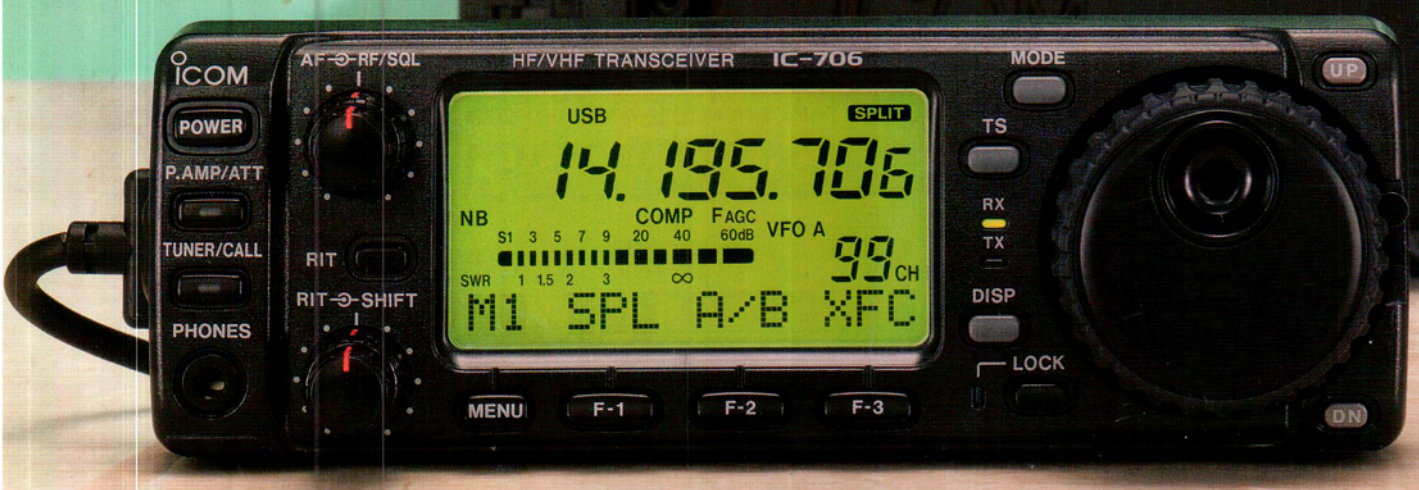
ICOM

HF/VHF ALL MODE TRANSCEIVER

IC-706

HF+50MHz+144MHz ALL MODE



The front panel photo is

Actual size.

167(W)×58(H)×200(D)mm
6 9/16(W)×2 9/32(H)×7 7/8(D)in

Icom Inc.

HF ALL BAND

50 MHz

144 MHz

SSB·CW·RTTY·AM·FM

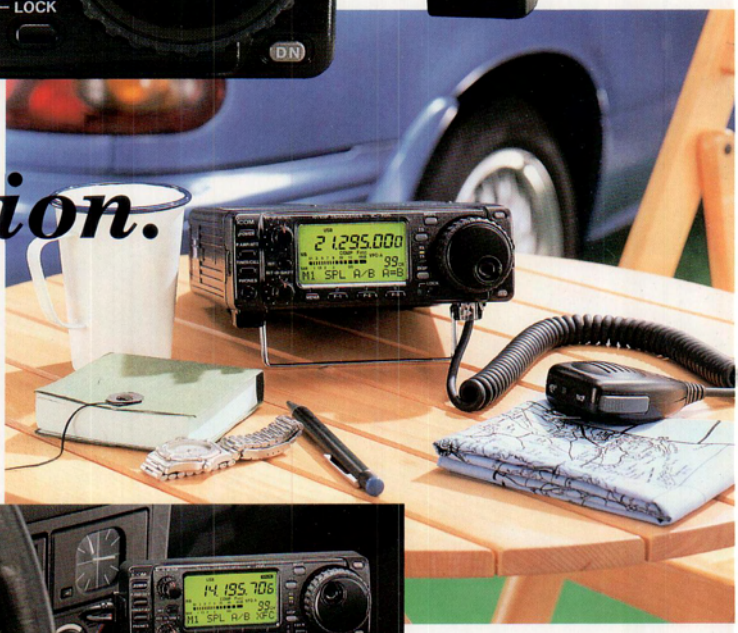
The next generation.

Mobile and outdoor operation provide the amateur radio enthusiast with exciting operating alternatives to the shack. Unfortunately, the bulk and weight of traditional HF transceivers does not lend itself well to such uses.

Enter the IC-706 — combining the compactness of a mobile rig with the features of a top class base station. All mode, all band operation from HF to 144 MHz.

High performance proven under rigorous testing carries over to smooth, comfortable operation in every day use. Even HF mobile operation is a breeze. Including front panel separation capability, optional fully automatic antenna tuner and 100 W output power over the 160 m to 6 m bands.

