50/144/430 MHz TRIPLE-BAND HEAVY DUTY FM TRANSCEIVER

VX-5R SERIES

Actual Size 5 W Version
Triband Transmission.
Shortwave to Microwave Reception.
Tough Aluminum Diecast Construction.

Actual Size

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- Tough Aluminum Diecast Construction.

THE TOUGHEST HT EVER!

The VX-5R's ruggedness and durability are assured thanks to the die-cast aluminum housing, augmented by an extensive gasketing system which sets a new standard for water resistance among amateur HTs.

Tough enough to have passed the stringent shock and vibration requirements of the U.S. military (MIL-STD 810), the VX-5R also boasts such signature Yaesu features as loud, crisp receiver audio, a large easy-to-read LCD display, and straightforward operation.

The VX-5R is the unquestioned leader in HT technology for the new Millennium!

Rugged Diecast Aluminum Construction

Perfect for outdoor recreational use, the VX-5R's circuitry is enclosed in a tough aluminum diecast case/chassis, which provides long life for the components due to the exceptional heat-dissipation characteristics of the enclosure. The VX-5R is Yaesu's toughest handle ever!

Optional Barometric Pressure Sensor (SU-1) Unit

The optional SU-1 module provides both barometric pressure and altitude measuring capability, perfect for recreational use while hiking.

The VX-5R may even be programmed to monitor pressure and temperature or temperature and altitude while it is turned off!
Yaesu has again broken through the size-performance barrier with the introduction of the VX-5R. Despite its extraordinarily small size, the VX-5R provides 5 Watts of power output on the 50 MHz and 144 MHz bands, and 4.5 Watts on the 430 MHz band. What’s more, the VX-5R brings ease of operation via its full-function keypad. So when you need the compact size of a milliwatt-power handle, but the power and performance of a full-size unit, the VX-5R brings you both!

The outstanding power output of the VX-5R is made possible by the standard FNB-58LI Lithium-Ion Battery Pack, which supplies 7.2 Volts at an incredible 1100 mAh. Depending on the power output selected and your operating patterns, operating times of 6 to 12 hours are now possible without re-charging. And the supplied NC-72 AC Adapter provides charging of the FNB-58LI in five hours or less.

The VX-5R’s microprocessor includes several important battery-saving features which may be enabled by the operator. These include:

- Receive Battery Saver, which puts the transceiver into a “sleep” mode, while checking the receive frequency periodically (0.20/0.30/0.51/2 seconds) for “activity”.
- Transmit Battery Saver, which reduces power output automatically based on the incoming station’s signal strength.
- Automatic Power Off (APO) feature, which will turn the VX-5R off after a programmable interval of non-use (0.5/1.5/5/8 hours).
- Four Transmit Power Levels, including a 300 mW setting for local work.
- Busy Lamp Off feature allows the operator to disable to “Busy Channel” lamp, thus further conserving battery life.

The VX-5R’s display includes a convenient battery monitoring system which shows both transmit and receive usage and a “Low Battery” indicator.

The VX-5R is automatically preset for each operating band, with easy manual mode change provided via the Menu System.

<table>
<thead>
<tr>
<th>Operating Band</th>
<th>Frequency Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM Broadcast</td>
<td>0.5 - 1.8 MHz</td>
</tr>
<tr>
<td>Shortwave</td>
<td>1.8 - 16 MHz</td>
</tr>
<tr>
<td>6 m Amateur</td>
<td>48 - 59 MHz</td>
</tr>
<tr>
<td>FM/TV Broadcast</td>
<td>59 - 108 MHz</td>
</tr>
<tr>
<td>Aircraft</td>
<td>106 - 137 MHz</td>
</tr>
<tr>
<td>VHF TV</td>
<td>174 - 222 MHz</td>
</tr>
<tr>
<td>VHF/UHF Misc.</td>
<td>222 - 420 MHz</td>
</tr>
<tr>
<td>70 cm Amateur</td>
<td>420 - 470 MHz</td>
</tr>
<tr>
<td>UHF TV</td>
<td>470 - 729 MHz</td>
</tr>
<tr>
<td>UHF Misc.</td>
<td>800 - 999 MHz</td>
</tr>
</tbody>
</table>

*Cellular/digital telephone frequencies are blocked. Frequency coverage may vary in different countries, due to local regulations.

The VX-5R includes a wide variety of tone encoding and decoding systems for today’s active Ham!

