2012 Europe Edition

ICOM

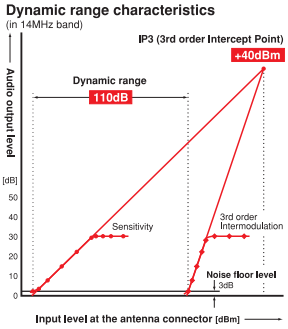
HAM RADIO PRODUCTS

- 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.



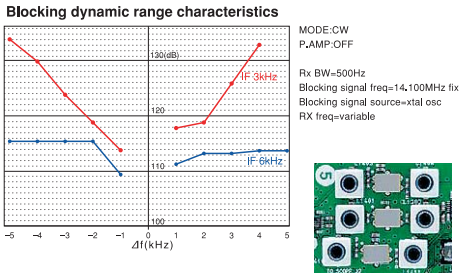

BP F unit


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 • 137kHz band operation

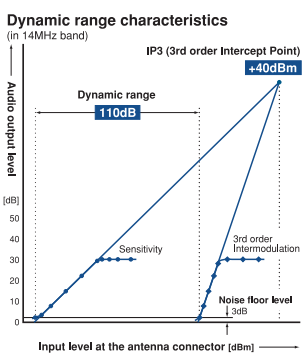
- +40dBm 3rd order intercept point (in the HF bands)
- 2nd order intercept point higher than +110dBm
- Excellent inband IMD specifications
- Three hi-spec 1st IF filters (roofing filters)
- 7-inch wide color TFT LCD
- 32-bit DSP units and 24-bit AD/DA converters
- 200W output power and high-stability transmitter

HF/50MHz TRANSCEIVER

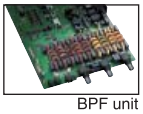
IC-7700

+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 2.4kHz filter bandwidth).




DIGI-SEL unit

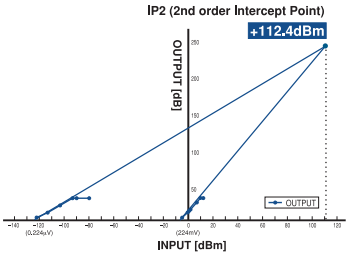

BPF unit

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

An IP2 point of more than +110dBm* 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.

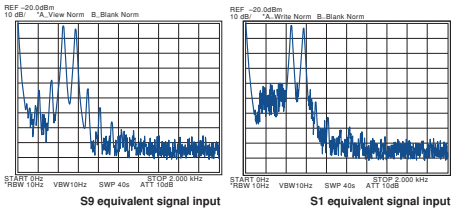
* The IP2 figure is a typical value.

** Measurements were made using custom equipment, due to the limits of normal signal generators (SG) and duplexers to +85dBm.

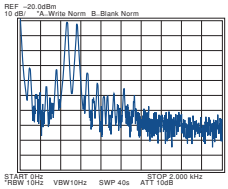


High Specification Inband IMD

Inband 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.

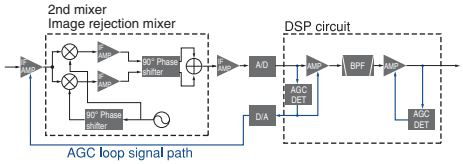

S9 equivalent signal input

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.



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.

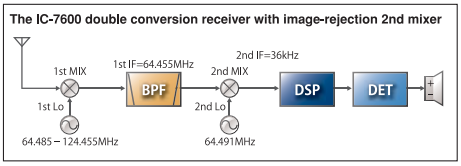
Dual DSP

104dB Dynamic Range and +30dBm IP3 (3rd order Intercept Point)

An astonishing 104dB receiver dynamic range and +30dBm IP3 in the 14MHz band 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.

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.



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.

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.

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] • Spectrum scope • USB connectors on the front and rear panel • RTTY/PSK31 operation with a USB keyboard • 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-7410

Faster DSP unit and in-house DSP expertise

Double-conversion superheterodyne

+30dBm class third-order intercept point (IP3)

Faster DSP Unit and In-house DSP Expertise

Icom brings out the best DSP performance combining more than ten years of DSP technical know-how and much faster DSP processors. Icom's in-house DSP experts have developed a IC-7400 series replacement that every operator will be proud to own. In addition to the higher speed DSP, the AD/DA converter, AK4620, provides a higher dynamic range and superior S/N ratio.

<DSP unit> ADSP-21369
Internal clock speed: 333MHz
32-bit floating point DSP
Max. performance: 2000MFLOPS

<AD/DA converter> AK4620
ADC Signal/(Noise+Distortion):100dB
ADC Dynamic range, S/N: 113dB
DAC Signal/(Noise+Distortion): 97dB
DAC Dynamic range, S/N: 115dB

Double-conversion Superheterodyne

Introduced with the IC-7800, a conversion superheterodyne design with an image rejection mixer for the 2nd mixer stage is employed in the IC-7410. This receiver design not only reduces the electronic complexity, it greatly reduces the number of internal distortion points from older triple and quadruple conversion receivers.

+30dBm Class IP3 (3rd order Intercept Point)

In Icom's continuing efforts to create the best receiver, the design of the IC-7410 incorporates the latest in DSP software technology and Icom's analog RF circuit experience for a +30dBm* (typ.) IP3. The end result, clear reception of weak signals surrounded by QRM from broadcast and neighboring ham stations.

* Typical in 14MHz band. Spacing=100kHz

Three First IF Filters (3/6/15kHz)

The IC-7410 accommodates three 1st IF filters with the 15kHz, 1st IF filter supplied, while the 3kHz FL-431 and 6kHz FL-430 are optional for better receiver performance by protecting the desired signal from nearby strong signals. (Fixed for 15kHz in FM mode.)

Wide Range of DSP Features

Using the latest algorithms, the digital features give flexibility and speed needed for working in tough RF conditions.

• Digital IF filter allows you to choose filter width and shape factor • Digital Twin PBT eliminates interference by changing the IF bandwidth and/or shifting the IF frequency • AGC loop management with programmable AGC time constant • Auto/manual Notch Filter provides more than 70dB attenuation and eliminates unwanted beat tones • Noise Reduction can enhance the receiver's signal-to-noise ratio • Noise Blanker reduces interference from pulse-type noise • RF Speech Compressor increases average talk power, improving signal strength and readability • User programmable tone control: microphone equalizer, SSB transmit passband width, receive HPF/LPF and receive audio equalizer

Other Features

• Built-in voice synthesizer • User programmable band edge beep • VSC (Voice Squelch Control) function • Two preamplifier types: Preamp 1: Improving IMD characteristics, Preamp 2: High gain preamplifier • 20dB built-in attenuator • Built-in automatic antenna tuner • CTCSS tone encoder and decoder • Triple band stacking register • Quick split and frequency lock functions • RIT and ΔTx variable up to ±9.999kHz • SSB/CW synchronous tuning • 1Hz pitch tuning and display • ±0.5ppm of high frequency stability • Program, memory, select memory, mode select and Δf scans • Automatic tuning steps • AH-4 control circuit • Large independent MIC/RF power and Notch knobs • Large, multi-function LCD • USB connector for PC control • RTTY demodulator and decoder • Simple band scope • Ample CW functions • High frequency stability • Large heat sink • Optional RS-BA1 IP remote control software

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.

