

Specifications			
General		Receiver	
Rx Frequency Range:	30 kHz - 56 MHz (operating) 160 - 6 m (specified performance, Amateur bands only)	Circuit Type:	Double-conversion superheterodyne
Tx Frequency Ranges:	160 - 6 m (Amateur bands only)	Intermediate Frequencies:	1st IF 67.899 MHz / 2nd IF 24 kHz
Frequency Stability:	±1 ppm/hour (@77° F /+25° C, after warm-up)	Sensitivity (IPO OFF, ATT: OFF):	SSB (BW: 2.4 kHz, 10 dB S+N/N) 0.25 µV (1.8 - 2.0 MHz) 0.25 µV (3.5 - 30 MHz) 0.20 µV (50 - 54 MHz)
Operating Temperature Range:	14° F ~ 122° F (−10° C ~ +50° C)	AM (BW: 6 kHz, 10 dB S+N/N, 30 % modulation @400 Hz)	2.00 µV (1.8 - 2.0 MHz) 2.00 µV (3.5 - 30 MHz) 1.00 µV (50 - 54 MHz)
Emission Modes:	A1A (CW), A3E (AM), J3E (LSB, USB), F3E (FM)	FM (BW: 10 kHz, 12 dB SINAD)	0.50 µV (28 - 30 MHz) 0.30 µV (50 - 54 MHz)
Frequency Steps:	1/10/20 Hz (SSB & CW), 100/200 Hz (AM & FM)	※There is no specification in frequency ranges not listed.	
Antenna Impedance:	50 Ohms, unbalanced	SSB/CW/AM	2.50 µV (1.8 - 30 MHz) 1.00 µV (50 - 54 MHz)
Power Consumption:	RX (signal present) 1.5 A TX (100 W) 22 A	FM	0.32 µV (28 - 30 MHz) 0.16 µV (50 - 54 MHz)
Supply Voltage:	DC 13.8 V ± 10 %	※There is no specification in frequency ranges not listed.	
Dimensions (WxHxD):	9" x 3.3" x 8.5" (229 x 84 x 217 mm)	Mode	−6 dB −60 dB
Weight (approx.):	8.8 lb (4.0 kg)	CW-N	0.25 kHz or better 0.7 kHz or less
Transmitter		SSB	2.2 kHz or better 4.5 kHz or less
Power Output:	100 Watts (25 Watts AM carrier)	AM	6 kHz or better 20 kHz or less
Modulation Types:	J3E (SSB): Balanced A3E (AM): Low-Level (Early Stage) F3E (FM): Variable Reactance	FM	15 kHz or better 30 kHz or less
Maximum FM Deviation:	±5.0 kHz / ±2.5 kHz	FM-N	9 kHz or better 25 kHz or less
Harmonic Radiation:	Better than −60 dB (160 - 10 m Amateur bands) Better than −70 dB (6 m Amateur band)	Image Rejection:	80 dB or better
SSB Carrier Suppression:	At least 60 dB below peak output	IF Rejection:	80 dB or better (160 - 10 m Amateur bands) 65 dB or better (6 m Amateur band)
Undesired Sideband Suppression:	At least 60 dB below peak output	Maximum Audio Output:	2.2 W into 4 Ohms with 10 % THD
Audio Response (SSB):	Not more than −6 dB from 300 to 2400 Hz	Audio Output Impedance:	4 to 16 Ohms (8 Ohms: nominal)
Microphone Impedance:	600 Ohms (200 to 10 kOhms)	Conducted Radiation:	Less than 4000 µVW
Specifications are subject to change without notice, and are guaranteed within the amateur bands only. Frequency range will vary according to transceiver version; check with your dealer.			

Option			
 MD-200A8X Desk-Top Dynamic Microphone	 MD-100A8X Desk-Top Microphone	 MH-31A8J Hand Microphone	 MH-36E8J DTMF Hand Microphone
 YH-77STA Open-Air Stereo Headphone	 FP-1023 (USA Only) External Power Supply (13.8 VDC 23 A)	 FP-1030 External Power Supply (13.8 VDC 25 A)	 MMB-90 Mobile Bracket
 MHG-1 Side Carry Handle	 QUADRA SYSTEM VL-1000 Linear Amplifier 1 kW Power output (6 m: 500 W/USA version) VP-1000 VL-1000 Power Supply CT-118 Band Data Cable		
 ● Packet Cable CT-39A			


FC-40
Automatic Antenna Tuner (for Long wire antenna)
The FC-40 is a microprocessor-controlled antenna impedance matching network designed to provide all-amateur-band transmitting capability with the FT-450/450D Series of transceivers, when used with an end-fed random wire or long whip antenna.
Specifications
•Operating Frequency Range: 1.8 - 54 MHz with 66 ft (20+ m) end-fed wire, 7 - 54 MHz with 8 ft (2.5 m) Mobile Whip Antenna •Input Impedance: 50-Ohms •Maximum Power: 100 Watts (3 minutes Maximum Continuous TX) •Matched SWR: 2.0:1 or less (if antenna is not a multiple of $\lambda/2$) •Tune-up Power: 4 W ~ 60 W •Tune-up Time: 8 seconds maximum •Impedance Matching Memories: 200 channels •Power supply: 13.8 V DC $\pm 15\%$ (supplied from transceiver) •Case Size (WHD): 9" x 7" x 2.1" (228 x 175 x 55 mm) •Weight: 2.6 lbs. (1.2 kg)


ATAS-120A
Active Tuning Antenna System
Yaesu's patented ATAS™ (Active-Tuning Antenna-System) provides 7/14/21/28/50 MHz band Coverage with automatic motorized tuning on FT-450D. Utilizing control signals from the transceiver's microprocessor received via the coaxial cable, the ATAS internal motor adjusts the radiator length for best SWR.


