



Notes:

Measurement values are very similar to HF transceivers for 160 – 6 meters. Main differences are AGC threshold and signal level for S9 are significantly lower. At HF, AGC threshold (no preamp) is typically 2 to 3 uV. At HF, S9 should be nominally 50 uV (-73 dBm) The transceiver did not have a CW filter installed, thus all measurements were made with the stock SSB filter.

Comparison between the ARRL October 1987 numbers and the Sherwood numbers.

While the 275H was mentioned by the League, the 275A (25 watt version) was tested by the ARRL. They measured a 40-kHz dynamic range of 89 dB, with the 500-Hz CW filter, being limited by phase noise (RMDR) at 20 kHz. My 275H was not phase noise limited at 20 kHz, and measured 85 dB when using the SSB filter. Considering sample variation and the fact that the League used a 500-Hz filter and the Sherwood unit was tested with a 2200-Hz filter, the correlation is quite good.

The League noise floor was measured at -139 dBm with a 500-Hz filter, and the 275H measured -136 dBm with a 2200-Hz filter. Normally the noise floor would be 6 or 7 dB lower with a 500-Hz CW filter. Since the difference was only 3 dB, that would imply the added insertion loss of the CW filter may have degraded the noise floor.

Blocking was measured with AGC ON in both cases. The League blocking of 111 dB was likely measured at 20 kHz, while the Sherwood value of 122 was measured at 100 kHz.

Back in 1987, the League published no dynamic range values at close-in spacing, such as 10, 5 or 2 kHz.

Overall, the performance numbers compare quite well between the two labs and two different samples. Transmit IMD has not been made by Sherwood at this time on the 100-watt 275H model. ARRL transmit IMD was worse than a typical HF rig, though not terrible. Third order: -25 dB below PEP (-19 dB below two tones), and fifth order -40 dB below PEP (-34 dB below two tones). These values happen to be the same as the IC-706MkIIG as published by the League.

Hams using a 2-meter “brick” amplifier, that is usually designed mainly for FM operation, would likely see significantly worse IMD distortion on SSB.

The 275H has been used at two Sherwood QTHs since 2005. Best DX from QTH 35 miles east of Ft. Collins was 260 miles into western Kansas on SSB using a Cushcraft 124WB 4-element yagi at 75 feet fed with 270 feet of half-inch hard line.

My first multi-mode 2-meter rig was the IC-211, which had excellent receive audio and a 10-watt transmitter. It was purchased in the mid 1970s. My next 2-meter multi-mode rig

was an IC-970H, which performed quite well on FM. Unfortunately on SSB, receive audio was quite harsh, and a complete disappointment. It was sold prior to purchasing the 275H. My 275H has PBT on SSB, which unfortunately was later eliminated in favor of a Data input, likely due to some patent dispute with another OEM.

Rev B