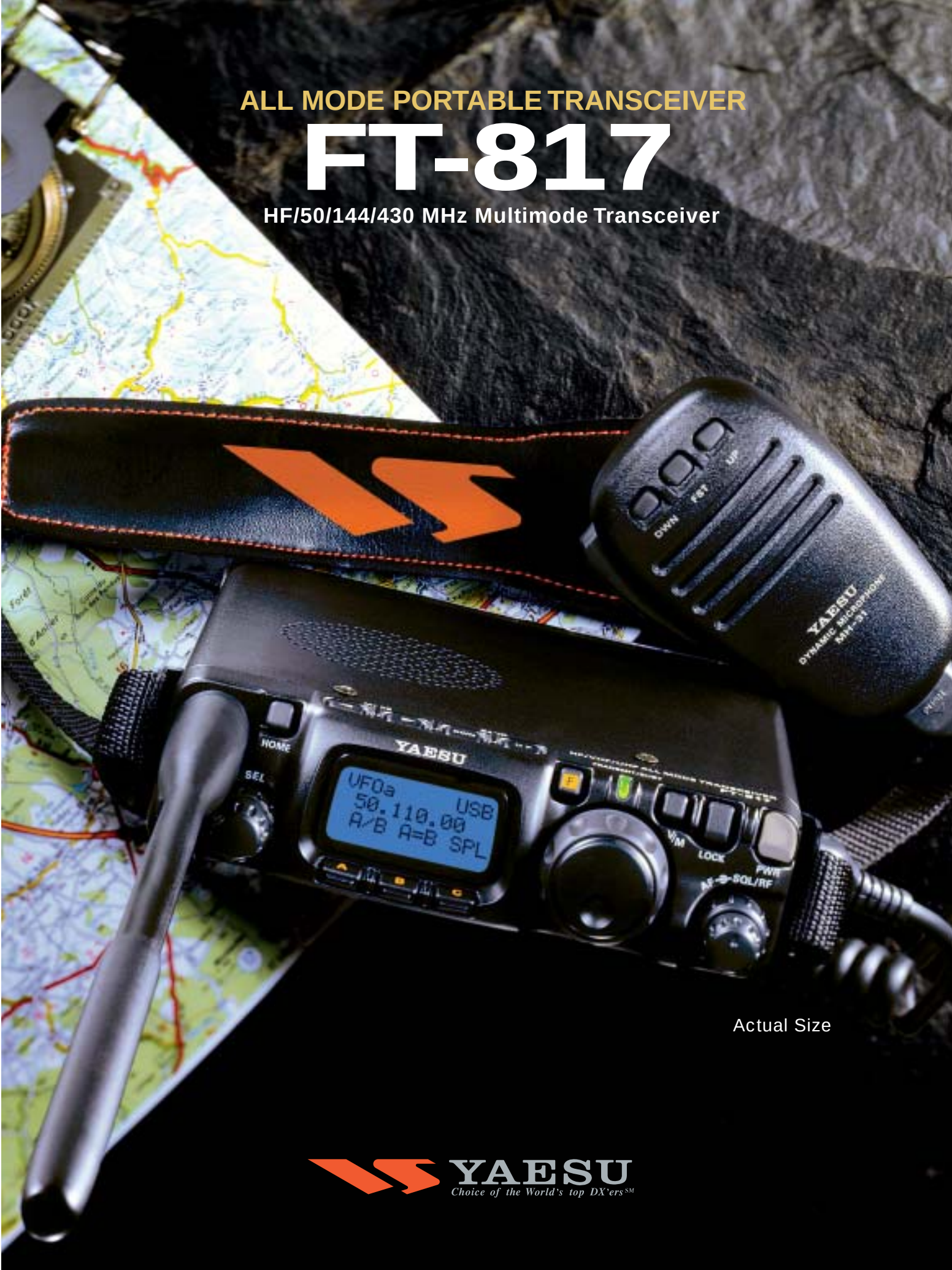
ALL MODE PORTABLE TRANSCEIVER

FT-817

HF/50/144/430 MHz Multimode Transceiver



Actual Size

YAESU

Choice of the World's top DX'ers℠

The Ultimate Backpacker!