ATBK-100
Antenna Base Kit
(for Base operation on 6 m Band)



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 to 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.

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HF/50 MHz All Mode Transceiver

FT-450D

COMPACT HF/50 MHz TRANSCEIVER WITH IF DSP

New Features !

- Key illumination
- Foot Stand
- 300 Hz/500 Hz/2.4 kHz CW IF Filters
- Classically Designed Main Dial and Knobs
- Bundled Dynamic Microphone, MH- 31A8J



YAESU
Choice of the World's top DX'ersSM



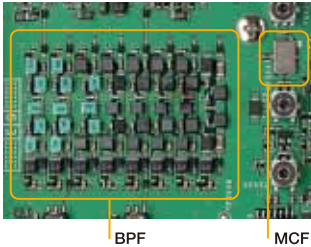
Proven performance and technology with YAESU state-of-the-art IF DSP

The ultimate compact HF/50 MHz transceiver – YAESU FT-450D

HF/50 MHz 100 W All Mode Transceiver
FT-450D
with Built-in Automatic Antenna Tuner

The Real DX Receiver!
The 67.899 MHz 4 pole roofing filter (MCF) and 8 band-pass filters at the RF stages, provide excellent suppression of out-of-band interference.

The interference-filtering begins in the "RF" stages, with a double conversion superheterodyne (1st IF 67.899 MHz / 2nd IF 24 kHz) system. The 8 band-pass filters at the RF input help eliminate out-of-band interference, followed by the RF AMP (2SK520 x 2) that feed into the active DBM (1st local) assure excellent dynamic range. At the 1st IF stage, a powerful 4 pole roofing filter with a 10 kHz bandwidth and excellent shape factor, substantially reduces adjacent signal interference. Then, the YAESU high performance DSP at the 2nd IF stage / 24 kHz permits easy management of AGC, interference rejection, audio tone control, and noise reduction, for clear and quiet reception. The 20 dB ATT (Attenuator) and IPO (Intercept Point Optimization) feature allow the operator to optimize the characteristics of the receiver front end to improve receiver dynamic range.



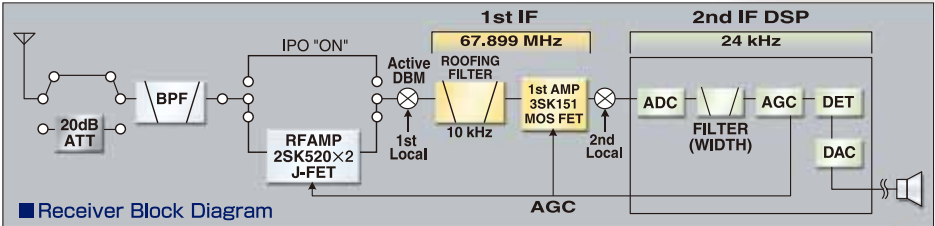
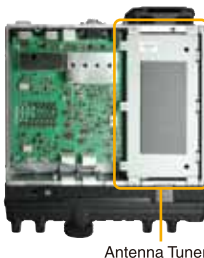
Actual Size / 9" x 3.3" x 8.5" (229 x 84 x 217 mm) (w/o knob)

Outstanding CW Features

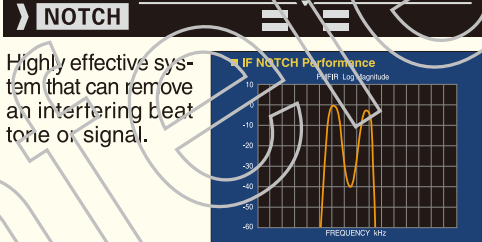
- Selectable 300 Hz/500 Hz/2.4 kHz CW IF Filters
- Built-in Electronic Keyer
- Speed adjustable between 4 WPM and 60 WPM
- Weight (Dot:Dash Ratio) adjustable
- CW T/R Recovery Delay programmable from 30 ms to 3000 ms
- CW Beacon - Up to 118 characters using the CW message keyer 3 memory banks
- CW Pitch Adjustment (between 400 to 800 Hz, in 100 Hz steps)
- CW Spotting (Zero-Beating) function
- CW Reverse - provides BFO injection from LSB-side instead of default USB-side
- CW Sidetone Generator
- CW Keying on SSB modes
- CW Keying using Up/Down keys on the microphone
- CW Training feature sends random Morse Code via the built-in sidetone generator

Operate anywhere using optional internal or external antenna tuning systems!