Other Features

• AGC loop management • High stability transmitter • USB connector for PC control • Digital Twin PBT • Manual notch filter • RIT • VOX • ±0.5 ppm 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

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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 430MHz 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.

Other Outstanding Features

• 2.5-inch color TFT display • 35W output on 430MHz 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

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Rugged MIL-STD 810

HF TRANSCEIVER
IC-718

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.

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.

Other Features

• General coverage receiver • 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/VHF/UHF TRANSCEIVER
IC-9100

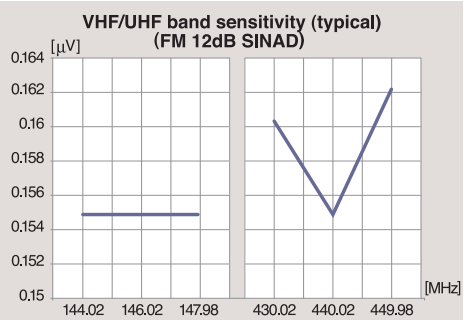
Superb readability in the VHF/UHF band

Ready-to-install 1200MHz band unit

Satellite mode operation

Superb Readability in the VHF/UHF Band

The IC-9100 provides excellent receiver sensitivity in the VHF/UHF bands, equivalent to the highly-acclaimed previous VHF/UHF dedicated model, the IC-910H. The IF DSP greatly improves intermodulation and noise elimination and offers better readability than the IC-910H.



Ready-to-install 1200MHz Band Unit

By installing the optional UX-9100 1200MHz band unit, you can be operational on the 1200MHz band immediately The IC-9100 fully covers the HF/50, 144, 430 and 1200MHz amateur bands in multiple modes.


UX-9100, 1200MHz band unit

Satellite Mode Operation

The satellite mode synchronizes the uplink (transmitting) and downlink (receiving) frequencies, and tracks the frequencies in the same tuning step. This function matches both normal and reverse mode satellites. Compensation of the Doppler effect can be performed easily. 20 satellite memory channels store frequencies, mode and tone settings for quick set-up.

Double Conversion Superheterodyne

Icom's basic idea about the best receiver circuit is to reproduce high fidelity audio without internal distortion. Our answer to achieve this goal is to adopt a double conversion superheterodyne system* The double conversion system simplifies the electronic circuitry and reduces the number of components which cause internal distortion. The digital signal processing (DSP) technologies and image rejection mixer make it possible to adopt this system.

* A triple conversion system is used for the 1200MHz band.

+30dBm Class IP3

Using receiver design techniques introduced in Icom's highest grade HF transceivers, the IC-9100 has an IP3 of +30dBm* in the HF band. Even a weak signal adjacent to strong signals is clearly received by the IC-9100.

* Typical in 14MHz band. Spacing=100kHz

Three First IF Filters (3/6/15kHz) for HF/50MHz Band

The IC-9100 comes with a built-in 15kHz 1st IF filter and can accept up to two optional filters (3kHz FL-431 and 6kHz FL-430). By changing the first IF filter width according to the operating mode, the desired is protected from adjacent inband signals at the later stages for better receiver performance.


1st IF filters (6kHz, 3kHz)

Other Features

• Optional D-STAR* DV mode (* Digital Smart Technology for Amateur Radio) • Independent dual receivers • 32-bit floating point DSP & 24-bit AD/DA converters • AGC loop management • Digital IF filter • Digital twin PBT and IF shift • Noise reduction • Noise blanker • RF speech compressor • Adjustable transmit bandwidth • HF/50MHz, 144MHz 100W, 430/440MHz 75W • RTTY demodulator and decoder • Ample CW functions • Built-in Antenna Tuner for HF/50MHz band • Manual notch filter and auto notch filter • Large, Multi-function LCD • USB connector for PC control • Optional CS-9100 programming software • Optional RS-BA1 IP remote control software

UT-123 D-STAR unit and GPS receiver

GPS
With UT-123

VHF/UHF DUAL BAND TRANSCEIVER
IC-E2820

D-STAR DV mode plus GPS receiver with optional UT-123

Wideband receiver*1 with diversity receive capability

50W output power on 144 and 430MHz bands

D-STAR DV Mode + GPS Receiver With Optional UT-123

The optional UT-123 module provides D-STAR (Digital Smart Technology for Amateur Radio) 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).

Other Features

• The large 93×28 mm (3.66×1.1 in) full dot-matrix display • 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

*1 Receiver range differs depending on version.
*2 FM mode only.

VHF/UHF DIGITAL TRANSCEIVER
ID-E880

D-STAR DV mode capability

DR (D-STAR repeater) mode for easy setup

CS-80/880 free download software

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.

GPS Position Reporting Functions

Your position data is shown on the display and can be sent to other station*1. In addition, the GPS A mode assists in D-PRS mode operation to send your position information to an APRS server.

Other Features

• CS-80/880 free download software • Total of 1052 memory channels • 16 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*2 • Wideband receiver*3 • Detachable controller • Backlit LCD • Auto power off and on • Power save

*1 3rd party GPS receiver is required.
*2 FM mode
*3 Receiver range differs depending on version.

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.

Other Features

• Wireless Internet access*1 • 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*2 • Stand-by beep

*1 Within a D-STAR repeater service area.
*2 Depending on version.

IPX7
GPS

Compact & Lightweight | **IPX7 Waterproof** | **Built-in GPS Receiver**

UHF DIGITAL TRANSCEIVER

ID-31E

Lightweight & Compact Body

The ID-31E has a compact 58×95×25.4 mm body, and weighs only 225g (approx.) with battery pack and antenna. It's easy for carrying around all the time anywhere.

IPX7 Waterproof Construction

The ID-31E provides superior waterproof protection equivalent to IPX7 (1m depth of water for 30 minutes).Ideal for use in harsh outdoor environments.