FIELD

Ham Radio in the Great Outdoors: It's the Best with Yaesu's FT-817!

The world's first self-contained, battery-powered, Multimode Portable Transceiver covering the HF, VHF, and UHF bands!

For more than four decades, Yaesu has been a world leader in the design and manufacture of high-performance multimode base station and mobile transceivers, as well as FM hand-helds. Now Yaesu breaks new ground with the introduction of the FT-817: the world's first HF/VHF/UHF self-contained battery-powered Multimode Portable Transceiver. Providing up to five watts of power output, the FT-817 is designed for operation on the 160-10 meter HF bands, plus the 6 meter, 2 meter, and 70 cm bands. Whether your preferred operating mode is SSB, CW, AM, FM, Packet, or SSB-based Digital modes like PSK31, the FT-817 is ready to join you on your next hiking, camping, or search-and-rescue adventure!

Compact design yields up to 5 Watts, and versatile selection of power sources provides DX adventure at home or away!

Despite its incredibly small size (5.3"x 1.5"x 6.5"WHD) and light weight (under 2 pounds), the FT-817 delivers big performance! Its next-generation all band power amplifier utilizes push-pull 2SK2975 MOS FETs to provide 5 Watts of power (AM: 1.5W carrier) on the 160-2 meter bands, plus 70 cm (13.8V DC input). You can choose from four power levels, too: 5/2.5/1/0.5 W). Ready to operate from 8 "AA" alkaline cells, the FT-817 may also be powered from an external 13.8 Volt DC source, or from the optional FNB-72 Ni-Cd Battery Pack. When using the FNB-72, the FT-817 automatically sets itself to a power level of 2.5 Watts, to conserve power, but you can easily switch to the 5-Watt level, if you like.


CAMPING


HOME



Actual Size



FT-817

HF/50/144/430 MHz MULTIMODE PORTABLE TRANSCEIVER
5 Watts Power Output (AM: 1.5 W Carrier)

GET BASE STATION PERFORMANCE FROM YOUR BACKPACK OR CAMP TABLE!

"BIG RADIO" FEATURES FROM ULTRA-COMPACT PACKAGE!

- **IF Shift**—For reduction of adjacent-frequency interference.
- **IF Noise Blanker**—For reduction of ignition and other impulse-type noise.
- **IPO (Intercept Point Optimization)**—Bypasses RX Preamp on HF/50 MHz for improved performance during strong-signal conditions.
- **ATT(Front End Attenuator)**—For more pleasant reception of very strong signals.

HIGH-PERFORMANCE COLLINS® MECHANICAL FILTER OPTIONS!

An optional filter slot is provided in the FT-817, allowing the owner to install one of two available ten-pole Collins® Mechanical Filters. For CW operation, choose the YF-122C (500 Hz bandwidth), or for very natural-sounding SSB select the YF-122S (2.3 kHz bandwidth).



EASY TUNING VIA MAIN DIAL AND "SELECT" KNOB!

The power of microprocessor control brings you mode-selectable tuning steps as fine as 10 Hz for the Main Dial (SSB/CW), and quick-tuning steps of 1/2.5/5 kHz using the **SELECT** knob. Via Menu, you can disable the Main Dial on AM and FM, for even-frequency navigation, or the Main Dial may be activated for tuning in 100 Hz steps. Pressing the microphone's [**FST**] key doubles the **SELECT** knob tuning rate, and multiplies the Main Dial's tuning rate by a factor of 10. And if you press the **SELECT** knob first, you can fly across the band in 1 MHz steps!

MULTI-FUNCTION CONTROL KEYS FOR EASY FEATURE ACCESS!

For quick and efficient access to the many high-performance features of the FT-817, the **SELECT** knob teams up with the [**A**] [**B**] [**C**] keys to provide a "miniature front panel"for ease of operation. There also is a convenient "Menu"mode, providing customization of a number of "set and forget" operating functions.



