ICOM

HAM Radios and Receivers

2020 European Edition

RMDR (Reciprocal Mixing Dynamic Range) of 110 dB* (at 1 kHz)

Completely Independent Dual Receivers Receive Two Bands Simultaneously

High-Speed, High-Resolution Spectrum Waterfall Scope

High Stability, High Spectral Purity Local Oscillator

Full Duty 200 W Output Power

1.2 kHz Optimum Roofing Filter Greatly Improves In-band Adjacent Signal Performance

Audio Scope and Oscilloscope for Observing Receive and Transmit Audio

* At a 1 kHz offset frequency. Receive frequency: 14.2 MHz
  Mode: CW, IF BW: 500 Hz, Roofing Filter: 1.2 kHz

Experience in video

HF/50 MHz TRANSCEIVER
IC–7851

RMDR: 110 dB, Raising the Bar Again

Design advances developed by the Icom HF engineers for the Local Oscillator (LO) enable the IC-7851 to set a new benchmark for amateur radio receivers. The goal was to dramatically reduce the phase noise that degrades the target signal due to the sum of the entire signal present. The result was a RMDR of 110 dB*. Below is a comparison of the improvement over the IC-7800.

* At a 1 kHz offset frequency

Receive frequency: 14.2 MHz Mode: CW, IF BW: 500 Hz

Roofing Filter IC-7800 = 3 kHz, IC-7851 = 1.2 kHz

■ RMDR Comparison

RMDR(dB)				
	1 kHz	2 kHz	10 kHz	20 kHz
IC-7851	110	116	121	124
IC-7800	78	87	106	112

RMDR

RMDR (Reciprocal Mixing Dynamic Range) is the relative level of an undesired signal, offset "n" kHz from the RX passband, which will raise noise floor by 3 dB. The local oscillator phase noise will mix with strong unwanted signals and unavoidably generate noise which masks a wanted signal.

1.2 kHz Optimum Roofing Filter

Despite the trend to switch to a down conversion or a hybrid conversion receiver design, Icom believes in the solid performance of the up-conversion design. The IC-7851 introduces a new 1.2 kHz Optimum Roofing Filter, greatly improving the in-band adjacent signal performance. This newly developed filter overcomes the gap of a narrower roofing filter in an up-conversion receiver.


Optimum Roofing Filter

Innovative LO Design

Breaking the boundaries of traditional designs, the IC-7851 employs a Direct Digital Synthesizer (DDS) along with a Phase Locked Oscillator for the LO (Local Oscillator). The C/N ratio excels beyond the IC-7800 and other similar class HF transceivers. This design significantly reduces noise components in both receive and transmit signals.

■ LO C/N Characteristics Comparisons
Receive Frequency: 14.2 MHz Mode: CW 1st LO frequency: 78.655 MHz
SPAN = 20 kHz, RBW = 30 Hz, VBW = 10 Hz
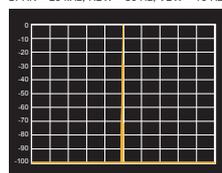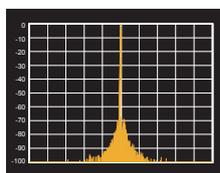
IC-7851   IC-7800

Improved Phase Noise Characteristics

Phase noise is coherent in radio circuit design, and the new LO design introduced in the IC-7851 makes some major breakthroughs while utilizing the 64 MHz, up-conversion receiver design introduced in the IC-7800. An impressive 20 dB improvement is seen with the IC-7851's 10 kHz measurement, and more than 30 dB improvement at a 1 kHz measurement in comparison to the IC-7800.

■ Phase Noise Characteristics Comparisons
Receive Frequency: 14.2 MHz Mode: CW 1st LO frequency: 78.655 MHz
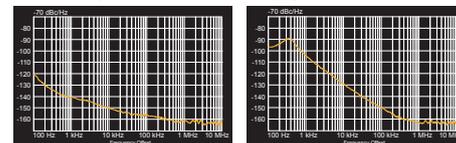
IC-7851   IC-7800

Improved Spectrum Scope

Following the design linage of the IC-7800, the IC-7851 uses a dedicated DSP unit for the Fast Fourier Transform (FFT) spectrum. The 2250 MFLOPS DSP processor enables a new dual scope function, significantly faster sweep speeds, and better accuracy than in the IC-7800.

■ Scope Comparison

	IC-7851	IC-7800
Span Width	5 kHz–1000 kHz	5 kHz–500 kHz
Resolution *[1]	1 pixel minimum *[2]	20 pixels minimum *[4]
Sweep Speed	29.3 frames/Sec *[3]	4 frames/Sec *[3]
Display Dynamic Range	100 dB	80 dB
Noise Floor Level	−30 dBμ	−19 dBμ

*[1] Number of dots shown at the 60 dB level, when receiving a signal.
*[2] SPAN = More than 20 kHz, SPEED = Slow
*[3] SPAN = Less than 20 kHz, SPEED = Fast
*[4] SPAN = 500 kHz, SPEED = Slow

+40 dBm IP3 (3rd Order Intercept Point)

The IC-7851 continues the +40 dBm, 3rd order intercept point and 110 dB receiver dynamic range benchmark set by the IC-7800. To achieve this superb receiver performance, the entire analogue circuitry and components have been re-engineered to match the DSP units. A newly designed LO amplifier generates high output while keeping flat frequency characteristics over a 60 MHz wide range.

Dual Spectrum Scope with Waterfall Function

The IC-7851 introduces the new dual scope, enabling you to observe both receivers in separate spectrum scopes. The dual scope function is vital to watch for multipliers or band openings in contests, or working all bands/modes on a DXpedition. The waterfall display captures signal strengths over time. This enables you to see signals that may not be apparent on a normal scope.

Full Duty 200 W Output Power

The push-pull power amplifiers using power MOS-FETs work on 48 V DC. They provide a powerful 200 W output power at full duty cycle. An effective cooling system maintains internal temperatures within a safe range and prevents thermal runaway.

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.

Other Outstanding Features

[Antenna and receiver] • Two completely independent receivers • 15 kHz, 6 kHz, 3 kHz and 1.2 kHz 1st IF Roofing filters • Four antenna connectors with automatic antenna selector • Automatic antenna tuner • 50 MHz special preamp and mixer circuit • Digital manual notch • Digital twin PBT eliminates interference from adjacent signals • New auto digital noise blanker • ±0.05 ppm High Stability OCXO Unit

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

[Operation] • Simplified remote control capability with the optional RS-BA1 Version 2 • High-quality digital voice recorder memory • Built-in RTTY, PSK31 and PSK63 without needing a computer • Message memory for Voice, CW, RTTY and PSK31/63 • Digital video interface (DVI-I) • SD memory card slot • Audio scope function • Mouse control spectrum scope • AGC control • Microphone equalizer and adjustable transmit bandwidth • FFT scope averaging function for PSK and RTTY decode • Screen saver function

Dual scope example (Horizontally aligned)

- **RMDR (Reciprocal Mixing Dynamic Range) of 110 dB* (at 2 kHz)**
- **Independent Dual Receivers Receive Two Bands Simultaneously**
- **Superior Transmit Phase Noise Characteristics**
- **DIGI-SEL Preselector for Main and Sub Bands**
- **High-Speed, High-Resolution Real-time Spectrum Scope**
- **Touch Screen and Multi-Dial Knob for Smooth Operation**
- **DVI-D Digital Connector for External Display Connection**

* At a 2 kHz offset frequency. Receive frequency:
 14.2 MHz Mode: CW, IF BW: 500 Hz


HF/50 MHz TRANSCEIVER
IC-7610

Innovative RF Direct Sampling System Achieves 110 dB* (typ) RMDR

The RF direct sampling system directly converts the analogue signals to digital signals, and collectively puts the data through FPGA (Field-Programmable Gate Array) processing. The master clock uses a high precision VCXO (Voltage Controlled Crystal Oscillator) which excels in low-noise characteristics. This makes it possible to provide superior receive and transmit performance, extremely low phase noise as well as high RMDR (Reciprocal Mixing Dynamic Range).

* At 2 kHz frequency separation.

■ **RMDR Characteristics**
* Receive frequency: 14.2 MHz, MODE: CW, IF BW: 500 Hz

RMDR (dB) vs Frequency Offset (kHz)

Legend:
— IC-7851 — IC-7610 — IC-7300 — IC-7600
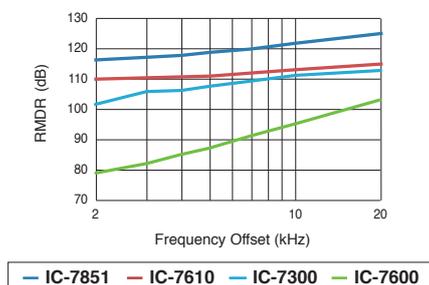
Independent Dual Receivers Receive Two Bands Simultaneously

The dual receivers are ideal for simultaneous monitoring of two bands and two modes. The sub receiver works independently of the main receiver. The optional RC-28 can be used as for main dial and/or the sub dial.

Superior Transmit Phase Noise Characteristics

Breaking with the tradition of mixing a carrier signal with a local oscillator, a Digital-Up-Conversion (DUC) is used to generate required frequencies by sampling in the Digital to Analogue Converter (DAC). The superior Phase Noise characteristics provide high purity transmit signals.

DIGI-SEL Firmly Shuts Out Interfering Signals

Both main and sub receivers are equipped with DIGI-SEL (digital preselector) units. The DIGI-SEL has steeper skirt characteristics than normal band-pass filters, so it rejects out of band strong interference, such as broadcast stations, and prevents intermodulation distortion.

DIGI-SEL Unit

High-Speed, High-Resolution Real-time Spectrum Scope

The real-time spectrum scope of the IC-7610 shows main and sub band conditions. It provides class-leading performance in resolution, sweep speed and a 100 dB of dynamic range. The waterfall screen enables you to find weak signals by showing the spectrum change over time. Connecting a PC mouse to the USB port aids in flexible use of the spectrum scope.

FFT Scope and Oscilloscope for Audio Observation

The audio scope function shows the FFT scope with waterfall and the oscilloscope of either transmit or receive audio. This function can be used to observe various AF characteristics such as microphone compressor level, filter width, notch filter and receive keying waveform in CW mode.

Touch Screen and Multi-Dial Knob for Smooth Operation

The combination of the touch screen and the multi-dial knob offers quick and smooth operation. When you push the multi-dial knob, menu items are shown on the right side of the display. You can select an item with a touch of the screen, and adjust levels by rotating the multi-dial knob.

DVI-D Connector for an External Display Connection

The IC-7610 has a DVI-D connector for an external display. Operating frequency, setting information and spectrum scopes can be observed on a large external display.

High Sound Quality Speaker

The IC-7610's speaker offers comfortable sound quality with flat overall frequency response and loud and intelligible audio of the high-purity received signal. Insulators are placed between the speaker and chassis for preventing vibration noise.

SD Card Slot and USB ports for Data Saving

For multi-operators using one rig, personal settings such as filter settings, Memory channels, and antenna settings, can be saved and loaded using the SD card/USB memory stick. TX Voice memories and RTTY/CW memories on the SD card/USB memory stick can be sent with a touch of a button.

I/Q Signal Output

The I/Q signal output function* enables you to derive digital IF signals from the I/Q output jack.

* The IC-7610 firmware version must be 1.20 or later.

