB | | 75 / 65 dB | |
| Intermodulation | 70 dB | | 70 dB | |
| Spurious response Rejection | 80 dB | | 80 dB | |
| Audio output | Internal: 2 W @ 32 ohms 5 % THD External: 12 W @ 4 ohms 5 % THD | | | |
| Spurious Radiations | -57 dBm | | | |
| Transmitter Specifications | | | | |
| RF power output | 25/12.5/5 W | | | |
| Maximum Frequency Deviation (12.5/20/25 kHz) | ±2.5/±4.0/±5.0 kHz | | | |
| FM noise (W/N) | 50 / 44 dB | | 48 / 42 dB | |
| Audio distortion | Less than 3% @ 1kHz | | | |
| Spurious Emissions | -36 dBm < 1 GHz -30 dBm > 1 GHz | | | |

Measurements per ETS: EN 300 086 standards unless noted above. Specifications subject to change without notice or obligation.

Applicable MIL-STD

| Standard | MIL 810C Methods/Procedures | MIL 810D Methods/Procedures | MIL 810E Methods/Procedures |
|----------------------|-----------------------------|-----------------------------|-----------------------------|
| Low Pressure | | 500.2/3Procedure I | 500.2/3Procedure I |
| High Temperature | 501.1/Procedure I,II | 501.2/3Procedure I,II | 501.2/3Procedure I,II |
| Low Temperature | 502.1/Procedure I | 502.2/3Procedure I,II | 502.2/3Procedure I,II |
| Temperature Shock | 503.1/Procedure I | 503.2/3Procedure I | 503.2/3Procedure I |
| Solar Radiation | | 505.2/3Procedure I | 505.2/3Procedure I |
| Rain (Blowing) | | 506.2/3Procedure II | 506.2/3Procedure II |
| Rain (Drip) | | 507.2/3Procedure II | 507.2/3Procedure II |
| Humidity | 507.1/Procedure II | 509.2/3Procedure I | 509.2/3Procedure I |
| Salt Fog | | | 510.3/Procedure I |
| Blowing Sand & Dust | | | 514.3/Procedure IV,X |
| Vibration | 514.2/Procedure I,VIII | | |
| Shock (Basic Design) | 516.2/Procedure I,V | | |



VERTEX STANDARD CO., LTD.

4-8-8 Nakameguro, Meguro-ku, Tokyo 153-8644, Japan

For our latest product news, visit us on the Internet:
<http://www.vxstd.com>

2004.0305NA(EU)

B9200451 Printed in Japan

VERTEX STANDARD <http://www.vertexstandard.com>

US Headquarters

10900 Walker Street, Cypress, CA 90630, U.S.A.

YAESU EUROPE B.V.

P.O. Box 75525, 1118 ZN Schiphol, The Netherlands

YAESU UK LTD. <http://www.yaesu.co.uk>
E-mail: sales@yaesu.co.uk

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

VERTEX STANDARD HK LTD. <http://www.vxstd.com.hk>

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