

IC-7300 HF/50MHz Direct Sampling Transceiver

One of the Most Innovative HF Radios Available Today

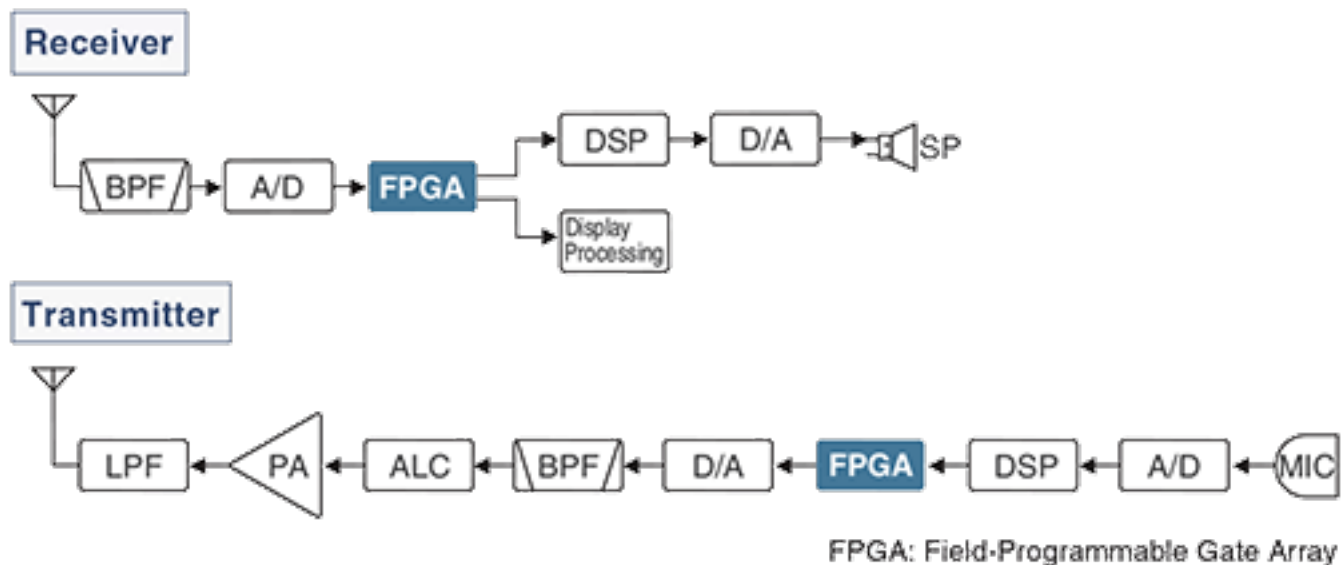
Amateur radio always embraces new technology and the way receivers are designed. The IC-7300 is no different. In an industry first the IC-7300 features RF, Direct Sampling typical only found in top of the line radio but now in an entry level HF radio. Because of the ability to digitize RF early in the receiver stage noise is reduced. Something IF radios struggle to achieve. Compared to other entry level radios, the IC-7300 easily out performs all others and is in a class all by itself.

- **Typical Output Power:** 100 Watts (25 Watts on AM)
- **Receiver Architecture:** Direct sampling - FPGA Processing
- **Reception Frequencies:** 0.030 MHz - 74.80 MHz

The IC-7300 and RF Direct Sampling

Noisy IF (Intermediate Frequency) transformation architecture is eliminated in the IC-7300. Direct RF sampling is utilized instead. In this process RF signals are directly converted to digital data. An extremely streamlined process. The digital data is then sent to an FPGA (Field-Programmable Gate Array) for processing. The FPGA reduces the need for complex circuitry and simplifies the RF path. A simplified RF path is vital to low noise, clear signals, and better weak signal reception.

Third Order Intercept Point (IP3) is greatly improved and allows the operator to more easily copy weak signals that is often covered up by a strong, adjacent signal. The use of an analog to digital converter (AD) reduces signal distortion and in some cases eliminate it. DX operators will appreciate the ability to copy weak signals others won't be able to hear.



Noise Reducing Filters

Fifteen (15) discrete band pass filters protect the RF Direct Sampling system. Signals that are outside the band pass have long been a problem. With the use of discrete filters and low-loss, High-Q factor coils, the IC-7300 easily rejects out of band signals.

Vibrant, Informative Color Touchscreen



A large, 4.3" TFT LCD color touchscreen simplifies operations. Through the use of an intuitive menu system you won't have to struggle to operate the IC-7300. Most all functions, settings, band scope details, waterfall displays, and audio scope features are adjusted easily through the touchscreen.

The color TFT LCD is great at displaying information. Similar to top-of-the-line radios, the waterfall displays changes in signal strength over a period of time. A quick glance and you can find and pounce on weak signals that may have already passed on the spectrum scope.