Other Outstanding Features

[Antenna and receiver] • BNC type RX IN/OUT connectors • Built-in automatic antenna tuner • Two types of preamplifiers • 3 dB – 45 dB attenuator • IP+ function improves third order intercept point performance • RTTY demodulator and decoder • Digital twin PBT eliminates interference from adjacent signals

[Transmitter] • TX monitor function • All mode power control • VOX (voice operated transmission) capability • Microphone equalizer and adjustable transmit bandwidth • 50 CTCSS tones

[CW mode] • FPGA-controlled CW keying waveform shaping • Multi-function electronic keyer • CW pitch control from 300 Hz to 900 Hz • Auto repeat function • Contest serial number counter • Normal or short morse number style • Double key jack system • Full break-in and semi break-in • CW auto tuning • APF (Audio Peak Filter) function adjustable filter position, width, type and AF level

[Operation] • 7-inch wide colour TFT LCD • Simplified IP remote control capability with the optional RS-BA1 Version 2 • Memo pad stores up to 10 operating frequencies and modes • Quick Split function • Quick Dualwatch function • RF gain and squelch control with a knob • RIT and ⊿TX variable up to 9.999 kHz • UTC/local clock and timer function • 1 Hz pitch tuning and display • 101 Memory channels • Dial lock function • Adjustable main dial friction • External speaker jacks for main and sub receivers • Multi-function meter • Auto tuning step function • AGC control for fine tuning of the AGC time constant • Screen saver function

Spectrum scope + Waterfall

FFT scope/Oscilloscope

Touch screen interface

HF/50/70 MHz TRANSCEIVER
IC-7300

> **Class Leading Real-time Spectrum Scope with Waterfall Function**
>
> **RF Direct Sampling System**
>
> **Suitable for Starting FT8 Mode**

Class Leading Real-time Spectrum Scope with Waterfall Function

The IC-7300's real-time spectrum scope is class-leading in resolution, sweep speed and dynamic range. While listening to received audio, you can check the real-time spectrum scope and quickly move to an intended signal.

■ Real-time Spectrum Scope Specifications

	IC-7300
Scope system	FFT (Fast Fourier Transform)
Span width	5 kHz–1000 kHz
Resolution *	1 pixel minimum (approximately)
Sweep speed	Max. 30 frames/second (approximately)
Waveform display area (vertical axis)	80 dB
Other functions	Waterfall function, Audio scope function

* Number of pixels shown at the 60 dB level, when receiving a signal.

RF Direct Sampling System

The IC-7300 employs an RF direct sampling system. RF signals are directly converted to digital data and processed in the FPGA (Field-Programmable Gate Array), making it possible to simplify the circuit construction. This system is the new benchmark technology making an epoch in amateur radio.

FPGA: Field-Programmable Gate Array
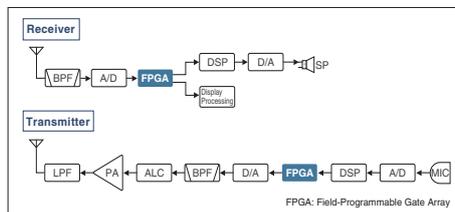
Class Leading RMDR and Phase Noise Characteristics

The IC-7300's RMDR is improved to about 100 dB* (typical value) and Phase Noise characteristics are improved about 20 dB (at 2 kHz frequency separation) compared to the IC-7200. The superior Phase Noise characteristics reduce noise components in both receive and transmit signals.

* At 2 kHz frequency separation (received frequency: 14.2 MHz, MODE: CW, IF BW: 500 Hz)
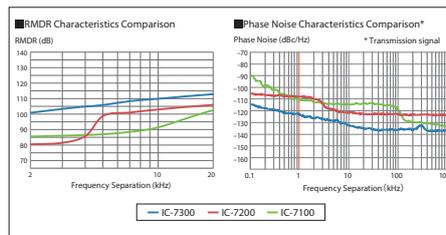
New "IP+" Function

The new "IP+" function improves the third order intercept point (IP3) performance. When a weak signal is received adjacent to strong interference, the AD converter is optimised against signal distortion.

15 Discrete Band-pass Filters

The IC-7300 has 15 discrete RF bandpass filters. The RF signal is only passed through one of the bandpass filters, while any out of range signals are rejected. High Q factor coils are used to minimize the loss in the RF band-pass filters.

Superior Signal Quality

The RF direct sampling system is naturally superior at signal linearity and noise immunity by digitally processing the signal from RF to AF. Mathematical frequency conversions within the FPGA drastically improve the signal purity. Thanks to these features, though it is a compact radio, the IC-7300 enjoys exceptionally clear and rich sound which normally can only be expected from a higher class radio.

Large Touch Screen Colour TFT LCD

The large 4.3 inch colour TFT touch LCD offers intuitive operation. Using the software keypad, you can easily set various functions and edit memory contents.

Other Features

• Audio scope function • Built-in automatic antenna tuner • Multi-dial knob for smooth operation • SD card slot for saving data • New speaker unit design • HM-219 hand microphone supplied • A large and effective cooling fan system • Multi-function meter • 101 Memory channels (99 regular, 2 scan edges) • Optional RS-BA1 Version 2 IP remote control software (the spectrum scope with the waterfall can be observed) • CW functions: Full break-in, CW reverse, CW auto tuning • 70 MHz operation is possible in the European transceiver version

HF TRANSCEIVER
IC−718
Rugged MIL-STD 810

- Simple, Straightforward Operation with Keypad
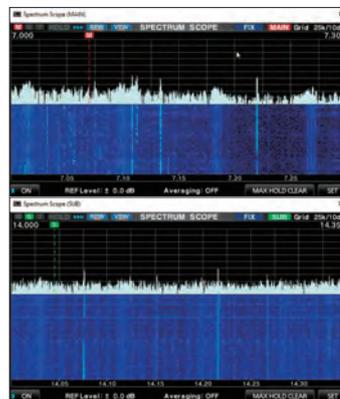- Front Mount Loud Speaker
- Optional DSP Capability, UT-106

Simple, Straightforward Operation with Keypad

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 enables 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 Mount 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 0.03-29.999 MHz* general coverage receive capability.

* Guaranteed range: 0.5-29.999 MHz

Interference rejection— IF shift

To reject interference, the IC-718 has an IF shift function which shifts the center frequency of the IF passband electronically to reduce adjacent interference.

Other Features

- Front mounted loud speaker • 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 • 1 Hz tuning • VOX function for hands-free operation   • Optional automatic antenna tuner • Digital S/RF meter

---

Dual spectrum scope example

IP REMOTE CONTROL SOFTWARE
RS−BA1 Version 2

- Dualwatch Operation with Dual Spectrum Scopes
- Covers Most Functions and Modes
- Optional USB Remote Encoder RC-28

Dualwatch Remote Control Operation

The RS-BA1 Version 2 provides IP remote control capability. The dualwatch operation and dual spectrum scopes with the waterfall functions* can be used on your remote PC. Single band transceiver can also be used with Version 2.

* Only for the IC-7851, IC-7850 and IC-7610.

Covers Most Functions and Modes

Most functions and modes of your transceiver, including interference rejection functions and IF filter settings, can be controlled using the CI-V commands. The RIT tuning knob and ⊿ TX functions are added from Version 2.

Low Latency, High Quality Audio Over an IP Network

The RS-BA1 Version 2 offers real-time operation with low latency, high quality audio. You can use the transceiver installed in another room using your home network, or even from a remote location over the Internet*.
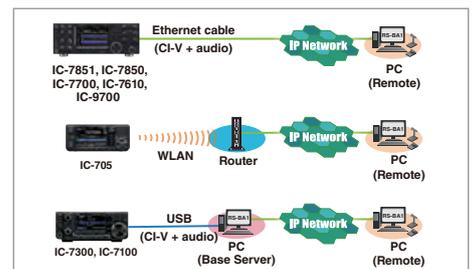
* A static public IP address or Dynamic DNS is required to the base station (Server) PC, when you configure the remote control system through the Internet.

Optional RC-28 Remote Encoder

The optional RC-28 USB remote encoder brings a hardware dial/transmit function for realistic dial operation.

Note for original version RS-BA1 users: Free upgrade service from RS-BA1 to RS-BA1 Version 2 is not available. To obtain the new features in the RS-BA1 Version 2, the purchase of a new software package is required.

Perfect companion of the IC-7300

Menu screen 1

Menu screen 2

144/430/1200 MHz ALL MODE TRANSCEIVER
IC-9700

All Mode, Tri-band Transceiver, with Built-in 1200 MHz

RF Direct Sampling System

Real-time Spectrum Scope with Waterfall Display

All Mode, Tri-band Transceiver with Built-in 1200 MHz

The IC-9700 is an all mode Tri-band transceiver, covering 2 m, 70 cm, and 23 cm. In addition to the traditional SSB, AM, FM, CW, and RTTY modes, the transceiver also incorporates D-STAR DV and DD modes. Satellite mode is also built-in!

RF Direct Sampling System

The RF Direct Sampling system, for 144 MHz and 430 MHz, is utilized in the IC-9700. The outcome is that the signal purity is very high, and clear audio can be generated.
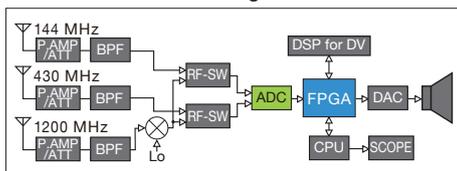
Real-Time Spectrum Scope and Waterfall Display

This is the first time for an Icom VHF/UHF transceiver to have a real-time spectrum scope and waterfall display comparable to an HF high tier transceiver. With

the high-speed spectrum scope, you can instantly see the operating band condition.

Independent Receiver, Full Duplex Operation

The IC-9700 can simultaneously receive on two different bands, and two different modes. This function can be a significant advantage when participating in contests or searching for weak signals. Furthermore, the IC-9700 is Full Duplex, which enables you to transmit on the main band while receiving on the sub band.

Newly Designed Power Amplifier

The power amplifier outputs stable power with high efficiency (144/430/1200 MHz band: 100/75/10 watts). The cooling system prevents the PA from overheating, even when operating for a long time.
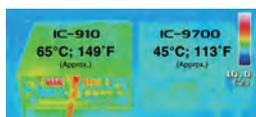
This is a comparison between two transceivers' rear chassis temperatures when continuously transmitting for 15 minutes. The IC-910* rises to 65 °C while the IC-9700 rises only to 45 °C.
* Japanese version example when testing at 50 W.

D-STAR Operation Friendly Functions

The IC-9700 has the D-STAR Repeater (DR) function that can be simultaneously used on both the Main and Sub bands to listen to two separate DV signals. Moreover, by using the DD mode, you can browse the Internet through a repeater station.
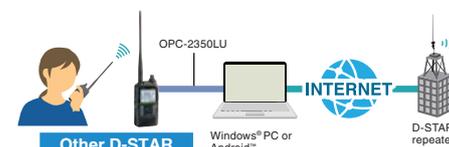

Built-in DV Gateway Functions

A static IP address can be set to the transceiver. If you set a global IP address to your router, you can use the Terminal mode or Access Point mode without any software applications.
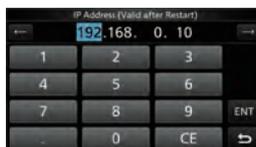
Connection example (Access Point mode)

* These functions can be used only when using through D-STAR G3 repeater.
* See the instruction manual that comes with the transceiver when operating.

Comprehensive Menus for Satellite Operation

The Normal and Reverse Tracking Functions simultaneously increase or decrease both the downlink and uplink frequencies in the same steps. The AFC Function follows the frequency change caused by the Doppler effect, thus maintaining a stable receive condition. The IC-9700 has 99 satellite memory channels.

