



# HAM Radios and Receivers





- 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



# HF/50 MHz TRANSCEIVER IC-7851

## RMDR: 110 dB, Still the Benchmark

Design advances developed by the Icom HF engineers for the Local Oscillator (LO) enable the IC-7851 to remain the 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** (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

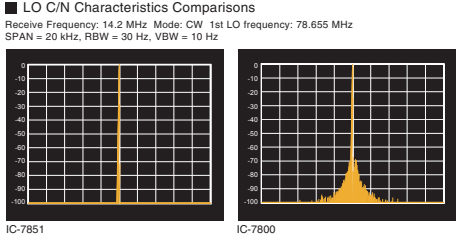
The 1.2 kHz Optimum Roofing Filter, greatly improving the in-band adjacent signal performance. This filter overcomes the gap of a narrower roofing filter in an up-conversion receiver.



Optimum Roofing Filter

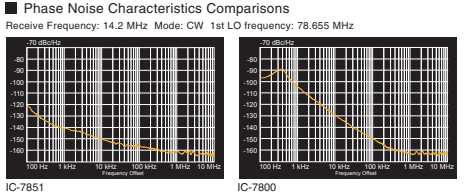
### Innovative LO Design

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.



### Improved Phase Noise Characteristics

Phase noise is coherent in radio circuit design, and the 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.



### Improved Spectrum Scope

Following the design lineage 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 pixel minimum **	20 pixels minimum **
Sweep Speed	29.3 frames/Sec **	4 frames/Sec **
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



# Base Station

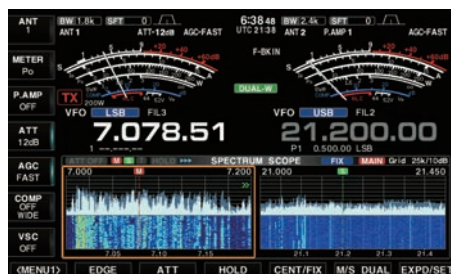


## +40 dBm IP3 (3rd Order Intercept Point)

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 introduced dual scopes to the market 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.



Dual scope example (Horizontally aligned)

## 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
- $\pm 0.05$  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





**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

**Find 7610 Tech Reports**



## HF/50 MHz TRANSCEIVER IC-7610

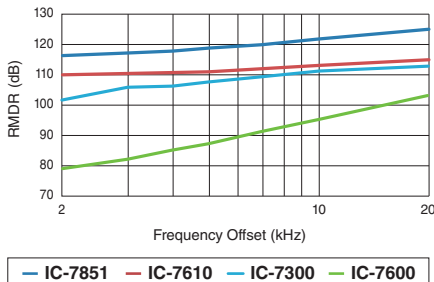
### Innovative RF Direct Sampling System Achieves 110 dB\* (typ) RMDR

The RF direct sampling system directly converts the analog 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



### 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 the 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 Analog 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 bandpass 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. The Scroll mode automatically keeps the operating signal within the scope range.

### 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 flash drive. TX Voice memories and RTTY/CW memories on the SD card/USB flash drive 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

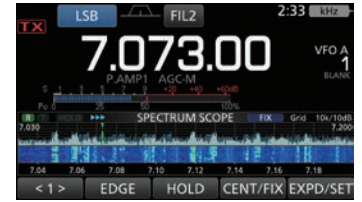
• Double key jack system • Full break-in and semi break-in • CW auto tuning • APF (Audio Peak Filter) function adjustable filter position, width, type and AF level

**[Operation]** • 7-inch wide color TFT LCD • Simplified remote control capability with the optional RS-BA1(Version 2) • USB mouse connection • 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  $\Delta$ 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





Experience  
in video



Spectrum scope + Waterfall



FFT scope/Oscilloscope



Touch screen interface

## HF/50 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. The Scroll mode automatically keeps the operating signal within the scope range.

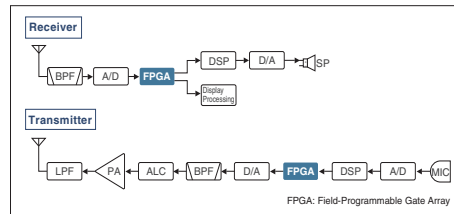
#### Real-time Spectrum Scope Specifications

	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

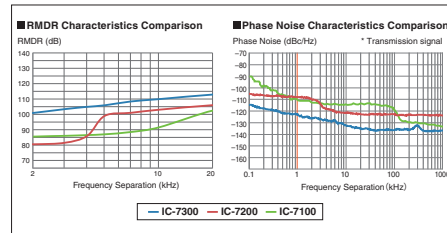
The IC-7300 employs an RF direct sampling system. RF signals are directly converted to digital data and processed in the FPGA (Field-Programmable Gate Array), making it possible to simplify the circuit construction. This system is the new benchmark technology making an epoch in amateur radio.



### 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)



### One-Touch FT8 Mode Preset

Preset memory offers smooth FT8 mode operation. You can start FT8 mode operation only by selecting [FT8] from PRESET menu. Up to five preset memories can be stored.



### 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 Color TFT LCD

The large 4.3 inch color 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
- "IP+" function improves the third order intercept point (IP3) performance
- CW functions: Full break-in, CW reverse, CW auto tuning

# Base Station



## 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

\* Already built-in to USA version.

## 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
- Preamp 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/R meter

## HF TRANSCEIVER IC-718



Simple, Straightforward Operation with Keypad

Front Mount Loud Speaker

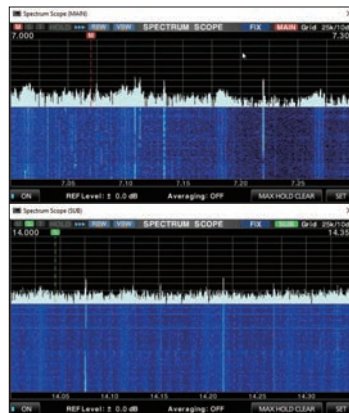
Optional DSP Capability, UT-106

## 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

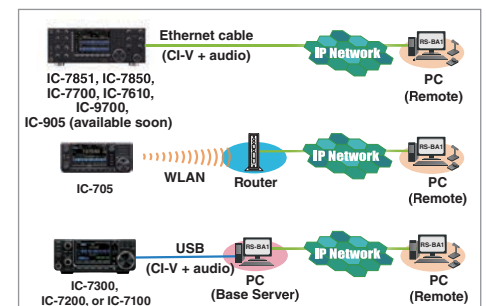
The IC-718 has the speaker mounted on the front panel. With the speaker facing the operator, audio will be heard clearly and directly while operating.



Dual spectrum scope example

## 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.

## 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 ΔTX functions are added from Version 2.

## 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.



# D-STAR



Controller



RF Unit

## 144, 430/440, 1200, 2400, 5600 MHz +10 GHz ALL MODE TRANSCEIVER IC-905

All Mode with 144, 430/440, 1200, 2400, 5600 MHz + 10 GHz

Ultimate Frequency Stability with GPS-Controlled Oscillator

Wideband Span Real-time Spectrum Scope

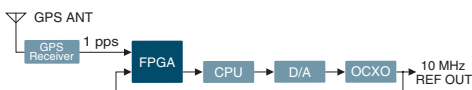
### Explore the World of Microwave

The IC-905 is the industry's first microwave rig in the 144, 430/440, 1200, 2400, 5600 MHz and 10 GHz\* bands. Multi-mode operation including SSB, CW, AM, FM, RTTY, D-STAR DV/DD, and FM-TV (Amateur TV). Output power is 10 W on 144, 430/440, 1200 MHz, 2 W on 2400, 5600 MHz, and 0.5 W on 10 GHz.

\* CX-10G is required for 10 GHz operation.

### GPS-Controlled Oscillator for Ultimate Frequency Stability

Frequency accuracy and stability are required for SHF band operation. Even with a high-performance OCXO, the frequency gradually changes due to temperature and aging. To solve this problem, the IC-905 uses a high-precision 1 pulse-per-second (1 PPS) clock signal from an internal GPS (GNSS) receiver to enable advanced frequency control.



High Precision Frequency Oscillator using GPS

### Optional 10 GHz Transverter, CX-10G

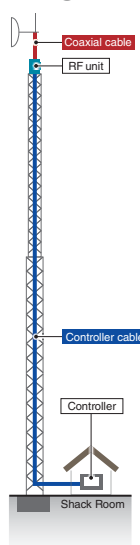
The CX-10G transverter provides 10 GHz operation by



converting from a 2400 MHz IF signal. 10 GHz operation becomes more approachable and easier to work.

### Separate Controller and RF Unit

The IC-905 is the industry's first super efficient microwave base station with the RF unit designed to be at the base of the antenna, rather than in the shack. This design eliminates signal loss due to costly, long coax feed line runs found in legacy SHF designs. Optional 50 m (164 ft) or 20 m (65.6 ft) controller cable is available with the IC-905.



### Less Signal Loss

With the RF unit mounted at the antenna, transmit and receive signals are at their maximum efficiency as the coax feed line is measured in inches rather than feet, keep signal loss to a minimum.

### Power Supplied through the Controller Cable

The DC power is supplied from the controller to the RF unit through the controller cable, making it possible to supply power with a low loss. Moreover, optional CX-10G's power is supplied from the IC-905 RF unit.

### Wideband 50 MHz Span Real-time Spectrum Scope

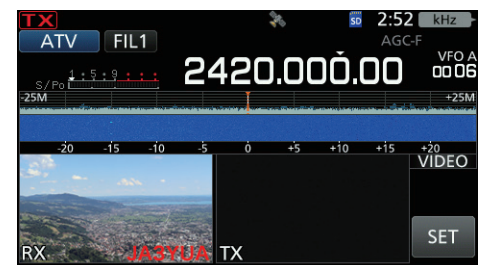
A high-performance real-time spectrum scope and waterfall display are built in. The real-time spectrum scope can be adjusted for Center, Fixed, and Scroll mode, and it covers a wide bandwidth of up to 50 MHz span.

### Full D-STAR Functions

DV, DD mode, DR function, Terminal mode, and Access Point mode enable easy use of D-STAR. It is also possible to send, receive, and view received pictures with the IC-905.

### ATV (Amateur TV) Mode

The IC-905 is compatible with the ATV (FM-TV, NTSC, PAL, or SECAM) mode. With an analog camera connected, the IC-905 can transmit video, and receive a real-time video. Furthermore, received videos can be monitored on an external display through the AV-output.



