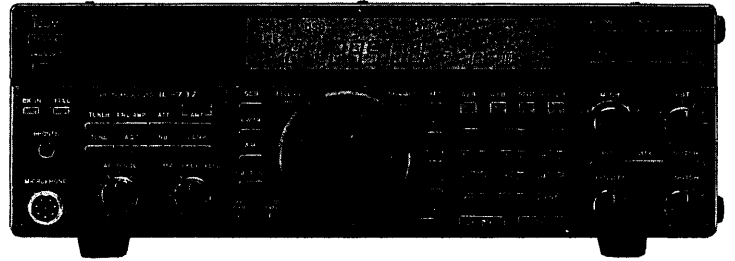


ICOM

INSTRUCTION MANUAL

HF TRANSCEIVER
IC-737



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-737**.

PRECAUTIONS

NEVER apply AC or more than 16 V DC to the [DC13.8V] socket on the transceiver rear panel. This could cause a fire or ruin the transceiver.

NEVER allow children to touch 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.

AVOID using or placing the transceiver in areas with temperatures below -10°C ($+14^{\circ}\text{F}$) or above $+60^{\circ}\text{C}$ ($+140^{\circ}\text{F}$).

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.

In any mobile operation, **DO NOT** operate the transceiver without running the vehicle's engine. The vehicle's battery will quickly run out if the transceiver power is ON while your vehicle's engine is OFF.

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

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

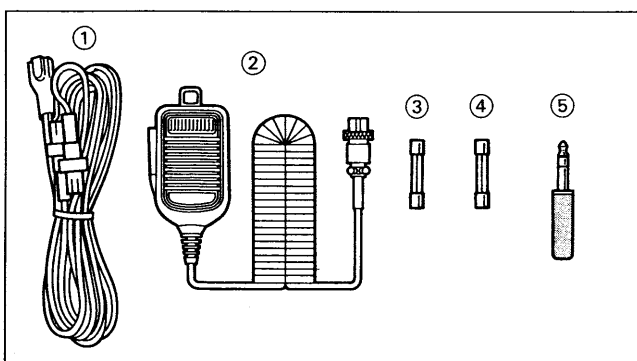
BE CAREFUL! The heatsink will become hot when operating the transceiver continuously for long periods.

EXPLICIT DEFINITIONS

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

The explicit definitions described at left apply to this instruction manual.

UNPACKING



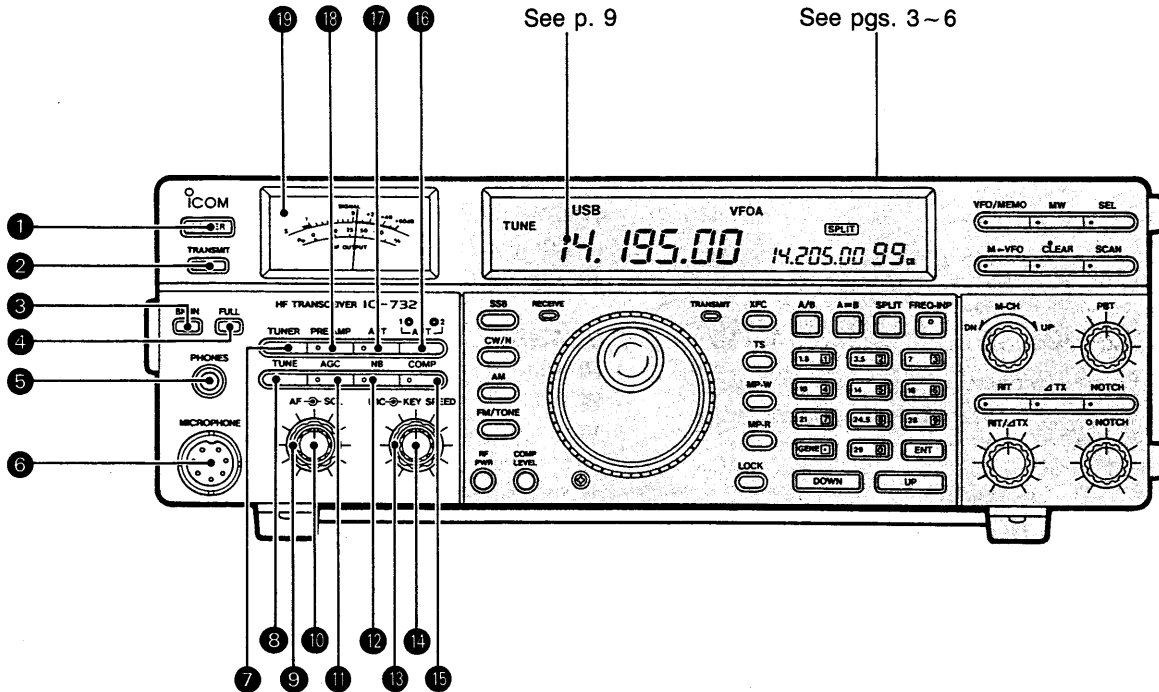
Accessories included with the IC-737:	Qty.
① DC power cable (OPC-025A)	1
② Hand microphone (HM-36)	1
③ Spare fuse (20 A)	1
④ Spare fuse (4 A)	1
⑤ CW keyer plug	1

