# ICOM

# HAM RADIO PRODUCTS

**HF** Transceivers

**Mobile** Transceivers

**All Mode** Transceivers

**Handheld** Transceivers

## Icom Inc.

- Icom's flagship HF transceiver
- +40dBm 3rd order intercept point (in the HF bands)
- Three hi-spec 1st IF filters (roofing filters)
- Two completely independent receiver circuits
- Four 32-bit DSP units and 24-bit AD/DA converters
- Digital IF filter
- 200W output power and high-stability transmitter

## HF/50MHz TRANSCEIVER
# IC-7800

### +40dBm IP3
#### (3rd order Intercept Point)

Icom's considerable analog RF circuit experience combined with cutting-edge digital technology results in an astonishing 110dB receiver dynamic range and a +40dBm IP3 in the HF bands – the first in ham radio! To achieve this superior receiver performance, Icom's engineering team completely re-engineered all of the analog circuitry to match the DSP system.



Dynamic range characteristics
(in 14MHz band)

BPF unit

DIGI-SEL unit
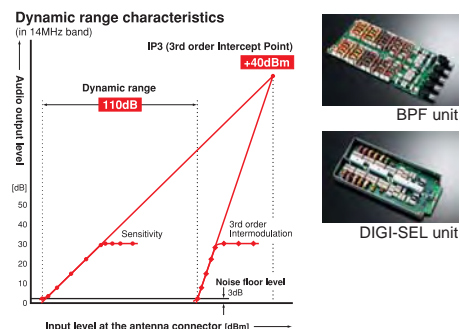
### Three hi-spec 1st IF filters
(Roofing Filter)*[1]

In addition to selectable 6kHz and 15kHz roofing filters, the IC-7800 has a 3kHz roofing filter before the 1st IF amplifier. It provides 134dB*[2] (approx.) of blocking dynamic range and allows you to pull out a weak signal while blocking strong adjacent signals. (The FM mode filter is fixed at 15kHz.)

*[1] Icom calls the roofing filters "hi-spec 1st IF filters", because their performance is much better than regular IF filters. *[2] At 14.1MHz receive, with 5kHz separation of interference signal.



Hi-spec 1st IF filters (Roofing filters)
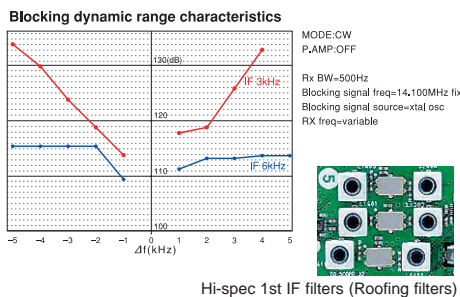
### Two completely independent receiver circuits

Dual receivers allow you to receive on two different bands simultaneously in different modes, without the receivers affecting each other.

### Quad processing

The IC-7800 incorporates four independent, 32-bit DSP units and 24-bit AD/DA converters. By having four independent DSP units, the radio responds to operator changes in an instant, as each DSP unit is dedicated to a single function. While each receiver has its own dedicated DSP unit, there is a DSP unit for transmit as well as a DSP unit for the spectrum scope.

### Digital IF filter

Icom's digital IF filters give you performance that is not possible with crystal or mechanical filters. They allow the operator to adjust filter shape (sharp or soft), filter bandwidth, and center frequency characteristics, without missing the action. Multiple filter memories store the most-recently used filter settings for each operating mode.



Filter preset screen
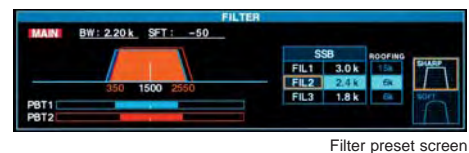
### Ultra high stability OCXO unit

The IC-7800 uses the OCXO (Oven Control Crystal Oscillator) unit which is stable to within ±0.05ppm from 0˚C to 50˚C. This specification means that even on the 50MHz band, frequency error is less than 2.5Hz!

## 200W output power, built-in

The power amplifier uses push-pull power MOS-FETs with a 48V DC supply. They provide a powerful 200W of output at 100 percent duty cycle. An effective cooling system maintains internal temperatures within a safe range and prevents thermal runaway.



PA Unit and heat sink

## Real-time spectrum scope

With its own dedicated DSP unit, the IC-7800's spectrum scope provides excellent sensitivity and 80dB of dynamic range. This scope rivals many of today's commercial test instruments. The display spans ±2.5kHz to ±250kHz in 7 steps, covering up to 500kHz of spectrum!
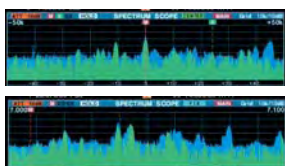


Example of spectrum scope centered on the receiving frequency.



Example of fixed spectrum scope range.

## 7-inch wide color TFT LCD

An active matrix 7-inch (800×400 pixel) TFT color display was selected for the IC-7800. This large display shows main and sub-band frequencies, settings, and operating parameters, as well as the spectrum scope, S-meter, and RTTY/PSK31 decoded messages. The "virtual" S-meter needle swings smoothly and accurately, just like an analog meter.

## Other outstanding features

**[Antenna and receiver]**  • 4 antenna connectors with automatic antenna selector • Automatic antenna tuner • Special preamp and mixer circuit optimized for 50MHz band • 3-step manual notch filter • Digital twin PBT eliminates interference from adjacent signals • 16-step noise reduction

**[CW mode]**  • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp)

**[Operation]** • High-quality digital voice memory • Triple band stacking register • Built-in RTTY and PSK31 modulator and demodulator • Message memory for CW, RTTY and PSK31 operations • Twin peak audio filter for RTTY operation • CF memory card for storing customized personal settings • 101 memory channels • AGC control for fine tuning of the AGC time constant • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function

**+40dBm 3rd order intercept point (in the HF bands)**

**2nd order intercept point higher than +110dBm**

**Excellent inband IMD specifications**

**Three hi-spec 1st IF filters (roofing filters)**

**7-inch wide color TFT LCD**

**32-bit DSP units and 24-bit AD/DA converters**
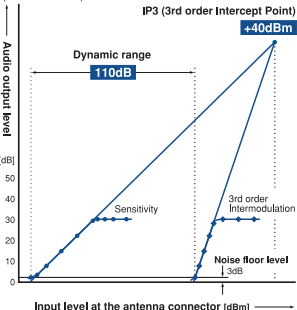
**200W output power and high-stability transmitter**

## HF/50MHz TRANSCEIVER
# IC-7700

### +40dBm IP3 (3rd order Intercept Point) and 110dB dynamic range

The IC-7700 employs mechanical relay BPF switching, a digitally tuned pre-selector, and three hi-spec 1st IF filters (roofing filters) in a clean and simple double conversion super-heterodyne design. By balancing the analog and DSP functions, the IC-7700 provides superior sensitivity simultaneously with a superb dynamic range of 110dB, and +40 dBm IP3 (even in USB mode with 2.4 kHz filter bandwidth).



**Dynamic range characteristics**
(in 14MHz band)

IP3 (3rd order Intercept Point) +40dBm
Dynamic range 110dB
Sensitivity
3rd order Intermodulation
Noise floor level 3dB

Audio output level [dB]
Input level at the antenna connector [dBm]

DIGI-SEL unit

BPF unit

### More than +110dBm IP2
(2nd order intercept point)

An IP2 point of more than +110 dBm* means 2nd order distortion from strong broadcast stations will be completely eliminated. The continuous pursuit of leading analog circuit engineering makes it possible to achieve this leading edge level of performance.

* The IP2 figure is a typical value.
** Measurements were made using custom equipment, due to the limits of normal signal generators (SG) and duplexers to +85 dBm.



**IP2 (2nd order Intercept Point)**
+112.4dBm
OUTPUT [dBm]
OUTPUT
INPUT [dBm]
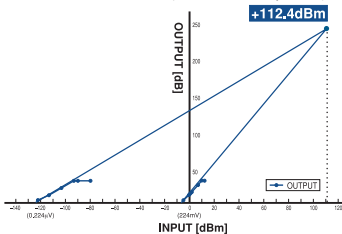
### High specification in-band IMD

In-band IMD (Intermodulation Distortion) creates undesired spurious signals as a consequence of non-linear processing of multiple signals. All (2nd, 3rd or even higher) orders of IMD performance are superior in the IC-7700. The improvement will be especially evident in CW mode. You'll notice the difference as you copy weak signals without internal distortion or noise.



S9 equivalent signal input



S1 equivalent signal input



S9 +60dB equivalent signal input
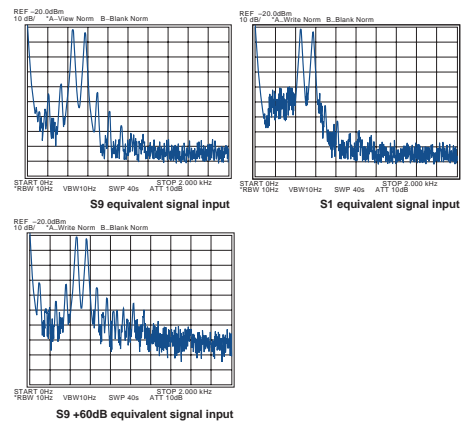
### Two AGC Loops

The IC-7700 has two AGC loops. The AGC voltages are derived both before and after the digital IF filter in the DSP unit. The first AGC loop prevents the saturation of the 1st IF amplifier from strong signals outside the pass-band filter. The second AGC loop detects the AGC voltage at the digital IF filter output which contains only the desired signal, obtaining full performance from the digital IF filter.



2nd mixer
Image rejection mixer
DSP circuit
AGC loop signal path
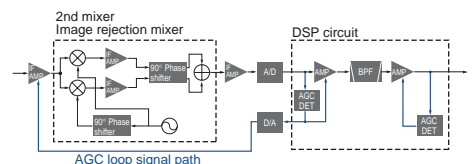
## Three hi-spec 1st IF filters (Roofing filter)

Now a proven formula, the IC-7700 employs custom three hi-spec 1st IF filters (roofing filters) to achieve approximately 134dB[1] of blocking dynamic range.

[1] At 14.1MHz receive, with 5kHz separation of interference signal.

Hi-spec 1st IF filters (Roofing filters)

## 7-inch wide color TFT LCD

An active matrix 7-inch (800×400 pixel) TFT color display shows main and sub-band frequencies, settings, and operating parameters, as well as the spectrum scope, S-meter, and RTTY/PSK31 decoded messages in vivid color. The "virtual" S-meter needle swings smoothly and accurately, like an analog meter.

## Real-time spectrum scope

With its own dedicated DSP unit, the IC-7700's spectrum scope provides excellent sensitivity and 80dB of dynamic range. The display spans ±2.5kHz to ±250kHz in 7 steps, covering up to 500kHz of spectrum!

## USB connectors on the front panel

Two USB connectors on the front panel allows you to easily connect a USB keyboard or USB flash drive to save transceiver settings, update firmware, or transfer settings to another IC-7700.

Two USB connectors

## Other outstanding features

**[Antenna and receiver]** • 4 antenna connectors with automatic antenna selector • BNC type RX IN/OUT connectors • Automatic antenna tuner • Preamp for 50MHz band • 3-step manual notch filter • Digital twin PBT

eliminates interference from adjacent signals • 16-step noise reduction

**[CW mode]** • DSP-controlled CW keying waveform shaping • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system

**[Operation]** • Built-in power supply • High quality digital voice memory • Message memory for CW, RTTY and PSK31 • Built-in RTTY and PSK31 modulator and demodulator • Twin peak audio filter for RTTY operation • Triple band stacking register • 101 memory channels • AGC control for fine tuning of the AGC time constant • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function

## HF/50MHz TRANSCEIVER
# IC-7600

**+30dBm IP3**

**Improved inband IMD**

**5.8 inch ultra-wide viewing angle TFT display**

## Dual DSP for transmitter/receiver and spectrum scope

Two separate 32-bit DSP units power the transmitter/receiver and spectrum scope. These processors give the IC-7600 high performance comparable to our top-of-the-line IC-7800 and IC-7700, thanks to the combination of dual DSP and our analog RF design expertise.
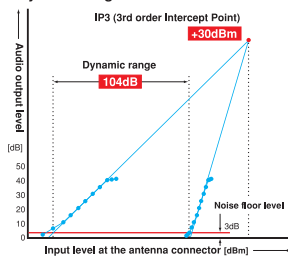

Dual DSP

## 104dB dynamic range and +30dBm IP3 (3rd order Intercept Point)

An astonishing 104dB receiver dynamic range and +30dBm IP3 in the HF bands without sacrificing receiver sensitivity is a standard specification be fitting the IC-7600. Even a weak signal adjacent to strong signals is clearly received by the IC-7600.