Audio Scope Function

Making good use of the Audio Scope function, various audio characteristics, such as microphone compressor level, filter width, notch filter width, and keying waveform in the CW mode can be monitored. Transmit or receive audio can either be displayed on the FFT scope and the oscilloscope.

Other Features

• UDP Hole Punch function • Photo Sharing function - send, receive and display photos through the radio • Loud and clear audio • Compatible with the RS-BA1 Version 2 and CI-V commands • Built-in server function • Digital Twin PBT • CW functions: Full break-in, CW memory keyer, CW reverse, CW auto tuning • SD card slot • TX/RX audio recording • Screen capture ...and more

DIG/TAL

GPS · Bluetooth® · WLAN · Rugged MIL-STD 810 · Terminal Mode DV Gateway / Access Point Mode

Display example of real-time spectrum scope and waterfall

Touch screen display

Menu screen example

HF/50/144/430 MHz MULTIMODE PORTABLE TRANSCEIVER
IC-705

- "Base Station" Performance in the Palm of Your Hand
- RF Direct Sampling System
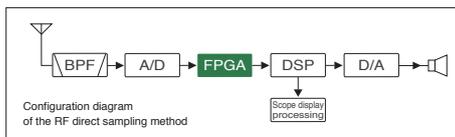- Real-Time Spectrum Scope and Waterfall Display

HF to UHF Multimode
From HF to 50/144/430 MHz, you can enjoy a variety of bands in the D-STAR DV, SSB, CW, RTTY, AM and FM modes. The IC-705 receives continuously from 30 kHz through the 144 MHz band. You can also enjoy FM broadcast and air band reception.

RF Direct Sampling System
The IC-705 employs an RF direct sampling system, where RF signals are directly converted to digital data. Then processed in the FPGA (Field-Programmable Gate Array), making it possible to simplify the circuit construction as well as reducing internal noise that can mask weak signals.

* The down-conversion IF sampling method is used for 25 MHz and above.

Configuration diagram of the RF direct sampling method: BPF → A/D → FPGA → DSP → D/A. Scope display processing.

Real-Time Spectrum Scope and Waterfall Display
Performance seen with the IC-7300 and IC-9700 spectrum scope is at the tip of your fingers for field operation. You can quickly see band activity as well as finding a clear frequency, all in the compact radio and not as an expensive add-on.

Large Touch Screen Colour Display
The large 4.3" colour TFT touch LCD, same size as the IC-7300 and IC-9700, offers intuitive operation of functions, settings, and various operational visual aids, such as the band scope, waterfall, and audio scope functions.

Compact and Lightweight Design
"Base Station" performance in the palm of your hand! You will quickly see how this compact radio is rugged, for outdoor use, in a small, lightweight package, weighing approximately 1.1 kg.

(8.35 cm × 20 cm × 8.2 cm)

Li-ion Battery Pack or 13.8 V DC External Power Supply
Utilizing the high capacity Li-ion battery from the ID-52E series handheld handheld radios. A 13.8 V DC external power supply can be used for operation and charging of the BP-272 or BP-307.

BP-272 attached (Rear panel view)

Maximum Output Power 5 W (Battery), 10 W (13.8 V DC)
In portable mode, the IC-705 has the maximum output power of 5 W from the BP-272 or BP-307 which can last approximately 3 or 4.7 hours*. This is perfect for true 5 W QRP as well as the 0.5 W QRPp operations. Once you setup with a 13.8 V DC power source, you have up to 10 W.

* TX : RX : Standby = 1 : 1 : 8 (The Power Save function ON, in the FM mode)

WLAN/Bluetooth® Technologies
Utilize WLAN/Bluetooth® technologies for linking and remote control*, for true wireless operation. The VS-3 headset (optional) enables more comfortable operation via Bluetooth®.

* Those features will be available with future firmware upgrades.

GPS Functions
An internal GPS receiver and antenna enhance your operations by providing location logging*, RX/TX locations via D-PRS, "Near Me" repeater search/scan, QSO recording with metadata*, and internal clock synchronization.

* A microSD memory card is required.

D-STAR Functions
Enjoy the latest DV mode features with the IC-705. Have direct access to the D-STAR network with Terminal/Access point modes. Additionally, the IC-705 has the Photo Sharing feature introduced with the IC-9700. Share photos, without the need of a computer with other users.

Other Features
- microSD card slot
- Micro USB connector
- Programmable speaker microphone, HM-243
- Optional backpack, LC-192, ideal for field operations
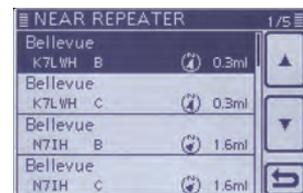
LC-192 Multi-function backpack

For more information about the Multi-Function Backpack, LC-192

8

DR (D-STAR Repeater) function operation

Near repeater function

SD card slot for saving data

HF/VHF/UHF TRANSCEIVER
IC-7100

Intuitive Touch Screen Interface

**Controls at Your Fingertips with an Angled Display**

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

Touch Screen Control with an Angled Display

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

Resistive Touch Screen

The 48.6×75.9 mm; 1.91×2.99 in large resistive touch screen display can be operated while wearing gloves.


75.9 mm; 2.99 in

48.6 mm; 1.91 in
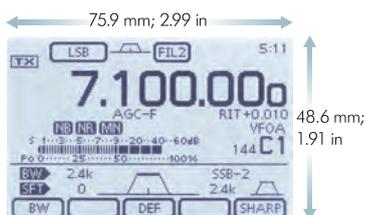
HF, 50/70/144/430 MHz Multi-band

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

Digital Features Controlled by the IF DSP

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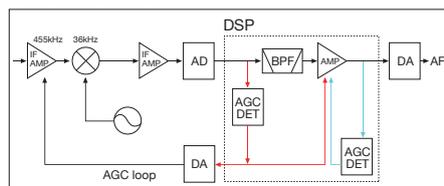
AGC function loop

Built-in RTTY Functions

The built-in RTTY decoder enables you to instantly read an RTTY message on the display. Your RTTY operating log, both TX and RX, can be recorded on an SD card. The eight RTTY memories can memorize and transmit often used RTTY sentences.

D-STAR DV Mode (Digital Voice + Data)

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

▌DR (D-STAR Repeater) Function Operation

The DR function operation makes the D-STAR operation simple and straightforward, even if you are new to D-STAR.

▌Repeater Search Function

With an external GPS receiver*, this function searches nearby D-STAR repeaters from the internal database, based on your location.

* External GPS receiver or manual position data input required.

Controller Mounted Speaker and Jacks

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

Controller Rear Panel View

PHONES/SP MIC
ELEC-KEY MAIN UNIT Speaker

SD Card Slot for Saving Data

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

Other Features

• DSP controlled AGC function loop • Easy vehicle mounting with the optional MBF-1 • RS-MS1A remote control software for an Android™ devices (Send and receive pictures) • Optional RS-BA1 Version 2 IP remote control software • CW full break-in, CW receive reverse, CW auto tuning • Optional multi-function microphone, HM-151 • Band scope and SWR graphic display • RF speech compressor controlled by the DSP • Voice memory function • Multi-function meter • 495 regular, 4 call, 6 scan edge and 900 DR function repeater channels • 4 TX voice memories • ±0.5 ppm frequency stability • Auto reply function* • Digital callsign squelch (DSQL) and digital code squelch (CSQL)* • 12.5 kHz IF output for DRM (Digital Radio Mondiale) receive

* D-STAR DV mode only

9

DIGITAL

GPS

Terminal Mode
DV
Gateway
Access Point Mode

Bluetooth

VHF/UHF DIGITAL TRANSCEIVER
ID−52E

2.3 inch Large Colour Display

V/V, U/U, V/U Dualwatch Including DV/DV Mode

Picture Sharing Functions & Bluetooth® Connection

2.3 inch Large Colour Display

The ID-52E is equipped with a colour display. The display size is increased to 2.3 inches, 320 × 280 pixels to achieve excellent viewability. The display background colour is selectable from black and white.
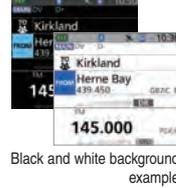
Black and white background example

V/V, U/U, V/U Dualwatch

The Dualwatch function monitors the VHF/VHF, UHF/UHF and VHF/UHF bands simultaneously.* You can also receive two DV signals at the same time.

* AM/AM mode Dualwatch is not possible.

V/U, V/V Dualwatch example

Picture Sharing Functions

The ID-52E has the popular Picture Sharing functions introduced in the IC-9700 and IC-705. Share pictures with other users and see received pictures on the colour display. Pictures taken on an Android™ device can be wirelessly transferred to the ID-52E through Bluetooth®.

Picture sharing example

Bluetooth® Connection

You can easily connect to an Android™ device through Bluetooth®. The Android™ device with RS-MS1A App installed, can wirelessly control the ID-52E.

Terminal/Access Point mode*1 *2

Connect the ID-52E to the Internet through a PC or Android™ device. The Internet gateway (using Terminal mode and Access Point mode) enables you to access the D-STAR network, even from areas where no D-STAR repeater is directly accessible via radio.

Terminal mode

Access point mode

*1 The RS-MS3W optional software is required to be installed in the PC. The RS-MS3A optional application software is required to be installed in the Android™ device. USB data cable is separately required.

*2 Compatible with Icom RS-RP3 gateway software only.

Other Features

• Independent FM broadcast receiver • DV/FM repeater search function • DV fast data mode • Integrated GPS receiver • microSD card slot • Micro USB connector • IPX7 waterproof construction • 5 W output power and 750 mW loud audio • Voice recording functions • CS-52 software can be downloaded from the Icom website

---

Rugged
MIL-STD 810

VHF FM TRANSCEIVER
IC−V80E

750 mW Loud Audio

Powerful 5.5 W of Output Power

IP54 and MIL-STD-810 Rugged Construction

750 mW Loud Audio

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

* Typical value using with internal speaker.

Powerful 5.5 W of Output Power

The IC-V80E offers a just-right mix of power and size. 5.5 watts of high power will work to get your message through.

19 Hours of Long Battery Life

Get up to 19 hours* of operating time with the BP-265 Li-ion battery pack or 13 hours with the BP-264 Ni-MH. All that power comes is an easy to hold and use size – not too big, not too small.

* Typical operation. 5:5:90 duty cycle with power save on.

IP54 and MIL-STD-810 Rugged Construction

The dust protection and water-resistance equivalent to IP54 provides reliable operation for practical outdoor operation. The IC-V80E tested to and passed 11 categories of MIL-STD-810 environmental tests.

A Total of 207 Memory Channels

The IC-V80E has a total of 207 memory channels, including 200 regular channels, 6 scan edges and 1 call channel. The channel name is programmable with 5 characters for easy recognition.

Built-in CTCSS/DTCS

The CTCSS and DTCS tone codes provide quiet stand-by and allow you to use tone-access repeaters. The pocket beep alerts you when a matching tone frequency is received. The tone scan detects the subaudible tone that is used for repeater access.

Internal VOX function

The IC-V80E has internal VOX (Voice Operated Transmit) function for convenient hands-free operation with a compatible optional headset and plug adapter cable. Also, the VOX gain and VOX delay time are adjustable.