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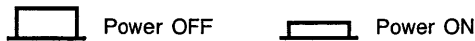
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1 PANEL DESCRIPTION

■ Front panel



- ① **POWER SWITCH [POWER]** (pgs. 23, 25)
Turns power ON and OFF.



- ② **TRANSMIT SWITCH [TRANSMIT]** (p. 25)
Selects transmitting or receiving.



- ③ **CW BREAK-IN SWITCH [BK-IN]** (p. 25)
Turns the CW break-in operation ON and OFF.



FUNCTION

The **CW break-in function** starts transmission without pushing the transmit switch or PTT switch when the CW key is ON. Then, automatically returns to receive when the CW key is OFF.

- ④ **FULL BREAK-IN SWITCH [FULL]** (p. 25)
Selects full break-in or semi break-in operation for CW break-in operation



FUNCTION

The **full break-in (QSK)** allows you to receive signals between transmitted keying pulses during the CW transmission. The **semi break-in** allows you to receive signals after the preset delay time (see 54) elapses from the end of your CW transmission.

- ⑤ **HEADPHONE JACK [PHONES]** (p. 23)
Accepts headphones.

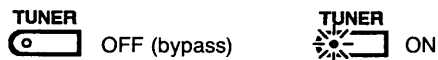
- Headphones with 4~16 Ω impedance can be used.
- When headphones are connected, the internal speaker or connected external speaker does not function.

- ⑥ **MICROPHONE CONNECTOR [MICROPHONE]**
Accepts the supplied microphone.

- An optional Icom desktop microphone can be used.
- See p. 10 for microphone connector information.

- ⑦ **ANTENNA TUNER SWITCH [TUNER]** (pgs. 35, 36)
Turns the antenna tuner ON or OFF (bypass).

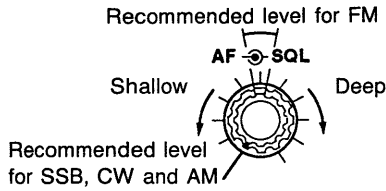
- Optional AH-3 external automatic antenna tuner can also be controlled by this switch.



- ⑧ **TUNING SWITCH [TUNE]** (pgs. 35, 36)
Tunes the connected antenna manually.

- When the tuner cannot tune the antenna, the tuning circuit is bypassed automatically after 20 sec. of attempted tuning.

- 9 **SQUELCH CONTROL [SQL]**(outer control) (p. 23)
Adjusts the squelch threshold level.



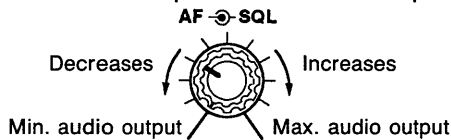
FUNCTION

The **squelch** removes noise output from the speaker (closed condition) when no signal is received. The squelch is particularly effective for FM. It is also available for other modes.

