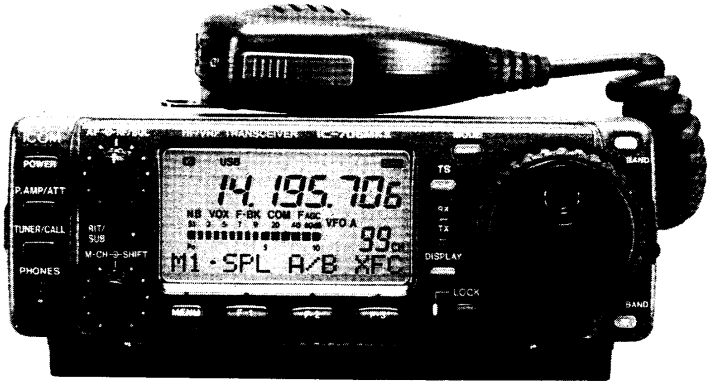
ICOM

INSTRUCTION MANUAL

HF/VHF TRANSCEIVER

IC-706MKII



Icom Inc.

IMPORTANT

Read this instruction manual carefully before attempting to operate the transceiver.

Save this instruction manual. This instruction manual contains important safety and operating instructions for the IC-706MKII.

PRECAUTIONS

⚠**WARNING HIGH VOLTAGE! NEVER** attach an antenna or internal antenna connector during transmission. This may result in an electrical shock or burn.

⚠**NEVER** apply AC to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or ruin the transceiver.

⚠**NEVER** apply more than 16 V DC, such as a 24 V battery, to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or ruin the transceiver.

⚠**NEVER** let metal, wire or other objects touch any internal part or connectors on the rear panel of the transceiver. This will cause electric shock.

⚠**NEVER** expose the transceiver to rain, snow or any liquids.

NEVER allow children to play with the transceiver.

AVOID using or placing the transceiver in areas with temperatures below –10°C (+14°F) or above +60°C (+140°F). Be aware that temperatures on a vehicle's dashboard can exceed 80°C, resulting in permanent damage to the transceiver's front panel if left there for extended periods.

AVOID placing the transceiver in excessively dusty environments or in direct sunlight.

AVOID placing the transceiver against walls or putting anything on top of the transceiver. This will obstruct heat dissipation.

During mobile operation, **DO NOT** operate the transceiver without running the vehicle's engine. When transceiver power is ON and your vehicle's engine is OFF, the vehicle's battery will soon become exhausted.

Make sure the transceiver power is OFF before starting the vehicle. This will avoid possible damage to the transceiver by ignition voltage spikes.

During maritime mobile operation, keep the transceiver and microphone as far away as possible from the magnetic navigation compass to prevent erroneous indications.

BE CAREFUL! The heatsink will become hot when operating the transceiver continuously for long periods.

BE CAREFUL! If a linear amplifier is connected, set the transceiver's RF output power to less than the linear amplifier's maximum input level, otherwise, the linear amplifier will be damaged.

Use Icom microphones only (supplied or optional). Other manufacturer's microphones have different pin assignments and connection to the IC-706MKII may damage the transceiver.

Beat signals may be heard on some frequencies. These will occur as a result of circuit construction.

For U.S.A. only
Caution: Changes or modifications to this transceiver, not expressly approved by Icom Inc., could void your authority to operate this transceiver under FCC regulations.

EXPLICIT DEFINITIONS

The explicit definitions described below apply to this instruction manual.

WORD	DEFINITION
⚠WARNING	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

CE The IC-706MKII Europe version complies with essential requirements of the 89/336/EEC directive for Electromagnetic Compatibility under the conditions listed below. This compliance is based on conformity with the ETSI specification ETS300 684 Jan. 1997 (EMC product standard for Commercially Available Amateur Radio Equipment).