Operating possibilities limited only by your imagination.



An optional cable, OPC-581, is required for separation.

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Incredibly small

The IC-706 is incredibly small with dimensions of 167(W)×58(H)×200(D) mm.* A mobile-sized transceiver packed with base station features. Yet excellent performance allows this transceiver to be used as your main rig for the HF and VHF bands.

*$6^{9}/_{16}$(W)×$2^{9}/_{32}$(H)×$7^{7}/_{8}$(D) in

Covers 50 MHz and 144 MHz in addition to the HF bands

In addition to being a full blown HF rig the IC-706 covers the popular VHF bands -- not only 50 MHz with a full 100 W of output power, but also 144 MHz operation is possible at 10 W! Convenient HF functions such as IF shift, CW reverse, CW pitch control and more are available for 50 MHz or 144 MHz operation.

Continuously receive 30 kHz to 200 MHz*

A wide range receiver which covers HF to VHF continuously* is included. In addition to the usual communications bands, HF broadcast reception, TV and FM broadcasting reception is possible with wide-FM receive capability.

*See specifications for guaranteed coverage.

Detachable front panel

The IC-706 has a detachable front panel employing advanced technology. Both the main unit and detachable front panel have microphone connectors providing numerous mounting options in either a vehicle or a shack.

All mode operation including RTTY

The IC-706 provides all mode operation (SSB, CW, RTTY, AM and FM) on all bands. RTTY capability is another first for a transceiver of its class. What's more, "real" RTTY operation is provided through FSK rather than AFSK. Narrow filters are available in this mode.

Spectrum scope frequency function

This function sweeps ±14 steps from the displayed frequency and plots received signal strength on the function display.

•Sweep of 1 kHz steps centering 7.045 MHz.

Selectable sweep steps

0.5 / 1 / 2 / 5 / 10 / 20 kHz

I-Loop PLL circuit

Icom's own original design "I-Loop" PLL provides high resolution tuning to a fine 1 Hz for critical situations and gives an analog feel to digital tuning over the entire band.

Optional antenna tuner

An optional, newly designed, fully automatic antenna tuner, the AT-180, is available and covers the 1.8 to 50 MHz bands. Style and size are matched to the IC-706.

LCD and dot-matrix display

Underneath the IC-706's large LCD is a dot-matrix section. Using the menu switch you can access multiple functions.

•Displaying the Tx frequency during split frequency operation.

102 alphanumeric memories

A total of 102 memory channels are available: 99 regular memories, 2 scan edges and 1 call channel. In addition, names of up to 9 alphanumeric characters and repeater information can be programmed into each memory channel for your convenience.

•The location marked "DX spot" (in memory channel 99) is programmed (21.025 MHz/CW).

IF shift interference rejection

To reject interference, the IC-706 has an IF shift function which shifts the center frequency of the IF filter electronically to reduce adjacent interference.

•The passband is shifted to the upper side.

Built-in electronic keyer

The IC-706 includes an electronic keyer with a variable dot/dash ratio control. By simply connecting a paddle, you can enjoy easy CW operations.

CW reverse mode

CW reverse function changes the carrier point from the USB to LSB side to reduce interference from adjacent signals if desired.

Adjustable CW pitch

Receive CW pitch can be continuously adjusted over a range of 300 to 900 Hz in 20 Hz steps for your operating convenience.

Other functions for CW

An optional CW narrow filter in CW narrow mode provides selectivity for improved operation during crowded band conditions. Moreover, full break-in (QSK) operation is available.

Filter	Model	Passband
Optional CW narrow	FL-100	500 Hz/–6 dB
Optional CW narrow	FL-101	250 Hz/–6 dB

CW narrow filter can not be installed when one of the optional SSB filters is installed. See below.

2 levels of selectivity in SSB

With an optional SSB narrow or wide filter, you can set the selectivity in SSB mode.

Filter	Model	Passband
Built-in standard	FL-30	2.3 kHz/–6 dB
Optional SSB narrow	FL-223	1.9 kHz/–6 dB
Optional SSB wide	FL-103	2.8 kHz/–6 dB

SSB filter can not be installed when one of the optional CW narrow filters is installed. See above.

Narrow FM capability

For FM operation on a band where narrow band FM is required, such as the 10 m FM band, the IC-706 has narrow FM capability. The maximum frequency deviation is ±2.5 kHz and receiver passband is ±4 kHz in this mode.

Digital, multi-function S/RF meter

The meter operates as an S-meter with a peak hold function while receiving. When transmitting, you can select RF power, ALC or SWR for display.

