

IC-48A/E

UHF FM TRANSCEIVER

INSTRUCTION MANUAL



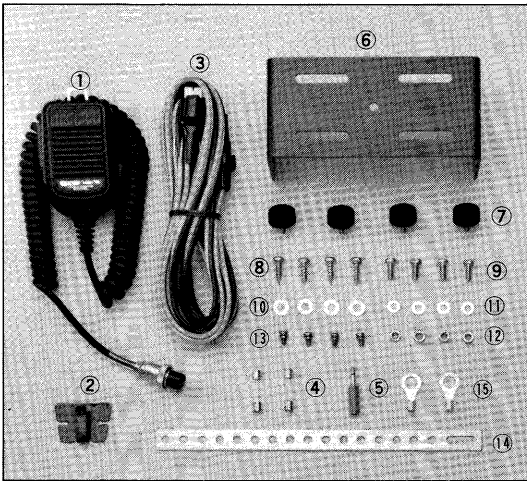
FOREWORD

Congratulations for choosing this technically-advanced ICOM product.

The IC-48A/E UHF FM transceiver is the latest addition to the ICOM system of Amateur radio equipment. Included in the IC-48A/E design is provision for use of the newly developed Digital Code Squelch System. Digital Code Squelch uses the latest digital techniques to create a communications system capable of dramatically reducing the inconvenience of heavily populated Amateur bands.

Use the IC-48A/E with the knowledge that this transceiver, and every ICOM product, is supported by a world-wide network of authorized service centers and dealers ready to provide assistance efficiently.

UNPACKING



IC-48A/E ACCESSORIES SUPPLIED	QTY.
1. *Microphone	1
2. Microphone hanger	1
3. Power cable	1
4. Fuses (15A)	1
5. External speaker plug.	1
6. Mounting bracket	1
7. Mounting bracket knobs	4
8. Mounting screws (self-tapping)	4
9. Mounting screws	4
10. Flat washers (large)	4
11. Flat washers (small)	4
12. Nuts	4
13. Screws/spring washers	4
14. Support bracket.	1
15. Cable lugs	2
* U.S.A. and Australia versions : HM-12	
Europe version : HM-15	

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SECTION 1 SPECIFICATIONS

1 - 1 GENERAL

Frequency coverage	:	IC-48A U.S.A. version	440 ~ 450MHz
		IC-48A Australia version	430 ~ 440MHz
		IC-48E Europe version	430 ~ 440MHz
Frequency resolution	:	IC-48A	5, 10, 15, 20 or 25kHz (programmable)
		IC-48E	12.5 or 25kHz (programmable)
Frequency control	:	CPU based 5kHz (or 6.25kHz) step digital PLL synthesizer Simplex and semi-duplex capability (programmable offset)	
Memory channels	:	21 channels	
Usable temperature range	:	-10°C ~ +60°C (+14°F ~ +140°F)	
Power supply requirement	:	13.8V DC ±15% (negative ground) AC power supply is available for AC operation.	
Current drain (at 13.8V DC)	:	Transmit	
		HIGH (25W)	Maximum 7.5A
		LOW (5W)	Approx. 3.5A
		Receive	
		Max. audio output	Approx. 800mA
		Squelched	Approx. 450mA
Antenna impedance	:	50 ohms unbalanced	
Dimensions	:	140(140)mm(W) x 50(50)mm(H) x 155(171)mm(D) Bracketed values include projections.	
Weight	:	1.2kg	

1 - 2 TRANSMITTER

Output power	:	HIGH 25W	LOW 5W
Emission mode	:	16K0F3E (16K0F2D: When operating with an optional UT-28)	
Modulation system	:	Variable reactance frequency modulation	
Max. frequency deviation	:	±5.0kHz	
Spurious emission	:	More than 60dB below carrier	
Microphone	:	600 ohm electret condenser with push-to-talk and scanning switches (IC-48E: 1750Hz tone burst switch)	

1 - 3 RECEIVER

Receive system	:	Double-conversion superheterodyne	
Modulation acceptance	:	16K0F3E	
Intermediate frequencies	:	1st 23.15MHz	2nd 455kHz
Selectivity	:	More than 12.5kHz at -6dB Less than 25.0kHz at -60dB	
Sensitivity	:	Less than 0.18μV for 12dB SINAD	
Audio output	:	More than 2.4 watts at 10% distortion with 8 ohm load	
Audio output impedance	:	4 ~ 8 ohms	

*All stated specifications are approximate and subject to change without notice or obligation.

SECTION 2 FEATURES

- **COMPACT AND HIGH OUTPUT POWER**

Smaller than many conventional automobile broadcast band transceivers, the sophisticated IC-48A/E transceiver provides 25W of powerful output on any frequency in the 70cm band and contains an internal speaker as well.
- **SIMPLE PANEL DESIGN**

Front panel layout is extremely simple in spite of the great number of functions available. The total number of controls on the front panel is significantly fewer than other models currently available while, at the same time, new features have been added resulting in a mobile unit that is safe and easy to use while driving without sacrificing performance.
- **HIGHLY VISIBLE LCD READOUT**

The LCD front panel readout features a particularly wide viewing angle designed to enable the driver to easily see the display, even in bright daylight, without changing position.
- **AUTOMATIC DIMMER CIRCUIT**

Variations in ambient light conditions pose no problems when using the IC-48A/E since the built-in light sensor automatically adjusts a dimmer circuit to control the backlighting of the display to suit the time of day or night that you are operating. This feature is particularly convenient for night operation to reduce eye fatigue caused by overly bright displays.
- **21 MEMORY CHANNELS**

The IC-48A/E introduces a large capacity memory with 21 fully programmable memory channels. These memory channels place a variety of communications functions at the fingertips of the driver.
- **DUAL SCANNING FUNCTIONS**
 - **FREQUENCY SCAN:**

The entire band is searched continuously with frequency increments specified by the operator.
 - **MEMORY SCAN:**

All memory channels are continuously checked.
- **SUBAUDIBLE TONE ENCODER STANDARD**

With 38 different subaudible tones standard on the IC-48A (U.S.A. version), maximum communications coverage is assured by allowing full access to all your local repeaters.
- **SQUELCH OPTIONS**

Two new optional units specially designed for the IC-48A/E are ideal for handling the crowded band conditions found in many locations. Either the UT-28 or the UT-29 may be installed.

 - **UT-28 DIGITAL CODE SQUELCH UNIT:**

Incorporating a system of digital coding and decoding, the UT-28 option allows a "personalized" squelch to be programmed using 1 of 100,000 different code numbers.
 - **UT-29 TONE SQUELCH UNIT:**

The UT-29 is a subaudible tone encoder/decoder which may be installed as an alternative to the UT-28 Digital Code Squelch Unit.



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