### A Variety of Optional Antennas

Optional Collinear antennas for 2400 MHz, 5600 MHz, and 10 GHz are available. Additionally, a high-performance parabolic antenna for 10 GHz is also available.



Collinear antenna  
AH-24 for 2400 MHz  
AH-56 for 5600 MHz  
AH-100 for 10 GHz



Parabolic antenna  
AH-109PB for 10 GHz  
The CX-10G can be installed in the back of the antenna

### Other Features

- SD card slot • USB Type-C™ connection for PC and mobile connectors • Power Amp thermal protection function • ΔTX, RIT and AFC and AFC (Automatic Frequency Control) function • One-Touch FT8 mode preset • Quick Data mode setting for SSTV, RTTY, PSK31, JT65B and FT8 • AMPS hole pattern and 1/4-20 tripod mount for controller unit • Two call channels for each band (2 × 6 bands) • 500 memory channels divided into up to 100 groups • 50 scan edges, 2500 repeater memories and 300 GPS memories



# Multi-Band

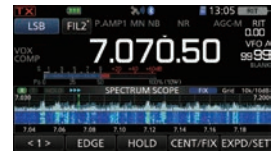
Experience  
in video



**D-STAR**



Bluetooth®



Display example of real-time spectrum scope and waterfall



Touch screen display



Menu screen example

## HF/50/144/430/440 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

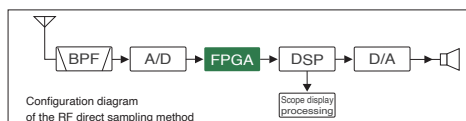
### HF to UHF Multimode

From HF to 50/144/430/440 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 to 199 MHz and 400 to 470 MHz. 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.



### 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 an open frequency. The Scroll mode automatically keeps the operating signal within the scope range.

### Large Touch Screen Color Display

The large 4.3" color 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.

### One-Touch FT8 Mode Preset

Preset memory offers smooth FT8 mode operation. You can start FT8 mode operation only by selecting [FT8] from PRESET menu. Up to five preset memories can be stored.



### 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 (2.4 lb).



### Li-ion Battery Pack or 13.8 V DC External Power Supply

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

### Maximum Output Power 5 W (Battery), 10 W (13.8 V DC)

In portable mode, the IC-705 has a maximum 5 W output 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 QRP 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®.

### GPS Functions

An internal GPS receiver enhances 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.

### Optional Automatic Antenna Tuner

The optional AH-705 covers 1.8 MHz to 50 MHz bands with a 30 m, 98.4 ft or longer wire antenna\*. The “Terminal connector” is supplied for a long wire antenna\* and it has a SO-239 antenna connector for use with a 50Ω antenna such as dipole or Yagi Working with two alkaline batteries for field operation.



AH-705 Automatic Antenna Tuner

\* 7 m, 23 ft or longer antenna for 3.5 – 54 MHz.

### Other Features

- microSD card slot
- USB micro-B connector
- Programmable speaker microphone, HM-243
- Optional backpack, LC-192, ideal for field operations



LC-192 Multi-function backpack

# D-STAR



Perfect companion of the IC-7300



Menu screen 1



Menu screen 2

## 144, 430/440, 1200 MHz ALL MODE TRANSCEIVER IC-9700

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

RF Direct Sampling System

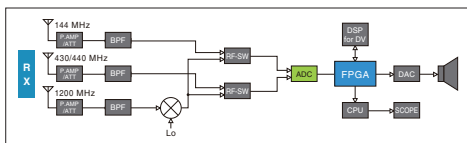
Real-time Spectrum Scope  
with Waterfall Display

### 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!

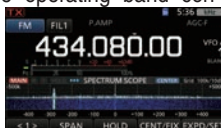
### RF Direct Sampling System

The RF Direct Sampling system, for 144 MHz and 430/440 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

The IC-9700 has 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. The Scroll mode automatically keeps the operating signal within the scope range.



### Independent Receiver, Full Duplex Operation

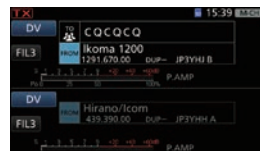
The IC-9700 can simultaneously receive on two different bands, and two different modes. This function can be a significant advantage when participating in contests or searching for weak signals. Furthermore, the IC-9700 is Full Duplex, which enables you to transmit on the main band while receiving on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

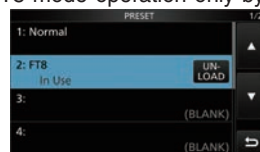
### D-STAR Operation Friendly Functions

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.



### One-Touch FT8 Mode Preset

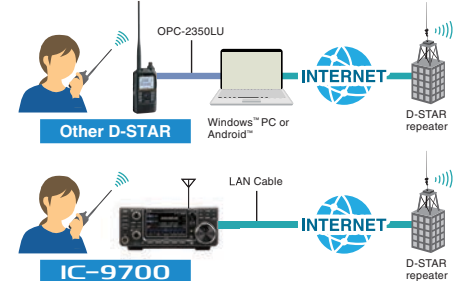
Preset memory offers smooth FT8 mode operation. You can start FT8 mode operation only by selecting [FT8] from PRESET menu. Up to five preset memories can be stored.



### 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 (AP 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
- Picture Sharing function - send, receive and display pictures 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



## D-STAR



DR (D-STAR Repeater) function operation



Near repeater function



SD card slot for saving data

### HF/VHF/UHF TRANSCEIVER IC-7100

Controls at Your Fingertips  
with an Angled Display

HF, 50/144/430/440 MHz Multi-band

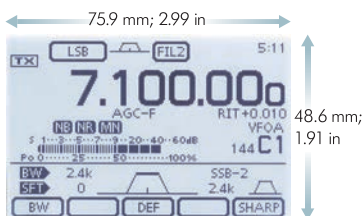
Digital Features Controlled  
by the IF DSP

### 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 48.6x75.9 mm; 1.91x2.99 in large resistive touch screen display can be operated while wearing gloves.

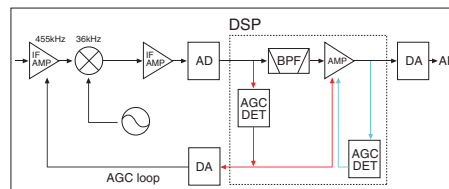


### HF, 50/144/430/440 MHz Multi-band

The IC-7100 fully covers the HF, 50, 144, 430/440 MHz amateur bands in multiple modes, providing 100 W on HF/50 MHz bands, 50 W on 144 MHz band and 35 W on 430/440 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.

### IDR (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.

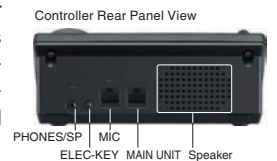
### Repeater Search Function

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.



### 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™ device (Send and receive pictures only)
- 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 mode 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

# Linear Amplifier



The wait is almost over.

## HF/50 MHz 1 kW LINEAR AMPLIFIER IC-PW2

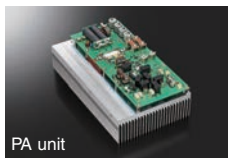
High Power and Full Duty Cycle Operation

Increased Linearity and Clean Transmission

2 x 6 Automatic Antenna Selector

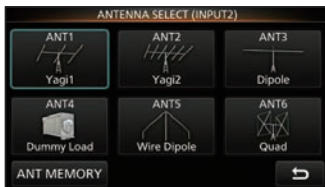
### High Power and Full Duty Cycle

The IC-PW2 uses new 65 V LDMOS power transistor and a high efficiency power supply. A 1 kW output at full duty cycle can be achieved with 200 V AC input\*. It can be operated at full power as soon as power is turned ON. (\* 180-264 V AC required)



### Detachable Controller

A remote control cable enables the amplifier to be mounted away from the radios for a big station installation, in a small shack space. The 4.3 inch color screen is a touch screen with a graphical user interface. Connected antennas are graphically shown on the display for easy recognition.

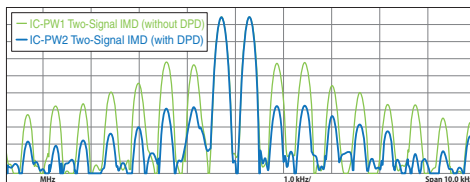


Antenna select screen example

### Increased Linearity & Clean Transmission

The IC-PW2 has succeeded in realizing the world's first DPD as a linear amplifier for amateur radio in combination with the IC-7610. This technology corrects the signal distortion from the IC-PW2, by applying inverse distortion to the output signal from the IC-7610 exciter in advance\*.

\* Not applied for non-linear modulation such as FM, FSK and MSK modes.



### 2 x 6 Automatic Antenna Selector

Two radio input connectors and six antenna connectors provide fully automatic antenna switching capabilities. Each antenna can be switched independently in conjunction when changing bands on the radios. Moreover, even when transmitting on one radio, the other radio can receive on a different band with the Transmitter lockout function. As a result, Single Operator Two Radios (SO2R) operation in a contest can be realized with one IC-PW2.

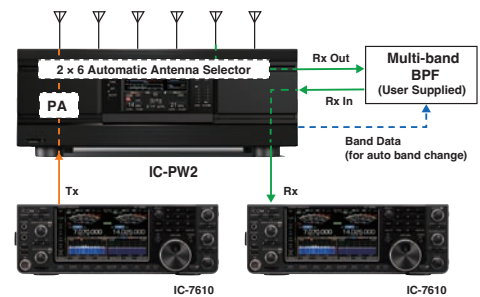


### RX In/Out Connectors for Multi-band BPF

User supplied bandpass filters (BPF), preamps and attenuators can be connected to the [Rx In/ Out] connectors. When two radios are used with the IC-PW2, one multi-band BPF

can be shared with these radios by switching the receiving radio. In addition, the band switching of multiband BPF can be controlled from the band data output connector.

One Multi-band BPF Configuration Example (New from IC-PW2)



### Other Features

- High-efficiency and low noise cooling system
- Various error detection circuits protect internal components
- PC remote control operation\*1 through a LAN or Internet
- An SD card slot for saving settings and firmware updates
- Built-in automatic antenna tuner
- Remote AUX jack for controlling an automatic telescopic antenna
- Antenna quick select function temporarily set to the antenna connector such as for a dummy load
- Transmitter Lockout function\*2 for the SO2R operation
- With current Icom radios, you can get the full performance of the IC-PW2 with wide compatibility
- Effortless operation, even when connected to non-Icom radios

\*1 Software is in planning at this stage.

