

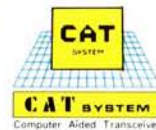


V/UHF ALL MODE TRANSCEIVER FT-736R



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FT-736R



DESCRIPTION

The FT-736R is a frequency-synthesized amateur transceiver incorporating up to four band modules covering the 50, 144, 220, 430, 440 and 1200 MHz amateur bands. The standard model provides 25 watts RF power output on the 144 and 430/440 MHz amateur bands in SSB, CW, and FM modes, with any two of the remaining three bands installable as options (10 watts output on the 50 and 1200 MHz bands).

An 8-bit CMOS main microprocessor and 4-bit i/o coprocessor provide exceptional digital integration and control:

including selectable tuning rates or mode-dependent channelized tuning, and the widest variety of advanced scanning methods ever offered.

Operating conveniences usually found only on HF transceivers, such as front panel adjustable IF shift and IF notch, a noise blanker, all-mode VOX and three-speed selectable AGC are included. GaAs FET receiver RF amplifiers are provided in the 430 and 1200 MHz band modules, and a high-stability TCXO reference oscillator is incorporated for all bands to meet the stringent demands of serious VHF and UHF operation.

The innovative memory system includes

one hundred general purpose memories plus ten full duplex cross-band memories, one global call channel memory that can be recalled from any band or mode and up to four band-specific call channel memories, all of which store mode and receive and transmit frequencies independently. That gives you one hundred and fifteen memories storing up to two hundred and thirty frequencies. In addition, fourteen vfos are provided: two general purpose plus one PMS (Programmable Memory limit Scanning) on each band, two special-purpose full duplex vfos, and up to four clarifier (receiver offset) memories, one per band.





Each of the two full duplex vfos can be selected so that its receive and transmit frequencies and modes can be displayed and tuned independently, or linked to tune synchronously in opposite directions for satellite operation. You can retain twelve satellite uplink/downlink modes in the special vfos and ten full duplex memories at all times. Of course, metering of either transmitter or receiver parameters is selectable during full duplex communications. For CW operators, the FT-736R offers quick-change-over semi break-in and includes provisions for an optional internal electronic keyer and narrow (600 Hz) CW crystal filter.

Naturally, with FM the predominant mode on the VHF and UHF bands, the FT-736R includes all manner of con-

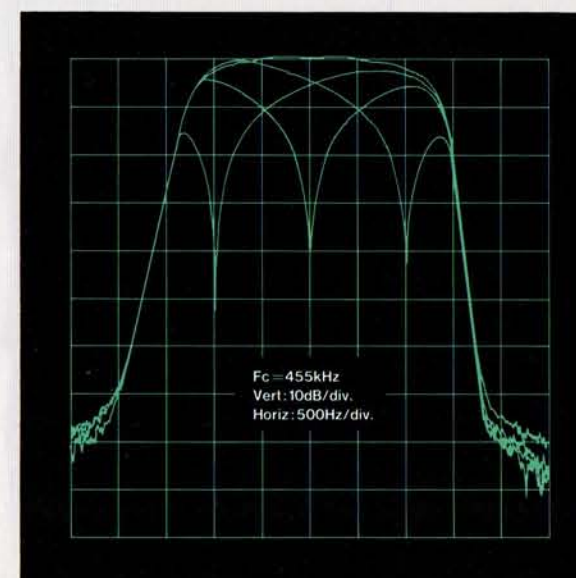
venient features for both FM simplex and repeater operation, like a discriminator center tuning meter, special narrow FM mode (to cut adjacent channel interference in crowded areas) and Automatic Repeater Shift when tuned to 2-meter repeater subbands. The mode-dependent programmable tuning steps and tracking vfos are particularly useful. An optional subaudible Tone Squelch Unit can be programmed from the front panel, and a 1750 or 1800 Hz Burst Tone Generator is installed as standard.

An enhanced CAT (Computer Aided Transceiver) System allows addition and customization of features and user-designed controls from an external computer. The FT736R also includes a t/r-switched DC supply line for masthead preamplifiers, activated from the front

panel, and digital input connection directly to the modulator for high performance packet radio tnc interfacing (preamps, personal computers and packet tncs not supplied by Yaesu).