Built-in GPS Receiver

The built-in GPS receiver shows your current position and altitude on the display and offers a position reporting function in DV mode. The GPS log function logs your position information at regular intervals (1 second–60 seconds, depending on the setting) and memorizes this in the microSD card to export to your PC. In addition, the GPS-A mode assists in easy D-PRS mode operation.

Other Features

• Automatic speech function announces the received call sign • Digital code squelch • Digital call sign squelch • One touch reply function • DR (D-STAR Repeater) mode • Automatic reply function • Analog FM mode (Wide/Narrow) • Built-in CTCSS/DTCS encoder and decoder (for analog FM) • 16 DTMF memory channels (24 digits) • Squelch release function to monitor a weak signal • Optional CT-17, CI-V level converter for remote radio control • Auto power save • Auto power off • Clock function • Priority watch • Key lock function

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

IPX7
GPS
With HM-175GPS

Photo includes optional HM-175GPS.

Rugged Waterproof Protection

The IC-E92D and optional HM-175GPS have superior waterproof protection and is equivalent to IPX7 (1m depth of underwater for 30 minutes), which you can count on in harsh outdoor environments.

Optional GPS Speaker-microphone

Used with the optional HM-175GPS, the IC-E92D shows your position data on the display and offers automatic position reporting in DV mode. In addition, the GPS-A mode enables easy D-PRS system operation.

Wideband Receiver with Dualwatch Capability

The IC-E92D has dualwatch receiver capability, allowing you to receive*2 on two bands simultaneously (including the same band).

Other Features

• 5 Watts (typical) output • Total of 1304 memory channels • Large dot-matrix LCD • 10 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*3 • External DC power jack (10–16V DC acceptable) • Simple band scope
• Optional PC remote control capability
• Built-in voice recorder records an incoming call for up to 30-seconds (approx., DV mode) • Backlit LCD • Auto power save, power off and power on • 26 memory banks with selected bank and bank link scanning

*1 Optional GPS speaker-microphone, HM-175GPS required.
*2 Receiver range differs from depending on version.
*3 FM mode

VHF/UHF DUAL BAND DIGITAL TRANSCEIVER

IC-E92D

IPX4
GPS
With HM-189GPS

Photo includes optional HM-189GPS.

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

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.

GPS Position Reporting Functions*1

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

Other Features

• CS-80/880 free download cloning software • Total of 1052 memory channels • 16 DTMF memories • 50 CTCSS and 104×2 DTCS encoder/decoder*2 • Wideband receiver*3 • External DC power jack (10–16V DC) • Compact body with water resistance (Equivalent to IPX4) • Backlit LCD • Auto power off • Power save

*1 Optional GPS speaker-microphone, HM-189GPS required.
*2 FM mode
*3 Receiver range differs depending on version.

VHF/UHF DIGITAL TRANSCEIVER

IC-E80D

Handheld Transceivers

5W of output for both 144 and 430(440) MHz bands

700mW loud audio with a BTL amplifier

Up to 10 hours of operating time with BP-264

VHF/UHF FM TRANSCEIVER

IC-T70E

700mW Loud Audio

The IC-T70E uses a BTL (bridge-tied load) amplifier that doubles the audio output. The 36mm large speaker delivers 700mW of loud and intelligible audio* even in noisy environments.

* Using with internal speaker.

Other Features

- External DC power jack
- A total of 302 memory channels
- Built-in CTCSS/DTCS
- Internal VOX function
- IP54 and MIL-STD-810 rugged construction
- Power save function
- SMA type antenna connector
- TOT (time out timer) setting
- Repeater lockout and busy channel lockout
- PC programmable with optional CS-T70
- Transceiver-to-transceiver cloning with optional OPC-474
- Direct keypad frequency entry
- 16 DTMF autodial memories
- Auto power off • LCD backlight
- Wide/narrow channel spacing
- 1750Hz tone for European repeater access

750mW (typ.) loud audio with a BTL amplifier

Powerful 5.5W of output power

IP54 and MIL-STD-810 rugged construction

144MHz FM TRANSCEIVER

IC-V80E

750mW Loud Audio

The IC-V80E uses a BTL (bridge-tied load) amplifier that doubles the audio output. The 36mm large speaker delivers 750mW of loud and intelligible audio*. Great for noisy environments.

* Typical value using with internal speaker.

Other Features

- A total of 207 memory channels
- Built-in CTCSS/DTCS
- Internal VOX function
- Program, memory, skip, priority and tone scans
- Power save function
- BNC type antenna connector
- TOT (time out timer) setting
- 1750Hz tone for European repeater access
- Repeater lockout and busy channel lockout
- PC programmable with optional CS-V80
- Transceiver-to-transceiver cloning with optional OPC-474
- Direct keypad frequency entry
- DTMF autodial memories
- Auto power off
- LCD backlight
- Wide/narrow channel spacing

Mobile Transceivers

Rugged
MIL-STD 810

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. When connected to an external GPS receiver*, position information can be exchanged with other stations.

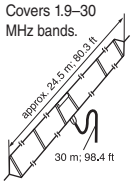
(* 3rd party GPS receiver is required.)

Other Features

• CTCSS and DTCS operation • 207 memory channels with 10 memory banks • 16 DTMF memory channels • DTMF pager/code squelch function with optional UT-108 • Tone scan • Squelch attenuator • FM narrow mode • Data jack for connecting with PC • ALC (Automatic Level Control) • Squelch delay • Easy to manage bank link scan system • Amber and green, dual color LCD

OPTIONS FOR BASE STATION TRANSCEIVERS

	HAND MICROPHONES		DESKTOP MICROPHONES				EXTERNAL SPEAKERS		
MODEL NAME	**HM-36** 	**HM-151** 	**SM-20** 	**SM-30** 	**SM-50** 	**SM-27** 	**SP-10** 	**SP-21** 	**SP-23** 
IC-7800	✔		✔	✔	✔				
IC-7700	✔		✔	✔	✔				
IC-7600	✔		✔	✔	✔				✔
IC-7410	✔		✔	✔	✔			✔	✔
IC-7200	✔		✔	✔	✔	✔	✔	✔	
IC-7000		✔	✔ (Use with OPC-589)	✔ (Use with OPC-589)	✔ (Use with OPC-589)		✔		
IC-718	✔		✔	✔	✔	✔		✔	✔
IC-9100	✔		✔	✔	✔			✔	✔