SETTING PROCEDURE

Squelch setting: When operating in FM, first rotate the control fully counterclockwise. Then, rotate the control clockwise to the point where the noise just disappears. This is the best position. The squelch does not open for weak signals when it is set too deep.

- 10 **AF GAIN CONTROL [AF]**(inner control) (p. 23)
Varies the audio output level from the speaker.



- 11 **AGC SWITCH [AGC]** (p. 23)
Changes the time constant of the AGC circuit.



FUNCTION

The **AGC** controls receiver gain to produce a constant audio output level even when the received signal strength is varied by fading, etc. Use AGC slow for normal operation and select AGC fast depending on the receiving condition. AGC does not function in FM mode.

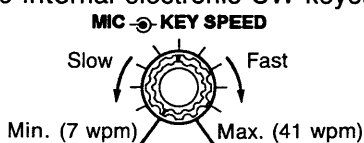
- 12 **NOISE BLANKER SWITCH [NB]** (p. 23)
Turns the noise blanker ON and OFF.



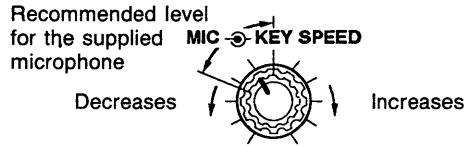
FUNCTION

The **noise blanker** reduces pulse-type noise such as that generated by automobile ignition systems. This function is not available for AM and FM, or non-pulse-type noise.

- 13 **ELECTRONIC CW KEYSPEED CONTROL [KEY SPEED]**(outer control) (p. 25)
Adjusts the internal electronic CW keyer's speed.



- 14 **MIC GAIN CONTROL [MIC]**(inner control) (p. 25)
Adjusts microphone input gain.



- 15 **SPEECH COMPRESSOR SWITCH [COMP]** (p. 25)
Turns the speech compressor ON and OFF.

•The compressing level must be adjusted properly. See 21 for details.

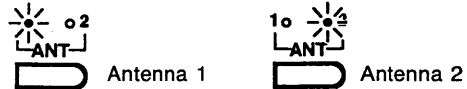


FUNCTION

The **speech compressor** compresses the transmitter audio input to increase the average audio output level. Therefore talk power is increased. This function is effective for long distance communication or when propagation conditions are poor.

- 16 **ANTENNA SWITCH [ANT]** (pgs. 32, 34)
Selects antenna 1 or 2.

•Initially, to prevent non-load transmission, this switch does not function. See p. 32.



- 17 **ATTENUATOR SWITCH [ATT]** (p. 23)
Turns the 20 dB attenuator ON and OFF.



FUNCTION

The **attenuator** prevents the desired signal from distorting when very strong signals are near the desired frequency or when very strong electric fields from a broadcasting station are near your location.

- 18 **PREAMP SWITCH [PRE AMP]** (p. 23)
Turns the preamp ON and OFF.