**Dynamic range characteristics**



## Double conversion superheterodyne improves inband IMD

The IC-7600 employs a double conversion superheterodyne system which has an image rejection mixer for the 2nd mixer stage. When compared to a typical triple conversion system, the double conversion system is more difficult to implement but it dramatically reduces signal distortion and provides a high-linearity RF signal to the DSP processor.
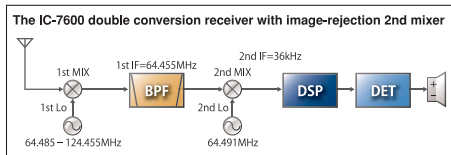


## Dual AGC loops controlled by DSP

The IC-7600 has dual AGC loops, one analog and one digital, both under DSP control. This architecture prevents strong adjacent signals from "pumping" the AGC and allows maximum dynamic range in the DSP.

## Three built-in 1st IF (roofing) filters, including 3kHz

The IC-7600 has three built-in 1st IF (roofing) filters ahead of the 1st IF amplifier stage. The 3kHz filter is especially effective in CW and SSB modes, eliminating overloading caused by strong signals just outside the passband.

## 5.8 inch ultra-wide viewing angle TFT display

The IC-7600's ultra-wide viewing angle display has excellent color rendering and high contrast ratio with fast response time. These features allow the spectrum scope and simulated analog meters to move smoothly and naturally. White LED backlighting offers fast start-up, stable brightness and long life.


Ultra-wide viewing angle display

## Spectrum scope

The dedicated spectrum scope DSP with built-in digital filtering greatly improves dynamic range, response time, and frequency accuracy of the spectrum scope. The scope automatically selects the optimum resolution based on the sweep bandwidth. In addition, the spectrum scope range can be set independently from the receiving frequency. You can monitor band conditions between the selected sweep edges (Max. 500kHz) in the fixed mode, as well as sweep a selected band width centered on the receiving frequency in center mode.

## USB connectors on the front and rear panel

The IC-7600 has a type A USB receptacle on the front panel and a type B receptacle on the rear panel. Connect a USB keyboard or flash drive on the front panel and a PC on the rear panel.

## RTTY/PSK31 operation with a USB keyboard

Simply plug in a USB keyboard to operate RTTY and PSK. The digital twin peak filter greatly reduces interference and a tuning indicator helps you zero beat the signals. Eight RTTY and PSK transmit memories store up to 62 characters per channel.

## Other features

**[Antenna and receiver]** • 2 TX/RX antenna connectors and RX antenna connector • Automatic antenna tuner • Auto notch filter and manual notch filter • Digital twin PBT • 16-step noise reduction • Dual watch

**[Transmitter]** • Tx monitor function • Tone encoder • VOX operation • All mode power control

**[CW mode]** • CW Waveform controlled by the DSP • Multi-function electronic keyer with adjustable keying speed, dot-dash ratio and paddle polarity • APF selection (soft/sharp) • Double key jack system

**[Operation]** • Dual AGC loops controlled by DSP • 2 clocks show local and UTC time • High quality digital voice memory • Triple band stacking register • Message memory for CW, RTTY and PSK31 operations • 101 memory channels • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Programmable band edge beep • Screen saver function

**HF/50MHz TRANSCEIVER**
# IC-7200

IF DSP

Rugged design for outdoor use

100W output power

## IF DSP

The latest IF DSP technology is employed in the IC-7200. While the IC-7200 is an entry-class transceiver, advanced digital features such as flexible filter width and shape setting, digital noise reduction and auto notch filter are comparable to higher class models.
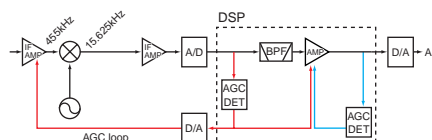
## Rugged design for outdoor use

The rugged design of the IC-7200 means your enjoyment of this rig is not limited only to your shack. Waterproof protection technologies used in Icom's marine radios are applied to the buttons and knobs on the front panel to provide a basic measure of protection against water intrusion*.
* IC-7200 is NOT waterproof.

## AGC loop management

Distortion and blocking from strong nearby signals are prevented by placing DSP functions inside the AGC loop. The AGC time constants are selectable from fast, slow and off for each operating mode.

## High stability transmitter

The DDS (Direct digital synthesizer) creates a clear, clean transmit signal and improves the carrier-to-noise ratio. With a dual-fan cooling system, the IC-7200 provides stable high quality output even during high duty cycle operation.

## USB connector for PC control

The IC-7200 can be controlled via the USB by a PC using the data format of the Icom CI-V interface. In addition, modulator and received audio can also transferred over the USB interface. By using appropriate external software, you can record incoming audio and/or transmit preprogrammed messages from your PC.

## Digital Twin PBT

Only Icom brings you Twin Passband tuning! Tailor your IF passband with the Twin PBT by electronically shifting the upper and lower edges of the IF filter. By using the concentric front-panel knobs, you can either narrow the IF passband, or shift the entire passband to eliminate interfering signals.

## Manual notch filter

The manual notch filter delivers more than 70dB of attenuation. Strong interfering tones will be eliminated without adversely affecting the AGC loop performance. On the bottom right of the front panel, a dedicated control knob adjusts the notch filter frequency.

## Other features

• RIT • VOX • ±0.5ppm frequency stability • LCD backlight (Hi/Lo/Off) • CI-V interface • 201 memory channels • Built-in 20dB attenuator • Preamplifier • Dial lock • Auto tuning step function • 1Hz step tuning • Band stacking register • Built-in voice synthesizer • Quick split • Front facing speaker

# IF filter shapes

You will never have to purchase optional filters, with over 51 different filter widths, just dial in the width you want. Then select whether you want a sharp or soft filter shape for SSB and CW modes.

# RTTY demodulator and decoder

The built-in RTTY demodulator and decoder displays Baudot RTTY signals on the screen without turning on your PC or other gear. The RTTY tuning indicator helps critical tuning. The Twin Peak filter removes interfering QRM giving you a more accurate decoded message.
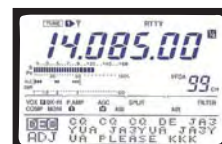
RTTY decode screen

# Other features

• Large, multi-function LCD  • DSP controlled AGC loop  • Built-in automatic antenna tuner • 108 DTCS and 50 CTCSS codes standard • 4-channel memory keyer with 50 characters • Memo-pad registers • Narrow band FM capability  • Triple band stacking register • Quick split  • VSC function  • Digital twin PBT  • Optional voice synthesizer

## HF/50MHz/144MHz TRANSCEIVER
# IC−746PRO

| 32-bit DSP with 24-bit AD/DA converter |

| 51 types of passband width, soft and sharp filter shapes |

| 100W output on all HF, 50MHz and 144MHz bands |

## 32-bit DSP technology

The IC-746PRO covers the HF, 50MHz and 144MHz bands with full IF DSP capability. The combination of the 32-bit DSP and 24-bit AD/DA converter provides flexible signal enhancement, superior interference reduction and other advanced digital features on all bands. Clear signals without distortion are received under any conditions.

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# Front mounted loud speaker

The IC-718 has the speaker mounted on the front panel. With the speaker facing the operator, audio will be heard clearly and directly while operating.

# Optional DSP capability, UT-106

The optional DSP unit gives you noise reduction and auto notch filter functions for extra receiver performance.

Optional UT-106

# General coverage receiver

The IC-718 has 0.03–29.999999MHz* general coverage receive capability.
*Guaranteed range: 0.5–29.999999 MHz

# Other features

• Built-in electronic keyer  • Built-in microphone compressor  • Combined squelch and RF gain control  • Preamplifier and attenuator • 101 memory channels  • CW full break-in • IF shift interference rejection  • 1Hz tuning • VOX function for hands-free operation • Optional automatic antenna tuner  • Digital S/RF meter

## HF TRANSCEIVER
# IC−718

Rugged MIL-STD 810

| Simple, straightforward operation with keypad |

| General coverage receive with superior performance |

| Optional DSP capability |

## Simple operation

The IC-718 is equipped with a minimum number of buttons and controls for simple feature selection. The 10-key pad on the front panel allows direct entry of an operating frequency or a memory channel number. The auto tuning step function is activated when turning the dial quickly and helps speed up tuning. The band stacking register is convenient when changing operating bands.

**Rugged MIL-STD 810**

**ICOM** HF/50MHz TRANSCEIVER IC-703

Optional LC-156

**QRP**

## HF/50MHz TRANSCEIVER
# IC-703

**Built-in automatic antenna tuner for portable operation**

**Optional multi-bag, battery pack for field use**

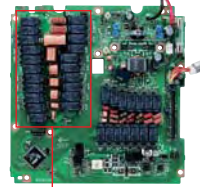**Built-in DSP Capabilities (Optional depending on version)**

### Maximum portable convenience
The IC-703 is designed for outdoor, portable operation. At 9.6V*[1], this QRP rig provides 0.1–5W variable output (0.1–2W in AM) and 7 hours*[2] operating time. All the necessary equipment including an antenna, can be packed in the optional multi-bag LC-156.

*[1] With optional battery pack BP-228  *[2] Tx:Rx:Stand-by=0.5:0.5:9 in SSB mode with optional BP-228

### Built-in automatic antenna tuner
The built-in antenna tuner covers from 1.8MHz to 54MHz. Ideal for moving about during portable operation. Latching relays used in the antenna tuner greatly reduce the power consumption.

Built-in antenna tuner

### DSP capabilities
The built-in DSP unit provides noise reduction and auto notch functions.
* UT-106 DSP unit required for some versions.

### Other features
• Detachable controller with optional separation cables, OPC-581/OPC-587 • Standard ±0.5ppm high stability TCXO • Front and rear microphone jacks • 9600bps data terminal • RIT, VOX, noise blanker and speech compressor standard • 3-channel memory keyer • RTTY (FSK) mode available • Key backlighting

**Rugged MIL-STD 810**

## HF/ VHF/UHF TRANSCEIVER
# IC-7000

**IF DSP — First in its class**

**2-point Manual Notch Filter more than 70dB attenuation**

**2.5-inch color TFT display**

### IF DSP — First in its class
Digital IF filter, manual notch filter, digital twin PBT, AGC loop management, digital noise reduction and more. The latest digital features are incorporated in this compact radio by two DSP chips that deliver superior processing performance. Of course, those digital features work on all ham bands — HF, 50, 144MHz to the 430/440MHz band.

### 2-point MNF (Manual notch filter)
Pull out the weak signals in crowded band conditions with Icom's new two-point MNF (manual notch filter). Apply 70 dB of rejection to two signals at once! Notch width is adjustable – wide, middle and narrow – and an auto-tuning notch filter is available, too.

### 2.5-inch color TFT display
The 2.5-inch color TFT display presents numbers and indicators in bright, concentrated colors for easy recognition. You can choose from 3 background colors and 2 font styles to suit your preference. The video output jack allows you to view a magnified display on a TV or external monitor*.
* 3.5(d) mm monaural cable is required.

### Other outstanding features
• 35W output on 430/440MHz band • ±0.5 ppm high stability crystal unit • 8 direct access buttons for user-friendly operation • Digital voice recorder for transmit and receive • Built-in RTTY demodulator • Remote control microphone, HM-151 • Fixed-mode and center-mode band scope • Multi-function meter and SWR graphic displays • Front panel separation with optional separation cable • Built-in voice synthesizer

## DSP features with UT-106

DSP capabilities are available* including noise reduction and auto notch functions. Superior receive quality in your shack, vehicle or during DX peditions.
* UT-106 DSP unit required for some versions.