\*2 For IC-7300/IC-7610/IC-7851

### REAR PANEL VIEW



This picture shows the panel layout, Antenna select screen example but cables are not shown.





## VHF/UHF DIGITAL TRANSCEIVER ID-52A

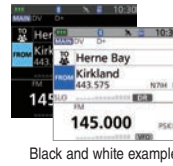
2.3 inch Large Color Display

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

Picture Sharing Functions  
& Bluetooth® Connection

### 2.3 inch Large Color Display

The large 2.3 inches, 320 x 280 pixels color display achieves excellent viewability. The display background color is selectable from black and white.

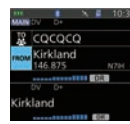


Black and white example

### 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.

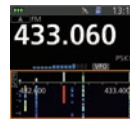
\* AM/AM mode Dualwatch is not possible.



V/U, V/V  
Dualwatch example

### Waterfall Display

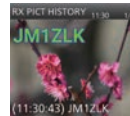
You will have an overview of the band conditions at a glance. The waterfall display shows the changes of signal level in chronological order.



Waterfall display

### Picture Sharing Functions

The ID-52A 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 color display. Pictures taken on a smart device can be wirelessly transferred to the ID-52A through Bluetooth®.



Picture sharing example

### Bluetooth® Connection

You can easily connect to a smart device through Bluetooth®. The RS-MS1A for Android™ or RS-MS11 for iOS™ can wirelessly control the ID-52A.

### Terminal/Access Point mode\*1 \*2

Connect the ID-52A to the Internet through a PC or Android™ device. The Terminal mode and Access Point mode enable you to access the D-STAR network, even from areas where no D-STAR repeater is accessible.

#### Terminal mode



#### Access point mode



\*1 The RS-MS3W for Windows™ PC or RS-MS3A for Android™ device required. 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



## VHF/UHF DIGITAL TRANSCEIVER ID-50A

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

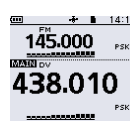
Picture Sharing Functions  
with ST-ID50A/W

Built-in GPS Receiver

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

The Dualwatch function monitors the VHF/VHF, UHF/UHF and VHF/UHF bands simultaneously.\* You can quickly respond to a call from the Main and Sub bands.

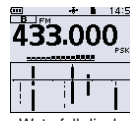
\* DV/DV mode cannot be listened at the same time.



V/U, V/V  
Dualwatch example

### Waterfall Display

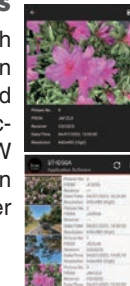
You will have an overview of the band conditions at a glance. The waterfall display shows the changes of signal level in chronological order.



Waterfall display

### Picture Sharing Functions

You can share pictures with each other in the DV mode. Pictures on your smart phone can be used for picture sharing with a picture utility software, ST-ID50A/W through a USB cable. You can enjoy sharing pictures together with voice messages.



### Built-in GPS Receiver

Auto Position Reply function, GPS Logger function, Near Repeater function, Grid Locator and etc are available.

### Build Your Own Internet Gateway

If there are no D-STAR repeaters in your area, connecting the ID-50A to a Windows™ PC or an Android™ device, to an the Internet gateway (using Terminal mode and Access Point mode) enables you to access the D-STAR repeater network. Connect the ID-50A to the Internet through a Windows™ PC or an Android™ device.

### USB Type-C™ Connector

The ID-50A has a USB Type-C™ connector which is widely used in the industry. The Multi-function USB port can charge the battery pack\*, and has a data host function for connecting with various device.

\* USB PD is not supported.

### Other Features

- VHF airband and FM broadcast receiver
- DV/FM repeater search function
- DV fast data mode
- microSD card slot
- IPX7 waterproof construction
- 5 W output power and 750 mW loud audio
- Voice recording functions
- CS-50 software can be downloaded from the Icom website
- External DC power jack
- Battery packs can be shared with the IC-705, ID-51, ID-52 series



## DV/DV Dualwatch

The ID-5100A 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.

\* 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

- DV fast data mode
- RS-MS1A remote control software
- Dplus reflector linking
- SD card slot
- Wireless audio with optional UT-133A Bluetooth® unit
- 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 operating frequency, mode and received call sign (DV mode)
- Independent main, volume and SQL knobs for A/B bands
- AM airband dualwatch
- Download-free programming software, CS-5100
- Weather channel with weather alert function (USA version only)
- Auto repeater function (USA version only)

## VHF/UHF DIGITAL TRANSCEIVER ID-5100A

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.



Vehicle installation example  
(Using optional MBF-1 and MBA-2)

## Integrated GPS Receiver

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





## 1500 mW Powerful Audio

In combination with a BTL amplifier and Icom's custom speaker, the IC-T10 delivers 1500 mW (typ.) powerful audio. In addition, the optional speaker-microphone HM-222HLWP also provides 1500 mW (typ.) loud audio.



1500 mW powerful audio



Optional speaker-microphone HM-222HLWP

## IP67 Waterproof and Dust-Tight

The IC-T10 can withstand submersion in 1 m depth of water for 30 minutes. This rugged construction provides dust-tight protection, making it suitable for outdoor operation.



## 11/10 Hours of Long Battery Life\*

With supplied 2400 mAh (typ.) large capacity BP-280 battery pack, the IC-T10 can use the radio for up to 11/10 hours (VHF/UHF)\*.

\* With BP-280 battery at 1:1:8 duty ratio (Power save ON)

## FM Broadcast Receiver

The IC-T10 covers 136–174, 400–479 MHz and 88–108 MHz\*. You can listen to a FM broadcast station.

\* USA version. Receiver working range.

## The Home Button on the Top Panel

When pushing the home button, you can quickly access to calling channel.

## Download Free Programming Software

The CS-T10 programming software for Windows™ PC can be download from the Icom Website. Editing memory channels and other settings can easily be made from your PC.

## Other Features

- Optional AD-149H power supply adapter allows to use the radio by external DC power
- BC-240, rapid charger and AC adapter are supplied
- CTCSS/DTCS code for repeater, tone squelch and pocket beep operation
- 16 DTMF autodial memories
- FM narrow mode
- Priority, Program, Memory, Skip, Tone and other useful scan capabilities
- VOX capability for hands-free operation
- Direct-conversion system eliminates IF stages
- Total of 208 memory channels with 6 character channel name
- 200 memory channels, 2 Call channels and 6 scan edges

## VHF/UHF DUAL BAND FM TRANSCEIVER IC-T10

5 W of Output Power  
on Both VHF and UHF Bands

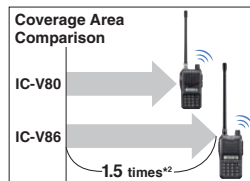
1500 mW Powerful Audio

IP67 Waterproof and MIL-STD 810G



## Class Leading 7 W\*1 Output Power

The 7 W output power and the newly designed antenna can increase the communication coverage. Compared to the previous model IC-V80 (5.5 W), the coverage area can be increased by 1.5 times.



\*1 When output power is "EX Hi"

\*2 Approximate, wide open space. Communication range may differ depending on operating environment or weather condition, etc.

## 1500 mW Powerful Audio

Recently developed Icom speaker outputs 1500 mW powerful and articulate audio, which provides clear communication even in noisy environments.



1500 mW powerful audio

## IP54 and MIL-STD 810G

The dust protection and water-resistance equivalent to IP54 provides reliable operation. The radio is perfect for outdoor use.

## 19 Hours of Long Battery Life

The BP-298 battery pack has 2250 mAh (typical) large capacity. You can continuously use the radio for up to 19 hours\*

\* EX Hi power with BP-298. TX:RX:Standby = 5:5:90 (3: 3: 54 seconds) (The Power Save function is set to "P-S.16")

## Built-in CTCSS/DTCS

The CTCSS and DTCS tone codes provide quiet stand-by and enable you to use tone-access repeaters. The tone scan detects the subaudible tone that is used for repeater access.

## Internal VOX Function

The IC-V86 has the 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

- User selectable Volume Level, VFO/Memory Channel selection control
- Supplied BC-240, battery charger with a charging control function that prolongs the life of the battery
- Integrated VOX function
- 200 memory channels, 1 Call channel and 6 scan edges
- Priority, program, memory, skip and tone scanning

## VHF TRANSCEIVER IC-V86

Class Leading 7 W Output Power

1500 mW Powerful Audio

IP 54 and MIL-STD 810G



## Optional VS-3 Bluetooth® Headset

The optional VS-3 Bluetooth® headset can wirelessly control the IC-2730A 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-2730A.

## 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/-1)

\* Receiver range differs, depending on the version.

## VHF/UHF DUAL BAND TRANSCEIVER IC-2730A

**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-2730A 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.



## 4.5 W Loud and Clear Audio

The IC-V3500 provides class-leading 4.5 W loud audio from the built-in speaker. By improving the frequency response of the speaker, the voice is clearly audible and easy to hear.

## Emergency Call Functions

In the case of an emergency, the emergency call function alternatively sends an emergency beep and hot microphone audio to let the receiver to know that an emergency has occurred.

## Instant Volume Loud and Mute

You can temporarily change the volume to a preset level with a simple operation. It can be used as a One-touch mute function by preset volume to zero level.

## Other Features

- A total of 207 memory channels with 6 character channel name
- Dynamic bank link scan function
- MIL-STD 810 G tough construction
- Up to 16 DTMF autodial memory
- Weather channel receive and weather alert function\*
- Free download PC programming software, CS-V3500
- Auto repeater function\*
- Priority watch function
- Wide/narrow channel setting
- Power supply voltage display
- Remote-control microphone supplied

\* USA version only.

