ICOM

HF/VHF/UHF ALL MODE TRANSCEIVER

IC-7100

Intuitive Touch Screen, Quick Response, Multi-band Radio

HF/50/70/144/430MHz
Finger Touch Operation
with Innovative Design

DIGITAL

Intuitive Touch Screen, Quick Response, Multi-band Radio

Finger Touch Operation

Intuitive Touch Screen Interface

The innovative touch screen interface provides quick and smooth operation for setting and editing various functions and memories.

Straight Forward Operation

Just tap the mode, filter, function etc, you need to change. The touch screen responds naturally, changing your settings.

Software Keypad

Entering frequency, callsign or editing memory channels has never been this easy. The software keypad on the touch screen allows you to input alphanumeric characters incredibly quickly.

One Touch Selection

For example, if you want to change the operating band, tap the frequency on the display. The band keys will be shown to select the operating band. Touching the multi-function meter indicator for 1 second will quickly change the transmit meter functions.

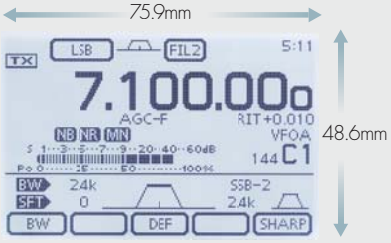
Innovative Design

Touch Screen Control Portal

The radio control head features a large, multi-function, "touch screen"' dot-matrix LCD display that is positioned for easy view and operation. The controller is compact in size, making it ideal for limited vehicle or desktop space.

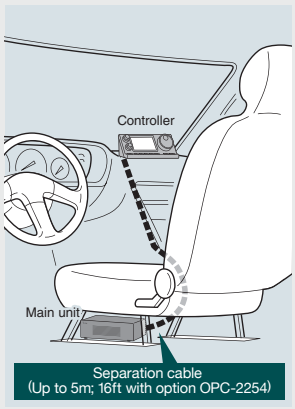
Resistive Touch Screen

The 48.6×75.9 mm large resistive touch screen display can be operated even while wearing gloves.



Controller Mounted Speaker and Jacks

The unique remote head design is perfect for providing loud, clear audio as well as jacks for an external speaker/headphones as well as a key and microphone.



HF/50/70/144/430MHz Multi-band, Multi-mode

The IC-7100 fully covers the HF, 50, 70, 144, 430 MHz amatuer bands in multiple modes, providing 100W on HF/50MHz bands, 50W on 70/144MHz bands and 35W on 430MHz band.

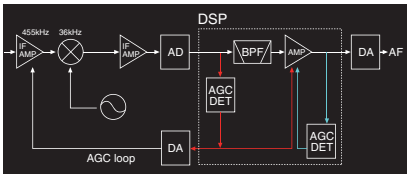
Digital Features Controlled by the IF DSP

A high-performance 32-bit floating point IF DSP delivers rich digital signal processing features, including digital IF filter, digital twin PBT, noise reduction, CW auto tune, etc. Those digital features work on all bands from HF to V/UHF bands.

32-bit floating point IF DSP

DSP Controlled AGC Function Loop

The digital signal processing is incorporated into the AGC function loop. The results of signal processing provide feedback to the AGC function. The AGC function works on the intended signal and produces a constant audio output. The AGC time constants are flexibly adjustable from slow, middle, fast (or AGC off) for each operating mode.



AGC function loop

D-STAR Ready (Digital Voice + Data)

The IC-7100 provides D-STAR (Digital Smart Technology for Amateur Radio) DV mode digital voice and low speed data communication.

DR (D-STAR Repeater) Mode Operation

The DR mode operation makes the D-STAR operation simple and straight forward, even if you are new to D-STAR operation.

DR mode display

Near Repeater Function

With an external, 3rd party GPS*, search the internal database based on your location.

* External GPS receiver or manual data input required.

Near repeater function

SD Memory Card Slot for Saving Data

When used with an SD card, the SD card can store various contents including voice memory, memory channels, D-STAR repeater memories and other personal settings can be saved to the SD card and can be loaded to the transceiver.

SD memory card slot

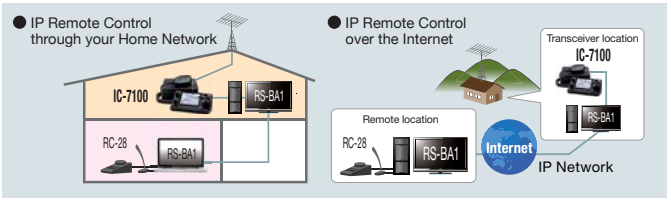
Easy Vehicle Mounting with Optional MBF-1

The combination of the optional MBF-1 suction cup mounting base and MBA-1 controller bracket provides easy tilt and swivel adjustments for mobile operation. The large suction cup can mount to dashboards or other flat surfaces and can be removed easily.