## Compact with detachable panel

With an optional separation cable, OPC-581/OPC-587, the detachable front panel allows easy installation in your shack or in a wide variety of mobile applications.

## High stability transmitter

MOS-FET power amplifiers in the PA unit provide stable, high quality output with low IMD and low spurious emissions even during full duty cycle and extended operation.

## Other features

• Up to 3 selectable passband widths with optional filters • Built-in tone squelch functions • Simple band scope function • Automatic repeater function • Built-in electronic keyer • IF shift interference rejection • Continuously adjustable RF output • Adjustable SSB carrier point • Narrow FM capability • Optional automatic antenna tuner

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**HF/VHF/UHF TRANSCEIVER**

# IC-706MKⅡG

**Covers all HF, 6m, 2m and 70cm bands**

**Clean, stable and powerful output**

**Built-in DSP capability (Optional depending on version)**

## HF to 70cm band coverage with 100W* output

The IC-706MKIIG covers from HF through the 430/440MHz band. Of course, all-mode operation (SSB, CW, RTTY, AM and FM) is possible and a full 100W of output power is available for HF and 6m operation; 50W for 144MHz and 20W for 430/440MHz operation.
(* HF, 50MHz band only)

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# All Mode Transceivers

equipped with equivalent receive features as the main band such as AF volume and RF-gain/squelch control knobs.

## Satellite communication

The optional AG-2400 converts a 2.4GHz satellite downlink signal to a 144MHz signal. Coupled with the satellite mode of the IC-910H, the US mode and LS (UX-910 required) mode satellite operation is ready for use.

Optional AG-2400

## Other features

• Up to 2 optional DSP units can be installed • Continuously adjustable Tx output power • Optional UX-910 for 1200MHz band operation • Sweep function • IF shift function • CTCSS tone encoder/decoder • Optional CW narrow filter • Memory pad function • 9600bps Packet capability • Receives narrow band FM

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**VHF/UHF ALL MODE TRANSCEIVER**

# IC-910H

**100W output on 2m band & 75W output on 70cm band**

**Operates on two bands simultaneously**

**Excellent support for satellite mode and Packet operation**

## 100W of stable output power

A powerful 100W* of output is provided by the power amplifier circuit. The aluminum die-cast chassis ensures cool operation during extended use.
* 75W on 430/440MHz and 10W on 1200MHz band

## Simultaneously works two bands

The IC-910H can receive two bands simultaneously in different modes. The sub-band is

UT-123 D-STAR unit and GPS receiver

**DIGITAL**
With optional UT-123

**GPS**
With UT-123



## VHF/UHF DUAL BAND TRANSCEIVER
# IC−2820H

- **D-STAR DV mode plus GPS receiver with optional UT-123**
- **Wideband receiver*[1] with diversity receive capability**
- **50W output power on 144 and 430(440)MHz band**

### D-STAR DV mode + GPS receiver with optional UT-123

The optional UT-123 module provides D-STAR DV mode operation plus GPS receiver capability. Simultaneously send your current position, own callsign and up to a 20-character message along with your digital voice transmission. When location is provided by a calling station, the transceiver displays the distance and direction to the station.

### Wideband receiver with simultaneous receive capability

The transceiver receives 118–549.995 and 810–999.990MHz*[1] with dualwatch receiver capability that allows you to receive two bands simultaneously (including within a single band).
*[1] Receiver range differs depending on version.

### User-friendly operation

The large 93×28 mm ($3^{21}/_{32}$×$1^{3}/_{32}$ in) full dot-matrix display presents an easy-to-read graphical interface. In addition, tuning knobs and buttons for each band are arranged side-by-side, providing intuitive operation.

### Other features

• Separate controller from main unit • 50W output on both VHF/UHF bands • Total of 522 memory channels • 16 DTMF memory channels • 50 CTCSS and 104×2 DTCS encoder/decoder*[2] • Diversity receive capability • ±2.5ppm high frequency stability with TCXO unit • Green to amber variable display background • 9600 bps packet terminal, mini-DIN (6-pin) connector • Max 45 channel/ sec. high speed scan capability in programmed scanning mode • Band scope function
*[2] FM mode only.

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**DIGITAL**

**Rugged MIL-STD 810**



## 1200MHz DIGITAL TRANSCEIVER
# ID−1

- **128kbps data and 4.8kbps digital voice communication**
- **PC remote control software**
- **Wireless Internet access**

### 4.8kbps DV (digital voice) mode and 128kbps* DD (data) mode

The ID-1 has three modes — analog FM, digital voice and data mode operation. The built-in AMBE® vocoder chip provides digitally modulated, clear audio as well as 128kbps wireless data transmission. In DD mode operation, you can use various Internet applications wirelessly by connecting to a PC with Ethernet and USB cables.
* Maximum speed.

### PC remote controller supplied

The PC controller software is supplied with the ID-1. When the ID-1 is connected to a PC, most functions of the ID-1 can be controlled from the PC screen. The controller software is convenient for editing memory channels, writing short data messages, and checking received call records, etc.

### Wireless Internet access

D-STAR's DD mode supports the Ethernet protocol for Internet connectivity. When the ID-1 is connected to a PC, you can access Web sites or check e-mail in DD mode from a remote location*.
* Within a D-STAR repeater service area.

### Other features

• Digital callsign squelch (DSQL) and digital code squelch (CSQL) • Short data message in DV mode • Automatic Frequency Control (AFC) function for FM and DV mode • S-meter squelch • Programmed, memory and select mode scan • Break-in communication • Enhanced Monitor Request (EMR) function • Auto repeater function for FM mode* • Stand-by beep
* Depending on version.

# D-STAR



**DIGITAL**

**GPS**
With HM-189GPS

**DIGITAL**

## VHF/UHF DIGITAL TRANSCEIVER
# IC-80AD

- D-STAR DV mode capability
- DR (D-STAR repeater) mode for easy setup
- CS-80/880 free download software

## VHF/UHF DIGITAL TRANSCEIVER
# ID-880H

### D-STAR repeater list and DR mode operation

The D-STAR repeater list stores up to 300 channels of repeater call signs, frequencies, gateway call signs, duplex direction and offset frequency with channel names of up to 8 characters. The D-STAR repeater (DR) mode operation makes it easier to use a D-STAR repeater.

### CS-80/880 free download software

Used with the CS-80/880 cloning software, various settings can be made from a PC. Share your memory channels and radio settings between ID-880Hs, IC-80ADs or both. Available for free downloadable from: http://www.icom.co.jp/world/support/index.html
* Either OPC-1529R, OPC-478 or OPC-478UC optional cable is required.

### GPS position reporting functions

Your position data is shown on the display and can be sent to other station*[2]. In addition, the GPS A mode assists in D-PRS mode operation to send your position information to an APRS server.

### Other features

- Total of 1052 memory channels • 16 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*[3] • Wideband receiver*[4] • External DC power jack for IC-80AD (10–16V DC) • IC-80AD is compact body with water resistance (Equivalent to IPX4) • ID-880H has detachable controller • Backlit LCD • Auto power off and on • Power save

*[1] Optional GPS speaker-microphone, HM-189GPS required. 3rd party GPS receiver is required for ID-880H.
*[2] Tx:Rx:Stand-by=1:1:8 (min.) Power save on. *[3] FM mode
*[4] Receiver range differs depending on version.

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**DIGITAL**

**IPX7**

**GPS**
With HM-175GPS

- D-STAR DV mode capability
- GPS position reporting function with optional GPS speaker-mic*[1]
- Rugged submersible protection equivalent to IPX7 rating

### Other features

- Wideband receiver*[2] with dualwatch capability • 5W (typ.) output power • Total of 1304 memory channels • Up to 6.5/5 hours*[3] of operating time with BP-256 battery pack • Large dot-matrix LCD • 10 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*[4] • External DC power jack (10–16V DC acceptable) • Simple band scope • Optional PC remote control capability • Built-in DV voice memory • Backlit LCD

*[1] Optional GPS speaker-microphone, HM-175GPS required. *[2] Receiver range differs depending on version. *[3] VHF/UHF single mode Tx:Rx:Stand-by=1:1:8 *[4] FM mode

## VHF/UHF DUAL BAND TRANSCEIVER
# IC-92AD

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**DIGITAL**
With optional UT-121*[1]

**Rugged**
**MIL-STD 810**

- D-STAR DV mode capability with optional UT-121*[1]
- Wideband receiver*[2] with dualwatch capability
- 5W (typ.) output power on 144 and 430(440)MHz band

### Other features

- Total of 1304 memory channels • Up to 4.5–5 hours*[3] of operating time with BP-217 battery pack • Large dot-matrix LCD • 10 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*[4] • External DC power jack (10–16V DC acceptable) • Simple band scope • Optional PC remote control capability • Built-in DV voice memory • Compact body with water resistance (Equivalent to IPX4) • Backlit LCD

*[1] Already installed in the IC-91AD.
*[2] Receiver range differs depending on version.
*[3] VHF/UHF single mode Tx:Rx:Stand-by=1:1:8
*[4] FM mode only

IC-91AD

## VHF/UHF DUAL BAND TRANSCEIVERS
# IC-91AD/A

**Rugged** MIL-STD 810

## VHF/UHF FM TRANSCEIVER
# IC-208H

### Powerful 55W/50W output (VHF/UHF)

### Wideband receiver (Depending on version)

### Compact, detachable front panel with separation cable

## Wideband receiver
The IC-208H receiver covers 118–173, 230–549 and 810–999 MHz* as standard. Listen to amateur bands, as well as aviation, marine, weather and other utility communications in a compact mobile package.
* Receiver range differs depending on version.

## Detachable front panel
The 3.5m (11.5ft) separation cable, OPC-600/R, is supplied with the radio allowing the compact remote control head* to be installed almost anywhere.
* 111(W)×40(H)×26.3(D) mm; 4⅜×1⁹⁄₁₆×1¹⁄₃₂ in.

## Other features
• 55W/50W (VHF/UHF) output power • 512 memory channels with 10 memory banks • 16 DTMF memory channels • 50 CTCSS, 104×2 DTCS encoder/decoder • Pocket beep and tone scan • Squelch attenuator • Weather channel with weather alert* • 9600bps packet data terminal • Easy to manage bank link scan system • Microphone sensitivity setting • Amber, green and yellow, triple color LCD
* U.S.A. version only.

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**Rugged** MIL-STD 810

## 144MHz FM TRANSCEIVER
# IC-V8000

### Unbeatable 75W output power with efficient cooling fan

### Total 200 memory channels with 10 memory banks

### Remote control microphone, HM-133V

## 75W of output power
The combination of Icom's one piece, die-cast aluminum chassis and MOS-FET power amplifier delivers a powerful 75W output power. Your communications will get through.

## Dynamic Memory Scan (DMS)
With 200 alphanumeric memory channels, Icom's exclusive DMS system gives you flexibility over your scanning lists never offered before in a 2m mobile, fully customizable into 10 memory banks.

## Other features
• Front mounted speaker • 10 DTMF memory channels • DTMF pager/code squelch function with optional UT-108 • 50 CTCSS and 104×2 DTCS encoder/decoder • Pocket beep and tone scan • Squelch attenuator • Weather channel with weather alert* • Narrow band FM mode* • Cooling fan control • Squelch delay • Amber and green, dual color LCD
* U.S.A. version only.

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**Rugged** MIL-STD 810

**DIGITAL** With optional UT-118

## 144MHz FM TRANSCEIVER
# IC-2200H

### Stable 65W output power

### Optional digital unit, UT-118

### User-friendly interface and durable construction

## 65W* of output power
A MOS-FET power amplifier provides 65W* of stable output power. A one piece, aluminum chassis helps to keep the transceiver cool and provides durable long-lasting construction.
* Depending on version.

## Optional digital unit, UT-118
The optional UT-118 provides D-STAR DV mode operation compatible with other D-STAR radios.

