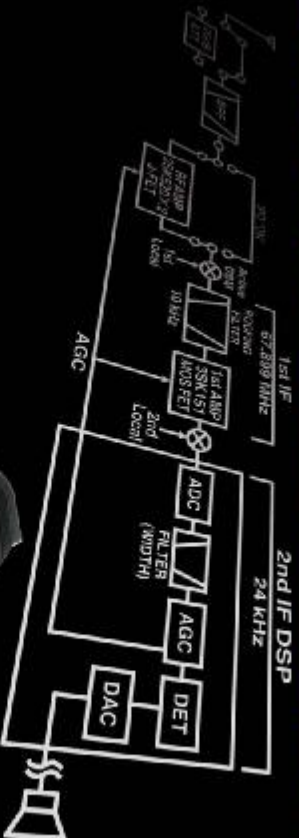


HF/50 MHz All Mode Transceiver FT-450

COMPACT HF/50 MHz TRANSCEIVER WITH IF DSP



YAESU
Choice of the World's Top DX'ers™

General

Tx Frequency Range: 30 kHz - 56 MHz (optional)
160 - 6 m (Amateur bands only)
160 - 6 m (Amateur bands only)
Frequency Stability: ±1 ppm/hour (at 77°F/25°C, active warming)
Operating Temperature Range: 14°F - 122°F (-10°C - +50°C)
Emission Modes: A1A (CW), ABE (AM), J3E (USB, USB), F3E (FM)
Frequency Steps: 500 Hz (100 kHz - 10 MHz), 100 Hz (AM & FM)
Power Consumption: 50 W (100 W, 200 W)
Supply Voltage: DC 13.8V ± 10%
Dimensions (WxHxD): 9" x 3.3" x 8.5" (229 x 84 x 217 mm)
Weight (approx.): 7.9 lb (3.6 kg) w/o ATU-450

Transmitter

Power Output: 100 watts (25 watts AM carrier)
Modulation Types: J3E (SSB), B3E (Balanced), ABE (AM), ASE (AM), F3E (FM), Variable Reactance
Maximum F3E Deviation: ±5.0 kHz/±2.5 kHz
Harmonic Radiation: Better than -40 dB (10m Amateur band)
SSB Carrier Suppression: At least 60 dB below peak output
Unwanted Sideband Suppression: At least 60 dB below peak output
Microphone Impedance: 600 Ohms (200 to 10 Kohms)

Specifications

Receiver

Circuit Type: Double-conversion superhetrodyne
Intermediate Frequencies: 1st IF: 67.489 MHz/2nd IF: 24 kHz
Sensitivity (I-P0 OFF, ATT: OFF): SSB (2.4 kHz, 10 dB SINAD) 0.25 µV (1.9 - 2.0 MHz)
0.25 µV (3.5 - 30 MHz)
0.20 µV (50 - 54 MHz)
AM (6 kHz, 10 dB SINAD) 30% modulation @400 Hz
2.00 µV (1.9 - 2.0 MHz)
2.00 µV (3.5 - 30 MHz)
1.00 µV (50 - 54 MHz)
FM (BW: 15 kHz, 12 dB SINAD) 0.30 µV (25 - 54 MHz)
0.30 µV (50 - 54 MHz)
There is no specification in frequency ranges not listed.
Speech Sensitivity: SSB/CW/AM 2.50 µV (1.9 - 30 MHz)
(I-P0 OFF, ATT: OFF) FM 1.00 µV (50 - 54 MHz)
0.32 µV (25 - 30 MHz)
0.16 µV (50 - 54 MHz)

Selectivity (C-60 dB): There is no specification in frequency ranges not listed.
Mode: -60 dB
CW 0.5 kHz or better
2.0 kHz or less
SSB 2.2 kHz or better
4.5 kHz or less
AM 1.5 kHz or better
9 kHz or less
FM-N 9 kHz or better
25 kHz or less
90 dB or better (10m Amateur band)
65 dB or better (5m Amateur band)
2.2 V into 4 Ohms with 10% THD
4 to 16 Ohms (8 Ohms: nominal)
Less than 4000 µWV

Image Rejection: Maximum Audio Output:
Audio Output Impedance:
Conducted Radiation:
Specifications are subject to change without notice, and are guaranteed within the amateur band only. Frequency range will vary depending on the country of use.

Options

MD-200Ax Desktop Dynamic Microphone	MD-100Ax Desk-top Microphone	MH-31Ax Hand Microphone	MH-38Ax DIN/F Hand Microphone
YH-775TA Optional Stereo Headphone	EP-1023 (USA Only) External Power Supply (C3A VDC 25 V)	EP-1030 External Power Supply (C3A VDC 25 V)	ATU-450 Automatic Antenna Tuner (Included in FT-450AT Version)
MHB-90 Mobile Bracket	MHG-1 Slide Carry Handle	VL-1000 Linear Amplifier (6 m, 50 W/USA version)	VP-1000 V.L-1000 Power Supply

FC-40
Automatic Antenna Tuner (for Long wire antenna)
The FC-40 is a microprocessor-controlled antenna impedance matching network designed to provide all-impedance transmitting and receiving antenna matching. It is used when used with an end-fed random wire or long whip antenna.

Specifications
Operating Frequency Range: 1.5 - 54 MHz with 80 ft (24 m) antenna
Antenna Impedance Range: 10 - 1000 Ohms
Antenna Length: 80 ft (24 m)
Maximum Power: 100 W
Input Impedance: 50 Ohms
Maximum Power Output: 100 W
Operating Frequency Range: 1.5 - 54 MHz
Antenna Length: 80 ft (24 m)
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Antenna Length: 80 ft (24 m)
Maximum Power: 100 W
Input Impedance: 50 Ohms
Maximum Power Output: 100 W

ATA-5-120A
Active Tuning Antenna System
Yaesu's patented Active-Tuning Antenna System (ATA-5) is a microprocessor-controlled antenna system that automatically tunes the antenna to the best SWR. Utilizing control signals from the receiver's microprocessor, the ATA-5 system adjusts the best SWR.

ATBK-100
Antenna Base Kit (Antenna Base Kit on 5 m Band)

● Packet Cable CT-39A ● External Automatic Antenna Tuner FC-30
About this brochure: we have made this brochure as comprehensive and actual as possible. We reserve the right, however, to make changes at any time to equipment, optional accessories, specifications, model numbers, and availability. Please frequency range may differ 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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Proven performance and technology of YAESU - state-of-the-art IF DSP

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



Outstanding CW Features

- Built-in Electronic Keyer
- Speed adjustable between 4 WPM and 60 WPM
- Weight (Dutchash Ratio) adjustable
- CW TR Recovery Delay programmable from 30 ms to 3000 ms
- CW Beacon - Up to 118 characters using CW message keys/3 memory banks
- CW Pitch Adjustment (between 400 to 800 Hz, in 100 Hz steps)
- CW TR Recovery (Zero-Bearing) Function
- CW Reverse - provides PFO Injection from USB-side instead of detail USB-side
- CW Side-tone Generator
- CW Keying on SSB modes
- CW Keying using Up/Down keys on the optional microphones (MH-51/Asi or MH-58csl)
- CW Training feature sends random Morse Code via the built-in sidetone generator

Operate anywhere using optional internal or external antenna tuning systems! (The ATU-450 Antenna Tuner is included in the FT-450AT)

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



Additional features to support the FT-450's operation

- Large, Easy-to-read digital S-meter with peak hold capability
- SQUEL (Quick Memory Bank)
- Versatile Memory System up to 500 memory channels that include 100 W output operation
- TXV to monitor the transmit frequency when split frequency operation is engaged
- Chatter
- Built-in TOXO for incredible ± 1 ppm/hour ($\approx +77$ deg F / 25° C, after warm up)
- 20 second Digital Voice Recorder
- Dedicated Data Jack for DATA operation (FSK, HFTTY available)
- CTCSS Operation (FM)
- My BandWV Mode functions - to recall your favorite operating environments
- Lock function
- Adjustable Main Tuning Dial Torque
- COS SWITCH
- Transmitter Time Out Timer
- Various Scan Functions
- CAT System (D-sub 9 pin) for Computer Programming
- Timing capability
- Hand microphone MH-67/Asi included

Large informative Front Panel Display with Convenient Control Knobs and Switches

Even though it is a compact, compact size (67x3, 37x8.5 / 220 x 84 x 217 mm), the FT-450 offers 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 long and high power operation.

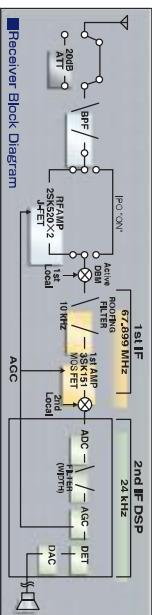
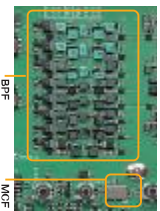
The newly designed push-pull power MOSFET (FDE-100HHF) amplifiers guarantee powerful and reliable 100 W output operation. The FT-450S has rugged 490 cc aluminum die-cast chassis with a large 2.8 x 2.8 (70 x 70 mm) quiet thermally controlled cooling fan, its a solid construction, controlled cooling fan, its a long hours of field use or home contesting operation.



- HF/50 MHz 100 W All Mode Transceiver
- FT-450** Automatic Antenna Tuner ATU-450 optional
- FT-450AT** with built-in ATU-450 Automatic Antenna Tuner

The Real DX Receiver! The 67,899 MHz 4 pole roofing filter (MCF) and 8 band-pass filters at the RF stage provide excellent suppressions of out-of-band interference.

The interference-filtering begins in the "RF" stages with a double conversion superhetrodyne (1st IF 67,899 MHz / 2nd IF 24 MHz) system. And the 8 band-pass filters at the RF input that help eliminate out-of-band interference, followed by the RF AMP (2SK520 x 2) to be into the active DEM (1st Local) will promise its excellent dynamic range. At its 1st IF stage a powerful and excellent strap factor 4 pole roofing filter with a bandwidth of 0.4 KHz substantially reduces adjacent signal interference. Then, MCF's high performance at the 2nd IF stage / 24 MHz, provides excellent suppression of AGC, interference rejection, and auto tone control, and noise reduction for clear and quiet reception. The 20 dB ATT (Attenuation) and PFO (Preferential Point Optimization) feature allow the operator to optimize the characteristics of the receiver front end to improve its dynamic range.



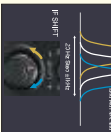
World-Class Performance in an easy-to-operate HF/50 MHz transceiver package with Yaesu's unique IF DSP.

The legendary YAESU IF DSP system, well reputed among top and world class DX operators, is now available in an easy to operate package. The new IF DSP system uses an ADSP-BF531SBSST IC, ANALOG DEMOICE with high speed 16-bit floating point architecture. Designed and programmed with 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 licen see or serious DX operator.



Independent Fast IF SHIFT Control

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



Functions for eliminating interference together with IF SHIFT

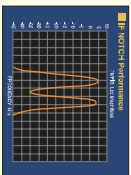
- Choose one of the functions by the DSP button and operate to adjust by the DSP/SEL knob.
- **CONTOUR Control Operation**

Yaesu's unique CONTOUR filter provides a gentle sound and clear speech. The DSP/SEL knob can be used to improve the sound and readability of the received signal with the DSP system.



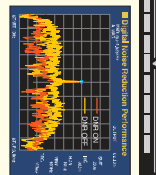
MANUAL NOTCH

Highly effective system that can remove an interfering beat tone or signal.



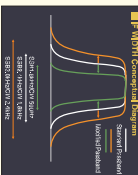
Digital Noise Reduction (DNR)

The DNR system analyzes the profile of the noise found on the HF Band 50 MHz and 50 MHz. The noise is reduced and the sound and readability of the object signal is enhanced.



IF WIDTH

DSP IF WIDTH Tuning provides selectable IF passband widths to fight QRM.



Digital Microphone Equalizer

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



DSP VOX Operation

VOX operation is controlled by the DSP system! VOX, smooth and seamless Voice Operated TX/RX control with this latest technology!

Two Voice Memories (SSB/AM/FM)

Store up to 10 seconds of audio in each memory, for contesting and portable field operation. The DSP system now makes this feature easy to operate.

Digital Voice Announcement Function

FT-450 Voice Announcement Feature will announce the Frequency, Mode and S-meter readings.

Outstanding CW Features

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