Other Features

• Frequency coverage (TX/RX: 144–146 MHz) • Program scan, memory scan, skip scan, priority scan and tone scan • 1750 Hz tone for European repeater access • TOT (time out timer) setting • Repeater lockout and busy channel lockout • PC programmable with optional CS-V80 • Transceiver-to-transceiver cloning (Optional) • Direct keypad frequency entry • DTMF autodial memories • Auto power off • Wide/narrow channel spacing

Mobile

DIGITAL

Rugged MIL-STD 810 | GPS

VHF/UHF DIGITAL TRANSCEIVER
ID–5100E

- Intuitive Touch Screen Operation
- DV/DV Dualwatch
- Integrated GPS Receiver

Intuitive Touch Screen Operation

The intuitive touch screen interface provides quick and smooth operation. The large 5.5 inch display (320 × 128 pixels) responds naturally to the touch – allowing you to change settings, enter frequencies and edit Memory channels with ease.

Vehicle installation example (Using optional MBF-1 mount base and MBA-2 controller bracket)

Integrated GPS Receiver

The integrated GPS receiver shows your own location, course, speed and altitude on the display. The GPS location information can be used for exchanging location reports, tracking the GPS log, and more.

DV/DV Dualwatch

The ID-5100E can receive both FM/FM and FM/DV mode signals simultaneously. Two DV mode signals can be monitored for receive on either channel. You can check other repeaters or other channel activities while waiting for the main repeater.

DV/DV Dualwatch (DR function) example

* Main band audio has priority if two DV signals are received at the same time.

DV/FM Repeater Search Function

The DV/FM repeater search function assists you in accessing nearby repeaters, even in areas you are visiting for the first time. The function searches for a nearby repeater using the repeater memories with the GPS location information.

* To use the repeater search function, the position data of the repeater is required.

Other Features

• SD card slot • VS-3 Bluetooth® headset •RS-MS1A Android™ application •DV fast data mode •50 W output power •Repeater memory channels increased to 1500 • CTCSS and DTCS with Split tone function •Sub band mute auto • D-PRS functions • Convenient memory contents management using CSV format •Speech function announces the operating frequency, mode and received call sign (DV mode) • Independent main, volume and SQL knobs for A/B bands •AM airband Dualwatch • CS-5100, programming software supplied • 1750 Hz tone burst

---

Rugged MIL-STD 810

VHF/UHF DUAL BAND TRANSCEIVER
IC–2730E

- 50 Watts of Output Power on Both VHF and UHF Bands
- VHF/VHF, UHF/UHF Simultaneous Receive
- Optional Wireless Remote Control Bluetooth® Headset VS-3

VHF/VHF, UHF/UHF Simultaneous Receive

The IC-2730E provides VHF/VHF, UHF/UHF simultaneous receive capability, as well as VHF/UHF receive. A simple one-touch of a button enables you to change between the main (transmit) band and sub band.

Independent Controls for Each Band

Operating two bands simultaneously is very simple with the symmetric layout with a wide LCD display showing both band settings in an easy to read, side by side format. Various operations, including frequency tuning, is straight forward and smooth.

Optional VS-3 Bluetooth® Headset

The optional VS-3 Bluetooth® headset can wirelessly control the IC-2730E with three programmable keys and a PTT button. It also provides VOX operation for hands-free communication.

* Optional UT-133A Bluetooth® unit must be installed in the IC-2730E.

Easy Controller Mounting with the Optional MBF-1

The combination of the optional MBF-1 suction cup mounting base and MBA-5 controller bracket provides easy tilt and swivel adjustments. The large suction cup can be mounted on flat surfaces, and can be easily removed.

Other Features

• Controller attachment to the main unit with optional MBA-4 • 50 W of output on VHF/UHF • Built-in CTCSS and DTCS tones with split tone functions • Wide band receiver (118–174 and 375–550 MHz)* • HM-207 remote control microphone • CS-2730 Free download PC programming software • Versatile scanning capability • Squelch delay and squelch attenuator • Sub band auto mute function •Sub band busy beep function •Auto power off • 16 DTMF auto dial memories • CI-V remote control capability (through the OPC-478UC)

* Receiver range differs, depending on the version.

Scan setting screen

Function menu for touch screen

Pop up menu appears by pushing DIAL B

COMMUNICATIONS RECEIVER

IC−R8600

0.01–3000 MHz Super Wideband

Decode Digital Protocols (P25, NXDN™, dPMR™, D-STAR, DCR)

Real-Time Spectrum Scope with Waterfall

0.01–3000 MHz Super Wideband Coverage

The IC-R8600 decodes various digital protocol signals including P25 (Phase 1), NXDN™, dPMR™, D-STAR, Japanese DCR (Digital Convenience Radio). It also receives conventional analogue signals such as USB, LSB, FSK, CW, AM, S-AM (Synchronous-AM), FM and WFM modes, covering 10 kHz to 3 GHz wideband in 1 Hz steps.

Software Demodulation in FPGA Processing

The IC-R8600 utilizes FPGA (Field Programmable Gate Array) and DSP units for demodulation, decoding and most of signal processing. Direct HF signals and intermediate frequency signals, which are converted from VHF/UHF signals, are digitized in a 14-bit A/D converter and transferred to the FPGA and DSP for optimal processing. The high-rate 122.88 MHz sampling frequency used for the A/D converter results in superior aliasing and image reception reduction.

FPGA

Superb Receiver Performance

The IC-R8600 has 11 discrete RF bandpass filters in the HF bands and 13 bandpass filters in the VHF/UHF bands. To prevent overflow, only the intended signal is passed, while any out of range strong interference signals are rejected. The IC-R8600 provides +30 dBm IP3 and 105 dB dynamic range at 14.1 MHz. IP3 performance is +10 dBm at 144 MHz and 0 dBm at 440 MHz.

Variety of Scan Functions

A variety of scan functions effectively and thoroughly search for desired stations. The IC-R8600 scans up to 100 channels per second in the memory scan mode.
• Program scan/Fine program scan •⊿f scan/ ⊿f fine scan • Priority scan • Memory scan • Selected memory scan • Selected mode memory scan • Auto memory write scan

Real-time Spectrum Scope with Waterfall Function

The high-resolution real-time spectrum scope provides class-leading performance in resolution, maximum 30 frames per second* fast sweep speed, ±2.5 MHz wide scope span (display range) and 110 dB of dynamic range (at ±2.5 kHz span). The waterfall screen enables you to find weak signals by showing the spectrum change over time.

(* Approximate)

Quick, Smooth and Intuitive Operation

To efficiently acquire intended signals, the IC-R8600 user interface provides quick and accurate operation. The large 4.3-inch colour display, with touch screen function, is configured to collect operating information. By tapping indications and icons on the screen, the setting menu will pop up and parameters can easily be adjusted.

SD Card Slot for Receiver Recorder

The recorder function can record received audio onto an SD card in WAVE format. The recorded voice audio can be played back on the receiver or a PC. When a 32 GB SD card is used, up to 270 hours of recording is possible. In addition, the screen capture function saves a snap shot of the screen in PNG or BMP format on the SD card.

* An SD card is required.

I/Q Signal Output

The I/Q signal output function* enables you to derive digital IF signals from the I/Q output port to a PC through a USB cable. It can be used for analyzing spectrum or decoding signals. The IC-R8600 outputs I/Q data to the third-party software HDSDR, and the IC-R8600 can be controlled by the HDSDR.

* This function requires firmware version 1.3 or later. Download the IC-R8600 USB I/Q package for HDSDR.

Other Features

• Absolute Value of RSSI (Received Signal Strength Indicator) • 2000 regular Memory channels • Remote control function through IP network or USB cable • 3 antenna connectors: an SO-239 type and a phono (RCA) connector for HF and a type-N connector • Clock and NTP function • Center tuning meter and digital auto frequency control (AFC) for FM, WFM and digital modes • Built-in Voice synthesizer • Audio tone functions: HPF/LPF, bass, treble and de-emphasis • Decode multiple digital code used in digital mode • IP+ function improves 3rd order intercept point performance • Main dial friction adjustment • Dial lock and panel lock • CI-V remote control command • RX history log for digital modes

COMMUNICATIONS RECEIVER
IC-R30

Rugged MIL-STD 810

GPS

Dualwatch and Dual Recording

**Decode Digital Protocols
(P25, NXDN™, dPMR™, D-STAR, DCR)**

**0.1 – 3304.999 MHz
Wideband Coverage**

Dualwatch and Dual Recording

The IC-R30 can receive on different bands and different modes. The audio of the two bands received while in the Dualwatch mode, can be individually recorded onto a microSD card* in the WAV format. The recorded audio can be played back on the receiver or a PC.

* A microSD/microSDHC card is required.

Decodes Digital Protocols

The IC-R30 decodes various digital protocol signals including P25 (Phase 1), NXDN™, dPMR™, D-STAR and Japanese domestic DCR (Digital Convenience Radio).

0.1–3304.999 MHz Wideband Coverage

The IC-R30 covers a wide frequency range from 0.1 to 3304.999 MHz, and receives conventional analog signals such as AM, FM, WFM, USB, LSB and CW as well as digital mode signals*.

* SSB, CW and digital modes: 0.1 MHz–1.3 GHz.

Wireless Operation with an Optional Bluetooth® Headset

The optional VS-3 Bluetooth® headset offers flexible operating styles. You can put the IC-R30 into your pocket and wirelessly listen to received audio.

Volume UP
Volume DOWN
Programmable Buttons
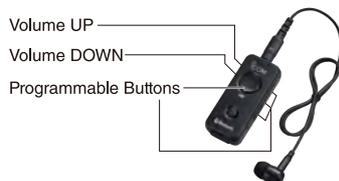
Bluetooth® headset, VS-3 (option)

Top Level Scan Speed – 200 Channels/Second

The IC-R30 scans approximately 200 channels per second in the A band. You can quickly find and lock in to a desired signal. The IC-R30 has variety of scan functions; VFO scan (Auto memory write scan, Program scan), Memory scan (Near station scan, Mode scan, Group scan, Group link scan), Priority scan, Tone scan and more.

Remote Control Application RS-R30I/RS-R30A

The RS-R30I for iOS™ devices, and the RS-R30A for Android™ enable you to wirelessly connect to the IC-R30 through Bluetooth® (BLE), and remotely control VFO operation, memory channels, a variety of scans and the voice recording function.

Dualwatch screen

Other Features

• Integrated GPS receiver • Band scope function • IP57 dust-protection and waterproof protection • Up to 8.3 hours of long battery life* • USB charging and PC connection • microSD card slot • DTCS and CTCSS tone squelch and reverse tone squelch • Voice squelch control** • Auto frequency control** • Noise Blanker** • Auto Noise Limiter** • RF gain control • ATT function • Power save function

* The Dualwatch function is ON (A band: continuously receiving, B band: standing by), the Power Save function is set to "Auto (Short)," the internal speaker's volume is set to "20," the GPS function is ON, and the Bluetooth® function is OFF.

** Usable depending on the operating mode.

COMMUNICATIONS RECEIVER
IC-R6

Rugged MIL-STD 810

**0.1–1309.995 MHz*
Wideband Coverage**

**100 Channels Per Second
High Speed Scan**

**15 Hours of Continuous
Receive Capability**

* Frequency range depending on version.

0.1–1309.995 MHz* Coverage

Amateur stations, AM, FM, short wave broadcasts, air band, marine VHF, PMR446 and a variety of utility communications can be found and listened to.

* Frequency range depending on version.

100 Channels per Second High Speed Scan

The IC-R6 has 100 channels per second high speed scan capability* and variety of scan functions; Auto memory scan, Tone scan, Programmed scan, Memory scan, priority scan, auto memory write scan and more.

* VFO mode scanning.

15 Hours of Continuous Receive Capability*

The IC-R6 is energy-efficient, designed to provide many hours of listening enjoyment on a single charge. With the supplied rechargeable Ni-MH cells (1400 mAh ×2), the IC-R6 provides up to 15 hours of continuous receive capability*.