## And more...
• 207 memory channels with 10 memory banks • 16 DTMF memory channels • DTMF pager/code squelch function with optional UT-108 • 50 CTCSS and 104×2 DTCS encoder/decoder • Pocket beep and tone scan • Squelch attenuator • Weather channel with weather alert function* • FM narrow mode • Data jack for connecting with PC or GPS • ALC (Automatic Level Control) • Squelch delay • Easy to manage bank link scan system • Amber and green, dual color LCD
* U.S.A. version only.

**Rugged**
**MIL-STD 810**

### 6W*[1] powerful output for both 144 and 430(440) MHz bands

### MIL-standard durable construction

### Built-in tone squelch with tone scan and pocket beep functions

## Other Features

• 70 memory channels  • Up to 8 hours*[2] of operating time with BP-172 battery pack  • 9 DTMF memories  • 50 CTCSS encoder/decoder  • Pocket beep and tone scan • Automatic repeater function*[3]  • Backlit LCD • Mic simple mode with optional HM-75A • Thumb-touch lock switch  • Large, easy-to-push PTT switch  • Auto power off • Auto power save

*[1] Typical; with 13.5V DC.   *[2] VHF band at 2W output power. Typical operation with Tx:Rx:Stand-by=1:1:8  *[3] USA version only

**VHF/UHF FM TRANSCEIVER**
# IC-T7H

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**Rugged**
**MIL-STD 810**

### 110mm height – compact body with IPX4 water resistance

### 7W high output power

### External DC power jack

## Other features

• 107 memory channels with 10 memory banks  • Up to 7 hours*[1] of operating time with BP-227 battery pack  • 16 DTMF memories  • DTMF pager/code squelch function with optional UT-108  • 50 CTCSS and 104×2 DTCS encoder/decoder  • Pocket beep and tone scan  • Automatic repeater function*[2] • Weather channel receive with weather alert*[2]  • Reversible control knob and up/down buttons assignment  • Backlit LCD • Mic simple mode with optional HM-75A

*[1] Typical operation with Tx:Rx:Stand-by=1:1:8  *[2] USA version only

**144MHz FM TRANSCEIVER**
# IC-V85

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**DIGITAL**
With optional UT-118

**Rugged**
**MIL-STD 810**

### 7W output power on 144MHz 5W on 430(440) MHz

### Optional UT-118 provides D-STAR format digital voice and data

### 200 alphanumeric memories with 10 memory banks

## Other features

• Up to 7 hours*[1] of operating time with optional BP-210N battery pack  • 16 DTMF memories  • DTMF pager/code squelch function with optional UT-108  • 50 CTCSS and 104×2 DTCS encoder/decoder  • Pocket beep and tone scan  • Automatic repeater function*[2]  • Weather channel receive with weather alert*[3]  • Reversible control knob and up/down buttons assignment  • Backlit LCD • Mic simple mode with optional HM-75A

*[1] IC-U82 Typical operation with Tx:Rx:Stand-by=1:1:8 Up to 6 hours for IC-V82. *[2] USA/CSA versions only *[3] IC-V82 USA/CSA versions only

IC-V82

**VHF AND UHF TRANSCEIVERS**
# IC-V82 • IC-U82
144MHz                    430(440)MHz

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**Rugged**
**MIL-STD 810**

### 5.5W (typ.) of output power with supplied battery pack

### Military-grade tough construction

### Reversible up/down buttons and rotary selector

## Other features

• Up to 11 hours*[1] of operating time with optional BP-210N battery pack  • 5 DTMF memories  • DTMF pager/code squelch function with optional UT-108  • 50 CTCSS and 104×2 DTCS encoder/decoder  • Pocket beep and tone scan  • Automatic repeater function*[2]  • Reversible control knob and up/down buttons assignment  • Backlit LCD • Mic simple mode with optional HM-75A • Fast scanning speed 40 channel per second (Program scan mode). *[1] Typical operation with Tx:Rx:Stand-by=1:1:8  *[2] USA version only

**144MHz FM TRANSCEIVER**
# IC-V8

# OPTIONS FOR HF/50MHz/VHF/UHF ALL MODE TRANSCEIVERS

| MODEL NAME | HAND MICROPHONES | | | | DESKTOP MICROPHONES | | EXTERNAL SPEAKERS | | |
|---|---|---|---|---|---|---|---|---|---|
| | HM-36 | HM-103 | HM-151 | HM-154T w/DTMF keypad | SM-50 | SM-20 | SP-10 | SP-20 | SP-21 |
| IC-7800 | ✔ | | | | ✔ | ✔ | | ✔ | |
| IC-7700 | ✔ | | | | ✔ | ✔ | | ✔ | |
| IC-7600 | ✔ | | | | ✔ | ✔ | | | |
| IC-7200 | ✔ | | | | ✔ | ✔ | ✔ | ✔ | ✔ |
| IC-746PRO | ✔ | | | | ✔ | ✔ | | ✔ | ✔ |
| IC-718 | ✔ | | | | ✔ | ✔ | | ✔ | ✔ |
| IC-703 | | ✔ | | | (Use with OPC-589) | (Use with OPC-589) | ✔ | | |
| IC-7000 | | | ✔ | | (Use with OPC-589) | (Use with OPC-589) | ✔ | | |
| IC-706MKIIG | | ✔ | | ✔ | (Use with OPC-589) | (Use with OPC-589) | ✔ | | |
| IC-910H | ✔ | | | | ✔ | ✔ | | ✔ | ✔ |

| MODEL NAME | EXTERNAL SPEAKERS | DC POWER SUPPLIES | | ANTENNA ELEMENTS | | ANTENNA TUNERS | | FOLDED DIPOLE ANTENNA | FILTERS |
|---|---|---|---|---|---|---|---|---|---|
| | SP-23 | PS-125 13.8V/25A 6-pin type | PS-126 13.8V/25A 4-pin type | AH-2b Covers 7–54MHz | AH-703 Covers 7, 14, 21, 28, 50MHz bands | AH-4 Matches 3.5–54 MHz bands | AT-180 | AH-710 Covers 1.9–30 MHz bands. approx 24.5 m; 80.3 ft / 30 m; 98.4 ft | FL-100 500Hz/–6dB FL-101 250Hz/–6dB FL-103 2.8kHz/–6dB FL-223 1.9kHz/–6dB FL-232 350Hz/–6dB |
| IC-7800 | | | | | | | | | |
| IC-7700 | | | | | | | | | |
| IC-7600 | ✔ | | ✔ | ✔ | | ✔ | | | |
| IC-7200 | | | ✔ | ✔ | | ✔ | ✔ | ✔ | |
| IC-746PRO | ✔ | ✔ | | ✔ | | ✔ | | | |
| IC-718 | ✔ | ✔ | | ✔ | | ✔ | ✔ | ✔ | |
| IC-703 | | ✔ *1 (Use with OPC-1248) | | ✔ | ✔ | ✔ *2 | ✔ *2 | | |
| IC-7000 | | | ✔ | ✔ | | ✔ | ✔ | | |
| IC-706MKIIG | | ✔ | | | | ✔ | ✔ | | ✔ (Accepts two filters) |
| IC-910H | ✔ | ✔ | | | | | | | |

| MODEL NAME | FILTERS | | HIGH STABILITY CRYSTAL UNITS | | | VOICE SYNTHESIZER | DSP UNIT | CI-V CONVERTER | LINEAR AMPLIFIER |
|---|---|---|---|---|---|---|---|---|---|
| | FL-52A 500Hz/–6dB FL-53A 250Hz/–6dB FL-222 1.8kHz/–6dB FL-257 3.3kHz/–6dB | FL-132 500Hz/–6dB (for Main band) FL-133 500Hz/–6dB (for Sub band) | CR-282 Frequency stability: ±0.5ppm | CR-293 Frequency stability: ±0.5ppm | CR-338 Frequency stability: ±0.5ppm | UT-102 | UT-106 | CT-17 | IC-PW1 |
| IC-7800 | | | | | | | | ✔ | ✔ |
| IC-7700 | | | | | | | | ✔ | ✔ |
| IC-7600 | | | | | | | | ✔ | ✔ |
| IC-7200 | | | | | | | | ✔ | ✔ (Use with OPC-599) |
| IC-746PRO | | | ✔ | | | ✔ | | ✔ | |
| IC-718 | ✔ (Accepts only one filter) | | ✔ | | | ✔ | ✔ (Installed depending on version) | ✔ | ✔ (Use with OPC-599) |
| IC-703 | ✔ (Accepts only one filter) | | | | | ✔ | ✔ (Installed depending on version) | ✔ | |
| IC-7000 | | | | | | | | ✔ | ✔ (Use with OPC-599) |
| IC-706MKIIG | | ✔ | | | | ✔ | ✔ (Installed depending on version) | ✔ | ✔ (Use with OPC-599) |
| IC-910H | ✔ | | | ✔ | | ✔ | ✔ (Up to two units) | ✔ | |
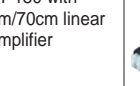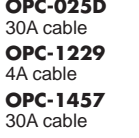
*1 When used with a compact mobile type antenna, the IC-703 may receive switching noise from the PS-125.
*2 More than 11.0V power supply voltage required. The BP-228 cannot drive the AH-4/AT-180.

✔ : Applicable      : Not applicable

# OPTIONS FOR HF/50MHz/VHF/UHF ALL MODE TRANSCEIVERS

| MODEL NAME | BATTERY PACK | CHARGER | MULTI-BAG | CARRYING HANDLES | HANDLES | MOBILE MOUNTING BRACKETS | | | MOUNTING BASE |
|---|---|---|---|---|---|---|---|---|---|
| | BP-228 (Ni-Cd) 9.6V/2800mAh | BC-155A/D | LC-156 | MB-23 MB-72 MB-106 MB-117 MB-121 (Photo shows MB-117.) | MB-116 | IC-MB5 | MB-62 | MB-118 | MB-120 |
| IC-7800 | | | | | | | | | |
| IC-7700 | | | | | | | | | |
| IC-7600 | | | | (Use MB-121) ✔ | | | | | |
| IC-7200 | | | | (Use MB-117) ✔ | ✔ | | | ✔ | |
| IC-746PRO | | | | | | | | | |
| IC-718 | | | | (Use MB-23) ✔ | | ✔ | | | |
| IC-703 | ✔ | ✔ | ✔ | (Use MB-72) ✔ | | | ✔ | | (Use with MB-63) |
| IC-7000 | | | | (Use MB-106) ✔ | | | ✔ | | (Use with MB-105) |
| IC-706MKIIG | | | | (Use MB-72) ✔ | | | ✔ | | (Use with MB-63) |
| IC-910H | | | | (Use MB-23) ✔ | | ✔ | | | |

| MODEL NAME | CONTROLLER BRACKET | | SEPARATION CABLES | | MIC ADAPTER CABLE | ACC CABLE | ADAPTER CABLE | ACC 13-PIN CABLE | POWER SUPPLY ADAPTER |
|---|---|---|---|---|---|---|---|---|---|
| | MB-63 | MB-105 | OPC-581 3.5m;11.5ft OPC-587 5.0m;16.4ft | OPC-1443 3.5m;11.5ft OPC-1444 5.0m;16.4ft | OPC-589 8-pin connector microphone to 8-pin modular | OPC-598 13-pin ACC long cable for AT-180 7.0m;22ft | OPC-599 13-pin ACC socket to 7-, 8-pin ACC sockets | OPC-742 Connection cable between transceiver and AT-180 with 2m/70cm linear amplifier | OPC-1248 3-pin DC cable to 6-pin connector |
| IC-7800 | | | | | | | | | |
| IC-7700 | | | | | | | | | |
| IC-7600 | | | | | | | | | |
| IC-7200 | | | | | | ✔ | ✔ | | |
| IC-746PRO | | | | | | | | | |
| IC-718 | | | | | | | ✔ | | |
| IC-703 | ✔ | | ✔ | | ✔ | ✔ | ✔ | | ✔ |
| IC-7000 | | ✔ | | ✔ | ✔ | ✔ | ✔ | ✔ | |
| IC-706MKIIG | ✔ | | ✔ | | ✔ | ✔ | ✔ | ✔ | |
| IC-910H | | | | | | | | | |

| MODEL NAME | DC POWER CABLES | WATERPROOF PREAMPLIFIERS | | DOWN CONVERTER | 1200MHz BAND UNIT | ANTENNA |
|---|---|---|---|---|---|---|
| | OPC-025A 20A cable OPC-025D 30A cable OPC-1229 4A cable OPC-1457 30A cable | AG-25 144MHz | AG-35 430MHz | AG-2400 Converts 2400–2402MHz to 144–146MHz | UX-910 | AH-8000 Rx 100–3300MHz. Tx 144, 430, 1200, 2400MHz. (200W) |
| IC-7800 | | | | | | |
| IC-7700 | | | | | | |
| IC-7600 | (Use OPC-1457) | | | | | |
| IC-7200 | (Use OPC-1457) | | | | | |
| IC-746PRO | (Use OPC-025D) | | | | | |
| IC-718 | (Use OPC-025A) | | | | | |
| IC-703 | (Use OPC-1229) | | | | | |
| IC-7000 | (Use OPC-1457) | | | | | |
| IC-706MKIIG | (Use OPC-025D) | | | | | |
| IC-910H | (Use OPC-025D) | ✔ | ✔ | ✔ | ✔ | ✔ |

