HF+50MHz ALL MODE TRANSCEIVER

IC-703

Icom proudly announces the debut of the IC-703, QRP portable transceiver.
In the world of HF/50MHz portable communications, the IC-703 incorporates all the practicality and technical expertise of the IC-706MKIIG, but does so with an emphasis on portability and economy. A built-in antenna tuner, built-in DSP unit*[1], 10W*[2] of output power, an optional external battery pack and specified carrying case for portable operation allow the IC-703 to have base station ability with all the portable convenience of a mobile rig. A delight for HAM operators.

*[1] Optional for some versions. *[2] When operating with 13.8V DC.

SELLING POINTS

- ❏ ***Built-in automatic antenna tuner***
- ❏ ***DSP capabilities***
- ❏ ***1.8–54MHz coverage, 10W output power***
- ❏ ***High sensitivity receiver***
- ❏ ***Current consumption control***
- ❏ ***High frequency stability—±0.5 ppm***

FEATURES

Built-in automatic antenna tuner

The IC-703 has an automatic antenna tuner built-in to its compact body. The antenna tuner covers from 1.8MHz to 54MHz and matches up to VSWR 1:7 to 2.0 or less. Field and mobile operation are made simple and efficient, especially when using a short length antenna covering narrow bandwidth. Latch relays are used for the antenna tuner to greatly reduce the power consumption. A built-in antenna tuner eliminates the need carry an extra one with you, but the IC-703 allows you to connect an optional tuner like the AH-4 if desired. Something for everyone.

FEATURES

DSP capabilities*

The built-in DSP unit* provides superior receive performance. The noise reduction function helps pick out the signal buried in noise, and improves the S/N ratio. The automatic notch cuts beat interference which is useful for FM and SSB operation.

* Optional UT-106 required for some versions.

Newly developed PA unit

A stable 10W output power (4W in AM mode) is amplified by the newly designed PA unit, when 13.8V DC is supplied. The IC-703 provides 5W output (2W in AM mode), while operating at 9.6V DC (9.6V–11V) or with an optional battery pack.

PA unit

High sensitivity receiver

The IC-703 achieves a high sensitivity of 0.16µV* in SSB, CW and RTTY modes within HF bands, on par with that of a base station transceiver. The IC-703 provides excellent sound reproduction of both faint and strong signals even in crowded band conditions during contests.

* 0.18µV for 50MHz band

Max. power set function

Precise maximum output power settings (10/5/2.5/1/0.5W) are selectable, instead of hi/low only power settings. The power meter automatically adjusts its measurement range according to the max. power setting. For example, the power meter shows 5W as full scale, when used at the 5W setting, or 10W as full scale at 10W setting, etc.

Max. power set screen.
Setting 5W output

External battery pack and carrying case

The optional 9.6V, 2800mAh Ni-Cd battery pack*[1] provides 8 hours*[2] of operating time at 5W output. The IC-703 and the battery can be packed into the carrying case, LC-156, making the IC-703 a go anywhere portable rig.

*[1] Model names are to be announced later.

*[2] Tx:Rx:Stand-by = 0.5:0.5:9 in SSB mode, 5W max. power

Current consumption control

To save power consumption, the IC-703 has a current consumption control setting. When “Auto” is selected in this mode, the IC-703 automatically detects the power supply voltage and reduces the current consumption while operating with the external battery pack (or less than 11V power source). A LCD backlight timer setting also controls the LCD backlighting depending on the power supply voltage. A duty-cycle control setting also further reduces current consumption in the stand-by condition.

The LCD backlight timer mode controls the LCD backlight.

Controller detachable from main unit

The controller can be separated from the main unit. This allows flexible installation for mobile use in vehicles, as well as an out of the way set-up in your shack or during portable (manpack) operation. Microphone connectors are equipped on both the controller and main unit. Separation cables, OPC-581/OPC-587 (3.5m/5m), are optionally available.

High frequency stability

A high stability TCXO unit is adopted for the oscillator, to achieve ±0.5ppm high frequency stability. This is ideal for stable operation during continuous operation of PSK31, RTTY or SSTV.

Ample functions for CW operators

- Built-in 3 channel memory keyer with 50-character capacity.
- Electronic keyer with a variable dot/dash ratio.
- CW reverse function to reduce adjacent interference.
- CW pitch can be adjusted in the range of 300–900Hz.
- CW narrow mode (optional CW narrow filters required).
- Full break-in (QSK) is available.
- Paddle polarity reverse functions.
- Bug-keyer simulation mode.