4 types of scanning

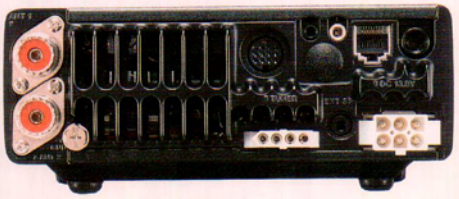
The IC-706 has 4 types of scanning. Programmed scan, memory scan, memory select scan and priority scan are available.

SSB carrier point control

You can easily shift the carrier point of an SSB transmit signal (in the quick set mode). The adjustment range is ±200 Hz.

And more...

•Continuously adjustable output power •VOX •AF speech compressor •RF gain control •Band stacking register •Auto-TS function •Preamp and attenuator •Noise blanker •Receiver protection circuit •AT-180/AH-3 (optional tuner) control circuit •Optional speech synthesizer •RIT •Dial lock function •Selectable dial torque •Selectable AGC time constant •LED backlighting •CI-V compatible •HM-103 hand microphone standard



HF/VHF ALL MODE TRANSCEIVER

IC-706

SPECIFICATIONS

GENERAL

- Frequency coverage :Receive 30 kHz – 200.000 MHz
  (Guaranteed range:500 kHz – 29.995 MHz; 50.000 – 54.000 MHz; 144.000 – 148.000 MHz)
  Transmit 1.800 – 1.99999 MHz*; 3.500 – 4.000 MHz*;
  7.000 – 7.300 MHz*; 10.100 – 10.150 MHz;
  14.000 – 14.350 MHz; 18.068 – 18.168 MHz;
  21.000 – 21.450 MHz; 24.890 – 24.990 MHz;
  28.000 – 29.700 MHz; 50.000 – 54.000 MHz*;
  144.000 – 148.000 MHz*
  *Varies according to band limits in your region.
- Mode :LSB/USB, CW, RTTY(FSK), AM, FM, WFM(receive only)
- Number of memory channels :102 (99 regular, 2 scan edges and 1 call)
- Antenna connector :2×SO-259 (one for HF/50 MHz, the other for 144 MHz)
- Power supply requirement :13.8 V DC ±15%, 20 A
- Frequency stability :Better than ±5 ppm (typ.)
- Frequency resolution :1 Hz minimum
- Current drain (at 13.8 V DC) :Receive squelched 1.5 A
  max. audio output 1.7 A
  Transmit 20 A
- Dimensions (projections not included) :167(W)×58(H)×200(D) mm; 6 9/16(W)×2 9/32(H)×7 7/8(D) in
- Weight :Approx. 2.5 kg ; 5 lb 8 oz.

TRANSMITTER

- Output power : (Continuously adjustable)

	1.8 – 50 MHz band	144 MHz band
SSB/CW/RTTY/FM	5 W – 100 W	1 W – 10 W
AM	2 W – 40 W	1 W – 4 W

- Spurious emissions :Less than–50 dB (1.8 – 28 MHz bands) Less than–60 dB (50 – 144 MHz bands)
- Carrier suppression :Less than–40 dB
- Unwanted sideband :Less than–50 dB

RECEIVER

- Receive system :SSB/CW/RTTY/AM/WFM Double conversion superheterodyne
  FM Triple conversion superheterodyne
- Intermediate frequencies : (Unit: MHz)

	1st	2nd	3rd
SSB/FM	69.0115	9.0115	0.455 (FM only)
CW/RTTY	69.0106	9.0106	—
AM	69.0100	9.0100	—
WFM	70.7000	10.7000	—

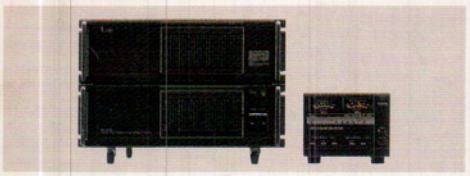
- Sensitivity (preamp ON) :

	0.5 – 1.8 MHz	1.8 – 29.995 MHz	50 – 54 MHz	144 – 148 MHz
SSB/CW/RTTY(10 dB S/N)	—	0.16 µV	0.16 µV	0.16 µV
AM (10 dB S/N)	13 µV	2.0 µV	2.0 µV	2.0 µV
FM(12 dB SINAD)	—	0.5 µV(28 – 29.7 MHz)	0.5 µV	0.32 µV

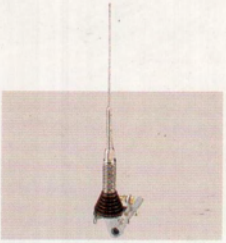
- Squelch sensitivity (preamp ON) :SSB Less than 5.6 µV
  FM Less than 0.32 µV
- Selectivity (normal) :SSB/CW/RTTY More than 2.3 kHz/–6 dB Less than 4.0 kHz/–60 dB
  AM More than 6.0 kHz/–6 dB Less than 20.0 kHz/–40 dB
  FM More than 15.0 kHz/–6 dB Less than 30.0 kHz/–50 dB
- Spurious and image rejection ratio: More than 70 dB (1.8 – 28 MHz bands)
- Audio output power :More than 2.0 W with an 8 Ω load

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

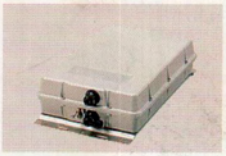
OPTIONS



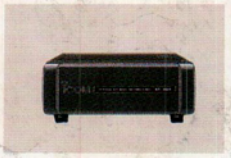
•IC-4KL 1 kW HF LINEAR AMPLIFIER
Includes a fully automatic antenna tuner.
(An optional OPC-599 is required.)



