

Definitions of Receiver Comparison Test Results

nl = test was noise limited (noise floor rose 1db before 1db of blocking desense occurred)

MDS = Minimum Discernible Signal (3db increase above noise floor). Larger negative numbers are better, but too much sensitivity can reduce strong signal dynamic range and **Ip3**. Pre-Amp On MDS numbers of -130 dBm or more are more than adequate for most HF band operating, since band noise is typically above this number. *(Lower frequencies need less MDS (more +number) due to an increase in atmospheric noise.)*

BDR = Blocking Dynamic Range (20 kHz spacing). This test shows when the receiver's sensitivity begins to drop in the presence of strong near by signals. **(Desense)**. A Pre-Amp OFF BDR (20 kHz signal spacing) of greater than 120dB is good. Greater than 130dB is considered excellent. **Higher number is better**. BDR decreases on most multi-conversion receivers as the interfering signal spacing from the receiver's listening frequency is reduced. Single conversion receivers like the K2 typically do not see as much of a BDR degradation as interfering signal spacing is reduced.

IMD-DR3 = Intermodulation Distortion – Dynamic Range [2 tone (20 kHz spacing) 3rd order Two tone IMD Dynamic Range]. This test shows how the RX performs in the presence of multiple strong nearby signals in relation to its sensitivity (MDS). **Higher number is better**. Pre-Amp Off IMDDR3 numbers of +95dB (20 kHz spacing) and +89 dB (5 kHz spacing) or more are considered excellent.

Ip3 = 2 tone (20 kHz spacing) 3rd order Intercept Point. This test also shows how the RX performs in the presence of multiple strong nearby signals. **Higher number is better**. Pre-Amp OFF IP3 numbers of +15dBm are good, and +20dBm or more is excellent. *Note: Low RX sensitivity can also artificially increase the measured Ip3.*

Ip2 = 2 tone (8.020MHz, 6.000MHz) 2nd order Intercept Point This test shows how the RX performs in the presence of multiple strong out of band signals (such as broadcast signals on 6Mhz and 8Mhz creating birdies at 14Mhz). **Higher number is better**. A Pre-Amp OFF IP2 of +55dBm is OK, and +70dBm or more is considered excellent.

Phase Noise = value read from ARRL test graph at +10 kHz from the carrier. Numbers are for the worst-case band. **Larger negative numbers are better**. Bad phase noise contributes to poor RX Blocking Dynamic Range (desense from nearby signals.) Good values are -120 dBc or better at +10 kHz. See the actual ARRL phase noise plots in each review for details of other spurious phase noise components.