Filter selection

The IC-703 adopts a 455kHz crystal filter with good shape factor. One of the optional crystal filters below can be installed into the transceiver to further improve the selectivity and prevent QRM.

Optional filters	Available mode	Passband width	Center frequency
FL-65*	SSB	2.4kHz/–6dB	455kHz
FL-52A	CW/RTTY narrow	500Hz/–6dB	455kHz
FL-53A	CW narrow	250Hz/–6dB	455kHz
FL-222	SSB narrow	1.8kHz/–6dB	455kHz
FL-257	SSB wide	3.3kHz/–6dB	455kHz

* Already built-in.

IF shift

IF shift is effective in reducing adjacent frequency interference in SSB, and enables comfortable operation even under crowed band conditions, such as during contests. The IF shift setting condition is graphically indicated on the LCD.

Spectrum scope function

Sweeps 14 steps from the displayed frequency and plots received signal strength on the function display. This function is useful for checking band conditions.

Bandscope screen

SWR graphic function

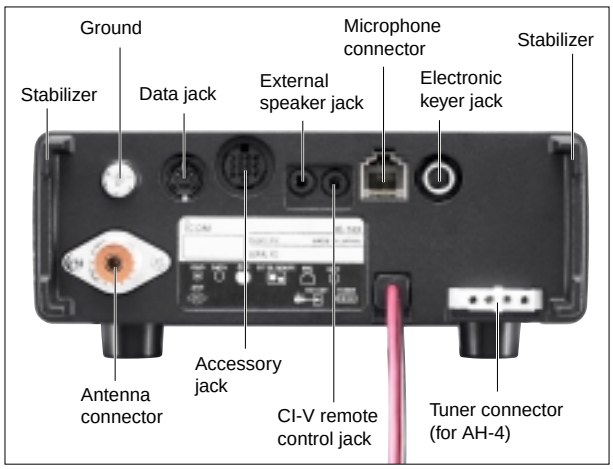
The SWR graphic function is a convenient function for using the IC-703 in the field. It measures and plots the SWR within a specified range.

SWR graph screen

FEATURES

Other outstanding features

- Digital S-meter with “Peak-hold” function
- Variable SSB carrier-point
- Amber LCD backlight
- Auto tuning step function
- Speech compressor
- Bandstacking register
- Built-in pre-amplifier
- RIT, VOX and noise blanker are standard
- CI-V system capability
- Fanless cooling system provides silent operation
- RTTY (FSK) mode available
- 9600bps data terminal on rear panel
- Total 105 memory channels
- Combined SQL and RF gain control knob
- Optional voice synthesizer, UT-102
- Stabilizers added for standing IC-703 vertically



Rear view

SPECIFICATIONS

Specifications described below are target values. They may be subject to change.
DO NOT incorporate this information in your advertisements until it has been confirmed.

■ GENERAL

- Frequency coverage :
  U.S.A. version (#05, #15†)
  Rx 0.030– 60.000MHz*
  Tx 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
  Europe version (#02, #12†), General version (#08, #18†)
  Rx 0.030– 60.000MHz* (#02, #12)
  0.030– 29.999MHz* (#08, #18)
  Tx 1.800– 1.999MHz* 3.400– 4.099MHz*
  6.900– 7.499MHz* 9.900– 10.499MHz*
  13.900– 14.499MHz* 17.900– 18.499MHz*
  20.900– 21.499MHz* 24.400– 25.099MHz*
  28.000– 29.999MHz*
  50.000–54.000MHz* (#02, #12 only)
  France version (#03, #13†), Spain version (#04, #14†),
  Italy version (#10, #20†)
  Tx/Rx 1.810– 1.850MHz (#03, #13)
  1.830– 1.850MHz (#04, #10, #14, #20)
  3.500– 3.800MHz 7.000– 7.100MHz
  10.100– 10.150MHz 14.000– 14.350MHz
  18.068– 18.168MHz 21.000– 21.450MHz
  24.890– 24.990MHz 28.000– 29.700MHz
  * Some frequency bands are not guaranteed.
  † #12–#20: UT-106 already built-in.
- Mode : SSB, CW, RTTY, AM, FM
- No. of memory channels : 105 (99 regular, 6 scan edges)
- Tuning steps : 1, 10, 50, 100Hz, 1, 5, 9, 10, 12.5, 20, 25, 100kHz
- Operating temp. range : –10 to +60˚C; +14 to +140˚F
- Frequency stability : Less than ±0.5ppm (0 to +50˚C)
  Less than ±2.5ppm (–10 to +60˚C)
- Power supply requirement: 9–15.87V DC
- Current drain (at 9.6V DC):