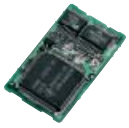
	EXTERNAL SPEAKERS	DC POWER SUPPLIES		ANTENNA ELEMENT	ANTENNA TUNERS		FOLDED DIPOLE ANTENNA	FILTERS	
MODEL NAME	**SP-33** 	**PS-125** 13.8V/25A 6-pin type 	**PS-126** 13.8V/25A 4-pin type 	**AH-2b** Covers 7–54MHz 	**AH-4** Matches 3.5–54 MHz bands 	**AT-180** 	**AH-710** Covers 1.9–30 MHz bands. 	**FL-430** 6kHz 1st IF FILTER (For HF/ 50MHz band)  **FL-431** 3kHz 1st IF FILTER (For HF/ 50MHz band) 	**FL-52A** 500Hz/–6dB **FL-53A** 250Hz/–6dB **FL-222** 1.8kHz/–6dB **FL-257** 3.3kHz/–6dB
IC-7800	✔								
IC-7700	✔								
IC-7600			✔	✔	✔				
IC-7410			✔	✔	✔			✔	
IC-7200			✔	✔	✔	✔	✔		
IC-7000			✔	✔	✔	✔			
IC-718		✔		✔	✔	✔	✔		✔ (Accepts only one filter)
IC-9100			✔	✔	✔			✔	

	CI-V CONVERTER	HIGH STABILITY CRYSTAL UNIT	VOICE SYNTHESIZER	DSP UNIT	LINEAR AMPLIFIER	CARRYING HANDLES	HANDLE	MOBILE MOUNTING BRACKETS	
MODEL NAME	**CT-17** 	**CR-338** Frequency stability: ±0.5ppm 	**UT-102** 	**UT-106** 	**IC-PW1EURO** 	**MB-23** **MB-106** **MB-117** **MB-121** **MB-123**  Photo shows MB-23.	**MB-116** 	**MB-62** 	**MB-118** 
IC-7800	✔				✔				
IC-7700	✔				✔				
IC-7600	✔				✔	✔ (Use MB-121)			
IC-7410	✔				✔ (Use with OPC-599)	✔ (Use MB-123)			
IC-7200	✔				✔ (Use with OPC-599)	✔ (Use MB-117)	✔		✔
IC-7000	✔				✔ (Use with OPC-599)	✔ (Use MB-106)		✔	
IC-718	✔	✔	✔	✔ (Installed depending on version)	✔ (Use with OPC-599)	✔ (Use MB-23)			✔
IC-9100	✔				✔ (Use with OPC-599)	✔ (Use MB-123)			

✔ : Applicable : Not applicable

OPTIONS FOR BASE STATION TRANSCEIVERS

	MOUNTING BASES		CONTROLLER BRACKET	SEPARATION CABLES	MIC ADAPTER CABLE	ADAPTER CABLE	ACC 13-PIN CABLE	DC POWER CABLES	1200MHz BAND UNIT
MODEL NAME	**MB-120** 	**MBF-1** 	**MB-105A** 	**OPC-1443** 3.5m;11.5ft **OPC-1444** 5.0m;16.4ft 	**OPC-589** 8-pin connector microphone to 8-pin modular 	**OPC-599** 13-pin ACC socket to 7-, 8-pin ACC sockets 	**OPC-742** Connection cable between transceiver and AT-180 with 144MHz/430MHz linear amplifier	**OPC-025A** 20A cable **OPC-1457/R** 30A cable **OPC-2095** 30A cable	**UX-9100** 
IC-7800									
IC-7700									
IC-7600								✔ (Use OPC-1457)	
IC-7410						✔		✔ (Use OPC-2095)	
IC-7200						✔		✔ (Use OPC-1457)	
IC-7000	✔ (Use with MB-105A)	✔ (Use with MB-105A)	✔	✔	✔	✔	✔	✔ (Use OPC-1457R)	
IC-718						✔		✔ (Use OPC-025A)	
IC-9100						✔		✔ (Use OPC-2095)	✔

	CLONING SOFTWARE	IP REMOTE CONTROL SOFTWARE	D-STAR UNIT	DATA CABLES	
MODEL NAME	**CS-9100** A USB cable (A-B type) is required for programming.	**RS-BA1** 	**UT-121** 	**OPC-1529R** Data 1 jack to RS-232C 	**OPC-2218LU** Data 1 jack to USB 
IC-7800		✔ (Possible)			
IC-7700		✔ (Possible)			
IC-7600		✔			
IC-7410		✔			
IC-7200		✔			
IC-7000		✔ (Possible with CT-17)			
IC-718					
IC-9100	✔	✔	✔	✔	✔

✔ : Applicable : Not applicable

GENERAL PURPOSE POWER SUPPLY

PS-300

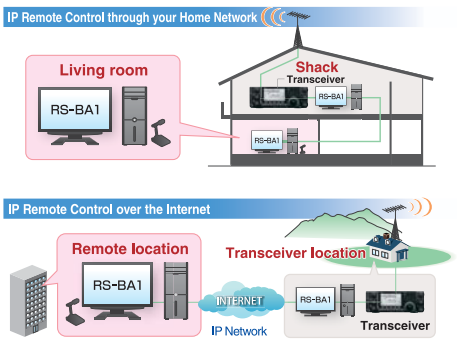
- Max. 30A output (25A continuous)
- 9–15V variable output voltage
- Transformer type
- Voltage and current meters
- 209(W)×120(H)×280(D) mm; 8.23×4.72×11.02 in dimensions

(Not available in some countries)

IP Remote Control Software

RS-BA1

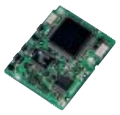
The optional RS-BA1 allows you to use the transceiver from another room using your home network, or even from a remote location over the Internet. The RS-BA1 has low voice latency.



OPTIONS FOR MOBILE TRANSCEIVERS

	HAND MICROPHONES				MOUNTING BASES		EXTERNAL SPEAKERS		CONTROLLER
MODEL NAME	**HM-154**	**HM-154T** w/DTMF keypad	**HM-133/V** w/DTMF keypad	**HM-103**	**MB-120**	**MBF-1**	**SP-10**	**SP-22**	**RC-24**
									
IC-E2820	✔		✔ (Use HM-133)		✔	✔	✔		
ID-E880	✔		✔ (Use HM-133)	✔	✔	✔	✔		
ID-1	✔						✔	✔	✔
IC-2200H	✔	✔	✔ (Use HM-133V)				✔		

	DC POWER CABLES	SEPARATION CABLES	SPEAKER CABLE	MICROPHONE CABLES	MIC ADAPTER CABLE	DATA CABLES		CLONING CABLES	
MODEL NAME	**OPC-347** 7.0m: 23ft **OPC-1132A** 3.0m: 9.8ft	**OPC-1663** 3.4m: 11.2ft **OPC-1712** 10cm: 3.9in	**OPC-441** 5.0m: 16.4ft	**OPC-440A** 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-2218LU** USB cable	**OPC-474** Between transceivers	**OPC-478** Transceiver to PC RS-232C cable
									