## 144 MHz FM TRANSCEIVER IC-V3500

**65 Watts of RF Output Power  
with Heavy-Duty Endurance**

**Powerful 4.5 W Audio Output  
Provides Loud and Clear Audio**

**Emergency Call Functions**

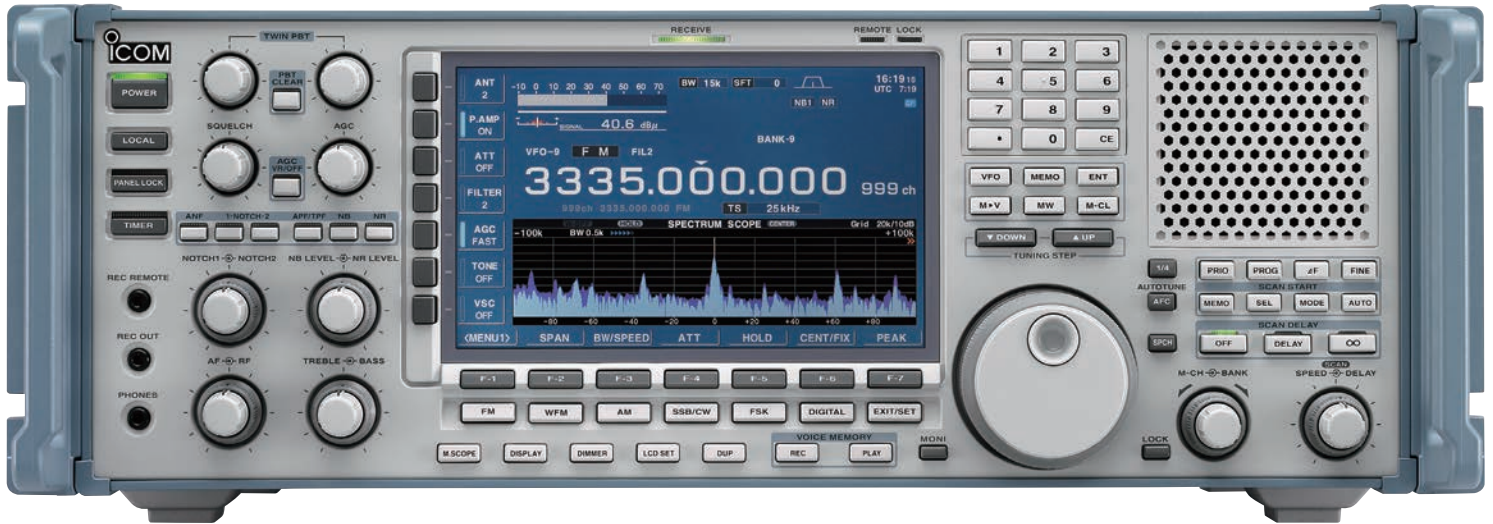
## 65 W Powerful RF Output Power

The IC-V3500 is a rugged 2 m mobile transceiver providing powerful 65 W of output power. Its large heatsink maintains stable output even during continuous transmission.

## Modern White Display and Simple Operation

While the IC-V3500 retains a simple user interface despite additional function updates for an easy to use radio. The white LCD backlight offers a better readability suitable for mobile operation. The bottom of the display indicates the available functions of the front panel buttons directly below the display.





## COMMUNICATIONS RECEIVER

# IC-R9500

0.005–3335 MHz Wideband Coverage

Superb Receiver Performance

Five Roofing Filters

### 0.005–3335 MHz Wideband Coverage

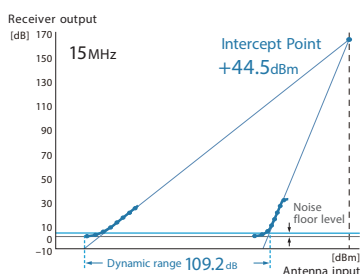
The IC-R9500 covers 0.005–3335 MHz\*<sup>1</sup> in SSB, AM, FM, WFM, CW, FSK and P25\*<sup>2</sup> modes. It is suitable for a wide variety of radio monitoring and listening activities.

\*<sup>1</sup> Frequency range differs depending on version.

\*<sup>2</sup> Optional UT-122 digital unit is required.

### Superb Receiver Performance

The IC-R9500 achieves its amazing performance by using a D-MOS FET array in the 1st mixer (below 30 MHz) and an excellent IMD roofing filter. The IC-R9500 has +40 dBm IP3 and 109 dB dynamic range at 14.1 MHz. IP3 performance is +9.8 dBm at 50 MHz and +6.2 dBm at 620 MHz (+5 dBm (typical) from 30 MHz to 3335 MHz).



### Five Roofing Filters

The IC-R9500 has 5 independent roofing filters (240, 50, 15, 6 and 3 kHz) for improved selectivity. In very crowded RF spectrum conditions, it is extremely important to prevent overload and from strong signals. The 3 kHz roofing filter provides a 130 dB (approx.)\* blocking dynamic range.

\* At 15 MHz reception, with 5 kHz separation signals.

### ±0.05 ppm High Frequency Stability

The IC-R9500 uses an OCXO (Oven Control Crystal Oscillator) unit which provides ±0.05 ppm frequency stability from 0°C to 50°C. The 10 MHz reference frequency can either be supplied to or input from external equipment.



OCXO unit

### Multi Function Spectrum Scope

Using a dedicated DSP unit improves the dynamic range of the spectrum scope. The IC-R9500 has four different display modes such as normal/wide and center/fixed width. The spectrum scope normally covers a range from ±2.5 kHz to ±5 MHz, while the wide band spectrum scope\* observes up to ±500 MHz (±10 MHz, ±25 MHz, ±50 MHz, ±100 MHz ±250 MHz and ±500 MHz selectable). When using the normal spectrum scope mode, the digital scope's filter width can vary from 200 Hz to 20 kHz with a variable sweep speed. The peak search function automatically moves the display marker to the strongest signal on the scope screen. In addition to these features, the scope has 3 levels of attenuation (10 dB, 20 dB, 30 dB).

\* While using the wide band scope function, AF output is muted.

### 7-inch Wide Color TFT LCD

The large 7-inch wide (800 × 480 pixels) active matrix display delivers quick response time, high resolution and has a wide viewing angle. The multi-function spectrum scope is displayed in vivid color. The background color is selectable from black or blue for your preference. In addition, the IC-R9500 has a VGA connector allowing you to connect an external monitor.

### Multiple RSSI

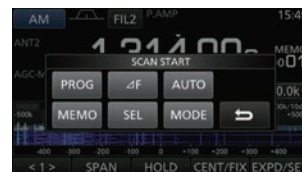
S-meter, dBμ, dBμ (emf) and dBm meter types are selectable in the IC-R9500. The dBμ, dBμ (emf) and dBm meter have ±3 dB of accuracy\*.

(\* 10 to 70 dBμ signal from 100 kHz to 3335 MHz at 25°C)

### Other Features

[Receive assist functions]

- Digital voice recorder
- Dual DSP
- Digital IF filter
- Digital twin PBT
- Noise blanker
- Noise reduction
- Notch filter
- Synchronous AM detection
- FSK demodulator and decoder
- 10 VFOs
- 1220 Memory channels
- Multiple-scan functions
- Voice synthesizer
- USB connector
- SSB/CW/AM mode auto tuning function
- AFC function compensates for frequency shifts (FM/WFM mode only)
- CW-R (reverse) mode
- Preamp and attenuator
- 1/4 tuning step function and dial click function
- APF (Audio Peak Filter)
- AGC (Automatic Gain Control)
- VSC (Voice Squelch Control)
- Input overload protection (HF bands only)
- Optional P25 digital mode reception
- CI-V interface and RS-232C for PC remote control
- 4 antenna connectors: an SO-239, a phono (RCA) connector and two type-N connectors
- S/P DIF output jack
- Video input/output
- Clock function
- IF output jack (10.7 MHz)
- CTCSS and DTCS tone squelch
- Simplified frequency calibration using WWV or WWWV



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 and Japanese DCR (Digital Convenience Radio). It also receives conventional analog signals such as USB, LSB, FSK, CW, AM, S-AM (Synchronous-AM), FM and WFM modes, covering 10 kHz to 3 GHz wide-band 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 the 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
- $\Delta f$  scan/ $\Delta f$  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,  $\pm 2.5$  MHz wide scope span (display range) and 110 dB of dynamic range (at  $\pm 2.5$  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 color 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.

## 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 HSDR, and the IC-R8600 can be controlled by the HSDR.

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

## Remote Control Software RS-R8600

The RS-R8600 remotely controls the IC-R8600 through an IP Network or a USB cable (direct PC connect), and provides high quality audio with low latency. Up to 256 network receivers can be registered (select one of these receivers to operate.) Record received audio using the PC Utility and save it on a PC storage device.

## Other Features

- SD card slot for receiver recorder
- 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-R6**

**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 x2), the IC-R6 provides up to 15 hours of continuous receive capability\*.

\* At 50 mW output using external speaker.




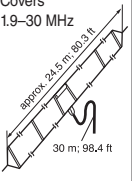
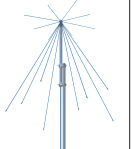



### **Other Features**

- 1300 Memory Channels with 22 Memory Banks
- Voice Squelch Control
- Built-in audio low pass filter
- $\pm 1.0$  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

# OPTIONAL ACCESSORIES FOR BASE STATIONS, MULTI-BAND AND RECEIVERS

MODEL NAME	HAND MICROPHONES				SPEAKER MICROPHONE	DESKTOP MICROPHONES			BLUETOOTH® HEADSET
	HM-219	HM-103	HM-151	HM-198		HM-243	SM-50	SM-30	
IC-7851									
IC-7610	✓					✓	✓		
IC-7300	✓					✓	✓		
IC-718	✓					✓	✓	✓	
IC-905					✓				
IC-9700	✓					✓	✓		
IC-705					✓				✓
IC-7100	(Use with OPC-589)	✓	✓	✓		(Use with OPC-589)	(Use with OPC-589)		
IC-R9500									
IC-R8600									




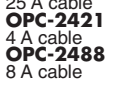
MODEL NAME	EXTERNAL SPEAKERS					AC ADAPTER	ANTENNA ELEMENT	AUTO ANTENNA TUNERS	
	SP-33 Wooden box speaker	SP-35 2.0 m; 6.5 ft cable SP-35L 6.0 m; 19.6 ft cable	SP-38 Best design matched for the IC-7300/IC-9700	SP-39AD With DC power supply	SP-41 With two input lines			AD-55NS Input: 100-240 V/1.0 A, Output: 15 V/2.0 A	AH-2B Covers 7-54 MHz
IC-7851	✓								
IC-7610	✓						✓	✓	
IC-7300	✓	✓	✓				✓	✓	
IC-718							✓	✓	
IC-905									
IC-9700		(Use SP-35)	✓						
IC-705									✓
IC-7100		(Use SP-35)					✓	✓	
IC-R9500									
IC-R8600				✓	✓	✓			