Condition:
- In combination with PS-85
- When connected to a power supply via OPC-639

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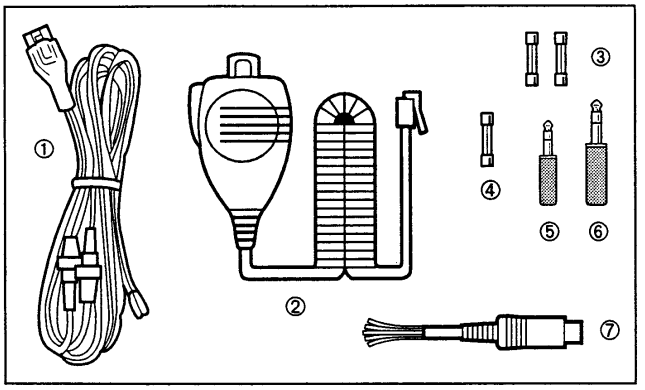
UNPACKING



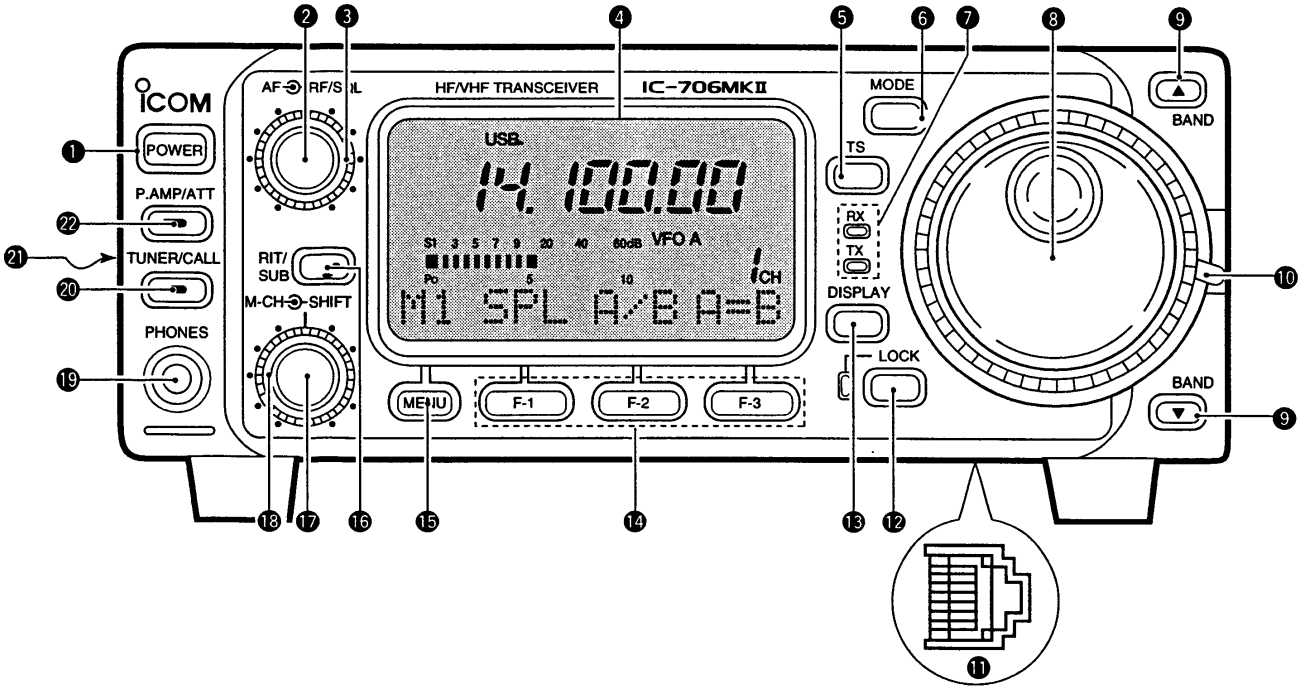
Accessories included with the IC-706MKII:

	Qty.
① DC power cable*	1
② Hand microphone (HM-103)	1
③ Spare fuse (30 A)	2
④ Spare fuse (4 A)	1
⑤ RTTY key plug	1
⑥ Electronic keyer plug	1
⑦ ACC cable	1

*OPC-639 for Europe versions (differs from the diagram at left), OPC-025D for other versions.

