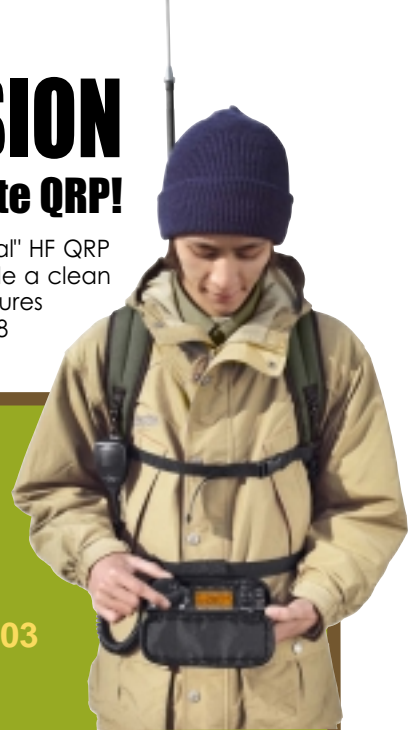# ICOM

IC-703

Icom Inc.

IC-706 LEGACY, NOW IN A QRP VERSION
Don't sacrifice big rig features just because you want to operate QRP!

Whether hiking in the mountains or taking a leisurely stroll through the park, the IC-703 is the "Real Deal" HF QRP rig! Built-in is an automatic antenna tuner and DSP*, plus there's a newly designed PA circuit to provide a clean 5W signal with only 9.6V DC. The IC-703 also supports true QRP operation with enhancements of features and components to be very efficient to prolong operation of the battery pack. The optional BP-228 battery pack allows up to 7 hours of operating enjoyment. *Optional UT-106 required depending on version.

HF how it should be: Compact and Portable!

Designed by hams, for hams! Take your hobby with you into the great outdoors with the LC-156, Icom's Multi-bag '703 carrier. The LC-156 offers plenty of room to store and protect the gear you'll want to bring along for hours of fun operating the bands. It's the perfect way to combine a ham's love for both the hobby and the great outdoors!

The recommended way to pack your IC-703

The rain cover is included in the multi-bag.

Protect your multi-bag and gear with the rain cover.

Use the loops to secure your portable antenna for safe travel.

Great for portable use, the handy controller case can be easily removed from the multi-bag and attached to your belt.

Pouches for stowing controller and hand mic when not in use.

Microphone hanger

Pouch for stowing coaxial cables

Cable exit for separation and coaxial cables, when connected to the IC-703 in the bag.

Controller pouch secured on multi-bag

DC power cables

Stowage area for the optional BP-228 battery pack

Storage area for IC-703

Pouch for stowing the microphone

Stowage area for the optional separate cable, OPC-581/OPC-587

Carry your log book here

Repositionable protection pad, allowing you to customize the size of the stowage space

Exterior loops securely hold an antenna to the backpack

The antenna is not supplied from Icom. During portable operation, make sure not to harm other people or environments.

Icom's DSP technology allows you to pick-out the weak signals!

DSP capabilities give you tools to reduce interfering signals, or just to dig weak signals out of the dirt. The noise reduction separates desired signals from noise and reduces the noise components for a clearer received signal, while the auto notch tracks and eliminates interference from a solid tone signal.

*Optional UT-106 required depending on version.

160–6m full coverage internal automatic antenna tuner, and low current PA

The newly designed PA unit and antenna tuner, specifically designed for the IC-703, extends operating time by reducing the voltage and current consumption. The antenna tuner utilizes low current latching relays to cover 160–6m. While on a 9.6V DC source or less than 11V DC, many functions of the IC-703 are controlled by the microprocessor to extend the battery life.

While in low current mode, the IC-703 automatically switches to 5W output power (2W AM). While on 13.8V DC, the output switches to 10W (4W AM).
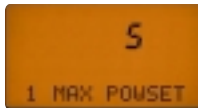
PA unit

Antenna tuner

HF/50MHz ALL MODE TRANSCEIVER
IC-703

Auto power scale meter

There's no need to calculate the output power, as the IC-703 automatically scales the power meter according to the output power of the rig. The full scale reading of the meter will indicate the power output setting of the rig. For example, if you are running at 5W mode, the full scale reading will be 5W. (Available power settings are 10/5/2.5/1/0.5W)

Large characters offer an easy to read 5W maximum output.

Low current mode

By using power efficient components for the PA, antenna tuner and the PLL circuits, the IC-703 is designed for maximum efficiency at 9.6V DC. When using the optional BP-228 battery pack, the IC-703 automatically switches into low current mode, thus allowing operation time of up to 7 hours*. While operating on high power, or 13.8V DC, the IC-703 can safely operate at a full 10W even if the power source drops to 11V DC.

To extend battery life, the back lighting for the display and buttons automatically turns off when unused.