MODEL NAME	AUTO TUNING ANTENNA	CONTROL CABLES	COAXIAL CABLE	FOLDED DIPOLE ANTENNA	OMNIDIRECTIONAL ANTENNA	FILTER	CARRYING HANDLES	LINEAR AMPLIFIER
IC-7851								
IC-7610	✓	✓		✓			(Use MB-121)	✓
IC-7300	✓	✓		✓			(Use MB-123)	(Use with OPC-599)
IC-718	✓	✓		✓		✓	(Use MB-23)	(Use with OPC-599)
IC-905								
IC-9700							(Use MB-123)	
IC-705		(Use OPC-2474 with AH-705)	(Use with AH-705)					
IC-7100	✓	✓						(Use with OPC-599)
IC-R9500					✓			
IC-R8600				✓	✓		(Use MB-123)	

✓ : Applicable    □ : Not applicable



# OPTIONAL ACCESSORIES FOR BASE STATIONS, MULTI-BAND AND RECEIVERS

	DESKTOP STAND	MOBILE MOUNTING BRACKETS		MOUNTING BASE	CONTROLLER BRACKET	SEPARATION CABLES	MIC ADAPTER CABLE	ADAPTER CABLE	DC POWER CABLES
MODEL NAME	<b>MBF-705</b> 	<b>MB-62</b> 	<b>MB-118</b> 	<b>MBF-1</b> 	<b>MBA-1</b> 	<b>OPC-2253</b> 3.5 m; 11.5 ft <b>OPC-2254</b> 5.0 m; 16.4 ft 	<b>OPC-589</b> 8-pin connector microphone to 8-pin modular 	<b>OPC-599</b> 13-pin ACC socket to 7-, 8-pin ACC sockets 	<b>OPC-025A</b> 20 A cable <b>OPC-1457</b> 30 A cable <b>OPC-2361</b> 25 A cable <b>OPC-2421</b> 4 A cable <b>OPC-2488</b> 8 A cable 
IC-7851									
IC-7610									(Use OPC-1457)
IC-7300			✓					✓	(Use OPC-2361)
IC-718			✓					✓	(Use OPC-025A)
IC-905	✓								(Use OPC-2488)
IC-9700			✓						(Use OPC-2361)
IC-705	✓								(Use OPC-2421)
IC-7100		✓		(Use with MBA-1)	✓	✓	✓	✓	(Use OPC-1457)
IC-R9500									
IC-R8600									









	P25 DIGITAL UNIT	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE					USB REMOTE ENCODER	PICTURE UTILITY SOFTWARE
MODEL NAME	<b>UT-122</b> 	<b>CS-905</b> <b>CS-9700</b> *1 <b>CS-705</b> *1 <b>CS-7100</b> <b>CS-R8600</b> A USB cable is required for programming.	<b>RS-MS1A</b> *2 For Android™ device 	<b>RS-MS11</b> *3 For iOS™ device 	<b>RS-MS3A</b> *2 For Android™ device <b>RS-MS3W</b> *1 For Windows™ PC 	<b>RS-R8600</b> 	<b>RS-BA1</b> (Version 2) 	<b>RC-28</b> 	<b>ST-4001A</b> *2 <b>ST-4001I</b> *3 <b>ST-4001W</b> *1 
IC-7851							✓	✓	
IC-7610							✓	✓	
IC-7300							✓	(Use with RS-BA1)	
IC-718									
IC-905		(Use CS-905)			✓		(Available soon)	✓	✓
IC-9700		(Use CS-9700)	(Use with OPC-2350LU)		(Use with OPC-2350LU)		✓	(Use with RS-BA1)	✓
IC-705		(Use CS-705)	✓*4	✓*5	✓*6		✓	(Use with RS-BA1)	✓
IC-7100		(Use CS-7100)	(Use with OPC-2350LU)				✓	(Use with RS-BA1)	
IC-R9500	✓								
IC-R8600		(Use CS-R8600)				✓		(Use with RS-R8600)	

\*1 Free download software for Windows™ PC. Download from the Icom website: [www.icomjapan.com/support/firmware\\_driver/](http://www.icomjapan.com/support/firmware_driver/)

\*2 Free download Android™ app. Download on Google Play™. \*3 Free download iOS™ app. Download on the App Store.

\*4 Use with OPC-2417, OPC-2418 or Bluetooth® connection for Android™ device. \*5 Use Bluetooth® connection for iOS™ device.

\*6 Use with OPC-2417 or OPC-2418 for Android™ device. USB cable required for Windows™ PC. Type-A: User supplied. Type-C: OPC-2418.

	GPS SOFTWARE	TIME ADJUSTMENT SOFTWARE	DATA CABLES		BATTERY PACKS		DESKTOP CHARGER	AC ADAPTER	BACKPACK	
MODEL NAME	<b>ST-4002A</b> *2 	<b>ST-4003A</b> *2 <b>ST-4003W</b> *1 	<b>OPC-2350LU</b> 2.5 mm jack to USB Type-A or micro-B	<b>OPC-2417</b> USB micro-B to micro-B	<b>OPC-2418</b> USB Type-C to micro-B 	<b>BP-272</b> (Li-ion) 7.4 V/ 1880 mAh (min.), 2000 mAh (typ.) 	<b>BP-307</b> (Li-ion) 7.2 V/ 3050 mAh (min.), 3150 mAh (typ.) 	<b>BC-202IP2</b> Rapid charger 	<b>BC-1235</b> *7 12 V/1.0 A For use with BC-202IP2 	<b>LC-192</b> Multi-function backpack 
IC-7851		✓								
IC-7610		✓								
IC-7300		✓								
IC-718										
IC-905		✓								
IC-9700	(Use with OPC-2350LU)	✓	(Use OPC-2350LU)	✓						
IC-705		✓	(Use OPC-2417 or OPC-2418)		✓	✓	✓	✓	✓	
IC-7100	(Use with OPC-2350LU)	✓	(Use OPC-2350LU)	✓						
IC-R9500										
IC-R8600										








\*7 AC adapter may be supplied depending on versions.

☑ : Applicable ☐ : Not applicable

## Note for the Terminal mode and Access point mode

- 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 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.

# OPTIONAL ACCESSORIES FOR BASE STATIONS, MULTI-BAND AND RECEIVERS

MODEL NAME	CONTROL CABLES		ANTENNAS				TRANSVERTER
	<b>OPC-2509</b> 50 m, 164 ft	<b>OPC-2513</b> 20 m, 65.6 ft	<b>AH-24</b> 2400 MHz BAND COLLINEAR ANTENNA	<b>AH-56</b> 5600 MHz BAND COLLINEAR ANTENNA	<b>AH-100</b> 10 GHz BAND COLLINEAR ANTENNA	<b>AH-109PB</b> 10 GHz BAND PARABOLIC ANTENNA	<b>CX-10G</b> 10 GHz TRANSVERTER
							
IC-7851							
IC-7610							
IC-7300							
IC-718							
IC-905	✓	✓	✓	✓	✓ (Use with CX-10G)	✓ (Use with CX-10G)	✓
IC-9700							
IC-705							
IC-7100							
IC-R9500							
IC-R8600							

: Applicable       : Not applicable



# OPTIONAL ACCESSORIES FOR HANDHELDS AND RECEIVERS

MODEL NAME	BATTERY CASES		BATTERY PACKS						DESKTOP CHARGERS
	BP-273 LR6 (AA) x 3 cells	BP-263 LR6 (AA) x 6 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-280 (Li-ion) 7.2 V/ 2280 mAh (min.), 2400 mAh (typ.)	BP-264 (Ni-MH) 7.2 V/ 1400 mAh	BP-298 (Li-ion) 7.2 V/ 2100 mAh (min.), 2250 mAh (typ.)	BP-299 (Li-ion) 7.2 V/ 3050 mAh (min.), 3150 mAh (typ.)	BC-202IP2 Rapid charger
ID-52A	✓		✓	✓					✓*1
ID-50A	✓		✓	✓					✓*1
IC-T10					✓				
IC-V86		✓				✓	✓	✓	
IC-R6									

MODEL NAME	DESKTOP CHARGERS				MULTI CHARGERS		AC ADAPTERS		
	BC-213 Rapid charger	BC-192 Regular charger for BP-264	BC-240 Rapid charger For BP-298/BP-299	BC-194 Charger stand	BC-214N For BP-280/ BP-298/BP-299	BC-197 For BP-264	BC-167S*2 12 V/500 mA	BC-123S*3 12 V/1.0 A	BC-258*4 5 V/2 A
ID-52A							✓	✓ (Use with BC-202IP2)	
ID-50A							✓	✓ (Use with BC-202IP2)	✓ (Use with USB Type-C cable)
IC-T10	✓*1				✓*1 (Use #41-#43)			✓ (Use with BC-213)	
IC-V86		✓*1	✓*1		✓*1 (Use #26-#28)	✓*1 (Use #01-#03)			
IC-R6				✓					

\*1 AC adapter may be supplied depending on versions. \*2 BC-167SA for USA plug, SD for European plug and SV for Australian plug.

\*3 BC-123SA for USA plug, SE for European plug and SV for Australian plug. \*4 BC-258A for USA plug, E for European plug and V for Australian plug.

MODEL NAME	AC ADAPTERS				CIGARETTE LIGHTER CABLES		DC POWER CABLES		POWER SUPPLY ADAPTER
	BC-242 12 V/1.0 A	BC-147S*5 12 V/250 mA	BC-157S 12 V/7.5 A	BC-196S 4.5 V/400 mA	CP-12L with noise filter	CP-23L	OPC-254L	OPC-656	AD-149H
ID-52A					✓	✓ (Use with BC-202IP2)	✓		
ID-50A					✓	✓ (Use with BC-202IP2)	✓		
IC-T10	✓ (Use with BC-213)		✓*1 (Use with BC-214N)		✓ (Use with AD-149H)	✓ (Use with BC-213)	✓ (Use with AD-149H)	✓ (Use with BC-214N)	✓ (Use with CP-12L or OPC-254L)
IC-V86	✓ (Use with BC-240)	✓*1 (Use with BC-192)	✓*1 (Use with BC-214N/BC-197)			✓		✓ (Use with BC-214N/BC-197)	
IC-R6				✓					

\*5 BC-147SA for USA plug, SE for European plug and SV for Australian plug.

