



PRE-RELEASE INFORMATION

HF/50MHz TRANSCEIVER

**IC-7850**

Icom 50th Anniversary Limited Edition



# Pinnacle of HF Perfection



- 1.2kHz "Optimum" Roofing Filter
- New Local Oscillator Design
  - Improved Phase Noise
- Improved Spectrum Scope
  - Dual Scope Function
- High Resolution Spectrum Waterfall
- Enhanced Mouse Operation for the Spectrum Scope



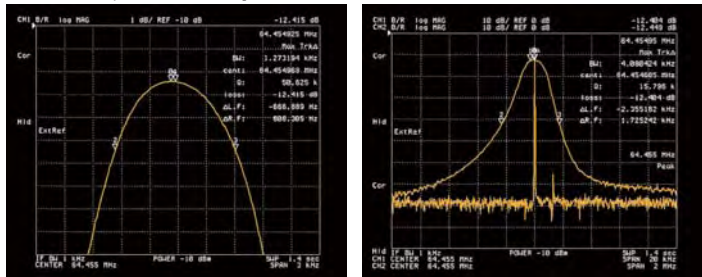
### 1.2kHz "Optimum" Roofing Filter

The IC-7850 utilizes a newly developed 1.2kHz roofing filter, greatly improving the in-band adjacent signal performance. This enhancement enables the up-conversion design of the IC-7850 to have excellent filter performance while providing a dynamic range that outperforms the competition in the 10kHz or less separation tests.



1.2kHz "Optimum" Roofing Filter

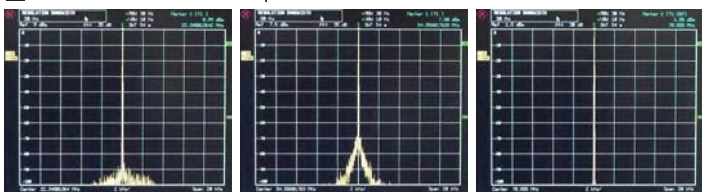
#### 1.2kHz "Optimum" Roofing Filter Characteristics



### New Local Oscillator Design

Breaking tradition, Icom employs a Direct Digital Synthesizer (DDS) along with a Phase Locked Oscillator for the IC-7850's Local Oscillator (LO). The LO's C/N ratio excels beyond our competitors, and the noise components generated in both receive and transmit signals are reduced virtually below detection.

#### LO C/N Characteristics Comparisons 1st LO @ 14.1MHz



Brand A premium model

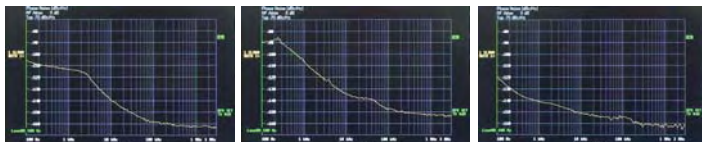
Brand B premium model

IC-7850

### Improved Phase Noise

With the latest design of the LO, the IC-7850 will become the new benchmark for Phase Noise with  $-150\text{dBc}/\text{Hz}$  at 10kHz offset and  $-140\text{dBc}/\text{Hz}$  even at 1kHz offset. (Previous mark of Phase Noise excellence was  $-138\text{dBc}/\text{Hz}$  at 10kHz offset and  $-110\text{dBc}/\text{Hz}$  at 1kHz offset.)

#### Phase Noise Characteristics 1st LO @ 14.1MHz



Brand A premium model

Brand B premium model

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### Improved Spectrum Scope

By using the dedicated DSP for the Fast Fourier Transform (FFT) spectrum scope, the IC-7850 provides faster sweep speeds and better accuracy than other brand models, even the IC-7800.

Span Width	5kHz-1000kHz
Resolution* <sup>1</sup>	1 dot* <sup>3</sup>
Sweep Speed	29.3 samples/Sec* <sup>4</sup>
Input Dynamic Range	116dB* <sup>5</sup>
Max. Sensitivity* <sup>2</sup>	-39dBμ* <sup>5</sup>

\*<sup>1</sup> Number of dots shown at 60dB level, when receiving a signal.  
\*<sup>2</sup> Recognized level at the Spectrum Waterfall  
\*<sup>3</sup> SPAN=More than 20kHz, SPEED=Slow  
\*<sup>4</sup> SPAN=Less than 20kHz, SPEED=Fast  
\*<sup>5</sup> SPAN=5kHz, SPEED=Slow

Reference specifications (Not guaranteed)

### Dual Scope Function

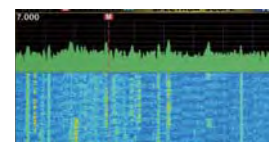
Another scope enhancement in the IC-7850 is the ability to simultaneously "see" activity in both bands. This is useful when searching for multipliers on the Sub band while maintaining your operating frequency on the Main band.



Dual scope example (Vertically aligned)

### High Resolution Spectrum Waterfall

The spectrum waterfall function shows the changing amplitude of frequency over time. A weak signal which cannot be recognized with the spectrum scope may be found on the waterfall screen. The waterfall screen also has a higher resolution than other brand models, even the IC-7800.



Spectrum waterfall

### Enhanced Mouse Operation for the Spectrum Scope

Connect a mouse to the USB port to change the operating frequency, tune the frequency, switch Fixed and Center mode, adjust the sweep speed and more. Also, simply click on a signal on the scope and the frequency is automatically selected as your operating frequency.

#### Other Features

- Simplified RS-BA1 Remote Control
- Supports PSK63 as well as PSK31
- SD card slot for voice and data storage
- USB, Ethernet and S/P DIF Interfaces
- Enhanced Digital Voice Recorder
- Comfortable solid feel main dial
- Firmware updates can be made from an SD card or USB flash drive



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