* Tx:Rx:Stand-by =0.5:0.5:9 in SSB mode.

Stay on frequency, indoors or out

Whether safe indoors or exposed to the cold temperatures outdoors, the IC-703 will be right on frequency with the standard ±0.5ppm TCXO.

Close up of the TCXO circuit

High sensitivity

The IC-703's receiver performance is in the same class as that of high end base stations: 0.16µV at 10dB S/N for 1.8 to 30MHz bands and 0.13µV for 50MHz at 10dB S/N (in SSB and CW modes).

Remote control head allows for easy operation while outdoors

Operate while hiking without fumbling for the controls. Use with the optional OPC-581 (3.5m; 11ft) or OPC-587 (5m; 16ft) separation cables to remote the control head where its easy to see and use, allowing the compact body, measuring only 167(W) ×58(H)× 200(D) mm* and weighing 2.0kg, to be carried out of the way.

*6⁹/₁₆×2⁹/₃₂×7⁷/₈ in; 4.4lb

Built-in memory CW keyer

The IC-703 has a built-in CW Memory Keyer with three memory locations and up to 50 characters per memory location. Other keyer features include a variable CW pitch control (300–900Hz); operation with a bug; iambic paddles; or straight key. All these functions are available even when in low current mode.

The memory keyer

Clean FSK, RTTY

Utilizing the TRUE RTTY mode, FSK, the IC-703 generates the tones internally for the cleanest possible signal on the band. Also, whether operating FSK or AFSK data, you can tweak the IC-703 to be the perfect portable RTTY machine by adding the optional FL-52A filter.

455kHz IF filter selections

The 455kHz IF allows you to upgrade the standard 455kHz filter, FL-65, to improve your selectivity by installing an optional filter into the filter slot.

Built-in SWR analyzer

Check out your antenna's SWR with the internal SWR analyzer. The resolution of the IC-703's SWR graph bandwidth is adjustable from 10/50/100/500kHz.

Graphing the SWR

Spectrum scope

Catch band activity at a glance with the spectrum scope. With the operating frequency in the center of the display, each step either to the left or right of center is selectable from 0.5/1/2/5/10/20/100 kHz steps.

The band scope

Other outstanding features

• 30kHz–60MHz general coverage receive (depending on version) • Built-in pre-amplifier • IF shift function with graphical indication • AGC time constant setting • 20dB (approx.) RF attenuator • AF Speech compressor • CTCSS tone encoder/decoder for repeater access • VOX function • All mode power control • Split operation with receive frequency lock • CI-V system capability • 9600bps data terminal on rear panel • Amber LCD backlight • Bandstacking register • Combined SQL and RF gain control knob • Total 105 memory channels • Optional voice synthesizer, UT-102 • Variable SSB carrier-point • Fanless noise free operation • Vertically stands upright on its base • Band edge beep and more...

Rear View

HF/50MHz ALL MODE TRANSCEIVER

IC-703

SPECIFICATIONS

GENERAL

- Frequency coverage* (*Varies according to version) :
  Receive   0.030–60.000MHz
  Transmit 1.800– 1.999MHz   3.500– 3.999MHz
            7.000– 7.300MHz   10.100–10.150MHz
            14.000–14.350MHz   18.068–18.168MHz
            21.000–21.450MHz   24.890–24.990MHz
            28.000–29.700MHz   50.000–54.000MHz
            50MHz band is not available depending on version.
- Mode   : USB, LSB, CW, RTTY, AM, FM
- No. of channels   : 105 (99 regular, 6 scan edges)
- Antenna impedance   : 50Ω (SO-239)
- Power supply requirement : 9–15.8V DC
- Operating temp. range : –10°C to +60°C; +14°F to +140°F
- Frequency stability : Less than ±0.5ppm (+0°C to +50°C)
                        Less than ±2.5ppm (–10°C to +60°C)
- Output power and current drain :

Output Power		at 13.8V	at 9.6V
	SSB/CW/RTTY/FM	0.1–10W	0.1–5W
	AM	0.1–4W	0.1–2W
Transmit	High (typical)	3.0A (at 10W)	2.0A (at 5W)
Receive	Max. audio	1.2A	450mA typ.
	Stand-by	–	300mA typ.

- Dimensions (W×H×D) : 167 × 58 × 200 mm;
  (projections not included) 6⁹⁄₁₆ × 2⁹⁄₃₂ × 7⁷⁄₈ in
- Weight   : 2.0kg; 4.4lb
- CI-V connector   : 2-conductor 3.5 (d) mm (⅛˝)

TRANSMITTER

- Modulation system   :
  SSB   Balanced modulation
  AM   Low level modulation
  FM   Variable reactance modulation
- Spurious emissions : Less than –50dB (Below 30MHz)
                        Less than –60dB (Above 50MHz)
- Carrier suppression : More than 40dB
- Unwanted sideband suppression : More than 50dB
- Microphone connector : 8-pin modular jack (600Ω)
- CW KEY connector   : 3-conductor 6.35 (d) mm (¼˝)

RECEIVER

- Receive system   : Double conversion superheterodyne
- Intermediate freq. : 1st 64.455MHz
                        2nd 455kHz
- Sensitivity (typical) :

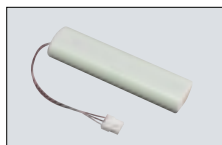|	SSB/CW/RTTY (at 10dB S/N)	AM (at 10dB S/N)	FM (12dB SINAD)
0.5 – 1.8MHz	–	13µV	–
1.8 – 28MHz	0.16µV*	2µV*	–
28 – 29.7MHz			0.5µV*
50MHz band	0.13µV*	1µV*	0.25µV*

* Pre-amp on

- Squelch sensitivity : SSB 5.6µV typ.
  (threshold; pre-amp on) FM   0.32µV typ.
- Selectivity   :
  SSB, CW (2.4kHz)   More than 2.4kHz/–6dB
                      Less than 4.0kHz/–60dB
  AM/FM-N (6kHz)   More than 9.0kHz/–6dB
                      Less than 20kHz/–50dB
  FM (15kHz)   More than 15kHz/–6dB
                      Less than 30kHz/–50dB
- Spurious and image rejection ratio:
  HF bands   More than 70dB
  50MHz   More than 65dB (except IF point)
- Audio output power : More than 1.0W (at 13.8V DC)
  (8Ω load, 10% distortion) More than 0.5W (at 9.6V DC)
- RIT variable range : ±9.99kHz
- PHONES connector   : 3-conductor 3.5 (d) mm (⅛˝)
- EXT SP connector   : 2-conductor 3.5 (d) mm (⅛˝)/8Ω

Supplied accessories:
- Hand microphone • DC power cable   • Spare fuses
- Key plugs   • ACC cable
  Antenna is not supplied from Icom.

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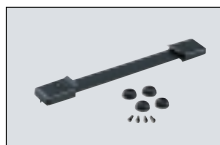
OPTIONS

- **BP-228** BATTERY PACK
Ni-Cd 2800mAh/9.6V. Provides 7 hours of operating time. (approx.)

- **LC-156** MULTI-BAG
Carrying case for field operation. Controller case and rain cover are attached.

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

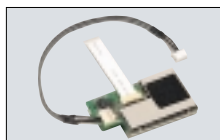- **MB-72** CARRYING HANDLE Convenient for carrying in the field, etc.

- **OPC-581/OPC-587** SEPARATION CABLES
OPC-581: 3.5m (11ft)
OPC-587: 5m (16ft)

- **PS-125** DC POWER SUPPLY Compact power supply. Use with OPC-1248.
Output: 13.8V DC (25A max.)

- **UT-102** VOICE SYNTHESIZER UNIT Provides audible confirmation of frequency and mode in English.

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

455KHz FILTERS
Have a good shape factor and provide you with better reception.

Select one of these filters.
- **FL-52A** 500Hz/–6dB (CW/RTTY narrow)
- **FL-53A** 250Hz/–6dB (CW narrow)
- **FL-222** 1.8kHz/–6dB (SSB narrow)
- **FL-257** 3.3kHz/–6dB (SSB wide)

■ EXTERNAL ANTENNA TUNERS & ELEMENT
- **AH-2b** ANTENNA ELEMENT
  2.5m (8ft) antenna element for mobile operation with the AH-4. All bands between 7–54MHz can be matched.
- **AH-4** HF+50MHz AUTOMATIC ANTENNA TUNER
  For use with the long wire antenna matches 3.5–54MHz.
- **AT-180** HF+50MHz AUTOMATIC ANTENNA TUNER

■ MOUNTING BRACKET
- **MB-62** MOBILE MOUNTING BRACKET
  For mounting the IC-703 main unit or the AT-180.
- **MB-65** MOUNTING BASE
  For mounting the detached front panel in a vehicle. Optional MB-63 is required.

■ OTHERS
- **CT-17** CI-V LEVEL CONVERTER
- **HM-103** HAND MICROPHONE (same as supplied)
- **OPC-589** MODULAR 8-PIN CABLE ADAPTER
- **OPC-598** ACC 13 PIN LONG CABLE FOR AT-180 (7m; 22ft)
- **OPC-599** ACC 13 PIN CABLE ADAPTER
- **OPC-1248** POWER SUPPLY ADAPTER CABLE
- **SM-20** DESKTOP MICROPHONE (Optional OPC-589 is required.)
- **SP-7/SP-10** EXTERNAL SPEAKERS