IC-E2820	✔	✔	✔	✔	✔	✔	✔	✔	✔
ID-E880	✔		✔	✔	✔	✔	✔	✔	✔
ID-1				✔					
IC-2200H	✔			✔	✔			✔	✔

	CLONING CABLES	CLONING SOFTWARE	DTMF DECODER UNIT	DIGITAL UNITS	
MODEL NAME	**OPC-478UC** Transceiver to PC USB cable	**CS-2200H** **CS-2820** **CS-80/880*** Optional OPC-478, OPC-478UC, OPC-1529R or OPC-2218LU cable required for programming.	**UT-108**	**UT-118**	**UT-123** With GPS receiver
					
IC-E2820	✔	✔ (Use CS-2820)			✔
ID-E880	✔	✔ (Use CS-80/880)			
ID-1					
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

One unit is required for each repeater station and connects up to 4 RF modules. Transfers the received signal to the specified RF module or the Internet gateway server.

ID-RP2D:
1.2GHz DD mode RF module

The ID-RP2D is the DD mode RF module for 1.2GHz. It provides 128kbps high speed data communication.

Photo shows ID-RP2V.

ID-RP2V: 1.2GHz DV mode RF module
ID-RP2000V: 144MHz DV mode RF module
ID-RP4000V: 430MHz DV mode RF module

These are DV (digital voice) mode RF modules for the respective bands. With a combination of these RF modules, cross band operation with 144/430/1200MHz bands is available.

RS-RP2C:
Internet gateway software

The Internet gateway (GW) connects the D-STAR repeater station to the Internet and links multiple D-STAR repeater stations via the Internet.

OPTIONS FOR HANDHELD TRANSCEIVERS

	BATTERY CASES				BATTERY PACKS				
MODEL NAME	**BP-216** LR6 (AA)×2 cells	**BP-257** LR6 (AA)×2 cells	**BP-263** LR6 (AA)×6 cells	**BP-273** LR6 (AA)×3 cells	**BP-217** (Li-Ion) 7.4V/1500mAh(min.) 1580mAh(typ.)	**BP-256** (Li-Ion) 7.4V/1620mAh(min.) 1700mAh(typ.)	**BP-264** (Ni-MH) 7.2V/1400mAh	**BP-265** (Li-Ion) 7.4V/1900mAh(min.) 2000mAh(typ.)	**BP-271** (Li-Ion) 7.4V/1150mAh(min.), 1200mAh(typ.)
ID-31E				✔					✔
IC-E92D		✔							
IC-E80D	✔				✔				
IC-T70E			✔				✔	✔	
IC-V80E			✔				✔	✔	

	BATTERY PACKS	DESKTOP CHARGERS							AC ADAPTERS
MODEL NAME	**BP-272** (Li-Ion) 7.4V/1880mAh(min.), 2000mAh(typ.)	**BC-139** Rapid charger Includes AC adapter	**BC-177** Rapid charger Includes AC adapter	**BC-191** Rapid charger (For BP-264)	**BC-192** Regular charger (For BP-264)	**BC-193** Rapid charger (For BP-265)	**BC-197** Rapid multi-charger	**BC-202** Rapid charger	**BC-123S**[*1] 12V/1A
ID-31E	✔							✔ (Use with BC-123S)	✔ (Use with BC-202)
IC-E92D			✔						
IC-E80D		✔							
IC-T70E				✔ (Use with BC-123S)	✔ (Use with BC-147S/206S)	✔ (Use with BC-123S)	✔ (Use with BC-157S)		✔ (Use with BC-191 or BC-193)
IC-V80E				✔ (Use with BC-123S)	✔ (Use with BC-147S/206S)	✔ (Use with BC-123S)	✔ (Use with BC-157S)		✔ (Use with BC-191 or BC-193)

*1 BC-123SA for USA, SE for Europe, and SV for Australia versions available.

	AC ADAPTERS		WALL CHARGER	CHARGER ADAPTERS		CIGARETTE LIGHTER CABLES			DC POWER CABLES
MODEL NAME	**BC-206S** **BC-147S**[*2] 12V/200mA	**BC-157S** 12V/6.6A	**BC-167S**[*3] 12V/500mA	**AD-120**[*4] For BP-264	**AD-121**[*4] For BP-265	**CP-12L** with noise filter	**CP-19R** with noise filter	**CP-23L**	**OPC-254L/LR**
ID-31E			✔			✔	✔		✔
IC-E92D			✔			✔	✔	✔ (Use with BC-177)	✔
IC-E80D			✔			✔	✔	✔ (Use with BC-139)	✔
IC-T70E	✔ (Use with BC-192)	✔ (Use with BC-197)	✔[*5]	✔ (Use with BC-197)	✔ (Use with BC-197)	✔[*5]	✔[*5]	✔ (Use with BC-191 or BC-193)	✔[*5]
IC-V80E	✔ (Use with BC-192)	✔ (Use with BC-197)		✔ (Use with BC-197)	✔ (Use with BC-197)			✔ (Use with BC-191 or BC-193)	

*2 BC-147SA for USA, SV for Australia version available. BC-206SE for Europe version available.
*3 BC-167SA for USA, SD for Europe and SV for Australia version available. *4 Either AD-120 or AD-121 is supplied with the BC-197, depending on version.
*5 For charging BP-264. BP-265 cannot be charged using the external DC power jack.

	DC POWER CABLES		SPEAKER-MICROPHONES						
MODEL NAME	**OPC-515L**	**OPC-656** 12–20V DC CABLE	**HM-75LS**	**HM-131**	**HM-158L**	**HM-159L**	**HM-174** IPX7	**HM-175GPS** IPX7 GPS	**HM-186LS**
ID-31E			✔						✔
IC-E92D				✔ (Use with OPC-1797)			✔	✔	
IC-E80D				✔					
IC-T70E	✔ (Use with BC-191, BC-192 or BC-193)	✔ (Use with BC-197)							
IC-V80E	✔ (Use with BC-191, BC-192 or BC-193)	✔ (Use with BC-197)			✔	✔			

