

Collins 820D-2 Audio Measurements

High Power, ~50% modulation, no feedback, 200V p/p audio driver output (-6.8 dBm input)

	Audio Driver Output		Modulation Transformer Output		Demodulated Output	
<i>Frequency</i>	<i>Response</i>	<i>THD+N</i>	<i>Response</i>	<i>THD+N</i>	<i>Response</i>	<i>THD+N</i>
100 Hz	+0.5 dB	0.74%	+0.4 dB	1.4%	-0.1 dB	0.96%
1 kHz	0.0 dB	0.50%	0.0 dB	1.1%	0.0 dB	0.76%
10 kHz	-1.6 dB	0.48%	0.0 dB	4.8%	+0.5 dB	3.2%
IMD	0.84%		2.8%		3.8%	

High Power, ~95% modulation, no feedback, 400V p/p audio driver output (-0.8 dBm input)

	Audio Driver Output		Modulation Transformer Output		Demodulated Output	
<i>Frequency</i>	<i>Response</i>	<i>THD+N</i>	<i>Response</i>	<i>THD+N</i>	<i>Response</i>	<i>THD+N</i>
100 Hz	+0.5 dB	0.81%	+0.3 dB	3.6%	-0.1 dB	1.3%
1 kHz	0.0 dB	0.70%	0.0 dB	3.0%	0.0 dB	0.96%
10 kHz	-1.6 dB	0.62%	- 0.3 dB	8.6%	-0.2 dB	5.6%
IMD	2.1%		5.2%		5.8%	

Potomac Instruments AG-51 Audio Generator connected directly to transmitter balanced audio input. Output level adjusted to -6.8 dBm for 200V p/p measurements, and -0.8 dBm for 400V p/p measurements.

Audio Driver Output measurements taken with using Tektronix P6106 X10 oscilloscope probe connected to each side of audio driver output and connected to Tektronix 7A22 differential amplifier. Vertical output of Tektronix 7934 oscilloscope connected to input of Potomac Instruments AA-51 Audio Analyzer.

Modulation Transformer Output measurements taken using Tektronix P6015 X1000 oscilloscope probe connected to high side of modulation transformer (terminal 4) and connected to + input of Tektronix 7A22 differential amplifier (- input grounded). Vertical output of Tektronix 7934 oscilloscope connected to input of Potomac Instruments AA-51 Audio Analyzer.

Demodulated Output measurements taken using Potomac Instruments DX-51 low distortion diode detector connected directly to input of Potomac Instruments AA-51 audio analyzer.