1 PANEL DESCRIPTION

■ Front panel



❶ POWER SWITCH [POWER] (p. 15)
Turns power ON and OFF.
- Push momentarily to turn power ON.
- Push for 2 sec. to turn power OFF.

❷ AF GAIN CONTROL [AF] (inner control; p. 15)
Rotate clockwise to increase the audio output from the speaker; rotate counterclockwise to decrease the audio output from the speaker.

❸ RF GAIN CONTROL/SQUELCH CONTROL [RF/SQL] (outer control; p. 22)
➥ Adjusts the squelch threshold level (to mute noise when receiving no signal) in all modes.
➥ This control can be used for RF gain control to adjust receiver gain manually.
- RF gain selection can be set in initial set mode (p. 47).
- RF gain is usable in SSB/CW/RTTY modes only.

❹ FUNCTION DISPLAY
Shows the operating frequency, dot matrix indications, selected memory channel, etc. See p. 7 for details.

❺ TUNING STEP SWITCH [TS] (pgs. 17, 18)
➥ Push momentarily to cycle between 1 Hz/10 Hz, programmable and 1 MHz tuning steps.
- 1 and 10 Hz steps are only available in SSB, CW and RTTY modes; 1 MHz steps are only available in FM, WFM and AM modes.

➥ Push for 2 sec. to toggle between 1 and 10 Hz steps, or; when the programmable tuning steps is indicated, push for 2 sec. to enter programmable tuning step mode.

❻ MODE SWITCH [MODE] (p. 19)
➥ Push momentarily to cycle through the operating modes:
USB/LSB ◗ CW/CWR ◗ RTTY/RRTTY ◗ ◗ FM/WFM/AM
➥ Push and hold for 2 sec. to toggle between the following operating modes:
USB ↔ LSB
CW ↔ CWR
RTTY ↔ RRTTY
FM → WFM → AM → FM, etc.

❼ RECEIVE/TRANSMIT INDICATORS [RX]/[TX]
[RX] lights green while receiving (and squelch opens); [TX] lights red while transmitting.

❽ MAIN DIAL
Changes the displayed frequency, selects initial set mode items, etc.

❾ UP/DOWN (BAND) SWITCHES [▲/▼(BAND)]
➥ Push to select a band.
- Can also be used to advance quick set mode items, initial set mode items, etc.

➥ Push and hold to scroll through the bands continuously.

❿ MAIN DIAL TENSION LATCH
Selects the main dial tension.
- 2 positions are available.

⓫ MICROPHONE CONNECTOR (p. 8)
Modular-type microphone connector—connects the supplied microphone (HM-103).
- The optional OPC-589 can be used to connect an 8-pin microphone such as the SM-8 or SM-20, if desired.
- A microphone connector is also available on the rear

panel. DO NOT connect 2 microphones simultaneously.

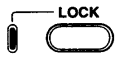
⑫ LOCK SWITCH [LOCK]

➥Push momentarily to turn the dial lock function ON and OFF.

•The dial lock function electronically locks the main dial.

➥When the optional UT-102 VOICE SYNTHESIZER UNIT is installed (p. 52), push for 2 sec. to have the frequency, etc. announced.

•UT-102 operation can be adjusted in initial set mode (pgs. 45, 46).



Lights while the lock function is activated.

⑬ DISPLAY SWITCH [DISP] (p. 60)

➥Push momentarily to select one of the three menu sets: M1 to M4, S1 to S3 and G1 to G4.

➥Push for 2 sec. to select quick set mode.

⑭ FUNCTION SWITCHES [F1]/[F2]/[F3] (pgs. 3, 4, 60)

Push to select the function indicated in the dot matrix display above these switches.

•Functions vary depending on the menu set selected.