✔ : Applicable : Not applicable

OPTIONS FOR HANDHELD TRANSCEIVERS

	SPEAKER-MICROPHONES	EARPHONE-MICROPHONES				HEADSETS			EARPHONES
MODEL NAME	**HM-189GPS** GPS	**HM-153/L**	**HM-153LS**	**HM-166**	**HM-166LS**	**HS-94** Earhook type with boom microphone	**HS-95** Behind-the-head type	**HS-97** Throat microphone type	**SP-13**
ID-31E		✔ (Use HM-153 with OPC-2144)	✔	✔ (Use with OPC-2144)	✔	✔ (Use with OPC-2006LS)	✔ (Use with OPC-2006LS)	✔ (Use with OPC-2006LS)	✔ (Use with OPC-2144)
IC-E92D		✔ (Use HM-153 with OPC-1797)		✔ (Use with OPC-1797)					✔ (Use with OPC-1797)
IC-E80D	✔	✔ (Use HM-153)		✔					✔
IC-T70E		✔ (Use HM-153)				✔ (Use with OPC-2006)	✔ (Use with OPC-2006)	✔ (Use with OPC-2006)	
IC-V80E		✔ (Use HM-153L)				✔ (Use with OPC-2004)	✔ (Use with OPC-2004)	✔ (Use with OPC-2004)	

	EARPHONES	PLUG ADAPTERS					BELT CLIPS		
MODEL NAME	**SP-27**	**OPC-1797**	**OPC-2004**	**OPC-2006**	**OPC-2006LS**	**OPC-2144**	**MB-86** Swivel type	**MB-111** Alligator type	**MB-124** Alligator type
ID-31E					✔	✔			
IC-E92D		✔						✔	
IC-E80D	✔						✔		
IC-T70E	✔			✔					✔
IC-V80E	✔		✔						✔

	BELT CLIPS	VEHICLE CHARGER BRACKET	CARRYING CASES				CLONING CABLES		
MODEL NAME	**MB-127** Alligator type	**MB-130** Alligator type	**LC-163**	**LC-168**	**LC-174**	**LC-178**	**OPC-474** Between transceivers	**OPC-478** Transceiver to PC RS-232C cable	**OPC-478UC** Transceiver to PC USB cable
ID-31E	✔					✔			
IC-E92D				✔			✔ (Use with two OPC-1797s)		
IC-E80D			✔				✔	✔	✔
IC-T70E		✔ (Use with BC-191/192/193)			✔		✔	✔	✔
IC-V80E		✔ (Use with BC-191/192/193)					✔	✔	✔

	DATA CABLES			CLONING SOFTWARES	REMOTE CONTROL SOFTWARE	ANTENNA ADAPTER	ANTENNAS	CI-V LEVEL CONVERTER
MODEL NAME	**OPC-1529R** Transceiver to PC RS-232C cable	**OPC-1799** Transceiver to PC RS-232C cable	**OPC-2218LU** USB type	**CS-31**[*1] **CS-80/880**[*1] **CS-T70** **CS-V80** Optional OPC-478, OPC-478UC, OPC-1529R or OPC-2218LU cable required for pro-gramming.	**RS-92** OPC-1799 cable included	**AD-92SMA** BNC type antenna connector	**FA-B2E** **FA-S270C**	**CT-17**
ID-31E			✔	✔ (Use CS-31)		✔	✔ (Use FA-S270C)	✔
IC-E92D		✔			✔	✔	✔ (Use FA-S270C)	
IC-E80D	✔		✔	✔ (Use CS-80/880)		✔	✔ (Use FA-S270C)	
IC-T70E				✔ (Use CS-T70)		✔	✔ (Use FA-S270C)	
IC-V80E				✔ (Use CS-V80)			✔ (Use FA-B2E)	

[*1] CS-31 and CS-80/880 are available for free download from: http://www.icom.co.jp/world/support/index.html

✔ : Applicable : Not applicable

SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7800	IC-7700	IC-7600	IC-7410
General	**Frequency coverage** (Differs according to version)	Tx:137kHz, 1.8, 3.5, 7, 10, 14 18, 21, 24, 28, 50MHz bands Rx:30kHz–60MHz* * Some frequency ranges are not guaranteed.	Tx:1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx:30kHz–60MHz* * Some frequency ranges are not guaranteed.	Tx:1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60MHz* * Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60.000MHz* * Some frequency bands 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
	Frequency stability	±0.05ppm (0˚C to +50˚C, after warm up)	±0.05ppm (0˚C to +50˚C, after warm up)	±0.5ppm (0˚C to +50˚C, after warm up)	Less than ±0.5ppm (0˚C to +50˚C)
	Maximum current drain	800VA	800VA	23A at 13.8V DC	23A at 13.8V DC
	Power supply requirement	85–265V AC (Auto sensing)	85–265V AC (Auto sensing)	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 × 2 (50Ω)
	Number of memory channels	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)	101 (99 regular, 2 scan edges)
	Dimensions (W×H×D; Projections are not included)	424×149×435 mm	425×149×437 mm	340×116×279.3 mm	315×116×343 mm
	Weight (approx.)	25kg	22.5kg	10.0kg	10.2kg
Transmitter	**Output power**	SSB, CW, RTTY, PSK31, FM: 5–200W AM: 5–50W 137kHz (CW): More than –20dBm	SSB, CW, RTTY, PSK31, FM: 5–200W AM: 5–50W	SSB, CW, RTTY, PSK31, FM: 2–100W AM: 1–30W	SSB, CW, RTTY, FM: 2–100W AM: 2–27W
	Spurious emissions	Less than –60dB (HF) Less than –70dB (50MHz)	Less than –60dB (HF) Less than –70dB (50MHz)	Less than –50dB (HF) Less than –63dB (50MHz)	Less than –50dB (HF) Less than –63dB (50MHz)
	Carrier suppression	More than 63dB	More than 63dB	More than 40dB	More than 40dB
	Unwanted sideband	More than 80dB	More than 80dB	More than 55dB	More than 55dB
	Microphone connector	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)
Receiver	**Sensitivity** (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB S/N FM, WFM: at 12dB SINAD	SSB, CW, RTTY, PSK31 (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz) : 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz) : 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY, PSK31 (2.4kHz): 0.1–1.799MHz 0.5μV 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM (6kHz) : 0.1–1.799MHz 6.3μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV FM (15kHz) : 28–29.999MHz 0.5μV 50–54MHz 0.32μV	SSB, CW, RTTY (2.4kHz): 1.8–29.995MHz 0.15μV 50–54MHz 0.12μV AM (6kHz): 0.5–1.799MHz 6.3μV 1.8–29.995Hz 2.0μV 50–54MHz 1.6μV FM (15kHz): 28–29.7MHz 0.5μV 50–54MHz 0.3μV	SSB, CW, : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM: 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.32μV
	Selectivity	SSB: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB RTTY, PSK31: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB	SSB/RTTY: 2.4kHz/–3dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–3dB (500Hz) 700Hz/–60dB AM: 6.0kHz/–3dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.8kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 350Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (350Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB
	Spurious and image rejection (except IF)	More than 70dB	More than 70dB	More than 70dB* (* Except IF point on 50MHz band)	More than 70dB
	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
	External speaker connector	2-conductor 3.5 (d) mm (⅛")/8Ω×2 (for main and sub bands)	2-conductor 3.5 (d) mm (⅛")/8Ω	2-conductor 3.5 (d) mm (⅛")/8Ω	2-conductor 3.5 (d) mm (⅛")/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.