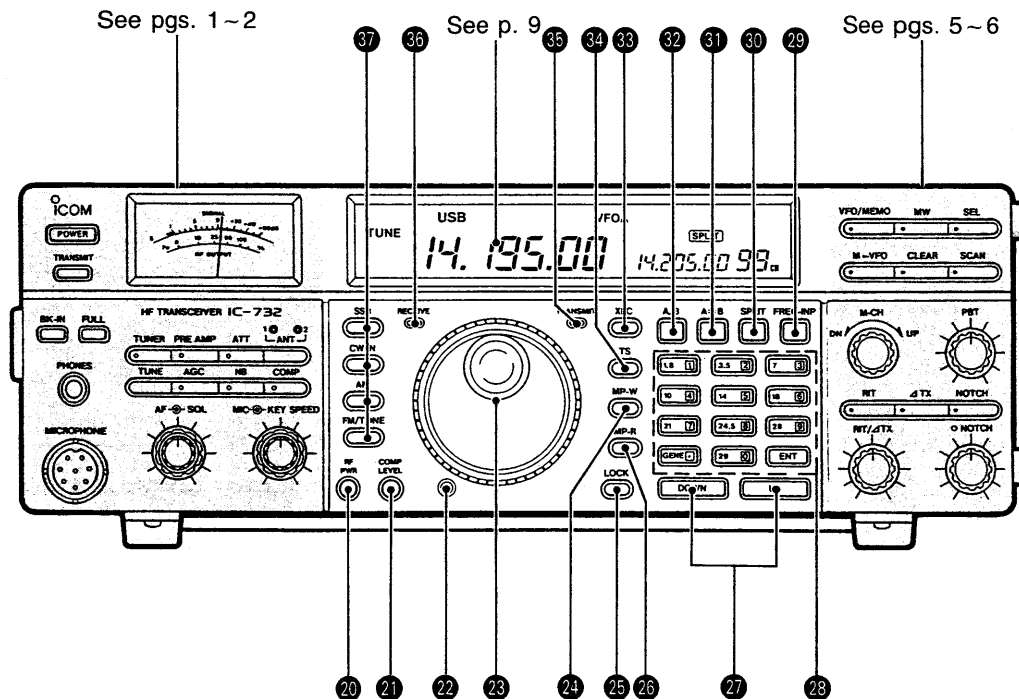


FUNCTION

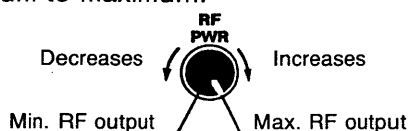
The **preamp** amplifies received signals in the front end circuit to improve the S/N ratio and sensitivity. Turn this function ON when receiving weak signals.

- 19 **S/R/F METER** (pgs. 23, 25)
Shows the signal strength while receiving. Shows the relative output power while transmitting.

1 PANEL DESCRIPTION



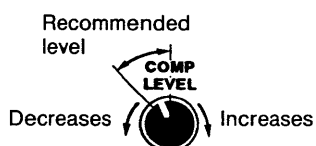
- 20 RF POWER CONTROL [RF PWR]** (p. 25)
Continuously varies the RF output power from minimum to maximum.



- Maximum and minimum output powers

MODE	Max. RF output	Min. RF output
SSB	100 W	10 W
CW	100 W	10 W
FM	100 W	10 W
AM	40 W	10 W

- 21 SPEECH COMPRESSION LEVEL CONTROL [COMP LEVEL]** (p. 25)
Adjusts the compression level.
- This control is available only when the speech compressor is ON.



- 22 BRAKE ADJUSTMENT SCREW** (p. 48)
Adjusts the main dial tension.



- 23 MAIN DIAL** (p. 21)
Changes the displayed frequency.

- 24 MEMO PAD-WRITE SWITCH [MP-W]** (p. 27)
Programs the displayed frequency and operating mode into a memo pad.
- The 5 most recent entries remain in memo pads.
 - The memo pad capacity can be expanded from 5 to 10 in the SET mode for your convenience. (p. 32)

- 25 DIAL LOCK SWITCH [LOCK]** (pgs. 23, 25)
Turns the dial lock function ON and OFF.
- The dial lock function electronically locks the main dial.
 - “LOCK” appears on the function display while the function is ON.

- 26 MEMO PAD-READ SWITCH [MP-R]** (p. 27)
Each push calls up a frequency and operating mode in a memo pad. The 5 most recently programmed frequencies and operating modes can be recalled, starting from the most recent.
- The memo pad capacity can be expanded from 5 to 10 in the SET mode for your convenience. (p. 32)

27 UP/DOWN TUNING SWITCHES [UP]/[DOWN]

(p. 22)
Changes the displayed frequency up or down in programmed steps (1 kHz ~ 1 MHz).

28 KEYPAD (pgs. 21, 22)

- Pushing a key selects the operating band.
 - [GENE] selects the general coverage band.
- Pushing the same key twice calls up another stacking frequency in the band.
 - Icom's DBSR (Double Band Stacking Register) memorizes 2 frequencies in each band. (p. 21)
- After pushing [FREQ-INP], enters your desired frequency. Pushing [ENT] is necessary at the end. (e.g. to enter 14.195 MHz, push [FREQ-INP][1][4].[1][9][5][ENT].)