⑮ MENU SWITCH [MENU] (p. 60)

➥Push this switch one or more times to select menus within a menu set (M, S or G), or push to advance through the quick set mode and initial set mode displays.

➥Push and hold to jump between two different function menu sets.

⑯ M-CH CONTROL [M-CH] (inner control)

➥When the RIT or SUBDIAL functions are OFF, rotate to select a memory channel number (p. 35).

➥Shifts the receive frequency while the RIT function is ON in SSB, CW and RTTY modes (see below and p. 20).

•RIT variable range is ± 9.99 kHz

➥Changes the operating frequency in the selected tuning steps while the SUB DIAL function is ON (p. 18).

⑰ SHIFT CONTROL [SHIFT] (outer control; p. 20)

Shifts the center frequency of the receiver's IF passband.

•Rotate the control clockwise to shift the center frequency higher, or rotate the control counterclockwise to shift the center frequency lower.

•When the graphic menu display (G2) is selected, the IF passband is graphically displayed and changes in accordance with the [SHIFT] control (see p. 20).

⑱ RIT/SUB DIAL SWITCH [RIT/SUB] (p. 20)

➥Push to toggle the RIT or SUB DIAL function ON and OFF—initial set mode is used to select the desired action*.

•Lights green when the SUB DIAL function is ON; lights red when the RIT function is ON.

•Use the [M-CH] control to vary the RIT frequency or SUB DIAL frequency (see above).

➥When the RIT function is ON, push for 2 sec. to add or subtract the shifted frequency to the operating frequency.

Lights red while the RIT function is activated; green while the SUB DIAL function is activated.

*Even if RIT is selected in initial set mode, RIT cannot be selected when operating AM, FM or WFM modes.

⑲ HEADPHONE JACK [PHONES] (p. 12)

Accepts headphones with 4–16 Ω impedance.

•When headphones are connected, no receive audio comes from the speaker.

•When the PHONES/SPEAKER switch on the back of the front panel is set to the [SPEAKER] position, an external speaker can be connected. This is convenient for mobile or outdoor operation.

⑳ TUNER/CALL SWITCH [TUNER/CALL] (pgs. 26, 27)

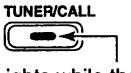
➥During HF/50 MHz operation, push this switch momentarily to toggle the automatic antenna tuner function ON/OFF.

•An optional antenna tuner must be connected.

➥During HF/50 MHz operation, push this switch for 2 sec. to manually tune the antenna.

•An optional antenna tuner must be connected.

➥During 144 MHz operation, push this switch momentarily to select the call channel (or the previous channel/frequency when the call channel is already selected). (p. 35)



Lights while the automatic tuning function is activated.

㉑ FRONT PANEL LATCH (p. 10)

Pull away from the transceiver (towards yourself when looking at the front of the transceiver) to detach the front panel from the main body of the transceiver.

㉒ PREAMP/ATTENUATOR SWITCH [P.AMP/ATT] (p. 21)

➥Push momentarily to turn the preamp ON; also turns the attenuator OFF if it is ON.

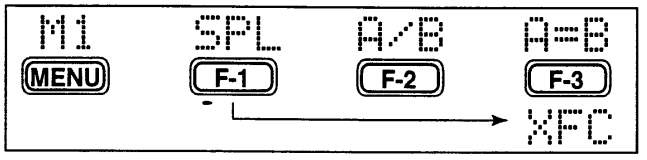
➥Push and hold to turn the 20 dB attenuator ON.

•Lights green when the preamp is ON; lights red when the 20 dB attenuator is ON.

Lights green while the preamp is activated; lights red while the attenuator is activated.

■ Function switches

◇ M1 FUNCTIONS



SPLIT OPERATION (p. 28)

SPL F-1

Toggles the split function ON and OFF.
- "SPL" appears when the split function is ON.
- The function of [F-3] changes to XFC when the split function is ON.

VFO A/B SELECTION (p. 16)

A/B F-2

➥ Toggles between VFO A and VFO B in VFO mode.
➥ Toggles between transmission VFO and reception VFO during split operation.
➥ Toggles between the transmit and receive frequencies (and modes) of memory channels when the split function is turned ON.

