

ICOM

HF/VHF/UHF ALL MODE TRANSCEIVER

IC-706MKIIIG



**160m-70cm**  
**HF+6m+2m+70cm**



The amazing evolution of the '706' series...

Icom Inc.

# THE AMAZING EVOLUTION OF THE '706' SERIES...

## IC-706

This ground-breaking transceiver offered mobile-sized compactness—including a detachable front panel, with base station class performance and features. And all mode operation from the HF bands to VHF.



## IC-706MKII

The IC-706MKII incorporated all of the wizardry of the IC-706 with refined features and user-friendliness, as well as enhanced performance.

The IC-706MKIIG carries on the '706' series tradition of base station performance and features in a mobile rig-sized package. Building on this legacy, frequency coverage is expanded to the 70 cm band and output power is increased for the 2 m band. A long list of enhancements, both to usability and performance, as well as added features and functions have produced the latest in the evolution of the '706' series.

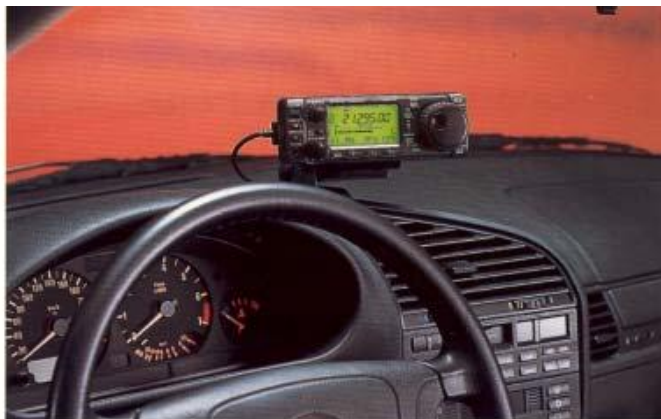


# 160m-70cm

HF/VHF/UHF ALL MODE TRANSCEIVER

## IC-706MKIIG





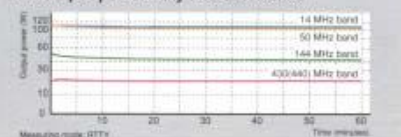
### HF to 70 cm band coverage

Operating frequency range has been expanded to the 70 cm band. Of course, all mode operation (SSB, CW, RTTY, AM and FM) is possible and a full 100 W of output power is available for HF and 6 m operation; 50 W for 2 m and 20 W for 70 cm operation.

### High stability transmitter

MOS-FET power amplifiers are employed at the PA unit for all HF, 6 m, 2 m and 70 cm bands. And, a one piece aluminum, die-cast chassis with a large cooling fan is employed. This combination provides stable, high quality output with low IMD and low spurious emissions even during full duty cycle and extended operation.

• RF output power duty characteristics



### Illuminated keys and switches

Backlighting of keys and switches is a great help during nighttime operation—the intensity is even adjustable!



### Tone squelch standard

Tone squelch operation is available in FM mode for basic signalling and quiet standby. Tone frequencies can be set independently for tone squelch (Tx/Rx) and repeater tones, and a range of 50 frequencies is available. A tone scan function is available to search for a repeater's access tone quickly and easily.

### DSP features

DSP capabilities are available\*. These include noise reduction and auto notch functions. Superior receive quality in your shack, vehicle or during DX'peditions.



\*AF DSP; UT-106 DSP UNIT required for some versions.

### Compact with detachable panel\*\*

The IC-706MKIIG is very compact at 167(W) × 58(H) × 200(D) mm\*\*<sup>2</sup> and weighs a mere 2.5 kg\*\*<sup>3</sup>, making it ideal for DX'peditions, etc. A detachable front panel allows easy installation in your shack or in a wide variety of mobile applications.

\*\*An optional separation cable is required; <sup>2</sup>6<sup>3</sup>/<sub>16</sub>(W) × 2<sup>3</sup>/<sub>32</sub>(H) × 7<sup>7</sup>/<sub>8</sub>(D) in; <sup>3</sup>5.5 lb.

### Automatic repeater function\*

An automatic repeater function is available and repeater frequencies can be programmed via a special operation. This eliminates the need for repeater settings for 6 m, 2 m or 70 cm repeater operation.

\*Standard for USA version; programming required for others.

### Optional high frequency stability

±0.5 ppm of high frequency stability is provided when an optional CR-282 HIGH STABILITY CRYSTAL UNIT is installed.

### Simple operation

The individual band change key, a sub dial and quick band change capability provide simple operation. The individual band change key allows quick and easy QSX, the sub dial enhances mobile and memory operation, and the quick band change capability selects pre-set frequency bands with the last-used frequency and mode. Also, each band can store preamplifier/attenuator and tuner on/off settings.