MBF-1

Optional RS-BA1 IP Remote Control Software

The optional RS-BA1 software allows you to operate the IC-7100 from a remote PC over the Internet or local home network.



Built-in RTTY Functions

The built-in RTTY decoder allows you to instantly read an RTTY message on the display. No external TNC or PC required for reading. The eight RTTY memories can memorize and transmit often used RTTY sentences. The RTTY memory is 70 character per memory channel.

Other Features

● CW full break-in, CW receive reverse, CW auto tuning ● Optional multi-function microphone, HM-151 ● Band scope and SWR graphic display ● RF speech compressor controlled by the DSP ● Voice memory function ● Multi-function Meter ● 495 regular, 4 call, 6 scan edge and 900 DR mode repeater channels ● 4 channels TX voice memories ● ±0.5ppm frequency stability ● Auto reply function* ● Digital callsign squelch and digital code squelch* ● 12kHz IF output for DRM (Digital Radio Mondiale) receive

* D-STAR DV mode only

HF/VHF/UHF ALL MODE TRANSCEIVER

IC-7100

SPECIFICATIONS

GENERAL

Frequency coverage	(Unit: MHz)	
Receiver*1	0.030–199.999*2	400.000–470.000*2
Transmit*1	1.810–1.999 14.000–14.350 28.000–29.700 430.000–440.000	3.500–3.800 18.068–18.168 50.000–52.000	7.000–7.200 21.000–21.450 70.000–70.500	10.100–10.150 24.890–24.990 144.000–146.000

*1 Showing EUR (#03) version. Varies according to version.
*2 Some frequency bands are not guaranteed.

Mode	USB, LSB, CW, RTTY, AM, DV, FM, WFM (Rx only)
No of memory channels	495 regular, 4 call, 6 scan edges, 900 D-STAR repeater channels
Antenna connector	SO-239×2 (one each for HF/50/70MHz and 144/430MHz, 50Ω)
Operating Temp. range	–10°C to +60°C
Frequency stability	±0.5ppm (0°C to +50°C @ 430MHz)
Power supply requirement	13.8V DC ±15%
Current drain (at 13.8V DC)	TX (Max. power): 22A (HF/50/70MHz), 16A (144/430MHz) RX (Max. audio/standby): 1.2A/0.9A
Dimensions (W×H×D, projections not included)	Main unit 167×58×225 mm Controller 165×64×78.5 mm
Weight (approx.)	Main unit 2.3 kg Controller 0.5 kg

TRANSMITTER

Output power (at 13.8V DC)

	HF/50MHz	70MHz	144MHz	430MHz
SSB/CW/RTTY/FM/DV	2–100W	2–50W	2–50W	2–35W
AM	1–30W	1–15W	–	–

Modulation system	SSB : Digital P.S.N. modulation, AM : Digital low power modulation FM : Digital phase modulation, DV : GMSK digital phase modulation
Spurious emissions	Less than –50dB (HF bands), Less than –63dB (50MHz) Less than –60dB (70/144/430MHz)
Carrier suppression	More than 50dB
Unwanted sideband	More than 50dB

RECEIVER

Intermediate frequencies SSB/CW/AM/FM/RTTY/DV WFM	124.487MHz, 455kHz, 36kHz 134.732MHz, 10.700MHz

Sensitivity (HF: Preamp-1 ON, 50/70MHz: Preamp-2 ON, 144/430MHz: Preamp ON)

	0.5–1.8MHz	1.8–29.995MHz	50MHz	70MHz	144/430MHz
SSB/CW (BW=2.4kHz, 10dB S/N)	–	0.15μV	0.12μV	0.15μV	0.11μV
AM (BW=6kHz, 10dB S/N)	13μV	2μV	1μV	1μV	1μV
FM (BW=15kHz, 12dB SINAD)	0.5μV (28–29.7MHz)		0.25μV	0.25μV	0.18μV
DV (1% BER)	1μV (28–29.7MHz)		0.63μV	0.63μV	0.35μV
WFM (12dB SINAD)	–	–	–	10μV (76–108MHz)	

Sensitivity for RED versions (HF: Preamp-1 ON, 50/70MHz: Preamp-2 ON, 144/430MHz: Preamp ON)

