

 ICOM

PRE-RELEASE INFORMATION

HF/50 MHz TRANSCEIVER

IC-7610

# “Dual” HF Excitement RF Direct Sampling Evolution



# New and Powerful Dual RF Direct Sampling Taking



## Innovative RF Direct Sampling System Achieves to 110 dB\* (typical) of 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 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

\* Received frequency: 14.2 MHz, MODE: CW, IF BW: 500 Hz



## Independent Dual Receiver Receives Two Bands Simultaneously

The sub receiver works independently of the main receiver. The dual receiver is perfect to simultaneously monitor two bands and two modes. Independent AF/RF knobs for the main and sub bands improve usability.

## DIGI-SEL Preselector Firmly Shuts Out Interference 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 cross modulation.



DIGI-SEL Unit

# Receive Rig Taking You to the Next Level



Actual size

## 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 allows you to find weak signals by showing spectrum change over time. The audio scope function shows the FFT scope and oscilloscope.

	IC-7610	IC-7600
Span width	5 kHz–1000 kHz	5 kHz–500 kHz
Resolution	1 pixel minimum*	20 pixel minimum*
Sweep Speed	Max. 30 frames/second (approximate)	Max. 4 frames/second (approximate)
Display Dynamic Range	100 dB	80 dB
Dual Receiver	Yes	No (Single)

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

## 7-inch Color Display with Touch Screen Function

The large 7-inch color display shows various operating and setting information at a glance in high resolution (800 × 480 pixels). The combination of the touch screen and the Multi-function control knob offers smooth, intuitive and speedy operation.

## Other Features

- Built-in high-speed automatic antenna tuner
- Newly designed large speaker housing offers superior sound quality, making use of the high-purity received signal
- SD card for saving various setting information and recording communications\* \* An SD card is required separately.
- Digital IF filter and digital twin PBT for interference rejection
- IP remote control capability with the optional RS-BA1
- External monitor connection with a DVI-D port

## SPECIFICATIONS

GENERAL		
Receiver*1	0.030–60.00 MHz*3	
Frequency coverage	Transmitter*1	1.800–1.999, 3.500–3.999, 5.255–5.405**2, 7.000–7.300, 10.100–10.150, 14.000–14.350, 18.068–18.168, 21.000–21.450, 24.890–24.990, 28.000–29.700, 50.000–54.000 MHz
		*1 USA version. Varies according to version. *2 Some frequency bands are not guaranteed. *3 Guaranteed range: 0.500–29.999, 50.000–54.000 MHz.
Mode	USB, LSB, CW, RTTY, PSK, AM, FM	
Number of channels	101 (99 regular, 2 scan edges)	
Antenna connectors	SO-239 × 2 (50 Ω unbalanced (Tuner off)) BNC × 1 (RX antenna In/Out)	
Power supply requirement	13.8 V DC ±15%	
Power consumption	Tx	23 A (at 100 W output power)
	Rx	3.0 A typical (Standby), 3.5 A (Maximum audio)
Operating temperature range	0 °C to +50 °C; 32 °F to 122 °F	
Frequency stability	Less than ±0.5 ppm (0°C to +50°C; 32°F to 122°F)	
Frequency resolution	1 Hz (fine)	
Dimensions (W × H × D) (projections not included)	340 × 118 × 277 mm; 13.4 × 4.6 × 10.9 in	
Weight (approximately)	10 kg; 22 lb	

TRANSMITTER		
Output power (HF/50 MHz)	SSB/CW/FM/RTTY/PSK: 1–100 W, AM: 1–25 W	
Modulation system	SSB	Digital P.S.N. modulation
	AM	Digital Low power modulation
	FM	Digital Reactance modulation
Spurious emissions	HF bands	Less than –50 dB
	50 MHz band	Less than –63 dB
Carrier suppression	More than 50 dB	
Unwanted sideband	More than 50 dB	
Microphone impedance	600 Ω	

RECEIVER		
Receiver system	Direct Sampling	
Intermediate frequency	12 kHz	
Sensitivity*4	SSB/CW (at 10 dB S/N)	0.15 μV
	AM (at 10 dB S/N)	6.3 μV
	FM (at 12 dB SINAD)	0.3 μV
		0.5 μV
Squelch sensitivity (Threshold)	SSB: Less than 3.2 μV (Preamp ON)	
	FM: Less than 0.3 μV (Preamp ON)	
Selectivity (Sharp filter shape)	SSB (BW: 2.4 kHz)	2.4 kHz/–6 dB
	CW (BW: 500 Hz)	500 Hz/–6 dB
	RTTY (BW: 500 Hz)	500 Hz/–6 dB
	AM (BW: 6 kHz)	6.0 kHz/–6 dB
	FM (BW: 15 kHz)	12.0 kHz/–6 dB
		3.4 kHz/–40 dB
Spurious and image rejection	HF bands	More than 70 dB
	50 MHz band	More than 70 dB (Except for ADC Aliasing)
Audio output power	More than 2.0 W (at 10% distortion with an 8 Ω load)	

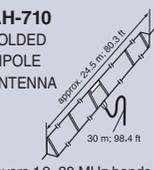
TUNER		
Frequency range	1.9–50 MHz bands	
Matching impedance range	16.7 Ω–150 Ω unbalanced (VSWR better than 1:3)	
Tuning accuracy	VSWR 1: 1.5 or less	
Tuning time	2–3 seconds (average) (Maximum 15 seconds)	

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

**Supplied accessories:** (May differ depending on version)  
 • Hand microphone, HM-219 • DC power cable • Fuses • Plugs

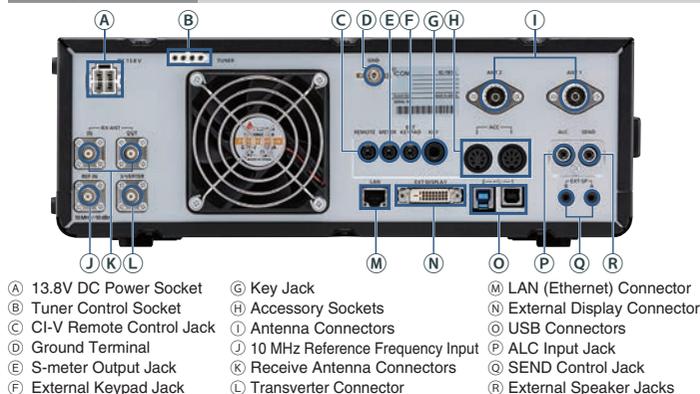
## OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

<b>PS-126</b> DC POWER SUPPLY  13.8 V DC, 25 A max. output.	<b>AH-4</b> HF+50 MHz AUTOMATIC ANTENNA TUNER  Covers 3.5–54 MHz with a 7 m (23 ft) or longer wire antenna.	<b>AH-2b</b> ANTENNA ELEMENT  Covers 7–54 MHz. For use with AH-4.	<b>AH-740</b> AUTOMATIC TUNING ANTENNA  Covers 2.5–30 MHz (amateur band). OPC-2321 is required.	
<b>HM-219</b> HAND MICROPHONE  Same as supplied.	<b>AH-710</b> FOLDED DIPOLE ANTENNA  Covers 1.9–30 MHz bands.	<b>AH-5NV</b> NVIS KIT  Fiberglass mobile mounting antenna element for use with AH-740. Covers 2.2–30 MHz (amateur band) with AH-740.		
<b>EXTERNAL SPEAKERS</b> 	<b>DESKTOP MICROPHONES</b> 			
<b>SP-23</b> 4 audio filters, headphone jack	<b>SP-33</b> Wooden box speaker	<b>SP-34</b> 4 audio filters; headphone jack	<b>SM-30</b> Compact, lightweight electret microphone.	<b>SM-50</b> Dynamic microphone with [UP/DOWN] switches and a low cut function.
<b>RS-BA1</b> IP REMOTE CONTROL SOFTWARE 	<b>RC-28</b> USB REMOTE ENCODER  For use with RS-BA1	<b>IC-PW1/PW1EURO</b> HF+50 MHz 1 kW HF LINEAR AMPLIFIER 		

- CT-17: CI-V LEVEL CONVERTER
- MB-121: CARRYING HANDLE
- OPC-420: CONTROL CABLE for use with AH-4 (10 m)
- OPC-2321: CONTROL CABLE for use with AH-740 (6 m)
- SP-35L: EXTERNAL SPEAKER Compact mobile speaker with 6 m; 19.7 ft cable.

## Rear panel view



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