Receive	Stand-by	300mA
	Max. audio	450mA
	Max. audio (at 13.8V DC)	1.2A
Transmit	5W	2.0A
	10W (at 13.8V DC)	3.0A

- Antenna impedance : 50Ω (SO-239; antenna tuner off)
- Dimensions : 167(W)×58(H)×200(D) mm;
  (projections not included) $6\frac{9}{16}$(W)×$2\frac{9}{32}$(H)×$7\frac{7}{8}$(D) in
- Weight (approx.) : 2.0kg; 4.4lb

■ TRANSMITTER

- Modulation system :
  SSB Balanced modulation
  AM Low level modulation
  FM Variable reactance modulation
- Output power :
  SSB, CW, FM, RTTY 0.1–10W (at 13.8V)
  0.1–5W (at 9.6V)
  AM 0.1–4W (at 13.8V)
  0.1–2W (at 9.6V)
- 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 (600Ω)

SPECIFICATIONS

■ RECEIVER

- Receiver system : Double-conversion superheterodyne
- Intermediate frequencies: 1st 64.455MHz
  2nd 455kHz
- Sensitivity (typical):

SSB, CW, RTTY	1.8–29.999MHz	0.16µV*
(at 10dB S/N)	50– 54.000MHz	0.13µV*
AM (at 10dB S/N)	0.5– 1.799MHz	13µV
	1.8–29.999MHz	2µV*
	50–54.000MHz	1µV*
FM (at 12dB SINAD)	28– 29.700MHz	0.5µV*
	50–54.000MHz	0.25µV

* pre-amp: ON

- Squelch sensitivity (typical, pre-amp: ON):
  SSB, CW, RTTY Less than 5.6µV
  FM Less than 0.32µV
- Selectivity (typical) :
  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 band More than 65dB (except IF point)
- Audio output power :
  at 13.8V DC More than 1.0W with an 8Ω load
  at 9.6V DC More than 0.5W with an 8Ω load
- 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

OPTIONS

- **AH-4** HF+50MHz AUTOMATIC ANTENNA TUNER
  Covers 3.5–54MHz with a 7m (23ft) or longer wire antenna.
- **AH-2b** HF+50MHz ANTENNA ELEMENT
  For mobile operation with the AH-4. All bands between 7–54MHz can be matched.
- **AT-180** HF+50MHz AUTOMATIC ANTENNA TUNER
  Style and size are matched to the IC-703.
- **CT-17** CI-V LEVEL CONVERTER
  For remote transceiver control using a PC.
- **FL-52A** CW/RTTY NARROW FILTER
  455kHz crystal filter. 500Hz/–6dB
- **FL-53A** CW NARROW FILTER
  455kHz crystal filter. 250Hz/–6dB
- **FL-222** SSB NARROW FILTER
  455kHz crystal filter. 1.8kHz/–6dB
- **FL-257** SSB WIDE FILTER
  455kHz crystal filter. 3.3kHz/–6dB
- **HM-103** HAND MICROPHONE
  Standard hand microphone.
- **LC-156** CARRYING CASE
  Allows portable operation.
- **MB-62** MOBILE BRACKET
  For mounting the IC-703 main unit or the AT-180.
- **MB-63** MOUNTING BRACKET
  For mounting the detached controller.
- **MB-65** MOUNTING BASE
  For mounting the detached controller in a vehicle. The MB-63 is required.
- **MB-72** CARRYING HANDLE
  Convenient when carrying the transceiver.
- **OPC-581**/**OPC-587** SEPARATION CABLES
  Allows extended separation of the controller and main unit.
  OPC-581: 3.5m (11ft), OPC-587: 5m (16ft)
- **OPC-589** MODULAR 8-PIN CABLE ADAPTER
  When using a desktop microphone or regular 8-pin hand microphone.
- **OPC-598** ACC 13 PIN CABLE FOR AT-180 (7m)
  Use for connecting the IC-703 and the AT-180.
- **OPC-599** ACC 13 PIN CABLE ADAPTER
  13-pin, ACC connector to 7-pin + 8-pin ACC connector.
- **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
  Compact mobile speaker.
- **UT-102** VOICE SYNTHESIZER
  Announces operating frequency, mode and S-meter level in English or Japanese.
- **UT-106** AF DSP UNIT
  Same as installed in some versions.
- **External battery pack,** Ni-Cd 9.6V/2800mAh (model name to be announced later)
- **Battery charger** (model name to be announced later)

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