[A] key	[B] key	[C] key
A/B VFO A/B switching.	**A=B** Set VFO-B to VFO-A freq.	**SPL** Activate"Split"operation.
MW Memory Write.	**MC** Clear "Memory Skip"status.	**TAG** Alpha/Numeric Tag On/Off.
STO Store freq. to Quick Memory.	**RCL** Recall freq. from Quick Memory.	**PMS** Band-Limit Tuning/Scanning.
RPT Repeater Shift On/Off.	**REV** Repeater Shift Reverse.	**TON** CTCSS/DCS Settings
SCN Scanning Start/Stop.	**PRI** Priority Channel operation.	**DW** Dual Watch operation.
SSM Spectrum Scope On/Off.	**SCH** Smart Search™ On/Off.	**ART** ARTS™ On/Off.
IPO RX Preamp Bypass On/Off.	**ATT** RX Attenuator On/Off	**NAR** Optional Filter In/Out.
NB Noise Blanker On/Off.	**AGC** Select AGC Recovery Time.	
PWR Select TX Power Level.	**MTR** Select TX Meter display mode.	
VOX VOX mode On/Off.	**BK** CW Semi-Break-In On/Off.	**KYR** Electronic Keyer On/Off.
CHG Ni-Cd Charging On/Off.	**VLT** Display Battery Voltage.	**DSP** Select Normal/ Large Freq. Display.
TCH Tone Search On/Off.	**DCH** DCS Code Search On/Off.	

WIDE RECEIVER FREQUENCY COVERAGE!

Enjoy shortwave and FM broadcasts, public safety communications, and airband calls thanks to the extended frequency coverage of the FT-817, which includes reception on 100 kHz ～ 56 MHz, 76 ～ 108 MHz (W-FM only), 108 ～154 MHz, and 420 ～470 MHz!

TWO ANTENNA CONNECTORS FOR EASE OF INSTALLATION AND OPERATION!

The front panel includes a convenient BNC connector for attachment of a whip or VHF/UHF rubber flex antenna (supplied). The rear panel includes a type "M" ("SO-239") connector. As shipped from the factory, the BNC jack is active on 50/144/430 MHz, while the "M" connector is active on HF.



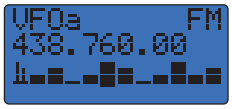


The Menu system allows you to define which connector will be selected for HF, 50 MHz, 144 MHz, and 430 MHz, so if your VHF Yagi 's feedline uses a PL-259 connector, just use the Menu to select the "Rear" connector on 144 MHz!

VERSATILE, EASY-TO-SEE LIQUID CRYSTAL DISPLAY (LCD)

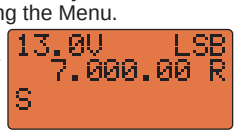
A wealth of information is available on the front panel:

●When you have to be away from the radio for a few minutes, but would like a visual indication of activity while you're away, activate the Spectrum Scope Monitor. The Spectrum Scope Monitor allows you to watch activity ±5 channels from the current operating frequency.



●The LCD illumination color may be set to either Blue or Amber color, using the Menu.

●Watch for low battery trouble using the Battery Voltage Meter display selection.



●For ease of viewing while outdoors, you can double the size of the frequency display.





VERSATILE OPERATING FEATURES FOR NO-COMPROMISE PERFORMANCE!

●Split-frequency operation using VFO-A and VFO-B for DX pileups. ● SSB TX and RX adjustment of carrier insertion point, for customization of audio response. ●RF GAIN control.● AGC FAST/SLOW/AUTO selection.● VOX T/R control.● Modulation and SWR indication on LCD. ● ±9.99 kHz Clarifier (R.I.T.).

CW PORTABLE OPERATION HAS NEVER BEEN BETTER!

●CW "Semi Break-in," with T⇨R recovery delay programmable from 10 ms ~ 2500 ms. At 10 ms setting, performance emulates QSK operation.

●CW Reverse: provides BFO injection from LSB-side, instead of default USB-side.

●CW Pitch Control: adjusts TX offset and (identical) sidetone between 300 Hz and 1000 Hz in 50 Hz steps; this allows precise spotting on DX stations. Sidetone level is adjustable.

●Built-in Electronic Keyer, with speed adjustable between 4 WPM and 60 WPM, and Weight (Dot: Dash Ratio) adjustable between 1:2.5 and 1:4.5.

●For emergency use, the Menu allows you to set up the Microphone's [**UP**] and [**DWN**] keys for generation of "Dots" and "Dashes" on CW!