**GENERAL PURPOSE POWER SUPPLY**

**PS-300**
• Max. 30A output (25A continuous)
• 9–15V variable output voltage
• Transformer type
• Voltage and current meters
• 209(W)×120(H)×280(D) mm; $8^7/_{32}×4^{23}/_{32}×11^1/_{32}$ in dimensions
(Not available in some countries)

✔ : Applicable     : Not applicable

# OPTIONS FOR MOBILE TRANSCEIVERS

| MODEL NAME | HAND MICROPHONES | | | | CONTROLLER BRACKET | MOUNTING BASE | DC POWER CABLES | CONTROLLER | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | HM-154 | HM-154T w/DTMF keypad | HM-133/V w/DTMF keypad | HM-103 | MB-58 | MB-120 | OPC-347 7.0m: 23ft / OPC-1132A 3.0m: 9.8ft | RC-24 | |
| ID-1 | ✔ | | | | | | | ✔ | |
| IC-2820H | ✔ | | (Use HM-133) | | | | ✔ | | |
| ID-880H | ✔ | | (Use HM-133) | ✔ | | ✔ | ✔ | | |
| IC-208H | ✔ | ✔ | (Use HM-133) | | ✔ | (Use with MB-58) | ✔ | | |
| IC-V8000 | ✔ | ✔ | (Use HM-133V) | | | | ✔ | | |
| IC-2200H | ✔ | ✔ | (Use HM-133V) | | | | ✔ | | |

| MODEL NAME | SEPARATION CABLES | | SPEAKER CABLE | MICROPHONE CABLES | MIC ADAPTER CABLE | DATA CABLE | CLONING CABLES | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | OPC-600/R 3.5m: 11.5ft / OPC-601/R 7.0m: 23ft | OPC-1663 3.4m: 11.2ft / OPC-1712 10cm: 3.9in | OPC-441 5.0m: 16.4ft | OPC-440 5.0m: 16.4ft / OPC-647 2.5m: 8.2ft | OPC-589 8-pin connector microphone to 8-pin modular | OPC-1529R For data communication and PC cloning | OPC-474 Between transceivers | OPC-478 Transceiver to PC RS-232C cable | OPC-478UC Transceiver to PC USB cable |
| ID-1 | | | | ✔ | | | | | |
| IC-2820H | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| ID-880H | | | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ | ✔ |
| IC-208H | ✔ | | ✔ | ✔ | ✔ | | ✔ | ✔ | |
| IC-V8000 | | | ✔ | ✔ | ✔ | | ✔ | ✔ | |
| IC-2200H | | | ✔ | ✔ | ✔ | | ✔ | ✔ | |

| MODEL NAME | CLONING SOFTWARE | EXTERNAL SPEAKERS | | DTMF DECODER UNIT | DIGITAL UNITS | |
| --- | --- | --- | --- | --- | --- | --- |
| | CS-208 / CS-2200H / CS-2820 / CS-80/880* / CS-V8000 | SP-10 | SP-22 | UT-108 | UT-118 | UT-123 With GPS receiver |
| ID-1 | | ✔ | ✔ | | | |
| IC-2820H | (Use CS-2820) | ✔ | | | | ✔ |
| ID-880H | (Use CS-80/880) | ✔ | | | | |
| IC-208H | (Use CS-208) | ✔ | | | | |
| IC-V8000 | (Use CS-V8000) | ✔ | | ✔ | | |
| IC-2200H | (Use CS-2200H) | ✔ | | ✔ | ✔ | |

\* CS-80/880 is available for free download from:
http://www.icom.co.jp/world/support/index.html

✔ : Applicable      : Not applicable

## D-STAR repeater

**ID-RP2C**
Repeater controller

**ID-RP2D**
1.2GHz DD mode module
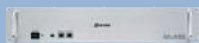
**ID-RP2V**
1.2GHz DV mode module

**ID-RP2000V**
144MHz DV mode module

**ID-RP4000V**
430/440MHz DV mode module

**RS-RP2L**
Internet gateway software

# OPTIONS FOR HANDHELD TRANSCEIVERS

| MODEL NAME | BATTERY CASES | | | | | BATTERY PACKS | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **BP-170** AA(LR6)×4 cells | **BP-208N** AA(LR6)×6 cells | **BP-216** AA(LR6)×2 cells | **BP-226** AA(LR6)×5 cells | **BP-257** AA(LR6)×2 cells | **BP-171** (Ni-Cd) 4.8V/700mAh **BP-172** (Ni-Cd) 4.8V/950mAh | **BP-180** (Ni-Cd) 7.2V/600mAh | **BP-209N** (Ni-Cd) 7.2V/1100mAh | **BP-210N** (Ni-MH) 7.2V/1650mAh |
| **IC-92AD** | | | | | ✔ | | | | |
| **IC-80AD** | | | ✔ | | | | | | |
| **IC-91AD/A** | | | ✔ | | | | | | |
| **IC-T7H** | ✔ | | | | | ✔ | ✔ | | |
| **IC-V85** | | | | ✔ | | | | | |
| **IC-V82, IC-U82** | | ✔ | | | | | | ✔ | ✔ |
| **IC-V8** | | ✔ | | | | | | ✔ | ✔ |

| MODEL NAME | BATTERY PACKS | | | | DESKTOP CHARGERS | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **BP-217** (Li-Ion) 7.4V/1500mAh (min.) 1580mAh (typ.) | **BP-222N** (Ni-Cd) 7.2V/600mAh | **BP-227** (Li-Ion) 7.4V/1850mAh (min.) 1950mAh (typ.) | **BP-256** (Li-Ion) 7.4V/1620mAh (min.) 1700mAh (typ.) | **BC-119N** Rapid charger | **BC-121N** Rapid multi-charger | **BC-139** Rapid charger Includes AC adapter | **BC-144N** Rapid charger | **BC-146** Regular charger |
| **IC-92AD** | | | | ✔ | | | | | |
| **IC-80AD** | ✔ | | | | | | ✔ | | |
| **IC-91AD/A** | ✔ | | | | | | ✔ | | |
| **IC-T7H** | | | | | ✔ (Use with AD-56+BC-145) | | | | |
| **IC-V85** | | | ✔ | | ✔ (Use with AD-100+BC-145) | ✔ (Use with AD-100+BC-157) | | | |
| **IC-V82, IC-U82** | | ✔ | | | ✔ (Use with AD-101+BC-145) | ✔ (Use with AD-101+BC-157) | | ✔ (Use with BC-145) | ✔ (Use with BC-147) |
| **IC-V8** | | ✔ | | | ✔ (Use with AD-101+BC-145) | ✔ (Use with AD-101+BC-157) | | ✔ (Use with BC-145) | ✔ (Use with BC-147) |

| MODEL NAME | DESKTOP CHARGERS | AC ADAPTERS | | | WALL CHARGER | CHARGER ADAPTERS | | |
|---|---|---|---|---|---|---|---|---|
| | **BC-177** Rapid charger Includes AC adapter | **BC-145**[*1] 16V/1A | **BC-147**[*2] 12V/200mA | **BC-157**[*3] 12V/6.6A | **BC-167**[*4] 12V/500mA | **AD-56** | **AD-100** | **AD-101** |
| **IC-92AD** | ✔ | | | | ✔ | | | |
| **IC-80AD** | | | | | ✔ | | | |
| **IC-91AD/A** | | | | | ✔ | | | |
| **IC-T7H** | | ✔ (Use with BC-119N) | | | ✔ | ✔ (Use with BC-119N) | | |
| **IC-V85** | | ✔ (Use with BC-119N) | | ✔ (Use with BC-121N) | ✔ | | ✔ (Use with BC-119N or BC-121N) | |
| **IC-V82, IC-U82** | | ✔ (Use with BC-144N or BC-119N) | ✔ (Use with BC-146) | ✔ (Use with BC-121N) | | | | ✔ (Use with BC-119N or BC-121N) |
| **IC-V8** | | ✔ (Use with BC-144N or BC-119N) | ✔ (Use with BC-146) | ✔ (Use with BC-121N) | | | | ✔ (Use with BC-119N or BC-121N) |

*1 BC-145SA for USA, SE for Europe, SV for Australia and SUK for UK version available.
*2 BC-147SA for USA, SE for Europe and SV for Australia version available.
*3 BC-157 for USA, Europe, UK and Australia versions available.
*4 BC-167SA for USA, SD for Europe and SV for Australia version available.

✔ : Applicable        : Not applicable

# OPTIONS FOR HANDHELD TRANSCEIVERS

| MODEL NAME | CIGARETTE LIGHTER CABLES | | | DC POWER CABLES | | SPEAKER-MICROPHONES | | | |
|---|---|---|---|---|---|---|---|---|---|
| | CP-12L<br>with noise filter | CP-19R<br>with noise filter | CP-23L | OPC-254L | OPC-656<br>12–20V DC CABLE | HM-46/L | HM-54 | HM-75A | HM-131 |
| IC-92AD | ✔ | ✔ | (Use with BC-177) | ✔ | | | | (Use with OPC-1797) | (Use with OPC-1797) |
| IC-80AD | ✔ | ✔ | (Use with BC-139) | ✔ | | | | ✔ | ✔ |
| IC-91AD/A | | ✔ | (Use with BC-139) | ✔ | | | | ✔ | ✔ |
| IC-T7H | ✔ | | (Use with BC-119N) | ✔ | | (Use HM-46) | ✔ | ✔ | ✔ |
| IC-V85 | | ✔ | (Use with BC-119N) | | (Use with BC-121N) | | | ✔ | |
| IC-V82, IC-U82 | | | (Use with BC-144N or BC-119N) | | (Use with BC-121N) | | | ✔ | |
| IC-V8 | | | (Use with BC-144N or BC-119N) | | (Use with BC-121N) | (Use HM-46L) | ✔ | ✔ | |

| MODEL NAME | SPEAKER-MICROPHONES | | | | | EARPHONE-MICROPHONES | | HEADSETS | |
|---|---|---|---|---|---|---|---|---|---|
| | HM-158L | HM-159L | HM-174<br>IPX7 | HM-175GPS<br>IPX7 GPS | HM-189GPS<br>GPS | HM-153/L | HM-166/L | HS-85 | HS-94<br>Earhook type with<br>boom microphone |
| IC-92AD | | | ✔ | ✔ | | (Use HM-153 with OPC-1797) | (Use HM-166 with OPC-1797) | (Use with OPC-1797) | |
| IC-80AD | | | | | ✔ | (Use HM-153) | (Use HM-166) | ✔ | |
| IC-91AD/A | | | | | | (Use HM-153) | (Use HM-166) | ✔ | |
| IC-T7H | | | | | | | (Use HM-166) | ✔ | |
| IC-V85 | ✔ | ✔ | | | | (Use HM-153L) | (Use HM-166L) | ✔ | (Use with VS-1L) |
| IC-V82, IC-U82 | ✔ | ✔ | | | | (Use HM-153L) | (Use HM-166L) | ✔ | (Use with VS-1L) |
| IC-V8 | ✔ | ✔ | | | | (Use HM-153L) | (Use HM-166L) | ✔ | |

| MODEL NAME | HEADSETS | | VOX/PTT CASE | EARPHONE | PLUG ADAPTER | BELT CLIPS | | | |
|---|---|---|---|---|---|---|---|---|---|
| | HS-95<br>Behind-the-head<br>type | HS-97<br>Throat microphone<br>type | VS-1L | SP-13 | OPC-1797 | MB-86<br>Swivel type | MB-98<br>Alligator type | MB-103<br>Alligator type | MB-111<br>Alligator type |
| IC-92AD | | | | (Use with OPC-1797) | ✔ | | | | ✔ |
| IC-80AD | | | | ✔ | | | ✔ | | |
| IC-91AD/A | | | | ✔ | | | | | |
| IC-T7H | | | | ✔ | | | | | |
| IC-V85 | (Use with VS-1L) | | ✔ | ✔ | | | | ✔ | |
| IC-V82, IC-U82 | (Use with VS-1L) | (Use with VS-1L) | ✔ | ✔ | | ✔ | | ✔ | |
| IC-V8 | | | | ✔ | | ✔ | | ✔ | |