- A 39-tone subaudible CTCSS encoder/decoder for easy repeater access and/or silent monitoring.
- A 104 Digital Coded Squelch (DCS) for advanced repeater systems or simplex operations where maximum immunity from “falsing” is required.
- A Menu-driven 1750-Hz Tone Burst system for repeateraccess.
- A Bell Alarm to alert the operator that a call is being received.
- Tone search, in both the CTCSS and DCS modes, for emergency situations where you need to know the tone of an incoming signal.
- A 16-digit DTMF Autodialer with nine memories, for autodial use.

The VX-5R provides flexible scanning, including scan-halt options of “Carrier Drop,” “5-second Pause,” and “Stop” (no resumption of scanning). The VX-5R may be instructed to scan the VFOs, the Memories, or a portion of the VFO range, and the LCD’s illumination can be programmed to light up when scanning halts.

The 144/430 MHz capability of the VX-5R is ideal for portable satellite operation on FM satellites like AO-27 (TX 145.8 MHz/RX 436.8 MHz). The compact size of the VX-5R leaves you with one hand free to hold a small beam antenna, if you like!

The VX-5R’s memory system provides 220 regular memories, a "Home" channel on each band, 10 pairs of “Band Limit” memories for the Programmable Memory Scan feature, and five Memory Groups (up to 24 channels from the “main” memory bank can be stored into each Memory Group).

Use the alpha-numeric labels for quick and easy recognition of memory channels as you recall them.

The three-section Liquid Crystal Display (LCD) provides (A) frequency and mode information, (B) Alpha Tag or sub-VFO frequency display, and (C) signal strength and power output indication. The LCD includes a handy “Icon” mode, in which functions’ labels are replaced by pictographic icons for ease of operation. And the characters used for the S/PO meter can be changed, for easiest viewing by you.

The VX-5R’s Dual Watch feature lets you monitor a main operating frequency while periodically checking a second frequency for activity. If a station appears on the “Dual Watch” frequency, the VX-5R will lock onto that frequency so that you can respond to the calling station.

The ARTS™ feature provides an audible confirmation of “in-range” or “out-of-range” status with other ARTS™-equipped stations. When activated, ARTS™ sends out a periodic transponder signal (including DCS code) so that you and the other station will know if you have slipped beyond communication range (so you will know you need to move to a better location). ARTS™ will also send a CW identification of your callsign, if desired.

The VX-5R includes several important tone and frequency display features:

- A 16-digit DTMF Autodialer with nine memories, for autodial use.
- A Menu-driven 1750-Hz Tone Burst system for repeateraccess.
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Innovative Multi-section Antenna!
When operating on 440 and 50 MHz, use the antenna extension element and you’re ready for DX action!

**General**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>Nominal: 7.2 V DC, Negative Ground</td>
</tr>
<tr>
<td><strong>Operating Voltage</strong></td>
<td>10-16 V DC, Negative Ground</td>
</tr>
<tr>
<td><strong>Current Consumption</strong></td>
<td>55 mA (Receive), 25 mA (Transmit)</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>5-6.5 V DC, 0.3 A, Negative Ground</td>
</tr>
<tr>
<td><strong>Intermediate Frequencies</strong></td>
<td>1st: 47.25 MHz (N-FM)</td>
</tr>
<tr>
<td></td>
<td>2nd: 250 MHz (N-FM)</td>
</tr>
<tr>
<td><strong>Audio Level</strong></td>
<td>150 mV (Jacks)</td>
</tr>
<tr>
<td><strong>Sensitivity</strong></td>
<td>0.5 μV for 10 dB SINAD</td>
</tr>
<tr>
<td><strong>Spurious Emission</strong></td>
<td>At least 60 dB down</td>
</tr>
<tr>
<td><strong>Maximum Deviation</strong></td>
<td>+50/144/430 MHz</td>
</tr>
<tr>
<td><strong>Modulation Type</strong></td>
<td>Variable Reactance</td>
</tr>
<tr>
<td><strong>RF Power Output</strong></td>
<td>5 W (@ 13.8 V EXT DC Input)</td>
</tr>
<tr>
<td><strong>Intermediate Frequency</strong></td>
<td>50 kHz/440 MHz</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>450 kHz/450 MHz</td>
</tr>
<tr>
<td><strong>Sensitivity (V) for 10 dB SINAD</strong></td>
<td>0.16 μV for 12 dB SINAD</td>
</tr>
<tr>
<td><strong>Selectivity (V) for 12 dB SINAD</strong></td>
<td>600 kHz/450 MHz</td>
</tr>
<tr>
<td><strong>Selectivity (V) for 10 dB S/N</strong></td>
<td>10.7 MHz/250 kHz</td>
</tr>
<tr>
<td><strong>Intermediate Frequency</strong></td>
<td>10 kHz/160 kHz</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>450 kHz/450 MHz</td>
</tr>
<tr>
<td><strong>Sensitivity (V) for 10 dB SINAD</strong></td>
<td>0.16 μV for 12 dB SINAD</td>
</tr>
<tr>
<td><strong>Selectivity (V) for 12 dB SINAD</strong></td>
<td>600 kHz/450 MHz</td>
</tr>
<tr>
<td><strong>Selectivity (V) for 10 dB S/N</strong></td>
<td>10.7 MHz/250 kHz</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Transmitter</th>
<th>Receiver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RF Power Output</strong></td>
<td>5 W (@ 7.2 V DC Input)</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>450 kHz/450 MHz</td>
</tr>
<tr>
<td><strong>Sensitivity (V) for 10 dB SINAD</strong></td>
<td>0.16 μV for 12 dB SINAD</td>
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<tr>
<td><strong>Selectivity (V) for 12 dB SINAD</strong></td>
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<tr>
<td><strong>Selectivity (V) for 10 dB S/N</strong></td>
<td>10.7 MHz/250 kHz</td>
</tr>
</tbody>
</table>