SPECIFICATIONS FOR BASE STATION TRANSCEIVERS

		IC-7200	IC-7000	IC-718	IC-9100
General	**Frequency coverage** (Differs according to version)	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30kHz–60.000MHz* * Some frequency ranges are not guaranteed.	Tx:1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 144, 430MHz bands Rx: 30kHz–199.999, 400–470MHz* * Some frequency ranges are not guaranteed.	Tx:1.8, 3.5, 7, 10, 14, 18, 21, 24, 28MHz bands Rx: 30kHz–29.999MHz* * Guaranteed range 0.5–29.999MHz.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 144, 430, 1200MHz bands Rx: 30kHz–60MHz*1, 144MHz–146MHz, 430MHz–440MHz, 1240MHz–1300MHz*2 *1 Some frequency ranges are not guaranteed. *2 With optional UX-9100.
	Modes	USB, LSB, CW, RTTY, AM	USB, LSB, CW, RTTY, AM, FM, WFM* (*Rx only)	USB, LSB, CW, RTTY, AM	USB, LSB, CW, RTTY (FSK), AM*, FM, DV (with UT-121) * Transmit HF/50MHz only. Cannot receive on 1200MHz band.
	Frequency stability	±0.5ppm (–10˚C to +60˚C)	±0.5ppm (0˚C to +50˚C)	Less than ±200Hz (From 1 min. to 60 min. after power ON)	±0.5ppm (0˚C to +50˚C, after warm up)
	Maximum current drain	22A at 13.8V DC	22A at 13.8V DC	20A at 13.8V DC	24A at 13.8V DC
	Power supply requirement	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%	13.8V DC ±15%
	Antenna connector	SO-239 (50Ω)	SO-239 × 2 (for HF/50MHz and 144/430MHz bands: 50Ω)	SO-239 (50Ω)	HF/50MHz SO-239 (50Ω)× 2 144MHz SO-239 (50Ω) 430MHz Type-N (50Ω) 1200MHz Type-N (50Ω) (With UX-9100)
	Number of memory channels	201 (199 regular, 2 scan edges)	503 (495 regular, 6 scan edges and 2 call)	101 (99 regular, 2 scan edges)	396* (99 for each HF/50, 144, 430, 1200MHz band) 4 Call* (1 for each band) 24 Scan edges* (6 for each band) 20 satellite * With optional UX-9100.
	Dimensions (W×H×D; Projections are not included)	241×84×281 mm	167×58×180 mm	240×95×239 mm	315×116×343 mm
	Weight (approx.)	5.5kg	2.3kg	3.8kg	IC-9100 11kg UX-9100 950g
Transmitter	**Output power**	SSB, CW, RTTY: 2–100W AM: 1–25W	SSB, CW, RTTY, FM: 1.8–50MHz 2–100W 144MHz 2–50W 430MHz 2–35W AM: 1.8–50MHz 1–40W 144MHz 2–20W 430MHz 2–14W	SSB, CW, RTTY: 2–100W AM: 2–35W	SSB, CW, RTTY, FM, DV*1: HF/50MHz 2–100W 144MHz 2–100W 430MHz 2–75W 1200MHz*2 1–10W AM: HF/50MHz 2–30W *1 With UT-121. *2 With UX-9100.
	Spurious emissions	Less than –50dB (HF) Less than –63dB (50MHz)	Less than –50dB (HF) Less than –63dB (50MHz) Less than –60dB (144/430MHz)	Less than –50dB	1.8–29.7MHz Less than –50dB 50,144MHz Less than –63dB 430MHz Less than –61.8dB 1200MHz Less than –53dB (With UX-9100)
	Carrier suppression	More than 50dB	More than 50dB	More than 40dB	More than 40dB
	Unwanted sideband	More than 50dB	More than 50dB	More than 50dB	More than 55dB
	Microphone connector	8-pin connector (600Ω)	8-pin modular (600Ω)	8-pin connector (600Ω)	8-pin connector (600Ω)
Receiver	**Sensitivity** (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB S/N FM, WFM: at 12dB SINAD	SSB, CW : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV AM: 0.5–1.8MHz 13μV 1.8–29.995MHz 2.0μV 50–54MHz 1.0μV	SSB, CW: 1.8–29.999MHz 0.15μV 50–54MHz 0.12μV 144/430MHz 0.11μV AM: 0.5–1.8MHz 13μV 1.8–29.999MHz 2.0μV 50–54MHz 1.0μV 144/430MHz 1.0μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.25μV 144/430MHz 0.18μV WFM: 76–108MHz 10μV	SSB, CW, RTTY: 1.8–29.999MHz 0.16μV AM: 0.5–1.799MHz 13μV 1.8–29.999MHz 2.0μV	SSB, CW : 1.8–29.999MHz 0.16μV 50–54MHz 0.13μV 144/430MHz 0.11μV 1200MHz 0.11μV*1 AM: 0.5–1.8MHz 12.6μV 1.8–29.999MHz 2.0μV 50–54MHz 1.6μV 144/430MHz 1.4μV FM: 28–29.7MHz 0.5μV 50–54MHz 0.32μV 144/430MHz 0.18μV 1200MHz 0.18μV*1 DV*2: 28–29.7MHz 1.0μV 50–54MHz 0.63μV 144/430MHz 0.35μV 1200MHz 0.35μV*1 *1 With UX-9100.*2 With UT-121.
	Selectivity	SSB: 2.4kHz/–6dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.6kHz/–60dB CW: 500Hz/–6dB (500Hz) 900Hz/–60dB RTTY: 360Hz/–6dB (350Hz) 650Hz/–60dB AM: 6.0kHz/–6dB (6kHz) 15kHz/–60dB FM: 12kHz/–6dB (15kHz) 20kHz/–60dB	SSB, CW, RTTY: 2.1kHz/–6dB 4.5kHz/–60dB AM: 6.0kHz/–6dB 20kHz/–40dB	SSB: 2.4kHz/–6dB (2.4kHz) 3.4kHz/–40dB CW: 500Hz/–6dB (500Hz) 700Hz/–40dB RTTY: 500Hz/–6dB (500Hz) 800Hz/–40dB AM: 6.0kHz/–6dB (6kHz) 10.0kHz/–40dB FM: 12kHz/–6dB (15kHz) 22kHz/–40dB DV (With UT-121) : –50dB (12.5kHz spacing) 1200MHz (With UX-9100) SSB,CW 2.3kHz/–6dB FM 15.0kHz/–6dB
	Spurious and image rejection (except IF)	More than 70dB* (* Except ½ IF point on 50MHz band)	More than 70dB (HF) More than 65dB (other bands; except ½ IF point on 50MHz, IF point 144MHz band)	More than 70dB (1.8–29.999MHz)	HF/50MHz More than 70dB 144,430MHz More than 60dB 1200MHz More than 50dB (With UX-9100)
	AF power (at 10% distortion with an 8Ω load)	More than 2.0W	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 (for main and sub bands)

