

# Icom IC-7610 Specifications and Features Page

Icom IC-7610 Output power:  
100W (25W AM)



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RX Frequencies:  
0.030-60.00MHz



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Receiver type:  
Direct sampling

You can find most this information on the Icom IC-7610 at the [Icom America website](http://www.icomamerica.com). However, I am adding my own

information to it. I hope you find this information useful.

## **Icom IC-7610 Features**

- RTTY (FSK), PSK thru PC and/or decode on LCD. May also use a connected keyboard.
- Built-in automatic antenna tuner with an emergency mode.
- Digital-Up-Conversion (DUC) for clean transmit
- Dual RF direct sampling receivers, dual spectrum scopes
- DVI-D connector for an external display
- SD memory card slot for saving data
- I/Q signal output
- 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
- Dial lock function
- Adjustable main dial brake
- External speaker jacks for Main and Sub receivers
- Screen saver function
- Multi-function meter (S-meter, Power, ALC, COMP, SWR, ID, VD and TEMP)
- Auto tuning step function

## **Icom IC-7610 RF Direct Sampling System**

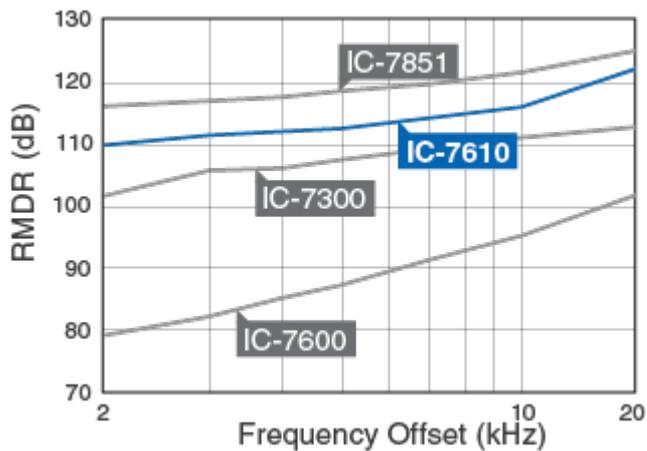
Dual RF direct sampling receivers. The IC-7610 employs an RF direct sampling system, where RF signals directly convert to digital data and then processed by the FPGA (Field-Programmable Gate Array). This process reduces distortion that naturally occurs in the various mixer stages found in traditional superhetrodyne receivers.

The RF Direct Sampling System in the IC-7610 is capable of 110 dB\* RMDR. This performance gives you the ability to pull weak

signals out of the noise of strong adjacent signals. There is a difference you can actually hear as the desired signal comes out of the pileup!

### **RMDR Characteristics**

\* Representative value at 2 kHz frequency separation (Received frequency: 14.2 MHz, Mode: CW, IF BW: 500 Hz)



### **Independent Dual Receiver**

Whether listening to both sides of DX station running split, or looking for a multiplier on a different band or mode, the dual receivers in the IC-7610 have you covered. Two separate DIGI-SEL preselectors, two separate Band Pass Filter networks, feed two separate A/D converters into the FPGA.

### **Dual Digi-Sel**

The DIGI-SEL preselectors are RF filters with sharp, narrow passband characteristics preventing Analog-to-Digital Converter overflow from large out-of-band signals when sampling the RF signals. Additionally the third and higher order IMD components are reduced. This is ideal when strong signals are received in a contest pile-up or from broadcast stations on adjacent frequencies or bands.

### **Large Color Touch Screen**

The large 7" color TFT touch LCD offers intuitive operation of functions, settings, and various operational visual aids such

as dual spectrum scope aligned vertically or horizontally, simulated analog meters and RTTY, PSK31/63 mode decoded messages.

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 by touching the screen and can adjust the levels by turning the multi-dial knob.

LCD comparison

	IC-7610	IC-7300	IC-7600
Span width	<b>5 kHz – 1000 kHz</b>		5 kHz - 500 kHz
Resolution	<b>1 pixel minimum*</b>		20 pixels minimum*
Sweep speed	<b>Max. 30 frames/second (approximate)</b>		Max. 4 frames/second (approximate)
Waveform display area	<b>100 dB</b>	80 dB	70 dB
Dual Receiver	<b>Dual</b>	Single	
Mouse Operation	<b>Yes</b>	N/A	Yes

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

## Other Outstanding Features

**RX Antenna:** BNC type RX IN/OUT connectors for a receiver antenna or external BPF/preamp connection

**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 shape, width and AF level.

**Receiver:** 30 kHz to 60 MHz receiver (Some frequencies are not guaranteed.), Two types of preamplifiers, Preamp 1: Improves intermodulation characteristics, Preamp 2: High gain

preamplifier, 3 dB – 45 dB variable attenuator, IP+ function improves 3rd order intercept point performance, 101 memory channels, RTTY encoder and decoder, Twin peak audio filter for the RTTY mode, Adjustable AGC time constant from 0.1 to 6 seconds, Digital twin PBT eliminates interference from adjacent signals, Main/Sub band tracking function for diversity reception.

**Transmitter:** TX monitor function, All mode power control, VOX (Voice Operated transmission) capability, BNC type transverter connector, Microphone equalizer and adjustable transmit bandwidth 50 CTCSS tones.

**Operation:** 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, Dial lock function, Adjustable main dial brake, External speaker jacks for Main and Sub receivers, Screen saver function, Multi-function meter (S-meter, Power, ALC, COMP, SWR, ID, VD and TEMP) , Auto tuning step function.

## Frequently Asked Questions (FAQ)

1. Can it duplex? No, but it can receive on different (or same) bands using separate antennas.
2. What type of mic does it use? Good news, you have many choices made easy because you can turn off mic DC power when using non-Icom microphones.
3. Can the connected mouse on the LCD be used to click on soft buttons in the LCD? No, just clicking the frequency in the waterfall and it's functions.
4. Can I use a wireless mouse/keyboard combination? Yes.
5. Can I transmit over the air, a recorded QSO directly from the transceiver? Not directly from the radio.
6. Can it do RTTY (FSK)? Yes, either with a connected keyboard or with PC software. No Mac software does FSK that I am aware of.

7. Do I need something like a Signalink to operate PSK? No, just the radio will suffice.
8. Can it do S02R? No, it will S02V.
9. Can I separate the main and sub audio so I can listen to one frequency in my left ear and another frequency in my right ear with my headphones? Yes
10. Is it capable of diversity receive? Yes. "Diversity reception" means – same frequency is received by different antennas.
11. Will the Icom IC-7610 support an I/Q output to something like CW Skimmer? It has not been defined yet. Coming in a future update.
12. Can I use an external touchscreen monitor? There is some talk indicating it may be possible. It would require a touchscreen that doesn't need a driver installed and loaded to work. That's limiting. More will be revealed.
13. What is the external monitor resolution? You can choose either 800 x 480 or 800 x 600.

Sources:

[Icom America – Icom IC-7610](#)

[IC-7610 Technical Report Vol. 1](#)

[IC-7610 Technical Report Vol. 2](#)

[IC-7610 Technical Report Vol. 3](#)

[Icom IC-7610 Brochure](#)

[Groups.io Forum – IC-7610](#)

[AB40J Website](#)

[eHam.net Icom 7610 Reviews](#)