VFO EQUALIZATION (p. 16)

A=B F-3

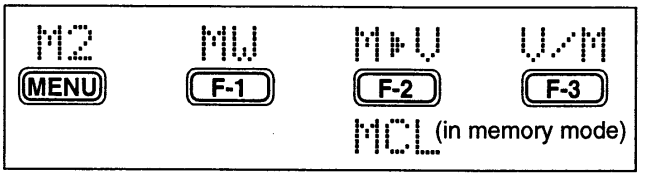
Equalizes the frequency and operating mode of the two VFO's.
- The rear (undisplayed) frequency and operating mode are equalized to the front (displayed) VFO frequency and operating mode.

TRANSMIT FREQUENCY CHECK (p. 28)

XFC F-3

Appears when the split function is turned ON—monitors the transmit frequency when pushed and held.
- While pushed, the transmit frequency can be changed with the main dial.

◇ M2 FUNCTIONS



MEMORY WRITE (p. 36)

MW F-1

Stores the displayed frequency and operating mode into the displayed memory channel.

MEMORY TRANSFER (p. 37)

M▸V F-2

Transfers the frequency and operating mode in the selected memory channel to a VFO.

VFO/MEMORY (p. 35)

V/M F-3

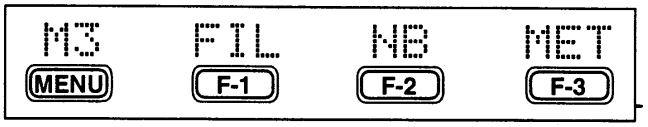
Toggles between VFO and memory modes.

MEMORY CLEAR (p. 35)

MCL F-2

Clears the selected memory channel's contents.
- "BLANK" appears.

◇ M3 FUNCTIONS



NARROW FILTER (p. 23)

FIL F-1

Toggles the narrow filter (or wide filter—push for 2 sec.) ON and OFF.
- "N" appears when the narrow filter is ON; "W" appears when the wide filter is ON.
- An optional narrow filter and presetting in initial set mode (p. 47) is necessary to use the following:
  CW/RTTY narrow: FL-100, FL-101 or FL-232
  SSB narrow: FL-223
  SSB wide: FL-103

NOISE BLANKER (p. 21)

NB F-2

Turns the noise blanker ON and OFF.
- The noise blanker does not function in FM and WFM modes; the "AM Noise blanker" item in initial set mode must be set to ON for the noise blanker to work in AM mode (p. 47).

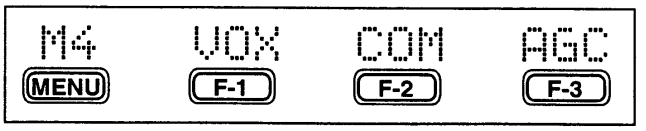
METER SELECTION (p. 24)

MET F-3

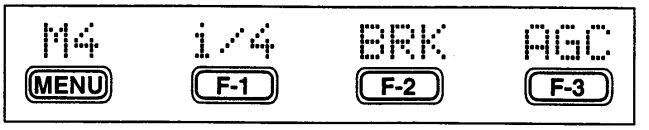
Selects the type of meter displayed (during transmit) in the function display.
- Power, ALC or SWR metering can be selected.
- Only an S-meter is available for receive.

◇ M4 FUNCTIONS

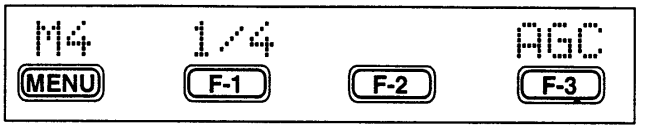
DURING SSB/AM OPERATION:



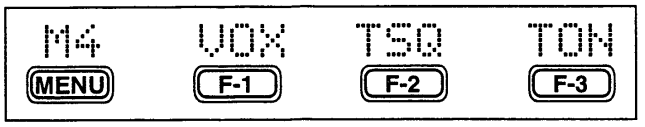
DURING CW OPERATION:



DURING RTTY OPERATION:



DURING FM OPERATION:



VOX FUNCTION (p. 25)

VOX F-1 Toggles the VOX function ON and OFF.
- The [VOX GAIN] and [ANTI VOX] are available on the side panel.
- VOX delay can be set in quick set mode (p. 43).

