

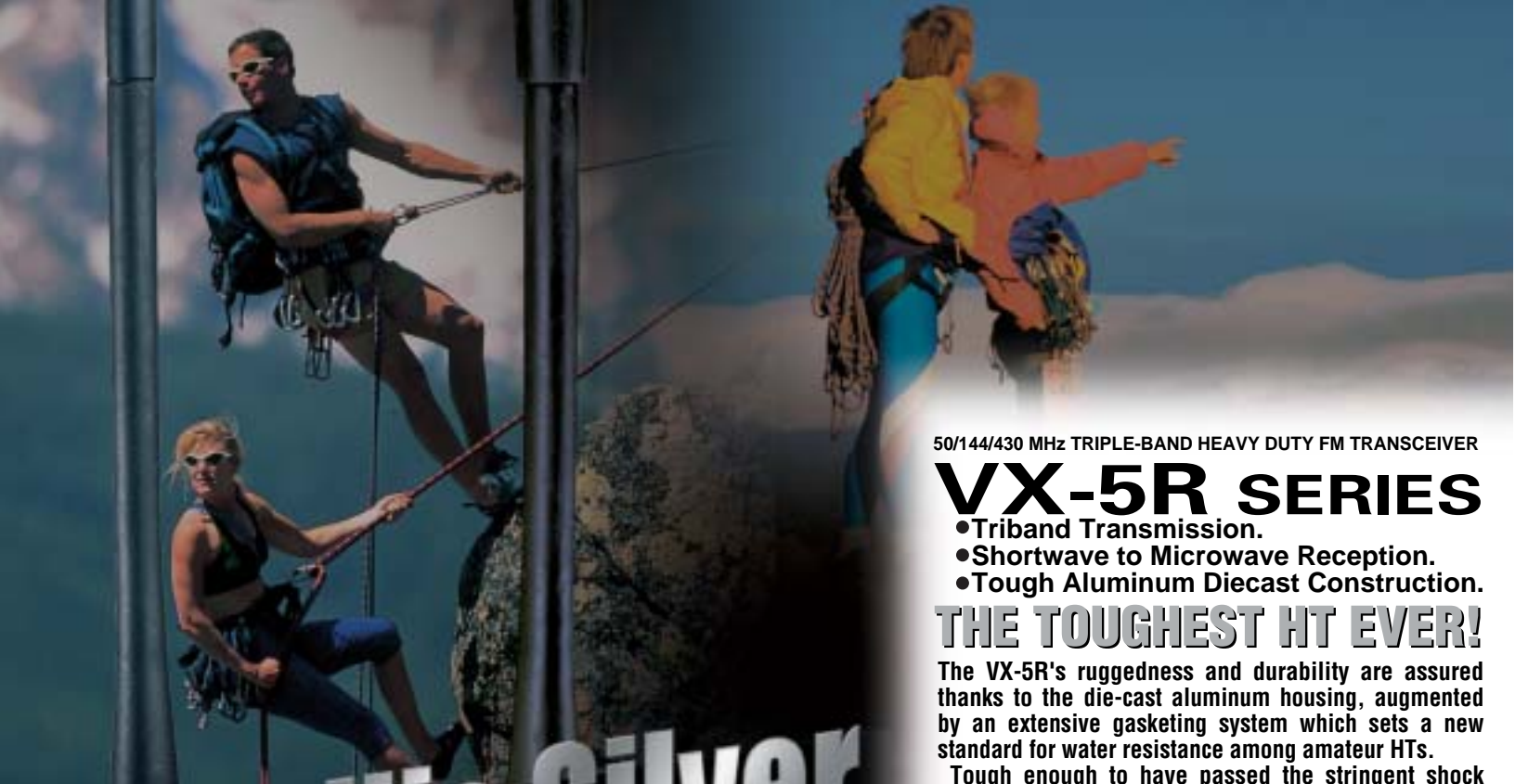
50/144/430 MHz TRIPLE-BAND HEAVY DUTY FM TRANSCEIVER

# VX-5R SERIES



Actual Size 5 W Version





# Metallic Silver

The VX-5R, the world's most popular Triple-Band Hand-Held FM Transceiver, is now available in a beautifully-crafted Silver Version, the VX-5RS! With the legendary VX-5R performance flexibility, the stylish VX-5RS is the shining star for Amateur VHF/UHF operators!