### Simple band scope function

This function sweeps ±14 steps from the displayed frequency and plots received signal strength on the function display. This function is useful not only for checking HF band conditions, but also seeking vacant frequencies during VHF or UHF FM operation.



### Narrow FM capability

For FM operation on the 10 m or the 2 m (where narrow FM is required) bands, the IC-706MKIIG has narrow FM capability that allows you to take advantage of this operating mode.

### 107 memory channels with alphanumeric name capability

99 channels can memorize both transmit and receive frequencies separately; 6 channels are for programmed scan edges; and 2 channels are for call memory for the 2 m and 70 cm bands. And, up to 9-character alphanumeric names can be programmed into each memory channel.

### And more...

- Up to 3 selectable passband widths
- Built-in electronic keyer
- CW reverse function
- Adjustable CW pitch
- Full break-in (QSK)
- IF shift interference rejection
- Superior audio characteristics
- Continuously adjustable RF output power
- VOX
- AF speech compressor
- RF gain control
- Adjustable SSB carrier point
- 4 scan types
- Noise blanker
- Receiver protection circuit
- RIT
- Selectable AGC time constant
- Optional voice synthesizer
- CI-V capability
- Digital, multi-function S/Rf meter
- Optional antenna tuners (control circuit built-in)



## SPECIFICATIONS

### GENERAL

- Frequency coverage**
  - Receive 0.030-199.990 MHz\* 400-470.000 MHz\*
  - Transmit 1.8-1.999 MHz\* 3.5-3.999 MHz\*
  - 7.0-7.300 MHz 10.1-10.150 MHz\*
  - 14.0-14.350 MHz 18.068-18.168 MHz
  - 21.0-21.450 MHz 24.89-24.990 MHz
  - 28.0-29.700 MHz 50.0-54.000 MHz\*
  - 144.0-148.000 MHz\* 430.0-450.000 MHz\*

\*Varies according to version.
- Mode** : USB, LSB, CW, RTTY (FSK), AM, FM, WFM (Rx only)
- No. of memory ch.** : 107 (99 regular, 6 scan edges, 2 call channels)
- Antenna connector** : SO-239 x2 (for HF/50 MHz and 144/430 MHz)/50 Ω
- Power supply requirement** : 13.8 V ±15% (negative ground)
- Frequency stability** : Less than ±7 ppm from 1 min. to 60 min. after power on. After that rate of stability less than ±1 ppm/hr. at +25°C (+77°F). Temperature fluctuations 0°C to +50°C (+92°F to +122°F) less than ±5 ppm.
- Current drain**
  - Transmit max. power 20 A
  - Receive standby 1.8 A
  - max. audio 2.0 A
- Usable temp. range** : -10°C to 50°C (14°F to 140°F)
- Dimensions** : 167(W) × 58(H) × 200(D) mm (projections not included) 6 1/2(W) × 2 1/4(H) × 7 7/8(D) in
- Weight** : 2.45 kg (5 lb 6 oz)
- CI-V connector** : 2-conductor 3.5 (d) mm (1/4")
- ACC connector** : 13-pin

All stated specifications are subject to change without notice or obligations.

### TRANSMITTER

- Output power**

	SSB/CW/RTTY/FM		AM
	5-100 W	2-40 W	2-20 W
HF/50 MHz	5-100 W	2-40 W	2-20 W
144 MHz	5-50 W	2-20 W	2-20 W
440 MHz	2-20 W	2-8 W	2-8 W
- Modulation system**
  - SSB Balanced modulation
  - AM Low level modulation
  - FM Variable reactance modulation
- Spurious emissions** : -50 dB typ. (1F bands)  
Less than -40 dB (other bands)
- Carrier suppression** : More than 40 dB
- Unwanted sideband** : More than 50 dB
- Microphone connector** : 6-pin modular jack (800 Ω)
- KEY connector** : 3-conductor 6.35 (d) mm (1/4")
- RTTY connector** : 3-conductor 3.5 (d) mm (1/8")

### RECEIVER

- Receive system** : Double superheterodyne (SSB/CW/AM/WFM)  
Triple superheterodyne (FM)
- Intermediate frequencies** : (Unit: MHz; \*FM only)

	1st	2nd	3rd
SSB/AM-NFM	69.0115	9.0115	0.455*
CW	69.0106	9.0106	—
RTTY	69.0105	9.0105	—
AM/FM-N	69.0100	9.0100	0.455*
WFM	70.7000	10.7000	—

- Receive sensitivity** (preamp on; except 4-4.5 and 5-9 MHz):