29 FREQUENCY-INPUT SWITCH [FREQ-INP]

(p. 22)
Enables the keyboard to input frequency.

- The red indicator on the switch lights when pushed. While the red indicator lights, the keyboard can be used to enter a frequency directly.
- To cancel the frequency input, push this switch again. The red indicator is turned OFF.

30 SPLIT SWITCH [SPLIT] (p. 28)

- Turns the split frequency function ON and OFF when pushed momentarily.
 - Transmit frequency and " **[SPLIT]** " are indicated when the function is ON.
- Turns the split frequency function ON and equalizes the transmit frequency to the receive frequency when pushed for 1 sec.

31 VFO EQUALIZATION SWITCH [A = B] (p. 28)

Equalizes the frequency and operating mode of the two VFOs when pushed for 1 sec.

- The rear (undisplayed) VFO frequency and operating mode are equalized to the front (displayed) VFO frequency and operating mode.
- This switch can be used even when the split frequency function is ON. In this case, the transmit frequency and operating mode are equalized to the receive frequency and operating mode.

32 VFO SWITCH [A/B] (p. 19)

- Toggles between VFO A and VFO B in the VFO mode.
- Toggles between transmission VFO and reception VFO when the split frequency function = ON.
- Toggles between the transmit frequency and operating mode and the receive frequency and operating mode in the split memory channels (memory channels 90 ~ 99).

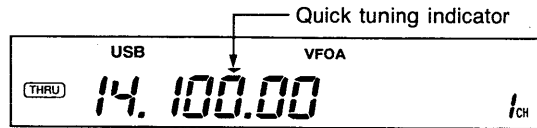
33 TRANSMIT FREQUENCY CHECK SWITCH [XFC]

(p. 28)
Monitors the transmit frequency while pushing this switch when the split frequency function is ON.

- While pushing this switch, the transmit frequency can be changed with the dial, the [MP-R] switch, or the [UP]/[DOWN] switches.

34 QUICK TUNING SWITCH [TS] (p. 22)

Turns the quick tuning step ON and OFF.



- While this indicator is displayed, the main dial changes the displayed frequency in programmed kHz steps.

35 TRANSMIT/ALC INDICATOR [TRANSMIT]

(p. 25)
Lights while transmitting.

- While ALC is activated, the LED brightness increases.

FUNCTION

The **ALC circuit** automatically limits RF output power by controlling the input level of the RF power amplifier. This prevents transmitting distorted signals when the input signal level exceeds the allowable level.

36 RECEIVE INDICATOR [RECEIVE] (p. 23)

Lights during receiving when the squelch is open.

37 MODE SWITCHES (pgs. 18, 21)

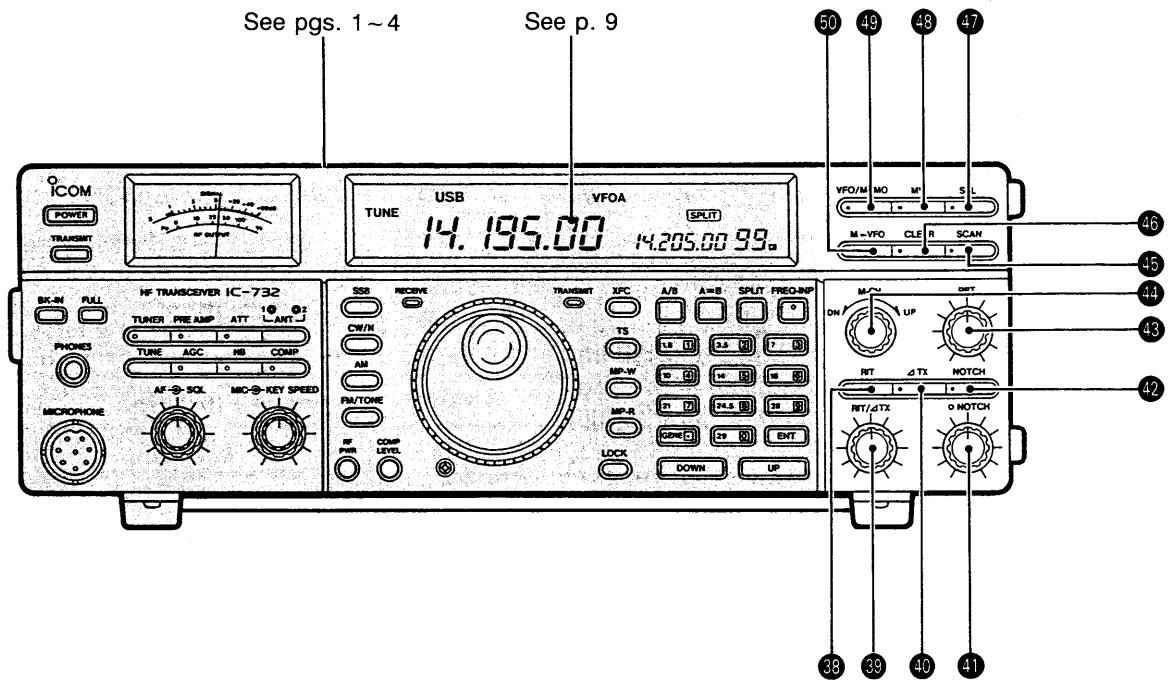
Select the desired operating mode.