The audio scope functions allows the operator to instantly view the various TX/RX audio characteristics at a glance. See your mic compressor level, filter widths, notch settings, and even your keying waveform (CW Mode) in real time on screen. Instant feedback means you'll be able to 'tweak & tune' your audio to hear and sound great!

Live Action Spectrum Scope

A true real-time spectrum scope. Simultaneous operation means you can listen to the audio and display swept signals in real-time. The IC-7300's real-time spectrum scope brings the features previously only available in expensive top-tier rigs! Go ahead and use either the spectrum scope or the waterfall to quickly move to an intended signal. Do this while listening to the receiver audio.

Want to see a little more detail? Use the "Magnify" function! Just touch the intended signal on the screen and the immediate area is magnified in a pop-up window for a detailed look. A second touch of the scope screen and the IC-7300 will change operating frequency to the touched frequency and then allow you to fine-tune any signal. This makes scanning the bands and jumping on signals easier than ever.

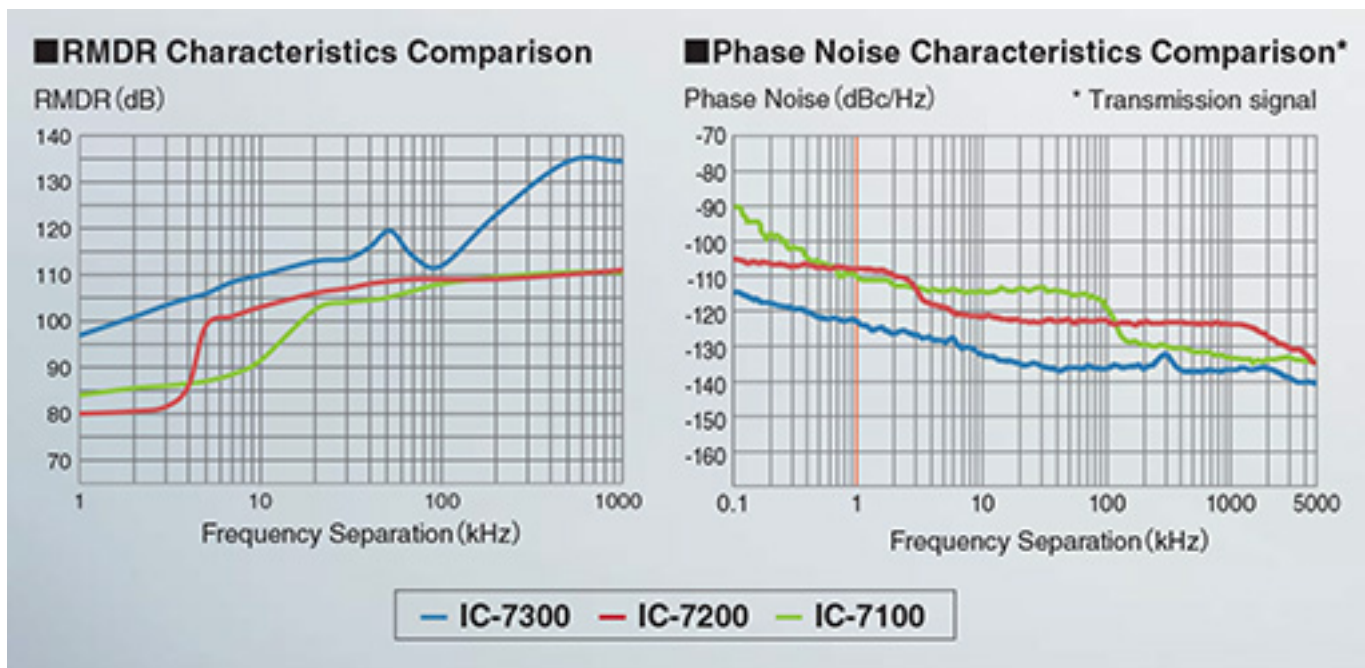
Scope Specifications

- **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 (approx.)
- **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

Reciprocal Mixing Dynamic Range and Phase Noise Characteristics

The IC-7300's Reciprocal Mixing Dynamic Range (RMDR) is about 97dB* (typical value) improving the Phase Noise characteristics by about 15dB (at 1 kHz frequency separation). The superior Phase Noise characteristics reduce noise components for both receive and transmit signals.

* At 1 kHz frequency separation (received frequency: 14.2 MHz, MODE: CW, IF BW: 500 Hz)



Additional Features:

The IC-7300 is loaded with additional features. So many it is hard to list them all. For a complete list of features, contact your local Ham Radio Outlet store.

- Tuner: automatic antenna tuner built-in
- Memory: 101 channels separated into 99 regular and 2 scan edges.
- Data Saving: SD memory card slot
- Cooling: multi speed fan
- Meter: multi-function display
- CW functions: full break-in, CW reverse, CW auto tuning
- SSB, CW, RTTY, AM, & FM

HRO Website