✔ : Applicable    : Not applicable

# OPTIONS FOR HANDHELD TRANSCEIVERS

| MODEL NAME | LEATHER BELT HANGERS | | CARRYING CASES | | | | | DIGITAL UNITS | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | MB-96N Swivel type. MB-86 swivel joint supplied | MB-96F Fixed type | LC-136 | LC-137 | LC-163 | LC-167 | LC-168 | UT-118 | UT-121 |
| IC-92AD | | | | | | | ✔ | | |
| IC-80AD | | | | | ✔ | | | | |
| IC-91AD/A | | | | | ✔ | | | | ✔ (Already installed in IC-91AD) |
| IC-T7H | | | (Use with BP-170/171/172) | (Use with BP-180) | | | | | |
| IC-V85 | | | | | | | | | |
| IC-V82, IC-U82 | ✔ | ✔ | | | | | ✔ | ✔ | |
| IC-V8 | ✔ | ✔ | | | | | | | |

| MODEL NAME | DTMF DECODER UNIT | CLONING CABLES | | | DATA CABLES | | CLONING SOFTWARE | REMOTE CONTROL SOFTWARE | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | UT-108 | OPC-474 Between transceivers | OPC-478 Transceiver to PC RS-232C cable | OPC-478UC Transceiver to PC USB cable | OPC-1529R Transceiver to PC RS-232C cable | OPC-1799 Transceiver to PC RS-232C cable | CS-80/880* CS-T7 CS-V8 CS-V82 CS-V85 | RS-91 OPC-1529R cable included | RS-92 OPC-1799 cable included |
| IC-92AD | | ✔ (Use with two OPC-1797s) | | | | ✔ | | | ✔ |
| IC-80AD | | ✔ | ✔ | ✔ | ✔ | | ✔ (Use CS-80/880) | | |
| IC-91AD/A | | ✔ | | | ✔ | | | ✔ | |
| IC-T7H | | ✔ | ✔ | | | | ✔ (Use CS-T7) | | |
| IC-V85 | ✔ | ✔ | ✔ | ✔ | | | ✔ (Use CS-V85) | | |
| IC-V82, IC-U82 | ✔ | ✔ | ✔ | | | | ✔ (Use CS-V82) | | |
| IC-V8 | ✔ | ✔ | ✔ | | | | ✔ (Use CS-V8) | | |

* CS-80/880 is available for free download from:
http://www.icom.co.jp/world/support/index.html

| MODEL NAME | ANTENNA ADAPTER | ANTENNAS |
| --- | --- | --- |
| | AD-92SMA BNC type antenna connector | FA-1443B FA-B2E FA-B270C FA-B70C FA-S270C |
| IC-92AD | ✔ | ✔ (Use FA-S270C) |
| IC-80AD | ✔ | ✔ (Use FA-S270C) |
| IC-91AD/A | ✔ | ✔ (Use FA-S270C) |
| IC-T7H | | ✔ (Use FA-1443B/B270C) |
| IC-V85 | | ✔ (Use FA-B2E) |
| IC-V82, IC-U82 | | ✔ (Use FA-B2E/B70C) |
| IC-V8 | | ✔ (Use FA-B2E) |

✔ : Applicable          : Not applicable

# SPECIFICATIONS FOR HF/50MHz TRANSCEIVERS

| | | IC-7800 | IC-7700 | IC-7600 | IC-746PRO | IC-7200 |
|---|---|---|---|---|---|---|
| **General** | **Frequency coverage** (Differs according to version) | Tx: 1.8, 3.5, 5*[1], 7, 10, 14, 18, 21, 24, 28, 50MHz bands<br>Rx: 30kHz–60MHz*[2]<br>*[1] Depending on version.<br>*[2] Some frequency ranges are not guaranteed. | Tx: 1.8, 3.5, 5*[1], 7, 10, 14, 18, 21, 24, 28, 50MHz bands<br>Rx: 30kHz–60MHz*[2]<br>*[1] Depending on version.<br>*[2] Some frequency ranges are not guaranteed. | Tx: 1.8, 3.5, 5*[1], 7, 10, 14, 18, 21, 24, 28, 50MHz bands<br>Rx: 30kHz–60MHz*[2]<br>*[1] Depending on version.<br>*[2] Some frequency ranges are not guaranteed. | Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 144MHz bands<br>Rx: 30kHz–60MHz, 108–174MHz*[1]<br>*[1] Some frequency ranges are not guaranteed. | Tx: 1.8, 3.5, 5*[1], 7, 10, 14, 18, 21, 24, 28, 50MHz bands<br>Rx: 30kHz–60.000MHz*[2]<br>*[1] Depending on version.<br>*[2] Some frequency ranges are not guaranteed. |
| | **Modes** | USB, LSB, CW, RTTY, PSK31, AM, FM | USB, LSB, CW, RTTY, PSK31, AM, FM | USB, LSB, CW, RTTY, PSK31, AM, FM | USB, LSB, CW, RTTY, AM, FM | USB, LSB, CW, RTTY, AM |
| | **Frequency stability** | ±0.05ppm (0˚C to +50˚C; +32˚F to +122˚F, after warm up) | ±0.05ppm (0˚C to +50˚C; +32˚F to +122˚F, after warm up) | ±0.5ppm (0˚C to +50˚C; +32˚F to +122˚F, after warm up) | ±7ppm (From 1 min. to 60 min. after power ON) | ±0.5ppm (−10˚C to +60˚C; +14˚F to +140˚F ) |
| | **Maximum current drain** | 800VA | 800VA | 23A at 13.8V DC | 23A at 13.8V DC | 22A at 13.8V DC |
| | **Power supply requirement** | 85–265V AC | 85–265V AC | 13.8V DC ±15% | 13.8V DC ±15% | 13.8V DC ±15% |
| | **Antenna connector** | SO-239 × 4 + BNC × 2 (50Ω) | SO-239 × 4 + BNC (50Ω) | SO-239 × 2 + phono [(RCA) 50Ω] | SO-239 × 3 (2 for HF/50MHz and 1 for 144MHz bands; 50Ω) | SO-239 (50Ω) |
| | **Number of memory channels** | 101 (99 regular, 2 scan edges) | 101 (99 regular, 2 scan edges) | 101 (99 regular, 2 scan edges) | 102 (99 regular, 2 scan edges and 1 call) | 201 (199 regular, 2 scan edges) |
| | **Dimensions** (W×H×D; Projections are not included) | 424×149×435 mm; 16¹¹⁄₁₆×5⁷⁄₈×17¹⁄₈ in | 425×149×437 mm; 16²³⁄₃₂×5⁷⁄₈×17⁷⁄₃₂ in | 340×116×279.3 mm; 13³⁄₈×4⁹⁄₁₆×11 in | 287×120×316.5 mm; 11⁵⁄₁₆×4²³⁄₃₂×12¹⁵⁄₃₂ in | 241×84×281 mm; 9¹⁄₂×3⁵⁄₁₆×11¹⁄₁₆ in |
| | **Weight** (approx.) | 25kg; 55lb | 22.5kg; 49.6lb | 10.0kg; 22lb | 9.0kg; 19.8lb | 5.5kg; 12.1lb |
| **Transmitter** | **Output power** | SSB, CW, RTTY, PSK31, FM: 5–200W<br>AM: 5–50W | SSB, CW, RTTY, PSK31, FM: 5–200W<br>AM: 5–50W | SSB, CW, RTTY, PSK31, FM: 2–100W<br>AM: 1–30W | SSB, CW, RTTY, FM: 5–100W<br>AM: 5–40W | SSB, CW, RTTY: 2–100W<br>AM: 1–40W |
| | **Spurious emissions** | Less than −60dB (HF)<br>Less than −70dB (50MHz) | Less than −60dB (HF)<br>Less than −70dB (50MHz) | Less than −50dB (HF)<br>Less than −63dB (50MHz) | Less than −50dB (HF)<br>Less than −60dB (50/144MHz) | Less than −50dB (HF)<br>Less than −63dB (50MHz) |
| | **Carrier suppression** | More than 63dB | More than 63dB | More than 40dB | More than 40dB | More than 50dB |
| | **Unwanted sideband** | More than 80dB | More than 80dB | More than 55dB | More than 55dB | More than 50dB |
| | **Microphone connector** | 8-pin connector (600Ω) | 8-pin connector (600Ω) | 8-pin connector (600Ω) | 8-pin connector (600Ω) | 8-pin connector (600Ω) |
| **Receiver** | **Sensitivity** (typical)<br>Preamp ON<br>SSB, CW, RTTY, AM: at 10dB S/N<br>FM, WFM: at 12dB SINAD | SSB, CW, RTTY, PSK31 (2.4kHz):<br>0.1–1.799MHz 0.5μV<br>1.8–29.999MHz 0.16μV<br>50–54MHz 0.13μV<br>AM (6kHz) :<br>0.1–1.799MHz 6.3μV<br>1.8–29.999MHz 2.0μV<br>50–54MHz 1.0μV<br>FM (15kHz) :<br>28–29.999MHz 0.5μV<br>50–54MHz 0.32μV | SSB, CW, RTTY, PSK31 (2.4kHz):<br>0.1–1.799MHz 0.5μV<br>1.8–29.999MHz 0.16μV<br>50–54MHz 0.13μV<br>AM (6kHz) :<br>0.1–1.799MHz 6.3μV<br>1.8–29.999MHz 2.0μV<br>50–54MHz 1.0μV<br>FM (15kHz) :<br>28–29.999MHz 0.5μV<br>50–54MHz 0.32μV | SSB, CW, RTTY (2.4kHz):<br>1.8–29.995MHz 0.15μV<br>50–54MHz 0.12μV<br>AM (6kHz):<br>0.5–1.799MHz 6.3μV<br>1.8–29.995Hz 2.0μV<br>50–54MHz 1.6μV<br>FM (15kHz):<br>28–29.7MHz 0.5μV<br>50–54MHz 0.3μV | SSB, CW, RTTY, FM (2.4kHz):<br>1.8–29.999MHz 0.16μV<br>50–54MHz 0.13μV<br>144–148MHz 0.11μV<br>AM (6kHz) :<br>0.5–1.8MHz 13μV<br>1.8–29.999MHz 2.0μV<br>50–54MHz 1.0μV<br>144–148MHz 1.0μV<br>FM (15kHz) :<br>28–29.999MHz 0.5μV<br>50–54MHz 0.25μV<br>144–148MHz 0.18μV | SSB, CW :<br>1.8–29.999MHz 0.16μV<br>50–54MHz 0.13μV<br>AM: 0.5–1.8MHz 13μV<br>1.8–29.995MHz 2.0μV<br>50–54MHz 1.0μV |
| | **Selectivity** | SSB: 2.4kHz/−3dB<br>(2.4kHz) 3.6kHz/−60dB<br>CW: 500Hz/−3dB<br>(500Hz) 700Hz/−60dB<br>RTTY, PSK31: 360Hz/−6dB<br>(350Hz) 650Hz/−60dB<br>AM: 6.0kHz/−3dB<br>(6kHz) 15kHz/−60dB<br>FM: 12kHz/−6dB<br>(15kHz) 20kHz/−60dB<br>* Variable between 50Hz and 3.6kHz | SSB/RTTY: 2.4kHz/−3dB<br>(2.4kHz) 3.6kHz/−60dB<br>CW: 500Hz/−3dB<br>(500Hz) 700Hz/−60dB<br>AM: 6.0kHz/−3dB<br>(6kHz) 15kHz/−60dB<br>FM: 12kHz/−6dB<br>(15kHz) 20kHz/−60dB<br>* Variable between 50Hz and 3.6kHz | SSB: 2.4kHz/−6dB<br>(2.4kHz) 3.8kHz/−60dB<br>CW: 500Hz/−6dB<br>(500Hz) 900Hz/−60dB<br>RTTY: 350Hz/−6dB<br>(350Hz) 650Hz/−60dB<br>AM: 6.0kHz/−6dB<br>(6kHz) 15kHz/−60dB<br>FM: 12kHz/−6dB<br>(15kHz) 20kHz/−60dB<br>* Variable between 50Hz and 3.6kHz. | SSB: 2.4kHz/−6dB<br>(2.4kHz) 3.2kHz/−40dB<br>3.6kHz/−60dB<br>4.3kHz/−80dB<br>CW: 500Hz/−6dB<br>(500Hz) 700Hz/−60dB<br>RTTY: 360Hz/−6dB<br>(350Hz) 650Hz/−60dB<br>AM: 6.0kHz/−6dB<br>(6kHz) 15.0kHz/−60dB<br>FM: 12kHz/−6dB<br>(15kHz) 20kHz/−60dB<br>* Variable between 50Hz and 3.6kHz. | SSB: 2.4kHz/−6dB<br>(2.4kHz) 3.6kHz/−60dB<br>CW: 500Hz/−6dB<br>(500Hz) 900Hz/−60dB<br>RTTY: 360Hz/−6dB<br>(350Hz) 650Hz/−60dB<br>AM: 6.0kHz/−6dB<br>(6kHz) 15.0kHz/−60dB<br>* Variable between 50Hz and 3.6kHz. |
| | **Spurious and image rejection** | More than 70dB | More than 70dB | More than 70dB* (* Except IF point on 50MHz band) | More than 70dB* (HF, 50MHz bands)<br>More than 60dB (144MHz band)<br>(* Except IF point on 50MHz band) | More than 70dB* (* Except ¹⁄₂ IF point on 50MHz band) |
| | **AF power** (at 10% distortion with an 8Ω load) | More than 2.6W | More than 2.6W | More than 2.0W | More than 2.0W | More than 2.0W |
| | **External speaker connector** | 2-conductor 3.5 (d) mm (¹⁄₈″)/8Ω×2 (for main and sub bands) | 2-conductor 3.5 (d) mm (¹⁄₈″)/8Ω | 2-conductor 3.5 (d) mm (¹⁄₈″)/8Ω | 2-conductor 3.5 (d) mm (¹⁄₈″)/8Ω | 2-conductor 3.5 (d) mm (¹⁄₈″)/8Ω |