•AH-2b HF ANTENNA ELEMENT
For mobile operation with the AH-3.



•AH-3 HF AUTOMATIC ANTENNA TUNER
For use with a long wire antenna.



•AT-180 HF + 50 MHz AUTOMATIC ANTENNA TUNER
Style and size are matched to the IC-706.

•EX-627 HF AUTOMATIC ANTENNA SELECTOR
For up to 9 separate antenna connections.
(An optional OPC-599 is required.)

•MB-62 MOBILE MOUNTING BRACKET
For mounting the IC-706 main unit.

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

•OPC-581 SEPARATION CABLE
Provides separate operation up to 3.5 m (11 feet).

•IC-PS30 DC POWER SUPPLY
Output: 13.8 V DC (25 A max.)

•PS-85 DC POWER SUPPLY
Output: 13.8 V DC (20 A max.)

•SM-8 DESKTOP MICROPHONE
Equipped with 2 connection cables.
(An optional OPC-589 is required.)

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

•SP-7 EXTERNAL SPEAKER
Compact speaker for base station use.

•SP-10 EXTERNAL SPEAKER
Heavy duty speaker for mobile use.

•SP-12 EXTERNAL SPEAKER
Thin type speaker for mobile use.

- **CR-502** HIGH-STABILITY CRYSTAL UNIT
- **CT-16** SATELLITE INTERFACE UNIT
- **CT-17** CI-V LEVEL CONVERTER UNIT
- **FL-100** CW NARROW FILTER (500 Hz/–6 dB)
- **FL-101** CW NARROW FILTER (250 Hz/–6 dB)
- **FL-103** SSB WIDE FILTER (2.8 kHz/–6 dB)
- **FL-223** SSB NARROW FILTER (1.9 kHz/–6 dB)
- **HM-103** HAND MICROPHONE (same type as supplied one)
- **OPC-025B** DC POWER CABLE (same type as supplied one)
- **OPC-589** ADAPTER CABLE (modular mic con. ⇨ 8-pin mic con.)
- **OPC-598** ACC EXTENSION CABLE (7 m for the AT-180)
- **OPC-599** ADAPTER CABLE (13-pin ACC con. ⇨ 7-pin + 8-pin ACC con.)
- **UT-102** VOICE SYNTHESIZER UNIT

Icom Inc. 6-9-16, Kamihigashi, Hirano-ku, Osaka 547, Japan Phone: 06 793 5302 Fax: 06 793 0013 Telex: 05277822 ICOMTR J

Count on us!

Icom America Inc.
<Corporate Headquarters>
2380 116th Avenue N.E., Bellevue, WA 98004, U.S.A.
Phone : (206) 454-8155 Fax : (206) 454-1509
Telex : 152210 ICOM AMER BVUE
<Customer Service>
Phone : (206) 454-7619
<Regional Customer Service Center>
18102 Sky Park South, Suite 52-B, Irvine, CA 92714, U.S.A.
Phone : (714) 852-8026 Fax : (714) 852-8716

Icom Canada
A Division of Icom America Inc.
3071 #5 Road, Unit 9, Richmond, B.C., V6X 2T4, Canada
Phone : (604) 273-7400 Fax : (604) 273-1900

Icom (Europe) GmbH
Communication Equipment
Himmelgeister Str. 100, D-40225 Düsseldorf, Germany
Phone : 0211 346047 Fax : 0211 333639

Icom (Australia) Pty. Ltd.
A.C.N 006 092 575
7 Duke Street, Windsor, Victoria, 3181, Australia
Phone : 03 9529 7582 Fax : 03 9529 8485

Icom (UK) Ltd.
Unit 9, Sea St., Herne Bay, Kent, CT6 8LD, U.K.
Phone : 01227 741741 Fax : 01227 741742
Telex : 965179 ICOM G

Icom France S.a
Zac de la Plaine, Rue Brindejonc des Moulinais
BP 5804, 31505 Toulouse Cedex, France
Phone : 61. 36. 03. 03 Fax : 61. 36. 03. 00
Telex : 521515 ICOM FRA

Your local distributor/dealer:

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