* At 50 mW output using external speaker.

Other Features

• 1300 Memory Channels with 22 Memory Banks • Voice Squelch Control • Built-in audio low pass filter • ±1.0 ppm high frequency stability (at 25°C) • Earphone cord antenna for AM aviation as well as FM broadcast • Ferrite bar antenna for AM broadcast • DTCS and CTCSS tone squelch and reverse tone squelch • Optional CS-R6 programming software • Receiver-to-receiver cloning (optional OPC-474 required) • Auto power OFF • Compact, drip-resistant construction • Duplex operation monitoring • Automatic LCD backlight • Dial speed acceleration • Built-in RF attenuator • Reversible up/down buttons and dial knob for volume, frequency, memory channel, scan direction and set mode settings • Optional tube earphone, SP-27

ACCESSORIES FOR BASE STATIONS / MULTI-BAND/ RECEIVERS

MODEL NAME	HAND MICROPHONES				SPEAKER-MICROPHONE	DESKTOP MICROPHONES			EXTERNAL SPEAKERS
	HM-219	HM-103	HM-151	HM-198	HM-243	SM-50	SM-30	SM-27	SP-33 Wooden box speaker
IC-7851						✔	✔		✔
IC-7610	✔					✔	✔		✔
IC-7300	✔					✔	✔		✔
IC-718	✔					✔	✔	✔	
IC-9700	✔					✔	✔		
IC-705					✔				
IC-7100	✔ (Use with OPC-589)	✔	✔	✔		✔ (Use with OPC-589)	✔ (Use with OPC-589)		
IC-R8600									

MODEL NAME	EXTERNAL SPEAKERS					DC POWER SUPPLY	AC ADAPTER	ANTENNA ELEMENT	AUTO ANTENNA TUNER
	SP-34 4 audio filters	SP-35 2 m cable SP-35L 6 m cable	SP-38 Best design matched for the IC-7300/IC-9700	SP-39AD With DC power supply	SP-41 With two input lines	PS-126 13.8 V/25 A 4-pin type	AD-55NS Input: 100–240 V/1 A, Output: 15 V/2 A	AH-2b Covers 7–54 MHz for use with AH-4	AH-4 Covers 3.5–54 MHz
IC-7851	✔								
IC-7610	✔				✔	✔		✔	✔
IC-7300	✔	✔	✔		✔	✔		✔	✔
IC-718					✔	✔		✔	✔
IC-9700		✔ (Use SP-35)	✔		✔				
IC-705									
IC-7100		✔ (Use SP-35)				✔		✔	✔
IC-R8600				✔	✔		✔		

MODEL NAME	AUTO TUNING ANTENNA	CONTROL CABLES	FOLDED DIPOLE ANTENNA	OMINIDIRECTIONAL ANTENNA	FILTERS	HIGH STABILITY CRYSTAL UNIT	DSP UNIT	LINEAR AMPLIFIER	CARRYING HANDLES
	AH-740 Covers 2.5–30 MHz. (amateur band) OPC-2321 is required.	OPC-2321 (6 m) For use with AH-740 OPC-420 (10 m) For use with AH-4. (Photo shows OPC-2321)	AH-710 Covers 1.9–30 MHz approx. 24.5 m; 80.3 ft / 30 m; 98.4 ft	AH-8000 Covers 100–3335 MHz	FL-53A 250 Hz/–6 dB FL-257 3.3 kHz/–6 dB	CR-338 Frequency stability: ±0.5 ppm	UT-106	IC-PW1EURO	MB-23 MB-121 MB-123 (Photo shows MB-23)
IC-7851								✔	
IC-7610	✔ (Use with OPC-2321)	✔	✔					✔	✔ (Use MB-121)
IC-7300	✔ (Use with OPC-2321)	✔	✔					✔ (Use with OPC-599)	✔ (Use MB-123)
IC-718	✔ (Use with OPC-2321)	✔	✔		✔ (Accepts only one filter)	✔	✔ (Installed depending on version)	✔ (Use with OPC-599)	✔ (Use MB-23)
IC-9700									✔ (Use MB-123)
IC-705									
IC-7100	✔ (Use with OPC-2321)	✔						✔ (Use with OPC-599)	
IC-R8600			✔	✔					✔ (Use MB-123)
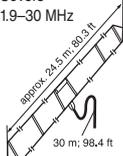
✔ : Applicable   (blank) : Not applicable

ACCESSORIES FOR BASE STATIONS / MULTI-BAND/ RECEIVERS

MODEL NAME	MOBILE MOUNTING BRACKETS		DESKTOP STAND	MOUNTING BASE	CONTROLLER BRACKET	SEPARATION CABLES	MIC ADAPTER CABLE	ADAPTER CABLE	DC POWER CABLES
	MB-62	**MB-118**	**MBF-705**	**MBF-1**	**MBA-1**	**OPC-2253** 3.5 m **OPC-2254** 5.0 m	**OPC-589** 8-pin connector microphone to 8-pin modular	**OPC-599** 13-pin ACC socket to 7-, 8-pin ACC sockets	**OPC-1457R OPC-1457-1** 30 A cable **OPC-2095** 30 A cable **OPC-2361** 25 A cable **OPC-2421** 4 A cable
IC-7851									
IC-7610									(Use OPC-1457-1)
IC-7300		✔						✔	(Use OPC-1457R)
IC-718		✔						✔	(Use OPC-2361)
IC-9700		✔							✔ (Use OPC-2361)
IC-705			✔						✔ (Use OPC-2421)
IC-7100	✔			(Use with MBA-1)		✔	✔	✔	✔ (Use OPC-2095)
IC-R8600									

MODEL NAME	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE					USB REMOTE ENCODER	PICTURE UTILITY SOFTWARE	DATA CABLES
	CS-9700 CS-705 CS-7100 CS-R8600 A USB cable is required for programming.	**RS-MS1A**[*1] For Android™ device	**RS-MS3A**[*1] For Android™ device	**RS-MS3W**[*2] For Windows® PC	**RS-R8600**	**RS-BA1** Version 2	**RC-28**	**ST-4001A**[*1] **ST-4001I**[*3] **ST-4001W**[*2]	**OPC-1529R** RS-232 cable for an external GPS or a PC
IC-7851						✔	✔		
IC-7610						✔	✔		
IC-7300						✔	(Use with RS-BA1)		
IC-718									
IC-9700	(Use CS-9700)	(Use with OPC-2350LU)	(Use with OPC-2350LU)			✔	(Use with RS-BA1)	✔	✔
IC-705	(Use CS-705)	✔*4	✔*5	✔*5		✔*5	(Use with RS-BA1)	✔	
IC-7100	(Use CS-7100)	(Use with OPC-2350LU)				✔	(Use with RS-BA1)		✔
IC-R8600	(Use CS-R8600)				✔		(Use with RS-BA1)		

*1 Free download Android™ app. Download from Google Play™.   *2 Free download software for Windows® PC. Download from the Icom website: www.icomjapan.com/support/firmware_driver
*3 Free download iOS™ app. Download from the App Store.   *4 Use with OPC-2417, OPC-2418 or Bluetooth® function.   *5 Use with OPC-2417, OPC-2418 or WLAN function.

MODEL NAME	DATA CABLES	BATTERY PACKS		DESKTOP CHARGER	AC ADAPTERS		CIGARETTE LIGHTER CABLE	BLUETOOTH® HEADSET	BACKPACK
	OPC-2350LU 2.5 mm jack to USB Type A or micro-B **OPC-2417** USB micro-B to micro-B **OPC-2418** USB Type C to micro-B	**BP-272** (Li-ion) 7.4 V 1880 mAh (min.), 2000 mAh (typ.)	**BP-307** (Li-ion) 7.2 V 3050 mAh (min.), 3150 mAh (typ.)	**BC-202IP3L** Rapid charger	**BC-123S** Straight plug type For BC-202IP3L single unit	**BC-228** For BC-202IP3L multiple connections (Up to 6 x BC-202IP3L)	**CP-25H** For BC-202IP3L single unit	**VS-3**	**LC-192** Multi-function backpack
IC-7851									
IC-7610									
IC-7300									
IC-718									
IC-9700	(Use OPC-2350LU)								
IC-705	(Use OPC-2417 or OPC-2418)	✔	✔	✔	(Use with BC-202IP3L)	(Use with BC-202IP3L)	(Use with BC-202IP3L)	✔	✔
IC-7100	(Use OPC-2350LU)								
IC-R8600									

✔ : Applicable   : Not applicable

Note for the Terminal mode and Access point mode (For the IC-9700 and the IC-705):
• Before operating in the Terminal mode or the Access Point mode, BE SURE to check your local regulations or laws.
• You need an Internet connection with an IPv4 Global IP address. If you use a cellular system, you need an IPv4 Global IP address assigned to your Windows® or Android™ device.
• When operating in the Access Point mode, you need two call signs. One for the Access Point transceiver and one for the Remote D-STAR transceiver.
• For the Access point or Terminal mode operation, please register your MY and Access point call signs with a Gateway repeater/server that has the RS-RP3C installed.

ACCESSORIES FOR HANDHELD RADIOS / RECEIVERS

MODEL NAME	BATTERY CASES			BATTERY PACKS					
	BP-273 LR6(AA)×3 cells	**BP-263** LR6(AA)×6 cells	**BP-293** LR6(AA)×3 cells	**BP-272** (Li-ion) 7.4 V/ 1880 mAh (min.), 2000 mAh (typ.)	**BP-307** (Li-ion) 7.2 V/ 3050 mAh (min.), 3150 mAh (typ.)	**BP-264** (Ni-MH) 7.2 V/1400 mAh	**BP-265** (Li-ion) 7.4 V/ 1850 mAh (min.), 2000 mAh (typ.)	**BP-287** (Li-ion) 3.6 V/ 3120 mAh (min.), 3280 mAh (typ.)	
ID-52E	✔			✔	✔				
IC-V80E		✔				✔	✔		
IC-R30			✔					✔	
IC-R6									

MODEL NAME	DESKTOP CHARGERS						MULTI-CHARGER	AC ADAPTERS	
	BC-202IP3L Multi-connectable Rapid charger	**BC-191** Rapid charger, Charges the BP-264 in 2 hours (approx.)	**BC-192** Charges the BP-264 in 16 hours (approx.)	**BC-193** Rapid charger, Charges the BP-265 in 2.5 hours (approx.)	**BC-194** Charger stand	**BC-223** Rapid charger	**BC-197**[*1] For use with BP-264/265	**BC-167SD** 12 V/500 mA	**BC-123SE** 12 V/1 A (Photo shows BC-123S straight plug)
ID-52E	✔							✔	✔[*3] (Use with BC-2302IP3L)
IC-V80E		✔[*2]	✔[*2]	✔[*2]			✔[*2]		(Use with BC-191/193)
IC-R30						✔[*2]			(Use with BC-223)
IC-R6					✔ (Use with BC-196SD)				

[*1] Either AD-120 (for BP-264) or AD-121 (for BP-265) charger adapters are supplied with the BC-197, depending on BC-197's version.
[*2] AC adapter may be supplied depending on versions.
[*3] Straight plug type for BC-202IP3L single unit.