MODEL NAME	SPEAKER-MICROPHONES							EARPHONE-MICROPHONES	
	HM-243LS Remote control	HM-222HLWP Waterproof	HM-158LA	HM-159LA	HM-168LWP Waterproof	HM-183LS Waterproof	HM-186LS	HM-153LS HM-153LA	HM-166LS HM-166LA
ID-52A	✓					✓	✓	✓ (Use HM-153LS)	✓ (Use HM-166LS)
ID-50A	✓					✓	✓	✓ (Use HS-153LS)	✓ (Use HS-166LS)
IC-T10		✓	✓	✓	✓			✓ (Use HM-153LA)	✓ (Use HM-166LA)
IC-V86		✓	✓	✓	✓			✓ (Use HM-153LA)	✓ (Use HM-166LA)
IC-R6									

☑ : Applicable ☐ : Not applicable

# OPTIONAL ACCESSORIES FOR HANDHELDS AND RECEIVERS

MODEL NAME	HEADSETS					EARPHONES		PTT SWITCH CABLE	PLUG ADAPTER CABLES
	HS-94LWP Earhook type with waterproof connector	HS-95LWP Neck arm type with waterproof connector	HS-94 Earhook type	HS-95 Neck arm type	HS-97 Throat microphone type	SP-40	SP-27		
ID-52A			(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2144)			
ID-50A			(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2006LS)	(Use with OPC-2144)			
IC-T10	✓	✓							
IC-V86	✓	✓	(Use with VS-4LA/OPC-2004LA)	(Use with VS-4LA/OPC-2004LA)	(Use with VS-4LA/OPC-2004LA)		✓	✓	
IC-R6						✓	✓		

MODEL NAME	PLUG ADAPTER CABLES		BLUETOOTH® HEADSET	CARRYING CASES		USB CABLES	PROGRAMMING CABLES	BELT CLIPS	
	OPC-2006LS For VOX operation	OPC-2144 For straight plug microphones	VS-3	LC-193 LC-202	LC-146A	OPC-2417 USB micro-B to micro-B OPC-2418 USB Type-C to micro-B	OPC-474 Handheld to handheld	OPC-478UC/-1 Handheld to PC USB cable	MB-124 MB-127 MB-133
ID-52A	✓	✓	✓	(Use LC-193)		✓			(Use MB-127)
ID-50A	✓	✓		(Use LC-202)					(Use MB-127)
IC-T10								✓	(Use MB-133)
IC-V86							✓	✓	(Use MB-124)
IC-R6					✓		✓	✓	

MODEL NAME	CHARGER BRACKET	ANTENNAS		ANTENNA ADAPTER	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE	PICTURE UTILITY SOFTWARE		
	MB-130 For use with BC-192/BC-213/BC-240.	FA-B45V 144-148 MHz FA-B57V 160 MHz	FA-S270C	AD-925MA BNC type antenna connector	CS-52*5 CS-50*5 CS-T10*5 CS-V86 CS-R6	RS-MS1A*6 For Android™ device RS-MS11*7 For iOS™ device	RS-MS3A*6 For Android™ device RS-MS3W*5 For Windows™ PC	ST-4001A*6 ST-4001I*7 ST-4001W*5	ST-ID50A*6 ST-ID50W*5
ID-52A			✓	✓	(Use CS-52)	✓*8	✓*9	✓	
ID-50A			✓	✓	(Use CS-50)	✓*10 (Use RS-MS1A)	✓*10		✓*10
IC-T10	✓		✓		(Use CS-T10)				
IC-V86	✓	✓			(Use CS-V86)				
IC-R6			✓	✓	(Use CS-R6)				

\*5 Free download software for Windows™ PC. Download from the Icom website: [www.icomjapan.com/support/firmware\\_driver/](http://www.icomjapan.com/support/firmware_driver/)  
 \*6 Free download Android™ app. Download on Google Play™. \*7 Free download iOS™ app. Download on the App Store.  
 \*8 Use Bluetooth® connection or USB cable connection required for Android™ device. \*9 USB cable required. Type-A: User supplied. Type-C: OPC-2418. micro-B: OPC-2417. \*10 USB Type-C cable required.

## Note for the Terminal mode and Access point mode:

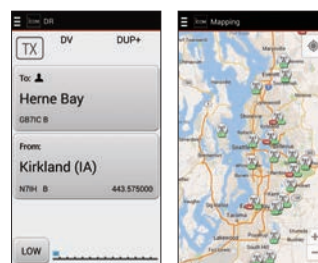
- Before operating in the Terminal mode or the Access Point mode, BE SURE to check your local regulations or laws.
- An optional free download software, RS-MS3W is required to be installed in a PC. An optional free download application, RS-MS3A is required to be installed in the Android™ device.
- You 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.

## RS-MS1A/RS-MS11 Remote Control App

(Free Download Android™/iOS™ Application on Google Play™/App Store)

The RS-MS1A and RS-MS11 allow you to connect the Digital transceiver with an Android™/iOS™ device and remotely control various functions and settings from the Android™/iOS™ device. You can take pictures with your iOS™ or 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™/iOS™ devices used.
- \* Photo shows RS-MS1A.



DR function setting example

Repeater map example © Google



# OPTIONAL ACCESSORIES FOR MOBILES

MODEL NAME	HAND MICROPHONES					HANDS FREE MICROPHONES	BLUETOOTH® HEADSET	MOUNTING BASE	MOUNTING BRACKET
	HM-198	HM-207	HM-154	HM-232	HM-133V	HM-249	VS-3	MBF-1	MBF-4
ID-5100A	✓	✓	✓	✓		✓	(Use with UT-133A)	(Use with MBA-2)	✓
IC-2730A	✓	✓	✓	✓		✓	(Use with UT-133A)	(Use with MBA-5)	✓
IC-V3500			✓		✓				

MODEL NAME	CONTROLLER BRACKETS	COMBINATION BRACKET	EXTERNAL SPEAKERS		MICROPHONE CABLES	MIC ADAPTER CABLE	CONTROLLER CABLE	DC POWER CABLES	
	MBA-2	MBA-5	MBA-4	SP-35 2.0 m; 6.5 ft cable SP-35L 6.0 m; 19.6 ft cable	SP-30 4 inch (102.5 mm) diameter speaker	OPC-440A 5.0 m; 16.4 ft OPC-647 2.5 m; 8.2 ft	OPC-589 8-pin connector microphone to 8-pin modular	OPC-1156 3.5 m; 11.4 ft	OPC-1132 3.0 m; 9.8 ft OPC-345 3.0 m; 9.8 ft OPC-347 7.0 m; 23 ft
ID-5100A	✓*1			✓	✓	✓	✓	✓	
IC-2730A		✓	✓	✓	✓	✓	✓	✓	
IC-V3500				✓	✓	✓	✓		✓

\*1 Supplied with the ID-5100A, depending on the ID-5100A version.

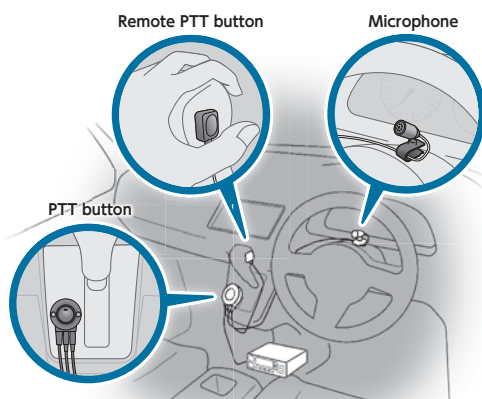
MODEL NAME	DATA COMMUNICATION CABLES	PROGRAMMING CABLE	CLONING CABLE	BLUETOOTH® UNIT	PROGRAMMING SOFTWARE	REMOTE CONTROL SOFTWARE	GPS SOFTWARE	
	OPC-1529R RS-232 cable	OPC-2350LU USB cable for an Android™ or a PC	OPC-478UC/-1 Transceiver to PC USB cable	OPC-474 Between transceivers	UT-133A	CS-5100*2 CS-2730*2 CS-V3500*2	RS-MS1A*3 For Android™ device	ST-4002A*3
ID-5100A	✓	✓	✓	✓		(Use CS-5100)	(Use with UT-133A)	(Use with OPC-2350LU)
IC-2730A			✓	✓		(Use CS-2730)		
IC-V3500			✓	✓		(Use CS-V3500)		

: Applicable  : Not applicable

\*2 CS-5100, CS-2730 and CS-V3500 are available for free download from Icom website: [www.icomjapan.com/support/firmware\\_driver/](http://www.icomjapan.com/support/firmware_driver/)

\*3 Free download Android™ app. Download on Google Play™.

## HANDS-FREE MICROPHONE HM-249



Driver can keep talking, while driving in safety

- Push-ON and push-OFF toggle operation for main PTT button
- Momentary operation for remote PTT button
- LED in Main PTT button lights up when transmitting

Please put these parts in the position where does not influence to your driving operation.

# SPECIFICATIONS FOR BASE STATIONS AND MULTI-BAND

		IC-7851	IC-7610	IC-7300	IC-718
General	Frequency coverage (Differs according to version)	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50 MHz bands Rx: 30 kHz–60 MHz <sup>*2</sup>	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50 MHz bands Rx: 30 kHz–60 MHz <sup>*2</sup>	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50 MHz bands Rx: 30 kHz–74.8 MHz <sup>*2</sup>	Tx: 1.8, 3.5, 7, 10, 14, 18, 21, 24, 28 MHz bands Rx: 30 kHz–29.999 MHz <sup>*2</sup>
	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; +32°F to +122°F, after warm up)	Less than ±0.5 ppm (0°C to +50°C; +32°F to +122°F)	Less than ±0.5 ppm (–10°C to +60°C; +14°F to +140°F)	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	SO-239 × 2, BNC	SO-239	SO-239
	Dimensions (W × H × D; Projections are not included)	425 × 149 × 435 mm; 16.7 × 5.9 × 17.1 in	340 × 118 × 277 mm; 13.4 × 4.6 × 10.9 in	240 × 94 × 238 mm; 9.4 × 3.7 × 9.4 in	240 × 95 × 239 mm; 9.4 × 3.7 × 9.4 in
	Weight (approx.)	23.5 kg; 51.8 lb	8.5 kg; 18.7 lb	4.2 kg; 9.3 lb	3.8 kg; 8.4 lb
Transmitter	Output power	SSB, CW, RTTY, PSK, FM: 5–200 W AM: 5–50 W	SSB, CW, RTTY, PSK, FM: 1–100 W AM: 1–25 W	SSB, CW, RTTY, FM: 2–100 W AM: 1–25 W	SSB, CW, RTTY: 2–100 W AM: 2–35 W
	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): 28–29.999 MHz 0.5 μV 50–54 MHz 0.32 μV	SSB, CW (2.4 kHz): 1.8–29.999 MHz 0.16 μV 50 MHz band 0.13 μV AM (6 kHz): 0.5–1.799 MHz 6.3 μV 1.8–29.999 MHz 2.0 μV 50 MHz band 1.0 μV FM (15 kHz): 28–29.700 MHz 0.5 μV 50 MHz band 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): 0.5–1.8 MHz 12.6 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 0.25 μV	SSB, CW, RTTY: 1.8–29.999 MHz 0.16 μV AM: 0.5–1.799 MHz 13 μV 1.8–29.999 MHz 2.0 μV
	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) 6.0 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	More than 70 dB* * Except for ADC aliasing on 50 MHz band.	More than 70 dB* * Except for ADC aliasing on 50 MHz band.	More than 70 dB (1.8–29.999 MHz)
	Audio output power	More than 2.6 W (10% distortion, 8 Ω load)	More than 2.0 W (10% distortion, 8 Ω load)	More than 2.5 W (10% distortion, 8 Ω load)	More than 2.0 W (10% distortion, 8 Ω load)
	US Military Standards and IP Rating	–	–	–	MIL-STD-810-F

\*1 Depending on version. \*2 Some frequency ranges are not guaranteed.

