

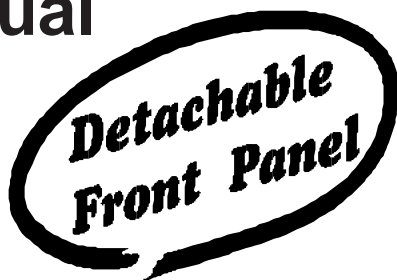
YAESU

MICRO COMMANDER

FT-90R

VHF/UHF DUAL BAND FM TRANSCEIVER

Operating Manual



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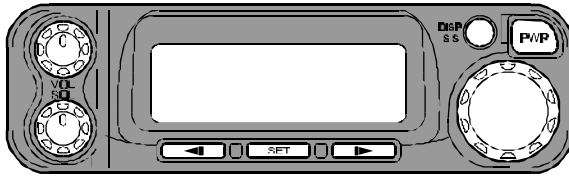
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Introduction



The **FT-90R** is an ultra-compact, high-power dual-band FM mobile transceiver providing high performance on the Amateur 144 MHz and 430 MHz bands.

The **FT-90R** represents an engineering breakthrough in electro-mechanical construction, providing 50 Watts output on 144 MHz and 35 Watts output on 430 MHz from an enclosure measuring only 100 x 30 x 138 mm (3.9" x 1.2" x 5.4") WHD. Despite its incredibly small size, the **FT-90R** is a full-featured rig, providing extended receive coverage, CTCSS and DCS Tone Squelch systems, and Yaesu's exclusive **ARTS™** (Auto-Range Transponder System) and **Smart Search™** features for today's active operator.

We recommend that you read this manual in its entirety, so as to get the most out of your new **FT-90R MICRO MOBILE!**

Specifications

General

Frequency Ranges:	RX: 100~230 MHz, 300~530 MHz, 810~999.975 MHz* TX: 144-146 MHz or 144-148 MHz (144 MHz) 430-440 MHz or 430-450 MHz (430 MHz)
Channel Steps:	5/10/12.5/15/20/25/50 kHz
Emission Type:	F3, F2, F1
Antenna Impedance:	50 Ω , Unbalanced (Antenna Duplexer built-in)
Frequency Stability:	± 5 ppm (-5 $^{\circ}\text{C}$ to $+60$ $^{\circ}\text{C}$)
Operating Temp. Range:	-20 $^{\circ}\text{C}$ to $+60$ $^{\circ}\text{C}$
Supply Voltage:	DC 13.8 V ± 15 %, Negative Ground
Current Consumption (approx):	350 mA (Receive, Squelched) 9.5 A (Tx, 144 MHz) 8.5 A (Tx, 430 MHz)
Case Size:	100(W) x 30(H) x 138(D) mm (w/o knobs)
Weight:	640 g (1.41 lb.)

* Cellular and digital telephone frequencies are blocked and cannot be restored.

Transmitter

RF Power Output:	50/20/10/5 W (144 MHz), 35/20/10/5 W (430 MHz)
Modulation Type:	Variable Reactance
Maximum Deviation:	± 5 kHz
Spurious Emissions:	At least 60 dB below fundamental
Microphone Impedance:	2 k Ω

Receiver

Circuit Type:	Double-Conversion Superheterodyne
Intermediate Frequencies:	45.05 MHz and 455 kHz
Sensitivity:	0.18 μV @ 12 dB SINAD
Selectivity:	12 kHz/24 kHz (-6 dB/ -60 dB)
AF Output:	2 W @ 8 Ω for 10 % THD
AF Output Impedance:	4 Ω – 16 Ω

Specifications are subject to change without notice or obligation.

Specifications guaranteed only within the 2m and 70cm amateur bands.

Frequency range may vary according to local requirements and regulations.

Accessories & Options

SUPPLIED ACCESSORIES

Microphone (See list below)
Mobile Mounting Bracket **MMB-68**
DC Power Cord w/Fuse (Part # **T9021715**)
Spare 15A Fuse

OPTIONAL ACCESSORIES

MH-36_{A6J} DTMF Microphone
MH-42_{A6J} Hand Microphone
YSK-90 Separation Kit
SP-7 External Loudspeaker
MEK-2 Microphone Extension Kit

Availability of accessories may vary. Some accessories are supplied as standard per local requirements, while others may be unavailable in some regions. Consult your Yaesu dealer for details regarding these and any newly available options. Connection of any non- Yaesu-approved accessory, should it cause damage, may void the Limited Warranty on this apparatus.