The LCD display may have cosmetic imperfections that appear as small or dark spots. This is not a malfunction or defect, but a normal characteristic of LCD displays.

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

| | | IC-718 | IC-703 | IC-7000 | IC-706MKIIG | IC-910H |
|---|---|---|---|---|---|---|
| **General** | **Frequency coverage** (Differs according to version) | Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28MHz bands<br>Rx: 30kHz–29.999MHz*¹<br>*¹ Guaranteed range 0.5–29.999MHz. | Tx: 1.8, 3.5, 5*¹, 7, 10, 14, 18, 21, 24, 28, 50*¹ MHz bands<br>Rx: 30kHz–60MHz*²<br>*¹ Depending on version.<br>*² Some frequency ranges are not guaranteed. | Tx: 1.8, 3.5, 5*ᐟ, 7, 10, 14, 18, 21, 24, 28, 50, 144, 430(440)MHz bands<br>Rx:30kHz–199.999, 400–470MHz*²<br>*¹ Depending on version.<br>*² Some frequency ranges are not guaranteed. | Tx:1.8, 3.5, 7, 10, 14, 18, 21, 24, 28 28, 50, 144, 430(440)MHz bands<br>Rx:30kHz–199.999, 400–470MHz*¹<br>*¹ Some frequency ranges are not guaranteed. | U.S.A. version:<br>Tx: 144–148, 430–450, 1240–1300*¹ MHz<br>Rx: 136–174*², 420–480*², 1240–1320*¹ MHz |
| | **Modes** | USB, LSB, CW, RTTY, AM | USB, LSB, CW, RTTY, AM, FM | USB, LSB, CW, RTTY, AM, FM, WFM* (*Rx only) | USB, LSB, CW, RTTY, AM, FM, WFM* (*Rx only) | USB, LSB, CW, FM, FM-N<br>(FM-N is not available in 1200MHz band) |
| | **Frequency stability** | Less than ±200Hz<br>(From 1 min. to 60 min. after power ON) | ±0.5ppm<br>(0˚C to +50˚C; +32˚F to +122˚F) | ±0.5ppm<br>(0˚C to +50˚C; +32˚F to +122˚F) | ±7ppm<br>(From 1 min. to 60 min. after power ON) | ±3ppm<br>(−10˚C to +60˚C; +14˚F to +140˚F) |
| | **Maximum current drain** | 20A at 13.8V DC | 3.0A typical at 13.8V DC (10W)<br>2.0A typical at 9.6V DC (5W) | 22A at 13.8V DC | 20A at 13.8V DC | 23A at 13.8V DC |
| | **Power supply requirement** | 13.8V DC ±15% | 9–15.8V DC | 13.8V DC ±15% | 13.8V DC ±15% | 13.8V DC ±15% |
| | **Antenna connector** | SO-239 (50Ω) | SO-239 (50Ω) | SO-239 × 2 (for HF/50MHz and 144/430(440)MHz bands: 50Ω) | SO-239 × 2 (for HF/50MHz and 144/430(440)MHz bands: 50Ω) | 144MHz SO-239 (50Ω)<br>440MHz Type-N (50Ω)<br>1200*¹MHz Type-N (50Ω) |
| | **Number of memory channels** | 101<br>(99 regular, 2 scan edges) | 105<br>(99 regular and 6 scan edges ) | 503<br>(495 regular, 6 scan edges and 2 call) | 107<br>(99 regular, 6 scan edges and 2 call) | 328*¹ (99 regular, 6 scan edges and 1 call for each band plus 10 satellite memories) |
| | **Dimensions** (W×H×D; Projections are not included) | 240×95×239 mm;<br>9⁷/₁₆×3³/₄×9¹³/₃₂ in | 167×58×200 mm;<br>6⁹/₁₆×2⁹/₃₂×7⁷/₈ in | 167×58×180 mm;<br>6⁹/₁₆×2⁹/₃₂×7³/₃₂ in | 167×58×200 mm;<br>6⁹/₁₆×2⁹/₃₂×7⁷/₈ in | 241×94×239 mm;<br>9¹/₂×3¹¹/₁₆×9¹³/₃₂ in |
| | **Weight** (approx.) | 3.8kg; 8.4lb | 2.0kg; 4.4lb | 2.3kg; 5.1lb | 2.45kg; 5.4lb | 4.5kg; 9.9lb (IC-910H)<br>850g; 1.9lb (UX-910) |
| **Transmitter** | **Output power** | SSB, CW, RTTY: 2–100W<br>AM: 2–35W | SSB, CW, RTTY, FM:<br>at 13.8V DC 0.1–10W<br>at 9.6V DC 0.1–5W<br>AM:<br>at 13.8V DC 0.1–4W<br>at 9.6V DC 0.1–2W | SSB, CW, RTTY, FM:<br>1.8–50MHz 2–100W<br>144MHz 2–50W<br>430(440)MHz 2–35W<br>AM: 1.8–50MHz 1–40W<br>144MHz 2–20W<br>430(440)MHz 2–14W | SSB, CW, RTTY, FM:<br>1.8–50MHz 5–100W<br>144MHz 5–50W<br>430(440)MHz 2–20W<br>AM:1.8–50MHz 2–40W<br>144MHz 2–20W<br>430(440)MHz 2–8W | 144MHz 5–100W<br>440MHz 5–75W<br>1200MHz*¹ 1–10W |
| | **Spurious emissions** | Less than −50dB | Less than −50dB (HF)<br>Less than −60dB (50MHz) | Less than −50dB (HF)<br>Less than −60dB (other bands) | −50dB typical (HF)<br>Less than −60dB (other bands) | Less than −60dB (144/430MHz)<br>Less than −50dB (1200MHz*¹) |
| | **Carrier suppression** | More than 40dB | More than 40dB | More than 50dB | More than 40dB | More than 40dB |
| | **Unwanted sideband** | More than 50dB | More than 50dB | More than 50dB | More than 50dB | More than 40dB |
| | **Microphone connector** | 8-pin connector (600Ω) | 8-pin modular (600Ω) | 8-pin modular (600Ω) | 8-pin modular (600Ω) | 8-pin connector (600Ω) |
| **Receiver** | **Sensitivity** (typical)<br>Preamp ON<br>SSB, CW, RTTY, AM: at 10dB S/N<br>FM, WFM: at 12dB SINAD | SSB, CW, RTTY:<br>1.8–29.999MHz 0.16μV<br>AM:<br>0.5–1.799MHz 13μV<br>1.8–29.999MHz 2.0μV | SSB, CW:<br>1.8–29.999MHz 0.16μV<br>50–54MHz 0.13μV<br>AM:<br>0.5–1.8MHz 13μV<br>1.8–29.999MHz 2.0μV<br>50–54MHz 1.0μV<br>FM:<br>28–29.7MHz 0.5μV<br>50–54MHz 0.25μV | SSB, CW:<br>1.8–29.999MHz 0.15μV<br>50–54MHz 0.12μV<br>144/430(440)MHz 0.11μV<br>AM: 0.5–1.8MHz 13μV<br>1.8–29.999MHz 2.0μV<br>50–54MHz 1.0μV<br>144/430(440)MHz 1.0μV<br>FM: 28–29.7MHz 0.5μV<br>50–54MHz 0.25μV<br>144/430(440)MHz 0.18μV<br>WFM: 76–108MHz 10μV | SSB, CW:<br>1.8–29.995MHz 0.15μV<br>50–54MHz 0.12μV<br>144/430(440)MHz 0.11μV<br>AM:<br>0.5–1.8MHz 13μV<br>1.8–29.995MHz 2.0μV<br>50–54MHz 1.0μV<br>144/430(440)MHz 1.0μV<br>FM:<br>28–29.7MHz 0.5μV<br>50–54MHz 0.25μV<br>144/430(440)MHz 0.18μV<br>WFM: 76–108MHz 10μV | SSB, CW: 0.11μV<br>FM: 0.18μV |
| | **Selectivity** | SSB, CW, RTTY: 2.1kHz/−6dB<br>4.5kHz/−60dB<br>AM: 6.0kHz/−6dB<br>20kHz/−40dB | SSB, CW: 2.4kHz/−6dB<br>(2.4kHz) 4.0kHz/−60dB<br>AM, FM-N: 9.0kHz/−6dB<br>(6kHz) 20kHz/−50dB<br>FM: 15kHz/−6dB<br>(15kHz) 30kHz/−50dB | SSB: 2.4kHz/−6dB<br>(2.4kHz) 3.6kHz/−60dB<br>CW: 500Hz/−6dB<br>(500Hz) 900Hz/−60dB<br>RTTY: 360Hz/−6dB<br>(350Hz) 650Hz/−60dB<br>AM: 6.0kHz/−6dB<br>(6kHz) 15kHz/−60dB<br>FM: 12kHz/−6dB<br>(15kHz) 20kHz/−60dB | SSB, CW, RTTY: 2.4kHz/−6dB<br>4.8kHz/−60dB<br>AM, FM-N: 8.0kHz/−6dB<br>30kHz/−36dB<br>FM: 12kHz/−6dB<br>30kHz/−50dB | SSB, CW: 2.3kHz/−6dB<br>4.2kHz/−60dB<br>FM: 15kHz/−6dB<br>30kHz/−60dB<br>FM-N: 6.0kHz/−6dB<br>18kHz/−60dB |
| | **Spurious and image rejection** (except IF) | More than 70dB<br>(1.8–29.999MHz) | More than 70dB (HF)<br>More than 65dB<br>(50MHz band; except IF point) | More than 70dB (HF)<br>More than 65dB (other bands; except ½ IF point on 50MHz, IF point 144MHz band) | More than 70dB (HF)<br>More than 65dB (other bands; except IF point on 50MHz band) | More than 60dB (144/440MHz band)<br>More than 50dB (1200MHz band*¹) |
| | **AF power** (at 10% distortion with an 8Ω load) | More than 2.0W | More than 1.0W (at 13.8V DC)<br>More than 0.5W (at 9.6V DC) | More than 2.0W | More than 2.0W | More than 2.0W |
| | **External speaker connector** | 2-conductor 3.5 (d) mm (⅛″)/8Ω | 2-conductor 3.5 (d) mm (⅛″)/8Ω | 2-conductor 3.5 (d) mm (⅛″)/8Ω | 2-conductor 3.5 (d) mm (⅛″)/8Ω | 2-conductor 3.5 (d) mm (⅛″)/8Ω × 2 (for Main and Sub bands) |