		IC-9700	IC-705	IC-7100	IC-905
General	Frequency coverage (Differs according to version)	Tx/Rx: 144–148, 430–450, 1240–1300 MHz	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430, 440 MHz bands Rx: 30 kHz–199.999 MHz, 400–470 MHz <sup>*2</sup>	Tx: 1.8, 3.5, 5 <sup>*1</sup> , 7, 10, 14, 18, 21, 24, 28, 50, 144, 430, 440 MHz bands Rx: 30 kHz–199.999 MHz, 400–470 MHz <sup>*2</sup>	144, 430, 440 MHz, 1.2 GHz (23 cm), 2.4 GHz (13 cm), 5.6 GHz (6 cm) bands plus 10 GHz (3 cm) bands (with option CX-10G)
	Modes	USB, LSB, CW, RTTY, AM, FM, DV, DD	USB, LSB, CW, RTTY, DV, AM, FM, WFM* (*Rx only)	USB, LSB, CW, RTTY, DV, AM, FM, WFM* (*Rx only)	SSB, CW, AM, FM, RTTY, DV, DD*, ATV* (*1200 MHz and above)
	Frequency stability	Less than ±0.5 ppm (–10°C to +60°C; 14°F to 140°F)	Less than ±0.5 ppm (–10°C to +60°C; 14°F to 140°F)	Less than ±0.5 ppm (0°C to +50°C @ 430 MHz)	Less than ±65 ppb (Total deviation) GPS-Controlled Oscillator
	Maximum current drain	18 A at 13.8 V DC	3 A at 13.8 V DC (10 W output) 2.5 A at 7.4 V DC (5 W output)	22 A at 13.8 V DC	Less than 5.5 A (at 13.8 V DC)
	Antenna connector	SO-239 (144 MHz), Type-N (430/440, 1200 MHz)	BNC (One connector for all bands)	SO-239 × 2	Type-N (144–1200 MHz), SMA × 2 (2.4, 5.6 GHz)
	Dimensions (W × H × D; Projections are not included)	240 × 94 × 238 mm; 9.4 × 3.7 × 9.4 in	200 × 83.5 × 82 mm; 7.9 × 3.3 × 3.2 in	Main unit 167 × 58 × 225 mm; 6.6 × 2.3 × 8.9 in Controller 165 × 64 × 78.5 mm; 6.5 × 2.5 × 3.1 in	Controller unit 200 × 83.5 × 82 mm; 7.9 × 3.3 × 3.2 in RF unit 172 × 87 × 210 mm; 6.8 × 3.4 × 8.3 in
	Weight (approx.)	4.7 kg; 10.4 lb	1.1 kg; 2.4 lb (including BP-272)	Main unit 2.3 kg; 5.1 lb Controller 0.5 kg; 1.1 lb	Controller 0.94 kg; 2.1 lb., RF unit 3.2 kg; 7.1 lb.
Transmitter	Output power	SSB, CW, RTTY, FM, DV, DD: 144 MHz 0.5–100 W 430/440 MHz 0.5–75 W 1200 MHz 0.1–10 W AM: 144 MHz 0.125–25 W 430/440 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: 0.025–2.5 W Using specified Icom's battery pack (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 144 MHz 2–50 W 430 MHz 2–35 W AM: 1.8–50 MHz 1–30 W	SSB, CW, FM, RTTY, DV, DD*, ATV*: 144, 430/440 MHz, 1.2 GHz 10 W 2.4, 5.6 GHz 2 W 10 GHz (with CX-10G) 0.5 W typ. AM: 144, 430/440 MHz, 1.2 GHz 2.5 W 2.4, 5.6 GHz 0.5 W 10 GHz (with CX-10G) 0.125 W typ. * 1.2 GHz and above for DD and ATV mode.
	Sensitivity (typical) Preamp ON SSB, CW, RTTY, AM: at 10dB 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: 1.8–29.999 MHz 0.2 μV (2.4 kHz) 50–54 MHz 0.15 μV 144/430/440 MHz 0.11 μV AM: 0.5–1.799 MHz 13 μV (6 kHz) 1.8–29.999 MHz 2.0 μV 50–54 MHz 1.0 μV 144/430 MHz 1.0 μV FM: 28–29.7 MHz 0.5 μV (15 kHz) 50–54 MHz 0.25 μV 144/430/440 MHz 0.18 μV DV: 28–29.7 MHz 1 μV 50–54 MHz 0.63 μV 144/430 MHz 0.35 μV WFM: 76–108 MHz 0.71 μV	SSB, CW: 1.8–29.999 MHz 0.15 μV (2.4 kHz) 50–54 MHz 0.12 μV 144/430/440 MHz 0.11 μV AM: 0.5–1.8 MHz 13 μV (6 kHz) 1.8–29.999 MHz 2.0 μV 50–54 MHz 1.0 μV 144/430 MHz 1.0 μV FM: 28–29.7 MHz 0.5 μV (15 kHz) 50–54 MHz 0.25 μV 144/430 MHz 0.18 μV DV: 28–29.7 MHz 1 μV 50–54 MHz 0.63 μV 144/430 MHz 0.35 μV WFM: 76–108 MHz 10 μV	SSB, CW: 144/430 MHz, 1.2/2.4 GHz 0.11 μV 5.6 GHz 0.15 μV 10 GHz (with CX-10G) 0.14 μV AM: 144/430 MHz, 1.2/2.4 GHz 1.0 μV 5.6 GHz 1.4 μV 10 GHz (with CX-10G) 0.17 μV FM: 144/430 MHz, 1.2/2.4 GHz 0.17 μV 5.6 GHz 0.25 μV 10 GHz (with CX-10G) 0.22 μV DV: 144/430 MHz, 1.2/2.4 GHz 0.35 μV 5.6 GHz 0.50 μV DD: 1.2/2.4 GHz 1.58 μV 5.6 GHz 2.23 μV
	Selectivity * Filter: SHARP	SSB: 2.4 kHz/–3 dB (2.4 kHz) 3.6 kHz/–60 dB CW: 500 Hz/–3 dB (500 Hz) 700 Hz/–60 dB RTTY: 500 Hz/–3 dB (500 Hz) 700 Hz/–60 dB AM: 6 kHz/–3 dB (6 kHz) 6 kHz/–60 dB FM: 12 kHz/–6 dB (15 kHz) 20 kHz/–60 dB DV (12.5 kHz spacing): –50 dB DD (300 kHz spacing): –40 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 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 DV (12.5 kHz spacing): –50 dB	SSB: 2.4 kHz/–3 dB (2.4 kHz) 3.6 kHz/–60 dB CW: 500 Hz/–3 dB (500 Hz) 700 Hz/–60 dB RTTY: 500 Hz/–3dB (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 DV (12.5 kHz spacing): –50 dB DD (300 kHz spacing): –40 dB
Spurious and image rejection	144/430 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)* More than 65 dB (144 MHz) More than 54 dB (430/440 MHz) * Except for ADC aliasing below 25 MHz or 50–54 MHz at intermediate frequency in 25–30 MHz or 50–54 MHz.	More than 70 dB (HF/50 MHz)* More than 65 dB (144/430 MHz)* * Except 1/2 IF through on 50 MHz, IF through on 144 MHz	144/430 MHz SSB/CW More than 70 dB AM/FM/DV More than 60 dB 1.2/2.4/5.6 GHz SSB/CW/AM/FM/DV/DD More than 50 dB	
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)	More than 530 mW (Internal SP, 12 Ω load) More than 200 mW (External SP, 8 Ω load)	
US Military Standards and IP Rating	–	MIL-STD-810-G	–	–	

\*1 Depending on version. \*2 Some frequency ranges are not guaranteed. All stated specifications are subject to change without notice or obligation.