MODEL NAME	AC ADAPTERS			CIGARETTE LIGHTER CABLES			DC POWER CABLES		
	BC-157S 12 V/7.5 A	**BC-206SE** 15 V/0.4 A	**BC-196SD** 4.5 V/0.3 A	**CP-12L** with noise filter	**CP-23L**	**CP-25H** For BC-202IP3L single unit	**OPC-254L**	**OPC-515L**	**OPC-656**
ID-52E				✔		✔ (Use with BC-202IP3L)	✔		
IC-V80E	✔ (Use with BC-197)	✔ (Use with BC-192)			✔ (Use with BC-191/192/193)			✔ (Use with BC-191/192/193)	✔ (Use with BC-197)
IC-R30									
IC-R6		✔							

MODEL NAME	SPEAKER-MICROPHONES					EARPHONE-MICROPHONES			HEADSETS
	HM-75LS	**HM-158LA**	**HM-159LA**	**HM-183LS** Waterproof	**HM-186LS**	**HM-153LS**	**HM-153LA**	**HM-166LS**	**HS-94** Earhook type with boom microphone
ID-52E	✔			✔	✔	✔		✔	✔ (Use with OPC-2006LS)
IC-V80E		✔	✔				✔		✔ (Use with OPC-2004LA)
IC-R30									
IC-R6									

✔ : Applicable   : Not applicable

16

MODEL NAME	HEADSETS		EARPHONES		PLUG ADAPTER CABLES			Bluetooth® HEADSET	CARRYING CASES
	HS-95 Neck-arm type	HS-97 Throat microphone type	SP-40	SP-27	OPC-2004LA For VOX operation	OPC-2006LS For VOX operation	OPC-2144 For straight plug microphones	VS-3	LC-193
ID-52E	✔ (Use with OPC-2006LS)	✔ (Use with OPC-2006LS)	✔ (Use with OPC-2144)			✔	✔	✔	✔
IC-V80E	✔ (Use with OPC-2004LA)	✔ (Use with OPC-2004LA)			✔				
IC-R30			✔					✔	
IC-R6			✔	✔					

MODEL NAME	CARRYING CASES		CHARGER BRACKET	USB CABLES		PROGRAMMING CABLES		BELT CLIPS	
	LC-189	LC-146A	MB-130	OPC-2417 USB micro-B to micro-B	OPC-2418 USB Type C to micro-B	OPC-474 Handheld to handheld	OPC-478UC Handheld to PC USB cable	MB-127	MB-124
ID-52E				✔	✔			✔	
IC-V80E			✔ (Use with BC-191/192/193)			✔	✔		✔
IC-R30	✔								
IC-R6		✔				✔	✔		

MODEL NAME	BELT CLIPS	ANTENNA		ANTENNA ADAPTER	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE			PICTURE UTILITY SOFTWARE
	MB-133	FA-S270C	FA-B2E	AD-92SMA BNC type antenna connector	CS-52*³ CS-V80 CS-R30 CS-R6	RS-MS1A*⁴ For Android™ device	RS-MS3A*⁴ For Android™ device / RS-MS3I*⁶ For iOS™ device	RS-R30A*⁴ For Android™ device / RS-R30I*⁶ For iOS™ device	ST-4001A*⁴ ST-4001I*⁶ ST-4001W*⁵
ID-52E		✔		✔	✔ (Use CS-52)	✔*8	✔*7		✔
IC-V80E			✔		✔ (Use CS-V80)				
IC-R30	✔			✔	✔ (Use CS-R30)			✔ (Use Bluetooth® connection)	
IC-R6				✔	✔ (Use CS-R6)				

*³ CS-52 is available for free download from: www.icomjapan.com/support/firmware_driver/ *⁴ Free download Android™ app. Download from Google Play™.
*⁵ Free download software for Windows® PC. Download from the Icom website: www.icomjapan.com/support/firmware_driver/ *⁶ Free download iOS™ app. Download from the App Store.
*⁷ USB cable required. Type-A: User supplied. Type-C: OPC-2418. micro-B: OPC-2417. *⁸ Use Bluetooth® connection or USB cable connection. RS-MS1I for iOS™ device will be available later.

✔ : Applicable   : Not applicable

ACCESSORIES FOR MOBILE RADIOS

MODEL NAME	HAND MICROPHONES					BLUETOOTH® HEADSET	MOUNTING BASE	MOUNTING BRACKET	CONTROLLER BRACKETS
	HM-198	HM-209 Noise canceling microphone Experience in video below	HM-207	HM-154	HM-232	VS-3	MBF-1	MBF-4	MBA-2
ID-5100E	✔	✔	✔	✔	✔	✔ (Use with UT-133A)	✔ (Use with MBA-2)	✔	✔
IC-2730E	✔	✔	✔	✔	✔	✔ (Use with UT-133A)	✔ (Use with MBA-5)	✔	

MODEL NAME	CONTROLLER BRACKETS	COMBINATION BRACKET	EXTERNAL SPEAKERS		MICROPHONE CABLES	MIC ADAPTER CABLE	CONTROLLER CABLE	DATA CABLES	
	MBA-5	MBA-4	SP-35 2 m cable SP-35L 6 m cable	SP-30 4 inch (102.5 mm) diameter speaker	OPC-440 5.0 m OPC-647 2.5 m	OPC-589 8-pin connector microphone to 8-pin modular	OPC-1156 3.5 m	OPC-1529R RS-232 cable	OPC-2350LU USB cable for an Android™ or a PC
ID-5100E			✔	✔	✔	✔	✔	✔	✔
IC-2730E	✔	✔	✔	✔	✔	✔	✔		

MODEL NAME	PROGRAMMING CABLE	CLONING CABLE	BLUETOOTH® UNIT	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE
	OPC-478UC Transceiver to PC USB cable	OPC-474 Between transceivers	UT-133A	CS-5100*1 CS-2730*1	RS-MS1A*2 For Android™ device
ID-5100E	✔		✔	✔ (Use CS-5100)	✔ (Use with UT-133A)
IC-2730E	✔	✔	✔	✔ (Use CS-2730)	

Active Noise Canceling Microphone, HM-209 Shuts Out Annoying Background Noise.

Experience in video

*1 CS-5100 and CS-2730 are available for free download from Icom website: www.icomjapan.com/support/firmware_driver
*2 Free download Android™ app. Download from Google Play™.

RS-MS1A Remote Control App

(Free Download Android™ Application from Google Play™)

The RS-MS1A allows you to connect the Digital transceiver with an Android™ device and remotely control various functions and settings from the Android™ device. You can take pictures with your Android™ device, or use stored pictures, and share them over the DV mode.

* An optional Bluetooth® unit (UT-133A) or a data cable (OPC-2350LU) may be required, depending on the transceiver. Not all functions are usable with the IC-7100.
* Some functions may not work properly, depending on Android™ phones and devices used.
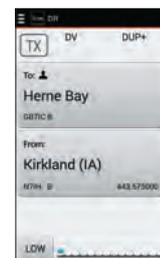
DR function setting example

Repeater map example
© Google

	✔ : Applicable		: Not applicable

SPECIFICATIONS FOR BASE STATIONS

		IC-7851	IC-7610	IC-7300	IC-718
General	**Frequency coverage** (Differs according to version)	Tx: 135 kHz, 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30 kHz–60 MHz* * Some frequency ranges are not guaranteed.	Tx: 135 kHz, 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50MHz bands Rx: 30 kHz–60 MHz* * Some frequency ranges are not guaranteed	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 70*[1] MHz bands Rx: 30 kHz–74.8 MHz*[2] *[1] Depending on version. *[2] Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28 MHz bands Rx: 30 kHz–29.999 MHz* * Guaranteed range 0.5–29.999 MHz.
	Modes	USB, LSB, CW, RTTY, PSK31/63, AM, FM	USB, LSB, CW, RTTY, PSK31/63, AM, FM	USB, LSB, CW, RTTY, AM, FM	USB, LSB, CW, RTTY, AM
	Frequency stability	Less than ±0.05 ppm (0˚C to +50˚C; @ 54 MHz, after warm up)	Less than ±0.5 ppm (0˚C to +50˚C)	Less than ±0.5 ppm (−10˚C to +60˚C)	Less than ±200 Hz (From 1 min. to 60 min. after power ON)
	Maximum current drain	800 VA (85–265 V AC)	23 A at 13.8 V DC	21 A at 13.8 V DC	20 A at 13.8 V DC
	Antenna connector	SO-239 × 4 + BNC × 2 (50 Ω)	SO-239 × 2 + BNC (50 Ω)	SO-239 (50 Ω)	SO-239
	Dimensions (W × H × D; Projections are not included)	425 × 149 × 435 mm	340 × 118 × 277 mm	240 × 94 × 238 mm	240 × 95 × 239 mm
	Weight (approx.)	23.5 kg	8.5 kg	4.2 kg	3.8 kg
Transmitter	**Output power**	SSB, CW, RTTY, PSK, FM: 5–200 W AM: 5–50 W Transverter connector (CW): More than −20 dBm	SSB, CW, RTTY, PSK, FM: 1–100 W AM: 1–25 W Transverter connector (CW): More than −20 dBm	SSB, CW, FM, RTTY: HF/50 MHz 2–100 W 70 MHz 2–50 W AM: HF/50 MHz 1–25 W 70 MHz 1–12.5 W	SSB, CW, RTTY, FM: 2–100 W AM: 2–35 W
Receiver	**Sensitivity** (typical) Preamp ON SSB, CW, RTTY, AM: at 10 dB S/N FM, WFM: at 12 dB SINAD	SSB, CW, RTTY, PSK (2.4 kHz): 0.1–1.799 MHz 0.5 µV 1.8–29.999 MHz 0.16 µV 50–54 MHz 0.13 µV AM (6 kHz): 0.1–1.799 MHz 6.3 µV 1.8–29.999 MHz 2.0 µV 50–54 MHz 1.0 µV FM (15 kHz): 28–29.700 MHz 0.5 µV 50–54 MHz 0.32 µV	SSB, CW (2.4 kHz): 1.8–29.999 MHz 0.16 µV 50–54 MHz 0.13 µV AM (6 kHz): 0.1–1.799 MHz 6.3 µV 1.8–29.999 MHz 2.0 µV 50–54 MHz 1.0 µV FM (15 kHz): 28–29.7 MHz 0.5 µV 50–54 MHz 0.32 µV	SSB, CW (2.4 kHz): 1.8–29.999 MHz 0.16 µV 50–54 MHz 0.13 µV 70–70.5 MHz 0.16 µV AM (6 kHz): 0.5–1.8 MHz 12.6 µV 1.8–29.999 Hz 2.0 µV 50–54 MHz 1.0 µV 70–70.5 MHz 1.0 µV FM (15 kHz): 28–29.7 MHz 0.5 µV 50–54 MHz 0.25 µV 70–70.5 MHz 0.25 µV	SSB, CW: 1.8–29.999 MHz 0.16 µV AM: 0.5–1.799 MHz 13 µV 1.8–29.999 MHz 2.0 µV
	Sensitivity for RED (Less than) Preamp ON SSB, AM, FM: at 12 dB SINAD	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBµV emf 3.0–29.999 MHz 0 dBµV emf 50 MHz band −6 dBµV emf AM (4 kHz, 60% modulation): 1.8–2.999 MHz 16 dBµV emf 3.0–29.999 MHz 6 dBµV emf 50 MHz band 0 dBµV emf FM (7 kHz, 60% modulation): 28–29.700 MHz 0 dBµV emf 50 MHz band −6 dBµV emf	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBµV emf 3.0–29.999 MHz 0 dBµV emf 50 MHz band −6 dBµV emf AM (4 kHz, 60% modulation): 1.8–2.999 MHz 16 dBµV emf 3.0–29.999 MHz 6 dBµV emf 50 MHz band 0 dBµV emf FM (7 kHz, 60% modulation): 28–29.700 MHz 0 dBµV emf 50 MHz band −6 dBµV emf	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBµV emf 3.0–29.999 MHz 0 dBµV emf 50/70 MHz band −6 dBµV emf AM (4 kHz, 60% modulation): 1.8–2.999 MHz 16 dBµV emf 3.0–29.999 MHz 6 dBµV emf 50/70 MHz band 0 dBµV emf FM (7 kHz, 60% modulation): 28–29.700 MHz 0 dBµV emf 50/70 MHz band −6 dBµV emf	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBµV emf 3.0–29.999 MHz 0 dBµV emf AM (6 kHz, 60% modulation): 1.8–2.999 MHz 16 dBµV emf 3.0–29.999 MHz 6 dBµV emf
	Selectivity	SSB: 2.4 kHz/−3 dB (2.4 kHz) 3.6 kHz/−60 dB CW/RTTY/PSK: 500 Hz/−3 dB (500 Hz) 700 Hz/−60 dB AM: 6.0 kHz/−3 dB (6 kHz) 15 kHz/−60 dB FM: 12 kHz/−6 dB (15 kHz) 20 kHz/−60 dB * Variable between 50 Hz and 3.6 kHz.	SSB: 2.4 kHz/−6 dB (2.4 kHz) 3.6 kHz/−60 dB CW: 500 Hz/−6 dB (500 Hz) 700 Hz/−60 dB RTTY: 500 Hz/−6 dB (500 Hz) 700 Hz/−60 dB AM: 6.0 kHz/−6 dB (6 kHz) 15 kHz/−60 dB FM: 12 kHz/−6 dB (15 kHz) 20 kHz/−60 dB * Variable between 50 Hz and 3.6 kHz.	SSB: 2.4 kHz/−6 dB (2.4 kHz) 3.4 kHz/−40 dB CW: 500 Hz/−6 dB (500 Hz) 700 Hz/−40 dB RTTY: 500 Hz/−6 dB (500 Hz) 800 Hz/−40 dB AM: 6.0 kHz/−6 dB (6 kHz) 10 kHz/−40 dB FM: 12 kHz/−6 dB (15 kHz) 22 kHz/−40 dB * Variable between 50 Hz and 3.6 kHz.	SSB, CW, RTTY: 2.1 kHz/−6 dB 4.5 kHz/−60 dB AM: 6.0 kHz/−6 dB 20 kHz/−40 dB
	Spurious and image rejection	More than 70 dB	HF More than 70 dB 50 MHz More than 70 dB* * Except for ADC Aliasing	HF More than 70 dB 50/70 MHz More than 70 dB* * Except for ADC Aliasing	More than 70 dB (1.8–29.999 MHz)
	Audio output power (at 10% distortion with an 8 Ω load)	More than 2.6 W	More than 2.0 W	More than 2.5 W	More than 2.0 W

