

## IC-7760 notes

During initially testing the 7760, I noted an AC ripple (not hum) on a signal generator carrier, plus odd sounding receiver noise. The audio just wasn't clean. It also made it impossible to measure audio distortion with an HP 8903E analyzer. When looking at an audio sine wave on a Tektronix scope, 60 Hz was superimposed on the audio signal, causing the signal to jump around.

The issue was caused by the RF unit being on a different AC circuit than the "wall wart" that powers the Ethernet-connected control head. Eliminating the AC ground loop by plugging the two Icom units into the same power strip solved the ripple problem. I also plugged the HP distortion analyzer into the same power strip, though that may not have been necessary. (I did not plug the oscilloscope into the common power strip.) Problem solved.

The practical problem:

Since the RF unit and the control unit may be up to 300 feet (100m) apart, an AC ground loop may be difficult to eliminate. Two different locations in a house would often be on different circuit breakers.

Differences between the IC-7760 and the IC-7610:

The 7760 with an internal AC only power supply is rated at 200 watts vs. 100 watts and an external power supply for the 7610.

The 7760 preamps can be activated ahead of the Digi-Select tracking preselector. With a 7610 if a preamp is enabled, turning ON Digi-Sel disables any preamp.

The 7760 has a small secondary LCD scope that makes it easy to center a CW or RTTY signal in the center of the DSP filter. On the other hand, individual band buttons are gone, and selecting a band is done on the main LCD screen as it is with an IC-7300.

There are four transmit antenna ports vs. two.

The 1/4-tuning speed option is a soft button on the main LCD screen, not in a menu.

The major laboratory numbers for the 7760 and the 7610 are identical within 1 dB. This includes the 500-Hz noise floor, SSB sensitivity, Blocking (ADC OVF), 2-tone dynamic range at any test spacing and the absolute OVF level that is dependent on preamp and attenuation selection.

Attenuation is optionally in 3 dB steps up to 45 dB as is the 7610.

S meter calibration at S9 is 50  $\mu$ V / -73 dBm with no preamp, and 3 dB per S unit as is the 7610.