LEADING-EDGE FEATURES THAT GET YOUR MESSAGE ACROSS!

UNMATCHED VERSATILITY IN MEMORY OPERATIONS!

Despite its compact size, the FT-817 sports an impressive array of Memory features. You get 200 "regular" memories which store frequency and mode information, and each memory may have an 8-character Alpha-Numeric "Tag" (label) appended for quick channel identification. What's more you get four HOME Channels (one each for HF/50/144/430), a pair of Band-Limit "PMS" memories (M-PL/M-PU), a one-touch "Quick Memory" channel for a favorite operating frequency, and (for U.S. customers) access to the "Alaska Emergency Channel" (5167.5 kHz), for a grand Memory Channel total of 208 channels! Ten Memory Groups are available (holding up to 20 channels each), allowing you to organize the 200 Memory Channels efficiently.

RENOWNED YAESU SCANNING VERSATILITY!

- VFO Scan: Allows you to scan the band, looking for activity. If a signal is heard, the scanner will pause, resuming according to the preferred method you set via Menu.
- Memory Scan: Scan all the memories, or just those in a Memory Group. You can also define certain channels (such as beacons) to be "skipped" during scanning, if you like.
- Programmable Memory Scan (PMS): A special pair of memories may be used to set up band scanning limits (so as to limit 144 MHz scanning to the "FM" portion of the band, for example).
- Dual Watch: Lets you operate on one VFO, while checking the other VFO every five seconds, looking for activity.
- Priority Channel: lets you operate on a Memory Channel while checking Memory Channel 001 every five seconds.
- Smart Search: Provides automatic loading of up to 50 AM/FM frequencies, based on an activity search of the current band. Perfect when visiting a new city on a business trip!

CTCSS/DCS ESSENTIAL OPERATING FEATURES

- 50 CTCSS Tones are available for use in either an Encode-only or Encode-Decode mode, along with 104 DCS Encode/Decode control codes. CTCSS and DCS information may be stored independently on each Memory Channel. If you don't know the other stations tone or digital code, use the handy Tone Search or Code Search features to track down the tone or code automatically!
- For Search-and-Rescue operations, the Auto-Range Transponder System (ARTS™) utilizes the FM DCS code system in a polling mode, allowing the base and portable station to know when an "out of range" condition exists. The portable station then knows to move to a better location in order to re-establish communications.

PACKET AND SSB-BASED DIGITAL MODES: READY FOR ACTION:

●For 1200 or 9600 bps VHF/UHF Packet work, a convenient industry-standard mini-DIN connector is provided, making interfacing quick and efficient. Easy connections are also provided for SSB-based Digital modes, and the Menu includes custom setups for RTTY, PSK31 (USB and LSB both supported), and two user-defined modes (for SSTV, etc.). The optional 500 Hz CW filter may be utilized during narrow-band Digital operation.



AND MUCH, MUCH MORE. . .

●FM Wide/Narrow Deviation selection. ●ARS (Automatic Repeater Shift). ●APO (Automatic Power-Off).●TOT (TX Time-Out Timer).●CAT System Computer Control interface (4800/ 9600/38400 bps).●Panel Key "Beep" frequency and level control.●Front Panel Key Lock mode (locks Dial only, frequency-control keys only, or all keys except PWR and LOCK). ●Independently-selectable channel steps for AM and FM.



SPECIFICATIONS

General

Frequency Range: Receive: 100 kHz-30 MHz
50 MHz-54 MHz
76 MHz-108 MHz (WFM only)
87.5 MHz-108 MHz (EU)
108 MHz-154 MHz (USA)
144 MHz-148 (146) MHz (Other markets)
430 (420) MHz-450 (440) MHz
Transmit: 160 - 6 Meters
2 Meters
70 Centimeters (Amateur bands only)
5.1675 MHz Alaska Emergency Frequency (USA only)

Emission Modes : A1 (CW), A3 (AM), A3J (LSB/USB), F3 (FM), F1 (9600 bps packet), F2 (1200 bps packet)

Synthesizer Steps (Min.) : 10 Hz (CW/SSB), 100 Hz (AM/FM)

Antenna Impedance : 50 Ohms, Unbalanced (Front: Type BNC, Rear: Type M)