*¹ An optional UX-910, 1200MHz band unit is required for 1200MHz operation.
*² Guaranteed range 144–148, 430–450MHz

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# SPECIFICATIONS FOR MOBILE TRANSCEIVERS

| | ID-1 | IC-2820H | ID-880H |
|---|---|---|---|
| **Frequency coverage** (Differs according to version) | 1240–1300MHz | U.S.A. version:<br>Tx    144–148, 430–450MHz*1<br>Rx (L)  118–549.995MHz*1<br>(R)  118–173.995, 375–549.995, 810–999.990MHz*1*2<br>EXP version:<br>Tx    137–173.995, 400–470MHz*3<br>Rx (L)  118–549.995MHz*3<br>(R)  118–173.995, 375–549.995, 810–999.990MHz*3 | U.S.A. version :<br>Tx    144–148, 430–450MHz<br>Rx    118–173.995, 230–549.995, 810–999.990MHz*2*4<br>EXP version :<br>Tx    136–173.995, 400–469.995MHz*3<br>Rx    118–173.995, 230–549.995, 810– 999.990MHz*3 |
| **Max. current drain** | 7A | 13A | VHF    11.5A<br>UHF    12.5A |
| **Dimensions** (W×H×D; Proj. not included) | Main unit:    141×40×165.8 mm; 5⁹⁄₁₆×1⁹⁄₁₆×6¹⁷⁄₃₂ in<br>Controller:    150×50×49.5 mm; 5²⁹⁄₃₂×1³¹⁄₃₂×1¹⁵⁄₁₆ in | Main unit:    150×40×187.7 mm; 5²⁹⁄₃₂×1⁹⁄₁₆×7³⁄₈ in<br>Controller:    150×58×31.5 mm; 5²⁹⁄₃₂×2⁹⁄₃₂×1¹⁄₄ in | Main + controller 150×40×199.2 mm; 5²⁹⁄₃₂×1⁹⁄₁₆×7²⁷⁄₃₂ in<br>Controller:    122×40×29.7 mm; 4¹³⁄₁₆×1⁹⁄₁₆×1⁵⁄₃₂ in |
| **Weight** (approx.) | Main unit:    1.2kg; 2.6lb<br>Controller:    220g; 7.7oz | Main unit:    1.5kg; 3.3lb<br>Controller:    210g; 7.4oz (With OPC-1712) | 1.3kg; 2.9lb (without microphone, cable and bracket) |
| **Output power** (at 13.8V DC; Differs according to version) | High:    10W<br>Low:    1W (approx.) | High:    50W<br>Mid.:    15W (approx.)<br>Low:    5W (approx.) | High:    50W<br>Mid.:    15W (approx.)<br>Low:    5W (approx.) |
| **Sensitivity** (FM: at 12dB SINAD DV, DD: at BER 1%) | DV    Less than 0.35μV<br>DD    Less than 1.58μV<br>FM    Less than 0.18μV | DV    Less than 0.35μV (with UT-123)<br>FM    Less than 0.18μV (144, 430 (440) MHz bands) | DV    Less than 0.35μV<br>FM    Less than 0.18μV (144, 430 (440) MHz bands) |

*1 Guaranteed range 144–148 and 440–450MHz.  *2 Cellular blocked.  *3 Guaranteed range 144–148 and 430–440MHz.
*4 Guaranteed range 144–148 and 430–450MHz.  (L) means left side receiver, (R) means right side receiver.

| | IC-208H | IC-V8000 | IC-2200H |
|---|---|---|---|
| **Frequency coverage** (Differs according to version) | U.S.A. version:<br>Tx    144–148, 420–450MHz*1<br>Rx    118–173.995, 230–549.995, 810–999.990MHz*1*2<br>EXP version:<br>Tx    136–173.995, 400–478.995MHz*3<br>Rx    118–173.995, 230–549.995, 810–999.990MHz*3 | U.S.A. version<br>Tx    144–148<br>Rx    136–174*4<br>CSA version<br>Tx/Rx    136–174*4 | U.S.A. version:<br>Tx    144–148<br>Rx    118–174*5<br>EXP version:<br>Tx    136–174*5<br>Rx    118–174*5 |
| **Max. current drain** | VHF    12A<br>UHF    11.5A | 15A | 15A |
| **Dimensions** (W×H×D; Proj. not included) | 141×40×185.4 mm; 5⁹⁄₁₆×1⁹⁄₁₆×7⁵⁄₁₆ in | 150×50×150 mm; 5²⁹⁄₃₂×1³¹⁄₃₂×5²⁹⁄₃₂ in | 140×40×196 mm; 5¹⁄₂×1⁹⁄₁₆×7²³⁄₃₂ in |
| **Weight** (approx.) | 1.2kg; 2.6lb | 1.09kg; 2.4lb | 1.25kg; 2.75lb |
| **Output power** (at 13.8V DC; Differs according to version) | 144MHz<br>High:    55W<br>Mid.:    15W (approx.)<br>Low:    5W (approx.)<br>430 (440) MHz<br>High:    50W<br>Mid.:    15W (approx.)<br>Low:    5W (approx.) | High:    75W<br>Mid-Hi:    25W (approx.)<br>Mid-Lo:    10W (approx.)<br>Low:    5W (approx.) | High:    65W<br>Mid-Hi:    25W (approx.)<br>Mid-Lo:    10W (approx.)<br>Low:    5W (approx.) |
| **Sensitivity** (at 12dB SINAD) | Less than 0.18μV (144, 430 (440) MHz bands) | 0.15μV typ. | 0.133μV typ. |

*1 Guaranteed range 144–148 and 440–450MHz. *2 Cellular blocked.  *3 Guaranteed range 144–148 and 430–440MHz.  *5 Guaranteed range 144–148MHz.
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# SPECIFICATIONS FOR HANDHELD TRANSCEIVERS

| | IC-92AD | IC-80AD | IC-91AD IC-91A | IC-T7H | IC-V85 | IC-V82 IC-U82 | IC-V8 |
|---|---|---|---|---|---|---|---|
| **Frequency coverage** (Differs according to version, Unit: MHz) | U.S.A. version: Tx 144–148, 420–450*1 Rx (A) 0.495–999.990*1*2 (B)118–174, 350–470*1 EXP version: Tx 137–174, 400–470*3 Rx (A) 0.495–999.990*3 (B)118–174, 350–470*3 | U.S.A. version: Tx 144–148, 420–450*1 Rx 0.495–999.990*1*2 EXP version: Tx 137–174, 400–470*3 Rx 0.495–999.990*3 | U.S.A. version: Tx144–148, 420–450*1 Rx (A) 0.495–999.990*1*2 (B)118–174, 350–470*1 EXP version: Tx 137–174, 400–470*3 Rx (A) 0.495–999.990*3 (B)118–174, 350–470*3 | U.S.A. version Tx 144–148, 430–450*1 Rx 118–174, 400–470*1 | U.S.A. version: Tx 144–148 Rx 136–174*4 EXP version: Tx/Rx 136–174*4 | IC-V82 (U.S.A. version): Tx 144–148 Rx 136–174*4 IC-V82 (EXP version): Tx/Rx 136–174*4 IC-U82 (U.S.A. version): Tx 420–450*5 Rx 400–479*5 IC-U82 (EXP version): Tx/RX 400–479*6 | U.S.A. version: Tx 144–148 Rx 136–174*4 GEN version: Tx/Rx 136–174*4 |
| **Dimensions** (W×H×D; Proj. not included) | 59×112×34.2 mm; 2⁵/₁₆×4¹³/₃₂×1¹¹/₃₂ in | 58.4×103×34.2 mm; 2⁵/₁₆×4¹/₁₆×1¹¹/₃₂ in | 58.4×103×34.2 mm; 2⁵/₁₆×4¹/₁₆×1¹¹/₃₂ in | 57×122×29mm; 2¹/₄×4¹³/₁₆×1⁵/₃₂in with BP-180 | 56×110×34.4 mm; 2⁷/₃₂×4¹¹/₃₂×1¹¹/₃₂ in | 54×139×36.7 mm; 2¹/₈×5¹⁵/₃₂×1⁷/₁₆ in | 54×132×35 mm; 2¹/₈×5³/₁₆×1³/₈ in |
| **Weight** (approx.) | 325g; 11.5oz with antenna and BP-256 | 290g; 10.3oz with antenna and BP-217 | 300g; 10.6oz with antenna and BP-217 | 320g; 11.3oz with antenna and BP-180 | 310g; 10.9oz with antenna and BP-227 | 390g; 13.8oz with antenna and BP-222N | 350g; 12.3oz with antenna and BP-222N |
| **Output power** (typical values) | 5W, 2.5W, 0.5W, 0.1W at 7.4V DC | 5W, 2.5W, 0.5W, 0.1W at 7.4V DC | 5W, 0.5W at 7.4V DC | 6.0W, 0.5W at 13.5V DC | 7W, 4W, 0.5W at 7.2V DC | IC-V82 (at 7.2V DC) 7W, 4W, 0.5W IC-U82 (at 7.2V DC) 5W, 2W, 0.5W | 5.5W, 0.5W at 7.2V DC |
| **Sensitivity** (FM: at 12dB SINAD DV: at BER 1%) | DV 0.22μV typ. FM 0.14μV/0.16μV typ. (144/440 MHz bands) | DV 0.22μV typ. FM 0.14μV/0.16μV typ. (144/440 MHz bands) | DV 0.22μV typ. (with UT-121) FM 0.14μV/0.16μV typ. (144/440 MHz bands) | Less than 0.18μV | Less than 0.2μV | 0.16μV typ. | 0.16μV typ. |

*1 Guaranteed range 144–148MHz and 440–450MHz. *2 Cellular blocked. *3 Guaranteed range 144–148MHz and 430–440MHz. *4 Guaranteed range 144–148MHz. *5 Guaranteed range 440–450MHz. *6 Guaranteed range 430–440MHz. (A) means VFO A receiver, (B) means VFO B receiver.

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**Rugged MIL-STD 810**

### Applicable U.S. Military Specifications

Icom makes rugged products that have been tested to and passed the MIL-STD requirements and strict environmental standards for shock (MIL-810C, D, E and F) and vibration (MIL-810C, D, E and F).