	SSB/CW 10 dB SIN	AM 50 dB SIN	FM 12 dB SINAD	WFM 12 dB SINAD
0.5-1.8 MHz	—	13 μV	—	—
1.8-28 MHz	0.15 μV	2.0 μV	0.5 μV	—
28-29.7 MHz	0.12 μV	1.0 μV	0.25 μV	—
50 MHz band	—	—	—	10.0 μV
76-108 MHz band	0.11 μV	1.0 μV	0.18 μV	—
144/440 MHz band	0.11 μV	1.0 μV	0.18 μV	—
- Squelch sensitivity** : SSB Less than 5.6 μV (threshold)  
FM Less than 0.3 μV
- Selectivity (normal setting)** : SSB, CW, RTTY More than 2.4 kHz-6 dB  
Less than 4.8 kHz-60 dB  
More than 8.0 kHz-6 dB  
Less than 30 kHz-36 dB  
More than 12 kHz-6 dB  
Less than 30 kHz-50 dB
- Spurious and image rejection ratio** : HF bands More than 70 dB  
50 MHz More than 65 dB (except F through)  
144/430(440) MHz More than 65 dB
- Audio output power** : More than 2.0 W (at 13.8 V DC)
- RTT variable range** : ±0.09 kHz
- PHONE/S connector** : 3-conductor 3.5 (d) mm (1/4")
- EXT SP connector** : 2-conductor 3.5 (d) mm (1/4")

The IC-706MKIIG meets MIL-STD requirements and strict environmental standards for shock (MIL-810C, D, E) and vibration (MIL-810C, D, E).

- Supplied accessories:**
- Hand microphone
  - DC power cable
  - Spare fuses
  - RTTY key plug
  - Electronic keypad plug
  - ACC cable

## OPTIONS



**IC-PW1**  
HF+50 MHz 1 kW  
HF LINEAR AMPLIFIER

Covers all HF and 50 MHz bands, provides clean, stable 1 kW output. Automatic antenna tuner and compact detachable controller are standard. 2 exciter inputs are available. (An optional OPC-589 is required.) (Not available for EU countries)



**AH-2b ANTENNA ELEMENT**  
For mobile operation with the AH-4. All bands between 7-54 MHz can be matched.

**AH-4 HF+50 MHz AUTO-MATIC ANTENNA TUNER**  
Covers 3.5-54 MHz with a 7 m (23 ft) or longer wire antenna.



**AT-180 HF+50 MHz AUTO-MATIC ANTENNA TUNER**  
Style and size are matched to the IC-706MKIIG.

**PS-85 DC POWER SUPPLY**  
Output: 13.8 V DC (25 A max.) (Not available for EU countries)



**PS-125 DC POWER SUPPLY**  
Compact power supply with high current capability. Output: 13.8 V DC (25 A max.)



**MB-62 MOBILE MOUNTING BRACKET**  
For mounting the IC-706MKIIG main unit or the AT-180.



**MB-63 MOBILE MOUNTING BRACKET**  
For mounting the detached front panel.



**MB-65 MOUNTING BASE**  
For mounting the detached front panel in a vehicle. The MB-63 is required.



**OPC-561/OPC-587 SEPARATION CABLES**  
Provides separate operation. OPC-561: 3.5 m (11 ft) OPC-587: 5 m (16 ft)



**SM-20 DESKTOP MICROPHONE**  
High quality desktop microphone. (An optional OPC-589 is required.)



**UT-106 DSP UNIT**  
Provides AF DSP functions such as noise reduction and auto notch. Built-in to some versions.



**5 MHz FILTERS**  
Have good shape factor and provide you with better reception.

- FL-106** 500 Hz±6 dB (CW/RTTY nar.)
- FL-101** 250 Hz±6 dB (CW nar.)
- FL-103** 2.8 kHz±6 dB (SSB wide)
- FL-223** 1.9 kHz±6 dB (SSS nar.)
- FL-232** 350 Hz±6 dB (CW/RTTY nar.)



**MB-72 CARRYING HANDLE**  
Convenient when for DX'peditions, operating in the field, etc.

- CR-282** HIGH STABILITY CRYSTAL UNIT
- CT-17** CI-V LEVEL CONVERTER
- HM-103** HAND MICROPHONE (same as supplied)
- HM-118/NTA** DTMF HAND MICROPHONE
- OPC-589** MODULAR 6-PIN CABLE ADAPTER
- OPC-598** ACC 13 PIN CABLE FOR AT-180
- OPC-599** ACC 13 PIN CABLE ADAPTER
- OPC-742** ACC 13 PIN CABLES
- SP-7** EXTERNAL SPEAKER
- SP-10** EXTERNAL SPEAKER (Not available for EU countries)
- UT-102** VOICE SYNTHESIZER UNIT

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**ISO 9001** and **UKAS** QUALITY MANAGEMENT SYSTEMS CERTIFICATION  
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