**Electrical Characteristics**

- **Frequency Ranges**
  - RX: 0.5 - 1.8 MHz (BC Band), 40.6 - 50 MHz (50 MHz Band)
  - TX: 50 - 50 MHz, 470 - 470 MHz (430 MHz, 50 MHz Band)
- **Modulation Type**: Variable Reactance
- **RF Power Output**: 5 W (@ 7.2 V DC Input)
- **Audio Output**: 450 kHz/450 MHz
- **Sensitivity (V) for 10 dB SINAD**: 0.16 μV for 12 dB SINAD

**Mechanical Characteristics**

- **Case Size**: 2.3” (W) x 3.4” (H) x 1.1” (D) (58 x 87 x 28 mm)
- **Microphone Impedance**: 2 kΩ
- **Spurious Emission**: At least 60 dB down

**Environmental Characteristics**

- **Operating Temperature**: –14°C to +55°C
- **Humidity**: 5% to 95% relative humidity, non-condensing
- **Temperature Drift**: ±50/144/430 MHz

**Operating modes**

- **VFO**: 1st: 47.25 MHz (N-FM), 2nd: 450 kHz (N-FM), 3rd: 10.7 MHz (W-FM)
- **VOX**: 1st: 47.25 MHz (N-FM), 2nd: 450 kHz (N-FM)
- **Selectivity**: 600 kHz/450 MHz

**Control and Command Keys**

- **Volume Control**
- **Dial**
- **TX/BUSY Lamp**
- **MIC/EAR Jack**
- **External DC Jack**
- **LCD (Display)**
- **Microphone**
- **Speaker**
- **PTT Switch**
- **Monitor/Burst Switch**
- **Power Switch**
- **Lamp Switch**
- **Band Switch**
- **Keypad**

**AC Adapter**

**NC-72B/C/U** Five-Hour Charger for FNB-58LI
- 9 V DC for use with 117 VAC, 27 V DC for use with 220-234 VAC

**U.K. plug**
- 110-135 VAC, 220-234 VAC, 50-60 Hz

**Power Switch**

- **Input**: 110-135 VAC, 220-234 VAC
- **Output**: 7.2 V DC, Negative Ground

**PTT Switch**

- **Input**: 110-135 VAC, 220-234 VAC
- **Output**: 5-6.5 V DC, Negative Ground

**Lamp Switch**

- **Input**: 110-135 VAC, 220-234 VAC
- **Output**: 1.9 A (4.5 W TX, 430 MHz), 1.7 A (5 W TX, 144 MHz), 1.6 A (5 W TX, 50 MHz)

**Keypad**

- **Input**: 110-135 VAC, 220-234 VAC
- **Output**: 1.9 A (4.5 W TX, 430 MHz), 1.7 A (5 W TX, 144 MHz), 1.6 A (5 W TX, 50 MHz)

**Options**

- **Earpiece/Mic**
- **Speaker/Mic**
- **VOX Headset**
- **Antenna Connector Adapter**
- **MH-37**
- **MH-34**
- **VC-25**
- **CN-3**
- **SU-1**
- **E-DC-5B**
- **CT-44**
- **FBA-23**
- **CD-15**
- **ADM-1**

**Technical Specifications**

- **U.S. Headquarter**
  - 17210 Edwards Road, Cerritos, CA 90703, U.S.A.
  - International Division
  - 8350 N.W. 52nd Terrace, Suite 201, Miami, FL 33166, U.S.A.
  - 17210 Edwards Road, Cerritos, CA 90703, U.S.A.
  - International Division

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