The FT-450D's ATU (Automatic Antenna Tuner) includes 100 memories for quick tuning during field operation when using a folded dipole, etc. In addition, the YAESU original and unique Antenna Tuning systems, such as the External Automatic Antenna Tuner FC-40 or Active Tuning Antenna System ATAS-120 for mobiles, are ready to be automatically operated with the FT-450D front panel controls.

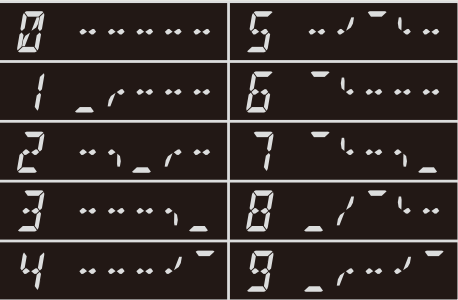


MANUAL NOTCH



Digital Microphone Equalizer

FT-450D has a unique Digital Microphone Equalizer with 10 preset functions. The custom settings may be set to match your voice characteristics for maximum power and punch, designed for optimal DX operation.



Large informative Front Panel Display with convenient Control knobs and Switches

Even though it is a convenient compact size (9"x3.3"x8.5" / 229 x 84 x 217 mm), the FT-450D has a large and bright display, almost 25 % of the front panel. The original LCD negative type display shows the Frequency, S-meter, a Graphical indication of RF to IF settings, and the DSP Interference Elimination settings (Contour, Notch, DNR, Width and Shift). The icons and large character key buttons are easy to identify and operate. KEY, MIC and PHONE jacks are provided on the front panel for handy access.

The Rugged aluminum die-cast chassis with large cooling fan is made for your heavy-duty, extended high power operation.

The newly designed push-pull power MOSFET (RDF100HHF1) amplifiers guarantee powerful and reliable 100 W output operation. The FT-450D's rugged 490 cc aluminum die-cast chassis, with a large 2.8" x 2.8" (70 x 70 mm) quiet thermostatically controlled cooling fan, is a solid foundation of the power amplifier during long hours of field use or home contesting operation.

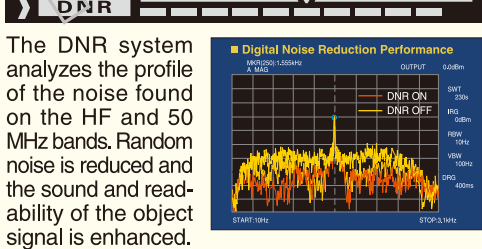


Additional features to support the FT-450D's operation

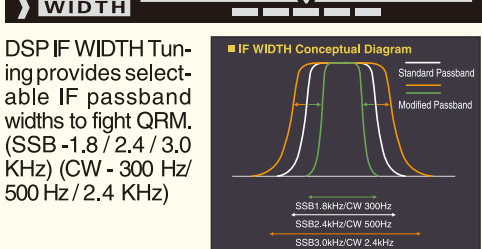
- Large, Easy-to-read digital S-meter with peak hold capability
- QMB (Quick Memory Bank)
- Key illumination
- Versatile Memory System, up to 500 memory channels that may be separated into as many as 13 Memory Groups
- TXW to monitor the transmit frequency when split frequency operation is engaged
- Clarifier
- Built-in TCXO for incredible ± 1 ppm/hour ($@+77^{\circ}\text{F} / 25^{\circ}\text{C}$, after warm up)
- 20 second Digital Voice Recorder
- Dedicated Data Jack for DATA operation (FSK RTTY available)
- CTCSS Operation (FM)
- My Band/My Mode functions - to recall your favorite operating environments
- Lock function
- CS Switch to recall a favorite Menu Selection directly
- TOT (Transmitter Time Out Timer)
- Various Scan functions
- CAT System (D-sub 9 pin) for Computer Programming
- Cloning capability
- MH-31A8 Dynamic Microphone Included



Digital Noise Reduction (DNR)



IF WIDTH



World-Class Performance in an easy-to-operate HF/50 MHz transceiver package with Yaesu's unique IF DSP.

The legendary YAESU IF DSP system, well regarded among top and world-class DX operators, is now available in an easy to operate package. The new IF DSP system uses an ANALOG DEVICES, ADSP-BF531SBST IC, with high speed 16-bit, floating point architecture. Designed and programmed with the unique objective of "Enhanced Transmit Signal Quality" and "Advanced Receiving Interference Suppression". These features now come in one easy to operate HF/50 MHz Transceiver, ideal for everyone, new licensee or serious DX operator.



Independent Fast IF SHIFT Control

Vary the IF SHIFT higher or lower for effective interference elimination.

Functions for eliminating interference together with IF SHIFT

Press one of the DSP operation buttons and adjust the function with the DSP/SEL knob.

CONTOUR Control Operation

The Yaesu unique CONTOUR filter provides a gentle shaping of the passband. Specific frequency components may be suppressed or enhanced, to improve the sound and readability of the received signal with the DSP system.