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SPECIFICATIONS FOR MOBILE & HANDHELD TRANSCEIVERS

	IC-E2820	ID-E880	ID-1	IC-2200H	ID-31E	IC-E92D	IC-E80D	IC-T70E	IC-V80E
Frequency coverage (Differs according to version)	Europe-1 version Tx 144–146, 430–440MHz Rx (L) 118–549.995*1 (R) 118–173.995, 375–549.995, 810–999.990MHz*1 Europe-2 version Tx 144–146, 430–440MHz Rx (L) 144–146, 430-440MHz (R) 144–146, 430-440MHz	Europe version Tx 144–146, 430–440MHz Rx 118–173.995, 230–549.995, 810–999.990MHz*1 Europe-1 version Tx/Rx 144–146, 430–440MHz	1240–1300MHz	Europe version Tx 144–146MHz Rx 118–174MHz*2 Europe-1 version Tx/Rx 144–146MHz	Europe version Tx/Rx 430–440MHz UK version TX 430-440MHz RX 400-479MHz*3	Europe version Tx (A/B) 144-146, 430–440MHz Rx (A) 0.495–999.990MHz*1 (B) 118–174, 350–470MHz*1	EUR, UK versions Tx 144–146, 430–440MHz Rx 0.495–999.990MHz*1	Europe version Tx/Rx 144–146, 430–440MHz UK version Tx 144-146, 430-440MHz Rx 136-174, 400-479MHz*1	EUR, UK versions Tx/Rx 144–146MHz
Mode	FM, DV (UT-123 required), AM (receive only)	FM, DV, AM (receive only)	FM, DV, DD	FM, DV (UT-118 required), AM (receive only)	FM, FM-N, DV	FM, FM-N, DV, AM (receive only) WFM (receive only)	FM, FM-N, DV, AM (receive only) WFM (receive only)	FM, FM-N	FM, FM-N
Max. current drain	VHF 13A UHF 13A	VHF 11.5A UHF 12.5A	7A	15A	2.5A	VHF 1.8A typ UHF 2.1A typ (at 7.4V DC)	VHF 1.8A typ UHF 2.1A typ (at 7.4V DC)	VHF 1.7A typ UHF 2.1A typ (at 7.2V DC or 13.5V DC)	1.4A (at 7.2V DC)
Dimensions (W×H×D; Proj. not included)	Main unit: 150×40×187.7 mm Controller: 150×58×31.5 mm	Main + Controller: 150×40×199.2 mm Controller: 122×40×29.7 mm	Main unit: 141×40×165.8 mm Controller: 150×50×49.5 mm	140×40×196 mm	58×95×25.4 mm	59×112×34.2 mm	58.4×103×34.2 mm	58×111×30 mm	58×112×30 mm
Weight (approx.)	Main unit:1.5kg Controller: 210g (With OPC-1712)	1.3kg (without microphone, cable and bracket)	Main unit:1.2kg Controller: 220g	1.25kg	225g with antenna and BP-271	325g with antenna and BP-256	290g with antenna and BP-217	380g with antenna and BP-264	360g with antenna and BP-264
Output power (typical values)	High: 50W Mid: 15W (approx.) Low: 5W (approx.) (at 13.8V DC)	High: 50W Mid: 15W (approx.) Low: 5W (approx.) (at 13.8V DC)	High: 10W Low: 1W (approx.) (at 13.8V DC)	High: 65W Mid-Hi: 25W (approx.) Mid-Low: 10W (approx.) Low: 5W (approx.) (at 13.8V DC)	High: 5W Mid: 2.5W Low: 0.5W S-Low:0.1W (at 7.4V DC)	High: 5W Mid: 2.5W Low: 0.5W S-Low:0.1W (at 7.4V DC)	High: 5W Mid: 2.5W Low: 0.5W S-Low:0.1W (at 7.4V DC)	High: 5W Mid: 2.5W Low: 0.5W (at 7.2V DC)	High: 5.5W Mid: 2.5W Low: 0.5W (at 7.2V DC)
Sensitivity (FM: at 12dB SINAD DV, DD: at BER 1%)	DV Less than 0.35µV (with UT-123) FM Less than 0.18µV (144,430 MHz bands)	DV Less than 0.35µV FM Less than 0.18µV (144, 430 MHz bands)	DV Less than 0.35µV DD Less than 1.58µV FM Less than 0.18µV	FM 0.133µV typ.	DV Less than 0.28µV FM, FM-N Less than 0.18µV	DV 0.22µV typ. FM 0.14µV/0.16µV typ. (144/430 MHz bands)	DV 0.22µV typ. FM 0.14µV/0.16µV typ. (144/430 MHz bands)	0.18µV typ.	0.14µV typ.
Audio output power (at 10% distortion)	2.4W (at 8Ω)	2.0W (at 8Ω)	2.0W (at 8Ω)	2.4W (at 8Ω)	400mW (INT SP, 16Ω) 200mW (EXT SP, 8Ω)	200mW (at 8Ω)	300mW (at 8Ω)	700mW (INT SP, 16Ω) 400mW (EXT SP, 8Ω)	750mW typ. (INT SP, 16Ω) 450mW typ. (EXT SP, 8Ω)

*1 Guaranteed range 144-146 and 430-440MHz. *2 Guaranteed range 144-146MHz. *3 Guaranteed range 430-440MHz.
(L) means left side receiver, (R) means right side receiver. (A) means VFO A receiver, (B) means VFO B receiver.

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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).

This logo indicates that model is a digital capable transceiver compatible with the D-STAR DD or DV mode in this brochure.

This logo indicates that model has superior waterproof protection against water intrusion. (1m depth underwater for 30 minutes.)

Les spécifications et informations données dans ce document peuvent être modifiées sans préavis. La configuration du poste peut varier suivant les versions.

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