SPEECH COMPRESSOR (p. 25)

COM F-2 Toggles the speech compressor ON and OFF.
- The [COMP GAIN] control is available on the side panel.

AGC (p. 21)

AGC F-3 Changes the time constant of the AGC circuit.

BREAK-IN (p. 31)

BRK F-2 Selects semi break-in, full break-in (QSK) and break-in OFF
- "BK" or "F-BK" appears when selecting semi break-in or full break-in, respectively.
- An external switch, such as a foot switch, is necessary to connect to the ACC socket (pin 3, pin 7 or RTTY SEND—see p. 33) to use no break-in operation.

1/4 FUNCTION (p. 34)

1/4 F-1 Toggles the 1/4 function ON and OFF.
- When the ¼ function is ON, a bar appears under the ¼ indication and fine tuning can be used.

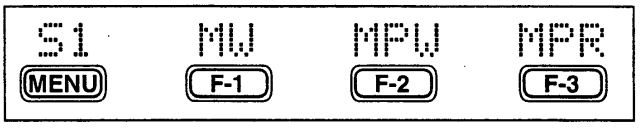
TONE SQUELCH (p. 30)

TSQ F-2 Toggles the tone squelch function ON and OFF (an optional UT-86 must be installed and tone squelch frequency must be selected in Quick Set mode).
- "FM-TSQL" appears when the function is ON.

REPEATER TONE OPERATION (p. 29)

TON F-3
- ➥ Toggles the subaudible tone encoder for repeater use ON and OFF.
  - "FM-T" appears when the function is ON.
- ➥ Transmits a 1750 Hz tone burst when pushed and held during transmission.
  - Tone frequencies or tone burst can be set in initial set mode (p. 44).

◇S1 FUNCTIONS

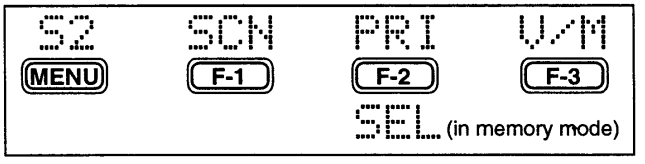


MW F-1 **MEMORY WRITE** (p. 36)
Stores the displayed frequency and operating mode into the displayed memory channel.

MPW F-2 **MEMO PAD WRITE** (p. 38)
Stores the displayed frequency and operating mode into a memo pad.

MPR F-3 **MEMO PAD READ** (p. 38)
Calls up a memo pad.

◇S2 FUNCTIONS



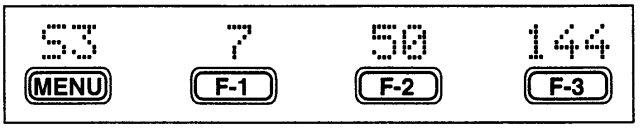
SCN F-1 **SCAN** (p. 40)
Starts and stops the scan function.

PRI F-2 **PRIORITY WATCH** (p. 40)
Starts and stops priority watch.

SEL F-2 **SELECT SCAN** (p. 40)
Toggles the select setting ON and OFF for the selected memory channel.

V/M F-3 **VFO/MEMORY** (p. 40)
Toggles between VFO and memory modes.

◇S3 FUNCTIONS



QUICK BAND CHANGE FUNCTION (p. 19)
This item provides access to the band stacking register. By default the 7, 50 and 144 MHz bands are displayed. Push [F-1] to [F-3] for 2 sec. to select a new band if desired.
- A mode is memorized along with the frequency for each band.

Count on us!

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