- SSB** selects USB and LSB alternately.
- CW/N** selects "normal CW" and "CW-Narrow*" alternately.
 - *An optional CW filter is necessary.
- AM** selects AM.
- FM/TONE** selects FM and FM with a subaudible tone alternately.
 - To transmit a subaudible tone, an optional UT-30 PROGRAMMABLE TONE ENCODER UNIT is required.
 - "FM-T" shows the subaudible tone encoder is ON.

FUNCTION

Subaudible tones are used to access a repeater which requires such tones. The UT-30 offers you 38 kinds of subaudible tone frequencies to match your needs.

1 PANEL DESCRIPTION



38 RIT SWITCH [RIT] (p. 29)

Turns the RIT function ON and OFF.

- “**RIT**” is indicated when the function is ON.
- Use the [RIT/ΔTX] control to vary the RIT frequency.
- The RIT function can be turned ON even when the ΔTX function is ON.
- The max. RIT range can be expanded from ± 1.25 kHz to ± 2.5 kHz in the SET mode. (p.31)

FUNCTION

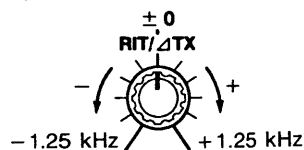
The **RIT** (Receiver Incremental Tuning) shifts the receive frequency up to ± 1.25 kHz (or ± 2.5 kHz) in 10 Hz steps without shifting the transmit frequency.

This is useful for fine tuning stations which called you on an off-frequency or when you prefer to listen to slightly different-sounding voice characteristics, etc.

39 RIT/ΔTX CONTROL [RIT/ΔTX] (p. 29)

Shifts the receive and/or transmit frequency while the RIT and/or ΔTX functions are ON.

- Rotate the control clockwise to increase the receive/transmit frequency, or rotate the control counterclockwise to decrease the receive/transmit frequency.



40 ΔTX SWITCH [ΔTX] (p. 29)

Turns the ΔTX function ON and OFF.

- “**ΔTX**” is indicated when the function is ON.
- Use the [RIT/ΔTX] control to vary the ΔTX frequency.
- The ΔTX function can be turned ON even when the RIT function is ON.
- The max. ΔTX range can be expanded from ± 1.25 kHz to ± 2.5 kHz in the SET mode. (p. 31)

FUNCTION

The **ΔTX** shifts the transmit frequency up to ± 1.25 kHz (or ± 2.5 kHz) in 10 Hz steps without shifting the receive frequency. This is useful for simple split frequency operation on CW, etc.

41 NOTCH CONTROL [NOTCH] (p. 30)

Adjusts the notch filtering frequency while the notch function is ON.

- Rotate the control clockwise or counterclockwise to shift the center of notch filtering frequency.

[Simplified example of the notch function]

