

SR-150 HIGH LEVEL SIGNAL DISTORTION

The receiver gain and audio distortion are related. The receiver was designed to function with minimum distortion within a 50db window. With the RF gain at Max that window is from 5uv to 1500uv. Any signal greater than 1500uv will cause crossmod and audio distortions. 1500uv is displayed on your s-meter as a signal approximately 10db over S9. In order to eliminate the distortion in strong signals the RF GAIN needs to be reduced. Reducing the rf gain via the RF GAIN control effectively shifts the linear gain window up the input voltage curve. Any attempt to reduce the overall gain in the receiver, in any other way will induced regenerations and birdies.

If you are experiencing audio distortion on signals roughly between S3 and S9 with the RF GAIN control at MAX you have a receiver gain fault. Your receiver does not need to be redesigned or modified. You need to find the fault. Refer to <https://wd0gof.com/hallicrafters-radio/repair-manuals/> for guidance in fault isolation.

NOTE: When the RF GAIN control is not at max the S-METER is no longer true. So, a report of “S9” or “10 over” will not be true either.

This applies to the entire Hallicrafters SR series and most all other receivers where a gain control sets the gain in the front end.