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

## VX-5R SERIES

- Triband Transmission.
- Shortwave to Microwave Reception.
- 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 handie 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!



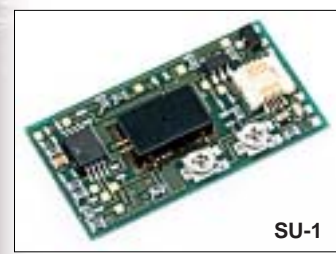
Actual Size

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

**VX-5R**  
(BLACK)

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

**VX-5RS**  
(SILVER)



SU-1



## Full-Performance 5W Tribander

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 band, 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 handie, but the power and performance of a full-size unit, the VX-5R brings you both!

## High-Capacity, High-Power Lithium-Ion Battery Pack

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.

Operating Band	Battery Life (Approx.)	
	FNB-58LI	FBA-23
50 MHz <sup>(1)</sup>	6.5 hours	7.5 hours
144 MHz <sup>(1)</sup>	6 hours	7 hours
430 MHz <sup>(1)</sup>	5.5 hours	6 hours
Other Bands <sup>(2)</sup>	15 hours	9 hours

(1) TX 6 sec., RX 6 sec. and Squelched 48 sec.

(2) Continuous signal reception

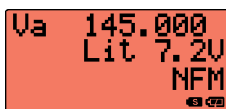
\*Measurements are per EIA standards. (AF Output 50% duty)

## Extensive Battery Conservation Features

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 (0.2/0.3/0.5/1/2 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 (0.5/1/3/5/8 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.



Low Voltage Indicator	
	Battery is nearing depletion.
	Battery voltage is critically low.

## Ultra-Wide Frequency Coverage

Wide-band VHF/UHF receiver coverage is combined with AM Medium-Wave and Shortwave reception, for more operating enjoyment than ever. Use the Shortwave coverage (to 16 MHz) to listen to overseas broadcasts, along with time, weather, and propagation forecast information from WWV. The operating mode of

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

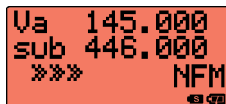
Operating Band	Frequency Coverage
AM Broadcast	0.5 - 1.8 MHz
Shortwave Broadcast	1.8 - 16 MHz
6 m Amateur	48 - 59 MHz
FM/TV Broadcast	59 - 108 MHz
Aircraft	108 - 137 MHz
2 m Amateur	137 - 174 MHz
VHF TV	174 - 222 MHz
VHF/UHF Misc.	222 - 420 MHz
70 cm Amateur	420 - 470 MHz
UHF TV	470 - 729 MHz
UHF Misc.*	800 - 999 MHz

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

FM and TV broadcast reception utilize a special "FM-Wide" mode, which provides excellent fidelity!

## Easy-To-Read Dot Matrix LCD

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.



## Dual Watch for Checking Activity on Two Frequencies

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.

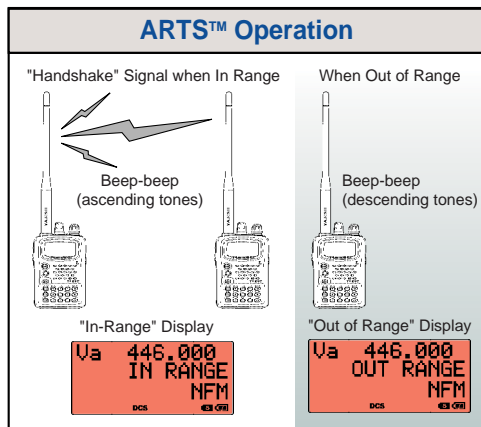
## Spectra-Scope™ for Monitoring Adjacent Channels

The VX-5R's Spectra-Scope™ provides a graphical display of five channels above and below your current operating frequency, to help you find or avoid busy channels.



## Automatic Range Transponder System (ARTS™)

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.



## Extensive Memory System with Alphanumeric Labels

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 band can be stored into each Memory Group).

## Eight-digit Alpha-numeric Memory Labels

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

## Smart Search™ Provides Automatic Loading of Memories

When traveling to a city for the first time, loading of memories can be time-consuming. With the VX-5R, just use the Smart Search™ feature, which automatically scans above and below your current frequency, loading busy channels into the 31 available Smart Search™ memories. The VX-5R can be instructed to make either (1) a single sweep above and below your frequency, or (2) a continuous sweep, which ends only when all 31 Smart Search™ memories are full.

## CTCSS and DCS Encoder/Decoders Built In

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 repeater access.
- 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 or code required for access to an unfamiliar repeater.
- A 16-digit DTMF Autodialer with nine memories, for autopatch use.

## Versatile Scanning Options

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.

## Ideal for AO-27 Satellite Operation

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!

## High-Performance Features for Everyday Operation

- Automatic Repeater Shift
- Backlit Keypad & Display
- Computer Programming via optional ADMS-1E Programming Kit
- Cloning from one VX-5R to another via optional CT-27 Cloning Cable
- TOT (Time-Out Timer) to prevent interference due to "locked mic" condition
- BCLO (Busy Channel Lock Out) to prevent interference to others during Tone Squelch or DCS operation
- Quick Check of repeater uplink frequency
- Selectable channel steps: 5/10/12.5/15/20/25/50/100 kHz/step
- One-touch Emergency Channel with tone alert on UHF Home Channel
- VFO-A/VFO-B VFO link (synchronized tuning)
- Easy Packet Interface using optional CT-44 Mic Adapter

### Innovative Multi-section Antenna!

When operating on 144 and 430 MHz, use the bottom section of the supplied antenna. For operation on 50 MHz, simply screw on the antenna extension element and you're ready for DX action!



### General

Frequency Ranges : RX : 0.5 - 1.8 MHz (BC Band)  
 1.8 - 16 MHz (SW Band)  
 48 - 59 MHz (50 MHz HAM)  
 59 - 108 MHz (FM)  
 108 - 137 MHz (Air Band)  
 137 - 174 MHz (144 MHz HAM)  
 174 - 222 MHz (VHF-TV)  
 222 - 420 MHz (ACT1: Action Band 1)  
 420 - 470 MHz (430 MHz HAM)  
 470 - 729 MHz (UHF-TV)  
 800 - 999 MHz (ACT2: Action Band 2, Cellular Blocked)

TX : 50 - 54 MHz  
 144 - 146 MHz or 144 - 148 MHz  
 430 - 440 MHz or 430 - 450 MHz

Channel Steps : 5/10/12.5/15/20/25/50/100 kHz  
 (10 kHz: AM BC/U.S.A. version)

Frequency Stability : ± 5 ppm (±10 °C to +60 °C)  
 Repeater Shift (default) : ± 600 kHz (144 MHz)  
 ± 1.6/5.0/7.6 MHz (430 MHz)

Emission Type : F2, F3  
 Antenna Impedance : 50 Ω

### SPECIFICATIONS

Supply Voltage : Nominal : 7.2 V DC, Negative Ground  
 Operating : 4-9 V DC (Internal Battery)  
 10-16 V DC, Negative Ground (EXT DC jack)

Current Consumption : 150 mA (Receive)  
 55 mA (Standby, Saver Off)  
 25 mA (Standby, Saver On)  
 400 μA (Auto Power Off)  
 1.6 A (5 W TX, 50 MHz)  
 1.7 A (5 W TX, 144 MHz)  
 1.9 A (4.5 W TX, 430 MHz)

Operating Temperature : -14° F to +140° F (-20 °C to +60 °C)  
 Case Size : 2.3" (W) x 3.4" (H) x 1.1" (D) (58 x 87 x 28 mm) w/o knob & antenna  
 Weight : 0.56 lb (255 g)

**Transmitter**

RF Power Output : 5 W (@ 13.8 V EXT DC Input)  
 50/144/430 MHz  
 5 W (@ 7.2 V, 50 MHz/144 MHz)  
 4.5 W (@ 7.2 V 430 MHz)

Modulation Type : Variable Reactance  
 Maximum Deviation : ± 5 kHz  
 Spurious Emission : At least 60 dB down  
 Microphone Impedance : 2 kΩ

### Receiver

Circuit Type : Double-Conversion Superheterodyne  
 Intermediate Frequencies :  
 1st : 47.25 MHz (N-FM)  
 45.8 MHz (W-FM)  
 2nd : 450 kHz (N-FM)  
 10.7 MHz (W-FM)

Sensitivity : 0.5 μV for 10 dB S/N (0.5-16 MHz, AM)  
 0.9 μV for 12 dB SINAD  
 (76-108 MHz/174-222 MHz, W-FM)  
 3 μV for 12 dB SINAD  
 (470-729 MHz, except 540-630 MHz, W-FM)  
 0.18 μV for 12 dB SINAD  
 (50-54 MHz/144-148 MHz, N-FM)  
 0.18 μV for 12 dB SINAD  
 (430-450 MHz, N-FM)

Selectivity (±6 dB/±60 dB) : 15 kHz/35 kHz (N-FM)  
 AF Output : 400 mW @ 8 Ω for 10 % THD (@ 7.2 V DC)

Specifications are subject to change without notice, and are guaranteed within 50/144/430 MHz amateur bands only.  
 Frequency ranges and repeater shift vary according to transceiver version worldwide; check with your dealer.

### CONTROLS AND COMMAND KEYS

#### AC Adapter



**NC-72B/C/U\***  
 Five-Hour Charger for FNB-58LI

\*"B" suffix for use with 117 VAC, "C" for use with 220-234 VAC and "U" for use with 234 VAC/ U.K.plug.

PTT Switch

Monitor/  
 Burst Switch

Power Switch

Lamp Switch

Band Switch

Keypad

Volume Control

Dial

TX/Busy Lamp

MIC/  
 EAR Jack

External DC Jack

LCD (Display)

Microphone

Speaker



### OPTIONS

Earpiece/Mic	Speaker/Mic	VOX Headset	Antenna Connector Adapter
 <b>MH-37A4B</b> Compact Lapel Mic with Earpiece	 <b>MH-34B4B</b> Compact Speaker / Microphone	 <b>VC-25</b> Lightweight VOX (Voice-Operated) Headset	 <b>CN-3</b> Adapter for use with BNC Connector
Barometric Pressure Sensor	DC Adapter Cable	Microphone Adapter	Alkaline Battery Case
 <b>SU-1</b> Provides display of pressure/altitude	 <b>E-DC-5B</b> DC Cable with Voltage Regulator and cigarette-lighter plug	 <b>CT-44</b> For packet interface or use with earlier Yaesu microphones	 <b>FBA-23</b> Holds two AA Alkaline cells
Soft Case	Clone Cable	Rapid Charger	Windows™ Programming Software Kit
 <b>CSC-73</b> Helps protect transceiver from scratches	 <b>CT-27</b> For transferring frequency data between VX-5Rs	 <b>CD-15</b> Allows battery charging in 2.5 hours	 <b>ADMS-1E</b> Computer programming software and cable

About this Brochure : Specifications are subject to change, in the interest of technical improvement, without notice or obligation. Some products or optional accessories may not be available in a particular country, or may be slightly different in your country. Because of printing process tolerances, the actual color hue or color density of product images shown in this catalog may be slightly different from that of the manufactured product. Performance measurements are per EIA standards, unless noted otherwise. Comparative performance and other statements are based on market conditions as of the printing date of this catalog. Accessory items (Batteries, Speaker/Mics, Chargers, etc.) are warranted for one year.

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