# SPECIFICATIONS FOR HANDHELDS, MOBILES AND RECEIVERS

	ID-52A	ID-50A	IC-T10	IC-V86	ID-5100A	IC-2730A	IC-V3500
<b>Frequency coverage</b> <small>(Differs according to version)</small>	USA version: Tx 144-148, 430-450 MHz*1 Rx (A) 108-174, 225-479 MHz*1 (B) 137-174, 375-479 MHz*1 Broadcast 88-108 MHz	USA version: Tx 144-148, 430-450 MHz*1 Rx (A) 108-174, 375-479 MHz*1 (B) 137-174, 375-479 MHz*1 Broadcast 88-108 MHz	USA version: Tx 144-148, 430-450 MHz*1 Rx 136-174, 400-479 MHz*1 FM Broadcast 88-108 MHz EXP version: Tx/Rx 136-174, 400-479 MHz*2 FM Broadcast 76-108 MHz	USA version : Tx 144-148 MHz Rx 136-174 MHz EXP version : Tx 136-174 MHz <small>(EX Hi power: 144-160 MHz)</small> Rx 136-174 MHz	USA version: Tx 144-148, 430-450 MHz*1 Rx 118-174, 375-550 MHz*1 EXP version : Tx 137-174, 400-470 MHz*2 Rx 118-174, 375-550 MHz*2	USA version : Tx 144-148, 430-450 MHz Rx 118-174, 375-550 MHz*3 EXP version : Tx 137-174, 400-470 MHz*2 Rx 118-174, 375-550 MHz*2	USA version: Tx 144-148 MHz Rx 136-174 MHz*4 EXP version: Tx/Rx 136-174 MHz*4
<b>Modes</b>	DV, FM, FM-N, WFM (Rx only), AM (Rx only), AM-N (Rx only)	DV, FM, FM-N, WFM (Rx only), AM (Rx only), AM-N (Rx only)	FM, FM-N	FM, FM-N	DV, FM, FM-N, AM (Rx only), AM-N (Rx only)	FM, FM-N, AM (Rx only), AM-N (Rx only)	FM, FM-N
<b>Max. current drain</b>	2.5 A	2.5 A	2.5 A	1.6 A	13 A	13 A	11 A
<b>Number of Memory channels</b>	1054 <small>(1000 regular, 50 scan edges and 4 call channels) + 2500 repeater Memory channels</small>	529 <small>(500 regular, 25 scan edges and 4 call channels) + 2500 repeater Memory channels</small>	208 <small>(200 memory channels, 2 call channel and 6 scan edges)</small>	207 <small>(200 memory channels, 1 call channel and 6 scan edges)</small>	1054 <small>(1000 regular, 50 scan edges and 4 call channels) + 1500 repeater Memory channels</small>	1052 <small>(1000 regular, 50 scan edges and 2 call channels)</small>	207 <small>(200 regular, 6 scan edges and 1 call channel)</small>
<b>Dimensions</b> <small>(W×H×D; Projections are not included)</small>	61.1 × 121.6 × 34.8 mm; 2.4 × 4.8 × 1.4 in <small>(with BP-272)</small>	58.0 × 111.0 × 27.9 mm; 2.3 × 4.4 × 1.1 in <small>(with BP-272)</small>	61.1 × 111.8 × 30.3 mm; 2.4 × 4.4 × 1.2 in <small>(with BP-280)</small>	58.6 × 112 × 30.5 mm; 2.3 × 4.4 × 1.2 in <small>(with BP-298)</small>	Main unit: 150 × 40 × 172.6 mm; 5.9 × 1.6 × 6.8 in Controller: 182.2 × 81.5 × 24.7 mm; 7.2 × 3.2 × 1.0 in	Main unit: 150 × 40 × 151 mm; 5.9 × 1.6 × 5.9 in Controller: 150 × 50 × 27.2 mm; 5.9 × 2.0 × 1.1 in	140 × 40 × 118 mm; 5.5 × 1.6 × 4.6 in
<b>Weight</b> (approx.)	330 g; 11.6 oz <small>with antenna and BP-272</small>	300 g, 10.6 oz <small>with BP-272 and antenna</small>	278 g; 9.8 oz <small>with BP-280 and antenna</small>	300 g, 10.6 oz <small>with antenna and BP-298</small>	Main unit: 1.3 kg; 2.9 lb Controller: 260 g; 9.2 oz	Main unit: 1.2 kg; 2.6 lb Controller: 140 g; 4.9 oz	1.1 kg; 2.4 lb
<b>Output power</b> (approx.) <small>(Differs according to version)</small>	5 W, 2.5 W, 1.0 W, 0.5 W, 0.1 W <small>(Hi, Mid, Low1, Low2, S-Low)</small>	5 W, 2.5 W, 1.0 W, 0.5 W, 0.1 W <small>(Hi, Mid, Low2, Low1, S-Low)</small>	5 W, 2.5 W, 0.5 W <small>(Hi, Mid, Low)</small>	7.0 W, 5.5 W, 2.5 W, 0.5 W <small>(EX Hi, Hi, Mid, Low)</small>	50 W, 15 W, 5 W <small>(Hi, Mid, Low)</small>	50 W, 15 W, 5 W <small>(Hi, Mid, Low)</small>	65 W, 25 W, 10 W, 5 W <small>(Hi, Mid-Hi, Mid-Lo, Low)</small>
<b>Sensitivity</b> <small>(FM: at 12 dB SINAD, DV: at 1% BER Ham band)</small>	DV Less than 0.2 μV FM/FM-N Less than 0.18 μV	DV Less than 0.2 μV FM/FM-N Less than 0.18 μV	FM/FM-N Less than 0.18 μV	FM/FM-N Less than 0.14 μV	DV Less than 0.28 μV FM/FM-N Less than 0.18 μV	FM/FM-N Less than 0.18 μV	FM/FM-N Less than 0.18 μV
<b>Audio output power</b>	More than 750 mW <small>(Internal SP, 10% distortion, 8 Ω load) More than 200 mW <small>(External SP, 10% distortion, 8 Ω load)</small></small>	More than 750 mW <small>(Internal SP, 10% distortion, 8 Ω load) More than 200 mW <small>(External SP, 10% distortion, 8 Ω load)</small></small>	1500 mW typ. <small>(Internal SP, 8 Ω load) 450 mW typ. <small>(External SP, with 8 Ω load)</small></small>	1500 mW typ. <small>(Internal SP, 5% distortion, 8 Ω load) 550 mW typ. <small>(External SP, 5% distortion, 8 Ω load)</small></small>	More than 2.0 W <small>(10% distortion, 8 Ω load)</small>	More than 2.0 W <small>(10% distortion, 8 Ω load)</small>	4.5 W typ. <small>(10% distortion, 4 Ω load)</small>
<b>MIL-STD and IP Rating</b>	IPX7	IPX7	MIL-STD-810-G, IP67	MIL-STD-810-G, IP54	MIL-STD-810-G	MIL-STD-810-G	MIL-STD-810-G

\*1 Guaranteed range 144-148 and 440-450 MHz. \*2 Guaranteed range 144-148 and 430-440 MHz. \*3 Guaranteed range 144-148 and 430-450 MHz. \*\* Guaranteed range 144-148 MHz.

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

	IC-R9500	IC-R8600	IC-R6
<b>Frequency coverage</b> <small>(Differs according to version)</small>	USA version: 0.005 – 821.999, 851 – 866.999, 896 – 3335 MHz EXP version: 0.005 – 3335 MHz	USA version: 0.01 – 821.999*3, 851 – 866.999, 896 – 3000 MHz EXP version: 0.01 – 3000 MHz*4	USA version: 0.1 – 823.995, 851 – 866.995, 896 – 1309.995 MHz EXP version: 0.1 – 1309.995 MHz
<b>Mode</b>	USB, LSB, CW, FSK, AM, FM, WFM, P25*1	USB, LSB, CW, FSK, AM, FM, WFM, D-STAR (DV), P25, NXDN, dPMR, DCR, S-AM	FM, WFM, AM
<b>Frequency stability</b>	Less than ±0.05 ppm (25°C after 5 min. warm up)	Less than ±0.5 ppm (at 25°C after warm up)	±1.0 ppm (at 25°C)
<b>Maximum current drain</b>	100 VA (Power consumption)	2.0 A	130 mA typical (at 3.0 V DC)*5
<b>Antenna connector</b>	SO-239 (50 Ω for HF), Phono (RCA: 500 Ω for HF), Type-N × 2*2 (50 Ω)	ANT1: Type-N (50 Ω), ANT2: SO-239 (50 Ω), ANT3: RCA (500 Ω)	SMA (50 Ω)
<b>Dimensions</b> <small>(Projections are not included)</small>	424 (W) × 149 (H) × 340 (D) mm; 16.7 (W) × 5.9 (H) × 13.4 (D) in	220 (W) × 90 (H) × 230 (D) mm; 8.7 (W) × 3.5 (H) × 9.1 (D) in	58 (W) × 86 (H) × 29.8 (D) mm; 2.3 (W) × 3.4 (H) × 1.2 (D) in
<b>Weight</b> (approx.)	20 kg, 44.1 lb	4.3 kg, 9.5 lb	200 g, 7.1 oz with antenna and battery cells
<b>Sensitivity</b> <small>Preamp ON 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</small>	SSB/CW/FSK (typical, 2.4 kHz): 0.1-1.799 MHz 0.5 μV 1.8-29.999 MHz 0.2 μV 30-2999.999 MHz 0.32 μV 3000-3335 MHz 1.0 μV AM (typical, 6 kHz): 0.1-1.799 MHz 6.3 μV 1.8-29.999 MHz 2.5 μV 30-2999.999 MHz 3.5 μV 3000-3335 MHz 11 μV FM (typical, 15 kHz): 28-29.999 MHz 0.5 μV 30-2999.999 MHz 0.5 μV 3000-3335 MHz 1.6 μV FM (typical, 50 kHz): 28-29.999 MHz 0.71 μV 30-2999.999 MHz 0.71 μV 3000-3335 MHz 2.2 μV WFM (typical, 180 kHz): 30-2999.999 MHz 1.4 μV 3000-3335 MHz 4.5 μV	SSB/CW/FSK (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 P25 (Preamp ON): 28-1999.999 MHz 0.56 μV 2000-3000 MHz 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
<b>Selectivity</b>	SSB/FSK (2.4 kHz): More than 2.4 kHz/-3 dB Less than 3.6 kHz/-60 dB CW (500 Hz): More than 500 Hz/-3 dB Less than 700 Hz/-60 dB AM (6 kHz): More than 6.0 kHz/-3 dB Less than 15.0 kHz/-60 dB FM (15 kHz): More than 12.0 kHz/-3 dB Less than 25.0 kHz/-60 dB WFM: More than 180 kHz/-6 dB	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 than 15.0 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	AM, FM: More than 12 kHz/-9 dB Less than 30 kHz/-60 dB WFM: More than 150 kHz/-6 dB
<b>Audio output power</b> <small>(at 10% distortion)</small>	2.6 W (8 Ω load)	More than 2.0 W (8 Ω load)	More than 150 mW (Internal SP, 16 Ω load) 80 mW typical (External SP, 8 Ω load)
<b>MIL-STD and IP Rating</b>	-	MIL-STD-810-G	MIL-STD-810-F, IPX2

\*1 Optional UT-122 required. \*2 One each for 30-1149.999, 1150-3335 MHz. \*3 Guaranteed range: 0.1-821.999 MHz. \*\* Guaranteed range: 0.1-3000 MHz.

\*5 External SP, backlight OFF.

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

# Global Wireless Communications Company

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