Operating Temp. Range : -10˚ C to +60˚ C(+14˚ F to +140˚ F)

Frequency Stability : ±4 ppm from 1 min. to 60 min after power on.
@25˚ C: 1 ppm/hour

Supply Voltage: Normal: 13.8 VDC±15 %, Negative Ground
Operating: 8.0-16.0 V, Negative Ground
FBA-28 (w/8 "AA" Alkaline Cells): 12.0 V
FNB-72 (Ni-Cd Battery Pack): 9.6 V (Option)

Current Consumption: Squelched: 250 mA (Approx.)
Receive: 450 mA
Transmit: 2.0 A

Case Size: 5.31" x 1.5" x 6.50" (135 (W) x 38 (H) x 165 (D) mm)

Weight (Approx.): 1.17 kg (w/Alkaline battery, antenna, w/o Microphone)

Transmitter

RF Power Output: 5 W (SSB/CW/FM), 1.5 W (AM Carrier) @13.8 V

Modulation Types: SSB: Balanced Modulator
AM: Early Stage (Low Level)
FM: Variable Reactance

FM Maximum Deviation : ±5 kHz (FM-N: ±2.5 kHz)

Spurious Radiation : -50 dB (1.8-29.7 MHz)
-60 dB (50/144/430 MHz)

Carrier Suppression : >40 dB

Opp. Sideband Supp. : >50 dB

SSB Frequency Response : 400 Hz-2600 Hz (-6 dB)

Microphone Impedance : 200-10k Ohms (Nominal: 600 Ohms)

Receiver

Circuit Type : Double-Conversion Superheterodyne

Intermediate Frequencies : 1st : 68.33 MHz (SSB/CW/AM/FM);
10.7 MHz (WFM)
2nd: 455 kHz

Sensitivity:

	SSB/CW	AM	FM
100 kHz-500 kHz	-	-	-
500 kHz-1.8 MHz	-	32 μV	-
1.8 MHz-28 MHz	0.25 μV	2 μV	-
28 MHz-30 MHz	0.25 μV	2 μV	0.5 μV
50 MHz-54 MHz	0.2 μV	2 μV	0.32 μV
144/430 MHz	0.25 μV	-	0.2 μV

(IPO, ATT off, SSB/CW/AM = 10 dB S/N, FM = 12 dB SINAD)

Squelch Sensitivity:

	SSB/CW/AM	FM
1.8 MHz-28 MHz	2.5 μV	-
28 MHz-30 MHz	2.5 μV	0.32 μV
50 MHz-54 MHz	1 μV	0.2 μV
144/430 MHz	0.5 μV	0.16 μV

(IPO, ATT off)

Image Rejection : HF/50 MHz: 70 dB
144/430 MHz: 60 dB

IF Rejection : 60 dB

Selectivity (-6/-60 dB): SSB/CW: 2.2 kHz/4.5 kHz
AM: 6 kHz/20 kHz
FM: 15 kHz/30 kHz
FM-N: 9 kHz/25 kHz
SSB (option): 2.3 kHz/4.7 kHz (-66 dB)
CW (option): 500 Hz/2.0 kHz

AF Output : 1.0 W (8 Ohms, 10% THD or less)

AF Output Impedance : 4-16 Ohms



ACCESSORIES & OPTIONS



FNB-72
Ni-Cd Battery Pack(9.6 V, 1000 mAh)



NC-72B/C/U
Ni-Cd Battery Charger



YF-122S
Collins SSB Filter (2.3 kHz/4.7 kHz: -6 dB/-66 dB)



YF-122C
Collins CW Filter (500 Hz/2 kHz: -6 dB/-60 dB)



TCXO-9
TCXO Unit (±0.5 ppm)



MH-36E8J
DTMF Microphone



CT-62
CAT Interface Cable



CT-39A
Packet Cable

Supplied Accessories

MH-31A8J Hand Microphone
FBA-28 Battery Case (holds 8 "AA" size Alkaline cells [not supplied])
YHA-63 Whip Antenna for (50/144/430 MHz)
E-DC-6 DC Cable
Shoulder Strap

About this brochure: we have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time in equipment, optional accessories, specifications, model numbers, and availability. Precise frequency range may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.

YAESU

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