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 MULTI-BAND RADIOS

		IC-9700	IC-705	IC-7100
General	**Frequency coverage** (Differs according to version)	Europe version: Tx/Rx: 144–146, 430–450, 1240–1300 MHz Italia version: Tx/Rx: 144–146, 430–434, 435–438, 1240–1245, 1270–1298 MHz	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 144, 430 MHz band Rx: 30 kHz–199.999 MHz, 400–470 MHz* * Some frequency ranges are not guaranteed.	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28, 50, 70*[1], 144, 430 MHz bands Rx: 30 kHz–199.999 MHz, 400–470 MHz*[2] *[1] Depending on version. *[2] Some frequency ranges are not guaranteed
	Modes	USB, LSB, CW, RTTY, AM, FM, DV, DD	USB, LSB, CW, RTTY, AM, DV, FM, WFM* (*Rx only)	USB, LSB, CW, RTTY, DV, AM, FM, WFM* (*Rx only)
	Frequency stability	±0.5 ppm (-10°C to +60°C)	Less than ± 0.5 ppm (-10°C to +60°C)	±0.5 ppm (0°C to +50°C @ 430 MHz)
	Maximum current drain	Less than 18 A at 13.8 V DC	Less than 3 A at 13.8 V DC Less than 2.5 A at 7.4 V DC	22 A (HF/50/70 MHz), 16 A (144/430 MHz) at 13.8 V DC
	Antenna connector	SO-239 (144 MHz), Type-N (430, 1200 MHz)	BNC connector (50 Ω) (One connector for all bands)	SO-239 × 2 (for HF/50/70 MHz and 144/430 MHz bands)
	Dimensions (W × H × D; Projections are not included)	240 × 94 × 238 mm	200 × 83.5 × 82 mm	Main unit: 167 × 58 × 225 mm Controller: 165 × 64 × 78.5 mm
	Weight (approx.)	4.7 kg	1.1 kg (including BP-272)	Main unit: 2.3 kg Controller: 500 g
Transmitter	**Output power**	SSB, CW, RTTY, FM, DV, DD: 144 MHz 0.5–100 W 430 MHz 0.5–75 W 1200 MHz 0.1–10 W AM: 144 MHz 0.125–25 W 430 MHz 0.125–18.75 W 1200 MHz 0.025–2.5 W	13.8 V DC SSB, CW, RTTY, FM, DV: 0.1–10 W AM: 0.025–2.5W 7.4 V DC SSB, CW, RTTY, FM, DV: 0.1–5 W AM: 0.025–1.25 W	SSB, CW, RTTY, FM, DV: 1.8–50 MHz 2–100 W 70/144 MHz 2–50 W 430 MHz 2–35 W AM: 1.8–50 MHz 1–30 W 70 MHz 1–15 W
Receiver	**Sensitivity** (typical) Preamp ON SSB, CW, RTTY, AM: at 10 dB S/N FM, WFM: at 12 dB SINAD DV: at 1% BER	(Preamp: ON, Filter: SOFT) SSB/CW: Less than 0.11 μV AM: Less than 1.0 μV FM: Less than 0.18 μV DV: Less than 0.35 μV DD(1200 MHz only): Less than 1.59 μV	SSB, CW (2.4 kHz): 1.8-29.999 MHz 0.20 μV 50 MHz 0.15 μV 144/430 MHz: 0.11 μV AM (6 kHz): 0.5-1.799 MHz: 13.0 μV 1.8-29.999 MHz: 2.0 μV 50 MHz: 1.0 μV 144/430 MHz: 1.0 μV FM (15 kHz): 28-29.7 MHz: 0.5 μV 50 MHz: 0.25 μV 144/430 MHz: 0.18 μV DV: 28-29.7 MHz: 1.0 μV 50 MHz: 0.63 μV 144/430 MHz: 0.35 μV	SSB, CW (2.4 kHz): 1.8–29.995 MHz 0.15 μV 50–54 MHz 0.12 μV 70–70.5 MHz 0.15 μV 144/430 MHz 0.11 μV AM: 0.5–1.8 MHz 13 μV (6 kHz) 1.8–29.995 MHz 2.0 μV 50/70/144/430 MHz 1.0 μV FM: 28–29.7 MHz 0.5 μV (15 kHz) 50/70 MHz 0.25 μV 144/430 MHz 0.18 μV DV: 28–29.7 MHz 1 μV 50/70 MHz 0.63 μV 144/430 MHz 0.35 μV WFM: 76–108 MHz 10 μv
	Sensitivity for RED (Less than) Preamp ON SSB, AM, FM: at 12 dB SINAD	(Preamp: ON, Filter: SOFT) SSB/CW (2.4 kHz): Less than 0.5 μV AM (4 kHz, 60% modulation): Less than 1.0 μV FM (7 kHz, 60% modulation): Less than 0.5 μV	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBμV emf 3.0–29.995 MHz 0 dBμV emf 50/70 MHz band –6 dBμV emf 144/430 MHz band –6 dBμV emf AM (4 kHz, 60% modulation): 1.8–2.999 MHz 16 dBμV emf 3.0–29.995 MHz 6 dBμV emf 50/70 MHz band 0 dBμV emf 144/430 MHz band 0 dBμV emf FM (7 kHz, 60% modulation): 28–29.700 MHz 0 dBμV emf 50/70 MHz band –6 dBμV emf 144/430 MHz band –6 dBμV emf	SSB (2.4 kHz): 1.8–2.999 MHz 10 dBμV emf 3.0–29.995 MHz 0 dBμV emf 50/70 MHz band –6 dBμV emf 144/430 MHz band –6 dBμV emf AM (4 kHz, 60% modulation): 1.8–2.999 MHz 16 dBμV emf 3.0–29.995 MHz 6 dBμV emf 50/70 MHz band 0 dBμV emf 144/430 MHz band 0 dBμV emf FM (7 kHz, 60% modulation): 28–29.700 MHz 0 dBμV emf 50/70 MHz band –6 dBμV emf 144/430 MHz band –6 dBμV emf
	Selectivity	(Filter: SHARP) SSB (2.4 kHz): 2.4 kHz/–3 dB 3.6 kHz/–60 dB CW (500 Hz): 500 Hz/–3 dB 700 Hz/–60 dB RTTY (500 Hz): 500 Hz/–3 dB 700 Hz/–60 dB AM (6 kHz): 6 kHz/–3 dB 15 kHz/–60 dB FM (15 kHz): 12 kHz/–6 dB 20 kHz/–60 dB	(Filter: SHARP) SSB (2.4 kHz): 2.4 kHz/–3 dB 3.4 kHz/–40 dB CW (500 Hz): 500 Hz/–6 dB 700 Hz/–40 dB RTTY (500 Hz): 500 Hz/–6 dB 800 Hz/–40 dB AM (6 kHz): 6 kHz/–6 dB 10 kHz/–40 dB FM (15 kHz): 12 kHz/–6 dB 22 kHz/–40 dB DV (12.5 kHz spacing): –50 dB	SSB: 2.4 kHz/–6 dB (2.4 kHz) 3.4 kHz/–40 dB CW: 500 Hz/–6 dB (500 Hz) 700 Hz/–60 dB RTTY: 500 Hz/–6 dB (500 Hz) 800 Hz/–40 dB AM: 6.0 kHz/–6 dB (6 kHz) 10 kHz/–40 dB FM: 12 kHz/–6 dB (15 kHz) 22 kHz/–40 dB
	Spurious and image rejection (except IF)	140/430 MHz SSB/CW More than 70 dB AM/FM/DV More than 60 dB 1200 MHz SSB/CW/AM/FM/DV/DD More than 50 dB	More than 70 dB (HF/50 MHz)* (Except for ADC aliasing) More than 65 dB (144 MHz) More than 54 dB (430 MHz) * At Intermediate frequency in 25 – 30 MHz or 50 – 54 MHz: More than 50 dB	More than 70 dB (HF/50/70 MHz) More than 65 dB (144/430 MHz) (Except ½ IF through on 50 MHz, IF through on 144 MHz)
	Audio output power (at 10% distortion)	More than 2.0 W (8 Ω load)	More than 530 mW (Internal SP, 12 Ω load) More than 200 mW (External SP, 8 Ω load)	More than 2.0 W (8 Ω load)