An efficient built-in switching-mode power supply provides 13.8 VDC to power the transceiver from the AC mains, without the heating and weight of a heavy power transformer. Inside the transceiver high-grade modular design ensures easy servicing.

Optional add-on accessories include the TV-736 Amateur Television Modulator/Demodulator for ATV operation, FIF-series CAT interface Units, SP-767 External Loudspeaker, FMP-1 AQS Message Processor, and FVS-1 Voice Synthesizer and FTS-8 CTCSS Tone Squelch Unit (both mount internally).



A & B VFOS PLUS PMS MEMORIES ON EACH BAND

AND 100 General-purpose Memories Two Full Duplex PLUS 10 Full duplex Memories Satellite VFOS

MEMORY SCAN SKIP & MODE-SELECTIVE SCANNING

Memory Scanning on 430 MHz Band

● Memories scanned with FM-CH Switch OFF
● Memories scanned with FM-CH Switch ON

OPTIONS

- E-736 (DC) DC Power Cable for operation from Ext. Supply
- FEX-736-50(A) 50 MHz Band Module
- FEX-736-220(A) 220 MHz Band Module
- FEX-736-1.2(A) 1.2 GHz Band Module for North America
- FEX-736-1.2(B) 1.2 GHz Band Module for outside North America
- FIF-232Cvan CAT/TNC Interface for Packet Radio & CAT
- FIF-232C CAT Interface Unit for serial i/o connection
- FIF-65A CAT Interface Unit for Apple II Computer
- FIF-MX CAT Interface Unit for MSX Computers
- FMP-1 AQS Message Processor & digital message display
- FTS-8 37-tone CTCSS Subaudible Tone Squelch Unit
- FVS-1 Voice Synthesizer for Aural Frequency Readout
- Keyer Unit B Internal Electronic Iambic Keyer
- MD-1B8 Desktop Microphone
- MH-1B8 Handle-Scanning Microphone
- SP-767 External Speaker with Audio Filters
- TV-736 Fast Scan Television (ATV) Modulator/Demodulator
- XF-455MC 600 Hz CW Narrow Filter



E-736 (DC)



FEX-736-220(A)



FEX-736-1.2(B)



FIF-232Cvan



FMP-1



FTS-8



FVS-1



Keyer Unit B



MD-1B8



MH-1B8



SP-767



TV-736



XF-455MC

SPECIFICATIONS

GENERAL

Operating Frequency Ranges

50 ~ 53.99999 MHz*
 144 ~ 145.99999 MHz (or 147.99999 MHz)
 220 ~ 224.99999 MHz*
 430 ~ 439.99999 MHz (or 449.99999 MHz)
 1240 or 1260 ~ 1299.99999 MHz*

Emission Types

LSB/USB (J3E voice), CW (A1A)
 FM (F2D, FSK, F3E voice)
 TV (A3F optional, for 1.2 GHz*)

Operating Temperature Range

-10 to +60°C

Reference Oscillator Stability

Better than ±1 ppm (+10 to +40°C), and
 ±5 ppm (-10 to +60°C) after 15 minutes warmup

Antenna Impedance

50 ohms, unbalanced

Supply Voltage

85 ~ 132 or 170 ~ 264 VAC, 50/60 Hz,
 or 13.8 VDC ±10%, negative ground

Power Consumption/ Current Required

Maximum: 250 VA (approx.)
 Receive: 1.5 A (")
 Transmit: 8 A (")

Dimensions

368 (W) X 129 (H) X 286 (D) mm

Weight

9 kg (19.8 lbs)

TRANSMITTER

Power Input

30 watts DC @ 50 MHz*
 60 watts DC @ 144, 220*, 430 MHz
 45 watts DC @ 1.2 GHz*

Modulation Methods

SSB Balanced, filtered carrier
 FM Variable reactance
 (±5 kHz or ±2.5 kHz maximum deviation)
 ATV* Low level carrier

Spurious Radiation

Better than -60 dB

Carrier Suppression (SSB)

Better than -40 dB below peak output

Undesired Sideband Suppression (SSB)

Better than -40 dB below peak output

Audio Characteristic (SSB)

Within 6 dB from 300 to 2700 Hz

Microphone Impedance

600 ohms nominal (200 ohms to 10k)

RECEIVER

Circuit Type

50*, 144 MHz bands: Double-conversion
 Other bands: Triple-conversion superhet.

Intermediate Frequencies

13.69 MHz and 455 kHz, plus
 47.75 MHz on 220*, 47.43 MHz on 430, or
 133.91 MHz on 1200 MHz band*

Sensitivity

SSB/ CW: Better than -15 dBμ for 12 dB
 S + N: N

FM: Better than -9 dBμ for 12 dB SINAD

Squelch Sensitivity

SSB/ CW: Better than 0 dBμ

FM: Better than -12 dBμ

Image Rejection

60 dB or better

Selectivity (-6/-60 dB)

SSB, CW: 2.2/4.5 kHz

CW-N (optional): 600/1200 Hz

FM: 12/25 kHz FM-N: 8/19 kHz

Audio Output Power

1.5 watts into 8 ohms with 5% THD

Audio Output Impedance

4 to 16 ohms

Specifications subject to change without notice.

*requires optional unit

FT-736R Model Chart

Version	A	B1	B2	C1	C2	H1	H2
2m Band							
Rptr Shift* (MHz)	144-148	144-146	144-148	144-146	144-148	144-146	144-148
FM Ch. Step* (kHz)	5	12.5	12.5	12.5	12.5	5	5
Tone Burst (Hz)	±600	±600	±600	±600	±600	±600	±600
70cm Band							
Freq. Range (MHz)	430-450	430-440	430-440	430-440	430-440	430-440	430-440
FM Ch. Step* (kHz)	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Rptr Shift* (kHz)	±5	±7.6	±7.6	±1.6	±1.6	±5	±5
Tone Burst (MHz)	1800	1750	1750	1750	1750	1750	1750

*can be reset by operator



YAESU MUSEN CO., LTD.

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17210 Edwards Rd. Cerritos, California, 90701 U.S.A.

YAESU EUROPE B.V.

Snipweg 3, 1118AA Schiphol The NETHERLANDS

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LSB/USB (J3E voice), CW (A1A)
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 TV (A3F optional, for 1.2 GHz*)

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-10 to +60°C

Reference Oscillator Stability

Better than ±1 ppm (+10 to +40°C), and
 ±5 ppm (-10 to +60°C) after 15 minutes warmup

Antenna Impedance

50 ohms, unbalanced

Supply Voltage

85 ~ 132 or 170 ~ 264 VAC, 50/60 Hz,
 or 13.8 VDC ±10%, negative ground

Power Consumption/ Current Required

Maximum: 250 VA (approx.)
 Receive: 1.5 A (")
 Transmit: 8 A (")

Dimensions

368 (W) X 129 (H) X 286 (D) mm

Weight

9 kg (19.8 lbs)

TRANSMITTER

Power Input

30 watts DC @ 50 MHz*
 60 watts DC @ 144, 220*, 430 MHz
 45 watts DC @ 1.2 GHz*

Modulation Methods

SSB Balanced, filtered carrier
 FM Variable reactance
 (±5 kHz or ±2.5 kHz maximum deviation)

ATV* Low level carrier

Spurious Radiation

Better than -60 dB

Carrier Suppression (SSB)

Better than -40 dB below peak output

Undesired Sideband Suppression (SSB)

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Audio Characteristic (SSB)

Within 6 dB from 300 to 2700 Hz

Microphone Impedance

600 ohms nominal (200 ohms to 10k)

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SSB/CW: Better than 0 dBμ

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Image Rejection

60 dB or better

Selectivity (-6/-60 dB)

SSB, CW: 2.2/4.5 kHz

CW-N (optional): 600/1200 Hz

FM: 12/25 kHz FM-N: 8/19 kHz

Audio Output Power

1.5 watts into 8 ohms with 5% THD

Audio Output Impedance

4 to 16 ohms

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FT-736R Model Chart

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Rptr Shift* (MHz)	144-148	144-146	144-148	144-146	144-148	144-146	144-148
FM Ch. Step* (kHz)	5	12.5	12.5	12.5	12.5	5	5
Tone Burst (Hz)	±600	±600	±600	±600	±600	±600	±600
70cm Band							
Freq. Range (MHz)	430-450	430-440	430-440	430-440	430-440	430-440	430-440
FM Ch. Step* (kHz)	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Rptr Shift* (kHz)	±5	±7.6	±7.6	±1.6	±1.6	±5	±5
Tone Burst (MHz)	1800	1750	1750	1750	1750	1750	1750

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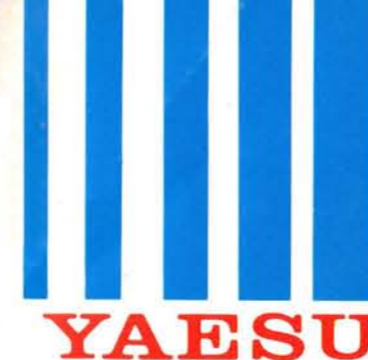
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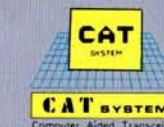
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Printed in Japan



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OPTIONS

<p>E-736 (DC) DC Power Cable for operation from Ext. Supply</p> <p>FEX-736-50(A) 50 MHz Band Module</p> <p>FEX-736-220(A) 220 MHz Band Module</p> <p>FEX-736-1.2(A) 1.2 GHz Band Module for North America</p> <p>FEX-736-1.2(B) 1.2 GHz Band Module for outside North America</p> <p>FIF-232Cvan CAT/TNC Interface for Packet Radio & CAT</p> <p>FIF-232C CAT Interface Unit for serial i/o connection</p> <p>FIF-65A CAT Interface Unit for Apple II Computer</p> <p>FIF-MX CAT Interface Unit for MSX Computers</p> <p>FMP-1 AQS Message Processor & digital message display</p> <p>FTS-8 37-tone CTCSS Subaudible Tone Squelch Unit</p> <p>FVS-1 Voice Synthesizer for Aural Frequency Readout</p> <p>Keyer Unit B Internal Electronic Iambic Keyer</p> <p>MD-1B8 Desktop Microphone</p> <p>MH-1B8 Handle-Scanning Microphone</p> <p>SP-767 External Speaker with Audio Filters</p> <p>TV-736 Fast Scan Television (ATV) Modulator/Demodulator</p> <p>XF-455MC 600 Hz CW Narrow Filter</p>	 <p>E-736 (DC)</p>	 <p>FEX-736-220(A)</p>	
 <p>FEX-736-1.2(B)</p>	 <p>FIF-232Cvan</p>	 <p>FMP-1</p>	
 <p>FTS-8</p>	 <p>FVS-1</p>	 <p>Keyer Unit B</p>	 <p>MD-1B8</p>
 <p>MH-1B8</p>	 <p>SP-767</p>	 <p>TV-736</p>	 <p>XF-455MC</p>

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 ±5 ppm (-10 to +60°C) after 15 minutes warmup

Antenna Impedance

50 ohms, unbalanced

Supply Voltage

85 ~ 132 or 170 ~ 264 VAC, 50/60 Hz,
 or 13.8 VDC ±10%, negative ground

Power Consumption/Current Required

Maximum: 250 VA (approx.)
 Receive: 1.5 A (")
 Transmit: 8 A (")

Dimensions

368 (W) X 129 (H) X 286 (D) mm

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30 watts DC @ 50 MHz*
 60 watts DC @ 144, 220*, 430 MHz
 45 watts DC @ 1.2 GHz*

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 ATV* Low level carrier

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Better than -60 dB

Carrier Suppression (SSB)

Better than -40 dB below peak output

Undesired Sideband Suppression (SSB)

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Within 6 dB from 300 to 2700 Hz

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600 ohms nominal (200 ohms to 10k)

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Selectivity (-6/-60 dB)

SSB, CW: 2.2/4.5 kHz
 CW-N (optional): 600/1200 Hz
 FM: 12/25 kHz FM-N: 8/19 kHz

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Audio Output Impedance

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FM Ch. Step* (kHz)	5	12.5	12.5	12.5	12.5	5	5
Tone Burst (Hz)	±600	±600	±600	±600	±600	±600	±600
70cm Band							
Freq. Range (MHz)	430-450	430-440	430-440	430-440	430-440	430-440	430-440
FM Ch. Step* (kHz)	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Rptr Shift* (kHz)	±5	±7.6	±7.6	±1.6	±1.6	±5	±5
Tone Burst (MHz)	1800	1750	1750	1750	1750	1750	1750

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