(12 dB SINAD)	1.8–2.999 MHz	3.0–29.995 MHz	50/70 MHz	144/430 MHz
SSB (BW=2.4kHz)	10 dBμV emf	0 dBμV emf	–6 dBμV emf	–6 dBμV emf
AM (BW=4kHz, 60% Mod.)	16 dBμV emf	6 dBμV emf	0 dBμV emf	0 dBμV emf
FM (BW=7kHz, 60% Mod.)	0 dBμV emf (28–29.7MHz)		–6 dBμV emf	–6 dBμV emf

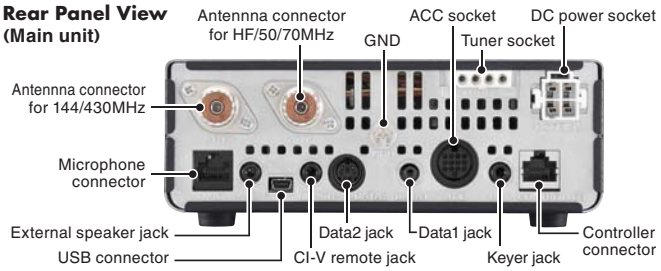
Selectivity

	More than	Less than
SSB (BW=2.4kHz, sharp)	2.4kHz/–6dB	3.4kHz/–40dB
CW (BW=500Hz, sharp)	500Hz/–6dB	700Hz/–40dB
RTTY (BW=500Hz)	500Hz/–6dB	800Hz/–40dB
AM (BW=6kHz)	6.0kHz/–6dB	10kHz/–40dB
FM (BW=15kHz)	12kHz/–6dB	22kHz/–40dB
DV (12.5kHz spacing)	–50dB	–

Spurious and image rejection ratio	More than 70dB (HF/ 50/70MHz), More than 65dB (144/430MHz) (except 1/2 IF through on 50/70MHz, IF through on 144MHz)
Audio output power	More than 2.0W (10% distortion, 8Ω load, 13.8V DC)

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

Rear Panel View (Main unit)



OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

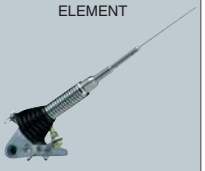
PS-126 DC POWER SUPPLY

13.8V DC, 25A max.

AH-4 HF+50MHz AUTOMATIC ANTENNA TUNER

Covers 3.5–54MHz with a 7m (23ft) or longer wire antenna.

AH-2b ANTENNA ELEMENT



Covers 7–54MHz. Use with AH-4.

AT-180 HF+50MHz AUTOMATIC ANTENNA TUNER

Covers 1.8–54MHz amateur band (Except for 5MHz band).

AH-5NV NVIS KIT

Fiberglass mobile mounting antenna element for use with AH-740. Covers 2.2-30MHz (amateur band) with AH-740.

AH-740 AUTOMATIC TUNING ANTENNA

Covers 2.5-30MHz (amateur band). OPC-2321 is required.

SP-35 EXTERNAL SPEAKER

HAND MICROPHONES

HM-36 OPC-589 is required.
HM-103 Compact type
HM-151 Remote-control microphone
HM-198 Same as supplied

DESKTOP MICROPHONES

SM-50 Dynamic mic OPC-589 is required.
SM-30 OPC-589 is required.

IC-PW1EURO HF+50MHz 1kW HF LINEAR AMPLIFIER

OPC-599 is required.

MOUNTING BRACKETS

MB-62 Mobile mounting bracket for the main unit.
MBF-1 Mounting base for the controller. MBA-1 is required.
MBA-1 Controller bracket

RS-BA1 IP REMOTE CONTROL SOFTWARE

RC-28 USB REMOTE ENCODER

For use with RS-BA1

- **CS-7100** CLONING SOFTWARE
- **CT-17** CI-V LEVEL CONVERTER
- **OPC-2253** SEPARATION CABLE 3.5m (11ft)
- **OPC-2254** SEPARATION CABLE 5m (16ft)
- **OPC-2321** CONTROL CABLE FOR AH-740
- **OPC-589** MODULAR 8-PIN CABLE ADAPTER
- **OPC-599** CABLE ADAPTER
  Converts 13-pin ACC connector to 7-pin + 8-pin ACC connector for connection with IC-PW1EURO.
- **OPC-1529R** DATA CABLE for DV mode Data 1 Jack (IC-7100) to RS-232C cable.
- **OPC-2218LU** DATA CABLE for DV mode Data 1 Jack (IC-7100) to USB cable.

Supplied accessories: (* May differ depending on version)

- Hand microphone, HM-198
- DC power cable
- CW keyer plug
- Spare fuses
- Separation cable, OPC-2253
- 13-pin plug ACC cable
- USB cable
- Ferrite bead*

D-STAR (Digital Smart Technology for Amateur Radio) is a digital radio protocol developed by JARL (Japan Amateur Radio League).

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