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

	ID-52E	IC-V80E
Frequency coverage (Differs according to version)	Tx 144–146, 430–440 MHz Rx A band 108–174, 225–479 MHz*[1] B band 137–174, 375–479 MHz*[1] BC band 76–108 MHz	Tx 144–146 MHz Rx 144–146 MHz
Modes	DV, FM, FM-N, WFM (Rx only), AM (Rx only), AM-N (Rx only)	FM, FM-N
Max. current drain	2.5 A	1.4 A
Number of Memory channels	1054 (1000 regular, 50 scan edges and 4 call channels)	207 (200 regular, 6 scan edges and 1 call channel)
Dimensions (W × H × D; Projections are not included)	61.1 × 121.6 × 34.8 mm with BP-272	58 × 112 × 30 mm
Weight (approx.)	330 g with antenna and BP-272	360 g with antenna and BP-264
Output power (typical values)	High: 5 W Mid: 2.5 W Low1: 1 W Low2: 0.5 W S-Low: 0.1 W	High: 5.5 W Mid: 2.5 W Low: 0.5 W (at 7.2 V DC)
Sensitivity (FM at 12 dB SINAD, DV at 1% BER, guaranteed range)	DV Less than 0.2 µV FM/FM-N Less than 0.18 µV (144, 430 MHz bands)	FM/FM-N 0.14 µV typ.
Audio output power (at 10% distortion)	More than 750 mW (Internal SP, 8 Ω load) More than 200 mW (External SP, 8 Ω load)	750 mW typ. (Internal SP, 16 Ω load) 450 mW typ. (External SP, 8 Ω load)

	ID-5100E	IC-2730E
Frequency coverage (Differs according to version)	Europe version : Tx 144–146, 430–440 MHz Rx 118–174, 375–550 MHz*[1] Italia version : Tx 144–146, 430–434, 435–438 MHz Rx 118–136.991, 144-146, 430–434, 435–438 MHz*[2]	Europe version : Tx 144–146, 430–440 MHz Rx 118–174, 375–550 MHz*[1] Italia version : Tx 144–146, 430–434, 435–438 MHz Rx 118–136.991, 144–146, 430–434, 435–438 MHz*[2]
Modes	DV, FM, FM-N, AM (Rx only), AM-N (Rx only)	FM, FM-N, AM (Rx only), AM-N (Rx only)
Max. current drain	13 A	13 A
Number of Memory channels	1054 (1000 regular, 50 scan edges and 4 call channels)	1052 (1000 regular, 50 scan edges and 2 call channels)
Dimensions (W × H × D; Projections are not included)	Main unit: 150 × 40 × 172.6 mm Controller: 182.2 × 81.5 × 24.7 mm	Main unit: 150 × 40 × 151 mm Controller: 150 × 50 × 27.2 mm
Weight (approx.)	Main unit: 1.3 kg Controller: 260 g	Main unit: 1.2 kg Controller: 140 g
Output power (typical values)	High: 50 W Mid: 15 W Low: 5 W (at 13.8 V DC)	Main unit: 1.2 kg Controller: 140 g
Sensitivity (FM: at 12 dB SINAD DV: at 1% BER Guaranteed range)	DV Less than 0.28 µV FM/FM–N Less than 0.18 µV (144, 430 MHz bands)	FM/FM-N Less than 0.18 µV (144, 430 MHz bands)
Audio output power (at 10% distortion)	More than 2.0 W (8 Ω load)	More than 2.0 W (8 Ω load)

*[1] Guaranteed range 144–146 and 430–440 MHz. *[2] Guaranteed range 144–146, 430–434 and 435–438 MHz.
All stated specifications are subject to change without notice or obligation.

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 and vibration.

SPECIFICATIONS FOR RECEIVERS

	IC-R8600	IC-R30	IC-R6
Frequency coverage (Differs according to version)	0.01–3000 MHz*¹	A band: 0.1 – 3304.999 MHz B band: 108 – 520 MHz	0.1–1309.995 MHz
Mode	USB, LSB, CW, FSK, AM, FM, WFM, D-STAR (DV), P25, NXDN, dPMR, DCR, S-AM	A band: (≤1300 MHz) FM, FM-N, WFM, AM, AM-N, SSB, CW, D-STAR (DV), P25, dPMR, NXDN, DCR (>1300 MHz) FM, FM-N, WFM, AM, AM-N B band: FM, AM, D-STAR (DV), P25, dPMR, NXDN, DCR	FM, WFM, AM
Frequency stability	Less than ±0.5 ppm (at 25°C after warm up)	Less than ±2.5 ppm (–20°C to 60°C)	±1.0 ppm (at 25°C)
Maximum current drain	2.0 A	330 mA typical (at 3.6 V DC)*²	130 mA typical (at 3.0 V DC)*³
Antenna connector	ANT1: Type-N (50 Ω), ANT2: SO-239 (50 Ω), ANT3: RCA (500 Ω)	SMA (50 Ω)	SMA (50 Ω)
Dimensions (Projections are not included)	220 (W) × 90 (H) × 230 (D) mm	58 (W) × 143 (H) × 30.5 (D) mm	58 (W) × 86 (H) × 29.8 (D) mm
Weight (approx.)	4.3 kg	310 g with antenna and BP-287 battery pack	200 g with antenna and battery cells

Sensitivity
SSB, CW, RTTY, AM, FSK: at 10 dB S/N
FM, WFM: at 12 dB SINAD
D-STAR, NXDN, dPMR, DCR: at 1% BER
P25: at 5% BER
	SSB/CW/FSK
	(Preamp ON, BW: SSB/FSK=2.4 kHz, CW=0.5 kHz):
	  0.1–1.799 MHz 0.5 µV
	  1.8–29.999 MHz 0.2 µV
	  30–1999.999 MHz 0.32 µV
	  2000–3000 MHz 0.4 µV
	AM (Preamp ON, BW=6 kHz):
	  0.1–1.799 MHz 6.3 µV
	  1.8–29.999 MHz 2.5 µV
	  30–3000 MHz 5.6 µV
	FM (Preamp ON, BW=15 kHz):
	  28–1999.999 MHz 0.5 µV
	  2000–3000 MHz 0.63 µV
	WFM (Preamp ON, BW=180 kHz):
	  30–1999.999 MHz 1.4 µV
	  2000–3000 MHz 1.8 µV
	D-STAR (DV)/NXDN/dPMR/DCR (Preamp ON):
	  28–1999.999 MHz 0.79 µV
	  2000–3000 MHz 1 µV
	P-25 (Preamp ON):
	  28–1999.999 MHz 0.56 µV
	  2000–3000 MHz 0.71 µV
		SSB/CW:
		  0.495–1.899 MHz Less than 0.4 µV
		  1.9–29.999 MHz Less than 0.25 µV
		  50–53.999 MHz Less than 0.25 µV
		  144–147.999 MHz Less than 0.25 µV
		  430–449.999 MHz Less than 0.32 µV
		AM:
		  0.495–1.899 MHz Less than 2.2 µV
		  1.9–29.999 MHz Less than 1.4 µV
		  118–136.999 MHz Less than 1.4 µV
		FM:
		  28–221.999 MHz Less than 0.4 µV
		  222–1299.999 MHz Less than 0.56 µV
		  1300–1999.999 MHz Less than 1.8 µV
		  2000–2699.999 MHz Less than 1.8 µV
		  2700–3304.999 MHz Less than 18 µV
		WFM:
		  76–107.999 MHz Less than 1.8 µV
		D-STAR (DV):
		  28–29.999 MHz Less than 0.71 µV
		  50–53.999 MHz Less than 0.71 µV
		  144–147.999 MHz Less than 0.71 µV
		  430–449.999 MHz Less than 1 µV
		  1260–1299.999 MHz Less than 1 µV
		NXDN/dPMR/DCR:
		  136–173.999 MHz Less than 0.71 µV
		  350–511.999 MHz Less than 1 µV
		P25:
		  136–173.999 MHz Less than 0.4 µV
		  400–469.999 MHz Less than 0.56 µV
		  763–869.999 MHz Less than 0.71 µV
			FM (typical):
			  1.625–4.995 MHz 0.32 µV
			  5–29.995 MHz 0.25 µV
			  30–469.995 MHz 0.18 µV
			  470–832.995 MHz 0.32 µV
			  833–1029.995 MHz 0.28 µV
			  1030–1309.995 MHz 0.35 µV
			WFM (typical):
			  76–108 MHz 1.1 µV
			  175–221.995 MHz 1.1 µV
			  470–770 MHz 1.8 µV
			AM (typical):
			  0.495–4.995 MHz 1.3 µV
			  5–29.995 MHz 0.89 µV
			  118–136 MHz 0.63 µV
			  222–246.995 MHz 0.63 µV
			  247–329.995 MHz 0.79 µV

Sensitivity for RED
Preamp ON
SSB, AM, FM: at 12 dB SINAD
(Only for amateur band. With CCITT filter ON)
	SSB, FSK (Less than, BW=2.4 kHz)
	  0.1–2.999 MHz 10 dBuV emf
	  3–29.999 MHz 0 dBuV emf
	  30–3000 MHz –6 dBuV emf
	AM (Less than, BW=4 kHz)
	  0.1–2.999 MHz 16 dBuV emf
	  3–29.999 MHz 6 dBuV emf
	  30–3000 MHz 0 dBuV emf
	FM (Less than, BW=7 kHz)
	  3–29.999 MHz 0 dBuV emf
	  30–3000 MHz –6 dBuV emf
		–	–

Selectivity	SSB/FSK (BW=2.4 KHz): More than 2.4 kHz/–3 dB
	                      Less than 3.6 kHz/–60 dB
	CW (BW=500 Hz): More than 500 Hz/–3 dB
	                      Less than 700 Hz/–60 dB
	AM (BW=6 kHz): More than 6.0 kHz/–3 dB
	                      Less than15.0 kHz/–60 dB
	FM (BW=15 kHz): More than 12.0 kHz/–6 dB
	                      Less than 25.0 kHz/–60 dB
	WFM: More than 180 kHz/–6 dB
		SSB/CW: More than 1.8 kHz/–6 dB
		AM/FM: More than 12 kHz/–6 dB,
		           Less than 30 kHz/–60 dB (below 1305 MHz),
		           Less than 30 kHz/–40 dB (above 1305 MHz)
		WFM: More than 150 kHz/–6 dB
			AM, FM: More than 12 kHz/–9 dB
			            Less than 30 kHz/–60 dB
			WFM: More than 150 kHz/–6 dB

Audio output power (at 10% distortion)	More than 2.0 W (8 Ω load)	More than 400 mW (Internal SP, 16 Ω load) More than 200 mW (External SP, 8 Ω load)	150 mW (Internal SP, 16 Ω load) 80 mW typical (External SP, 8 Ω load)

*¹ Working range. *² FM mode single receive, voice recording OFF, GPS OFF, back light OFF. *³ External SP, backlight OFF.
All stated specifications are subject to change without notice or obligation.

Global Wireless Communications Company

Icom Inc., founded over 50 years ago as an amateur radio manufacturing company is now a global wireless communications company that provides the world with the most comprehensive range of radio solutions for land, sea and air.

LAND

SEA

AIR

Watch Our Brand Movie on YouTube channel

Icom Inc.

1-1-32, Kamiminami, Hirano-Ku, Osaka 547-0003, Japan   Phone: +81 (06) 6793 5302   Fax: +81 (06) 6793 0013   **www.icomjapan.com**   *Count on us!*

Icom America Inc.
www.icomamerica.com

Icom Canada
www.icomcanada.com

Icom Brazil
E-mail: sales@icombrazil.com

Icom（Europe）GmbH
www.icomeurope.com

Icom Spain S.L.
www.icomspain.com

Icom（UK）Ltd.
www.icomuk.co.uk

Icom France s.a.s.
www.icom-france.com

Icom（Australia）Pty. Ltd.
www.icom.net.au

Icom Asia Co., Ltd.
www.icomasia.com

Shanghai Icom Ltd.
www.bjicom.com

Your local distributor/dealer: