SPECIFICATIONS

GENERAL		
Frequency coverage		(Unit: MHz)
	Receiver*1	0.030–74.800*3
	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
*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		SSB, CW, RTTY, AM, FM
Number of channels		101 (99 regular, 2 scan edges)
Antenna connector		SO-239 (50 Ω)
Power supply requirement		13.8 V DC ±15%
Power consumption	Tx	21 A (at 100 W output power)
	Rx	0.9 A typical (Standby), 1.25 A (Maximum audio)
Operating temperature range		–10 °C to +60 °C; 14 °F to 140 °F
Frequency stability		Less than ±0.5 ppm (–10°C to +60°C; 14°F to 140°F)
Frequency resolution		1 Hz
Dimensions (projections not included)		240 × 94 × 238 mm; 9.4 × 3.7 × 9.4 in (W × H × D)
Weight (approximately)		4.2 kg; 9.3 lb

TRANSMITTER		
Output power (HF/50 MHz)		SSB/CW/FM/RTTY: 2–100 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

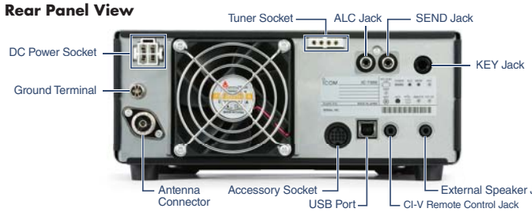
RECEIVER				
Receiver system	Direct Sampling Superheterodyne			
Intermediate frequency	36 kHz			
Sensitivity*4	0.5– 1.8 MHz	1.8– 29.999 MHz	28.0– 29.7 MHz	50 MHz band
SSB/CW (BW: 2.4 kHz at 10 dB S/N)	–	0.16 µV	–	0.13 µV
AM (BW: 6 kHz at 10 dB S/N)	12.6 µV	2.0 µV	–	1.0 µV
FM (BW:15 kHz at 12 dB SINAD)	–	–	0.5 µV	0.25 µV
Squelch sensitivity*4 (Threshold)	SSB: Less than 5.6 µV, FM: Less than 0.3 µV			
*4 HF: Preamp 1 ON, 50 MHz: Preamp 2 ON				

Selectivity (sharp filter shape)	More than	Less than
SSB (BW: 2.4 kHz)	2.4 kHz/–6 dB	3.4 kHz/–40 dB
CW (BW: 500 Hz)	500 Hz/–6 dB	700 Hz/–40 dB
RTTY (BW: 500 Hz)	500 Hz/–6 dB	800 Hz/–40 dB
AM (BW: 6 kHz)	6.0 kHz/–6 dB	10 kHz/–40 dB
FM (BW: 15 kHz)	12.0 kHz/–6 dB	22 kHz/–40 dB
Spurious and image rejection ratio	HF bands: More than 70 dB 50 MHz band: More than 70 dB (Except for ADC Aliasing)	
Audio output power	More than 2.5 W (at 10% distortion with an 8 Ω load, 1 kHz)	

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 (Maximum 15 seconds)

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

Rear Panel View



OPTIONS

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

PS-126 DC POWER SUPPLY

13.8 V DC, 25 A max. output.

AH-4 HF+50 MHz AUTOMATIC ANTENNA TUNER

Covers 3.5–54 MHz with a 7 m (23 ft) or longer wire antenna.

AH-2b ANTENNA ELEMENT

Covers 7–54 MHz. Use with AH-4.

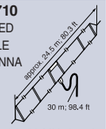
AH-740 AUTOMATIC TUNING ANTENNA

Covers 2.5–30 MHz (amateur band). OPC-2321 is required.

HM-219 HAND MICROPHONE

Same as supplied.

AH-710 FOLDED DIPOLE ANTENNA



Covers 1.9–30 MHz bands.

AH-5NV NVIS KIT

Fiberglass mobile mounting antenna element for use with AH-740. Covers 2.2–30 MHz (amateur band) with AH-740.

EXTERNAL SPEAKERS

SP-38 High quality audio and matching height. Max. input: 7 W

SP-23 4 audio filters, headphone jack. Max. input: 5 W

SP-33 Wooden box speaker. Max. input: 5 W

SP-34 4 audio filters; headphone jack. Max. input: 5 W

SP-35 (2 m; 6.6 ft cable)
SP-35L (6 m; 19.7 ft cable)
Compact mobile external speaker. Max. input: 7 W

DESKTOP MICROPHONES

SM-50 Dynamic desktop microphone. Includes [UP/DOWN] switches and a low cut function.

SM-30 Compact, lightweight electret desktop microphone.

IC-PW1 HF+50 MHz 1 kW HF LINEAR AMPLIFIER

OPC-599 is required.

MB-118 MOBILE MOUNTING BRACKET

For mounting the radio in a vehicle.

CT-17 CI-V LEVEL CONVERTER

For remote transceiver control from a PC equipped with an RS-232C port.

RS-BA1 IP REMOTE CONTROL SOFTWARE

RC-28 USB REMOTE ENCODER

For use with RS-BA1.

- **MB-123** CARRYING HANDLE
- **OPC-420** CONTROL CABLE for connection with AH-4 (10 m)
- **OPC-2321** CONTROL CABLE for connection with AH-740 (6 m)
- **OPC-599** CABLE ADAPTER Converts 13-pin ACC connector to 7-pin + 8-pin ACC connectors.

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

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LT 16HS001D Printed in Japan

HF/50MHz TRANSCEIVER

IC-7300

Revolutionary

The Real HF Fun Starts Here

The SD card shown in the photo is not included.

IC-7300 – The Innovative HF Transceiver with High Performance Real-Time Spectrum Scope

Class Leading Real-Time Spectrum Scope

The IC-7300's real-time spectrum scope is class-leading in resolution, sweep speed and dynamic range. While listening to received audio, you can check the real-time spectrum scope and quickly move to an intended signal. When you first touch the scope screen around the intended signal, the touched part is magnified. A second touch of the scope screen changes the operating frequency and allows you to accurately tune.

Real-Time Spectrum Scope Specifications

Scope system	FFT (Fast Fourier Transform)
Sweep speed	Max. 30 frames/second (approx.), Selectable from slow, mid or fast
Span width	5 kHz–1000 kHz
Resolution*	1 pixel minimum (approximately)
Waveform display area (vertical axis)	80 dB
Reference level adjustment	–20 dB to +20 dB
Peak level hold function (Max. hold)	ON/OFF/last 10 seconds
Other functions	• Averaging indication • Touch screen operation • VBW (Video Band Width) adjustment

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

High-Resolution Waterfall Function

The combination of the waterfall function and the real-time spectrum scope assists in maximum receive performance of the IC-7300 and increases QSO opportunities without missing weak signals. The waterfall function shows a change of signal strength over a period of time and allows you to find weak signals that may not be apparent on the spectrum scope.

Spectrum scope + Waterfall

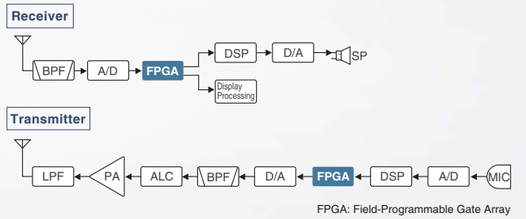
Audio Scope Function

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

FFT scope/Oscilloscope

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 a leading technology making an epoch in amateur radio.



FPGA: Field-Programmable Gate Array

New "IP+" Function

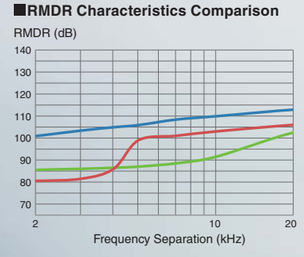
The new "IP+" function improves 3rd order intercept point (IP3) performance. When a weak signal is received adjacent to strong interference, the AD converter is optimized against signal distortion.

Class Leading RMDR and Phase Noise Characteristics

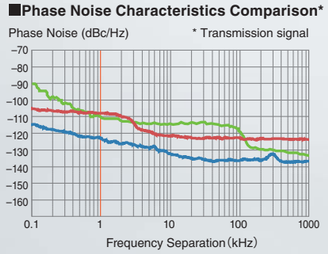
The IC-7300's RMDR is improved to about 100 dB* (typical value) and Phase Noise characteristics are improved about 20 dB (at 2 kHz frequency separation) compared to the IC-7200. The superior Phase Noise characteristics reduce noise components in both receive and transmit signals.

* At 2 kHz frequency separation (received frequency: 14.2 MHz, MODE: CW, IF BW: 500 Hz)

RMDR Characteristics Comparison



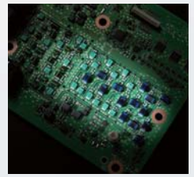
Phase Noise Characteristics Comparison*



IC-7300 IC-7200 IC-7100

15 Discrete Band-Pass Filters

The IC-7300 has 15 discrete RF band-pass filters. The RF signal is only passed through one of the band-pass 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.



Built-In Automatic Antenna Tuner

The antenna tuner memorizes its settings based on your transmit frequency, so that it can rapidly tune when you change operating bands. The Enforced Tuning function* allows a wide range of temporary antennas to be tuned.

* Do not use the Enforced Tuning function except in case of an emergency. Transmission power may be reduced.

HF/50MHz TRANSCEIVER

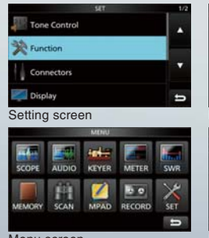
IC-7300

Actual size

Large Touch Screen Color TFT LCD

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


Touch screen interface



Setting screen

Band stacking register screen

Menu screen

Memory name entry screen

Multi-Dial Knob for Smooth Operation

The combination of the multi-dial knob and the touch screen 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 turning the multi-dial knob.

Superior Sound Quality

To offer superior sound quality, a new speaker unit has been incorporated and is allocated dedicated space in the aluminum die-cast chassis.


Aluminum die-cast chassis


Newly designed speaker unit

SD Memory Card Slot for Saving Data

The IC-7300 can store various content on an SD card such as received and transmitted audio, voice memories, RTTY/CW memories, RTTY decode logs and captured screen images. Personal and firmware update data can also be stored on the SD card for easy setting.

Other features

- New HM-219 hand microphone supplied
- A large and effective cooling fan system
- A multi-function meter
- 101 memory channels (99 regular, 2 scan edges)
- Optional RS-BA1 IP remote control software (the spectrum scope with the waterfall can be observed)
- CW functions: Full break-in, CW reverse, CW auto tuning