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## CMOQ-4

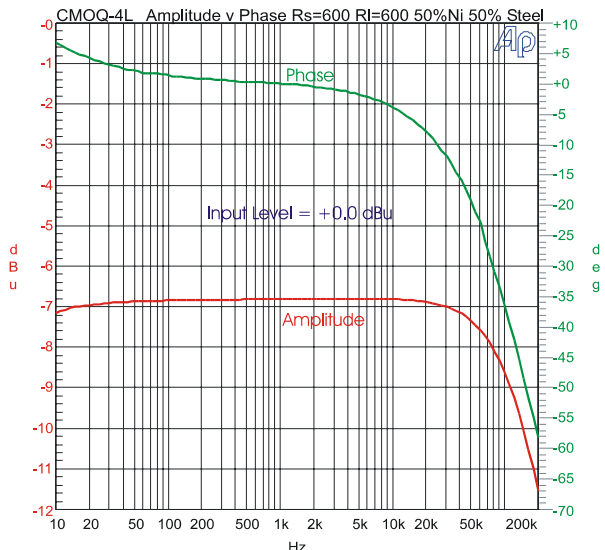
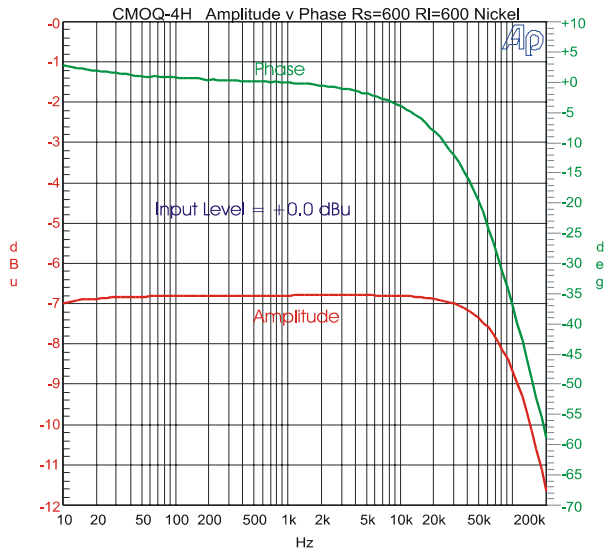
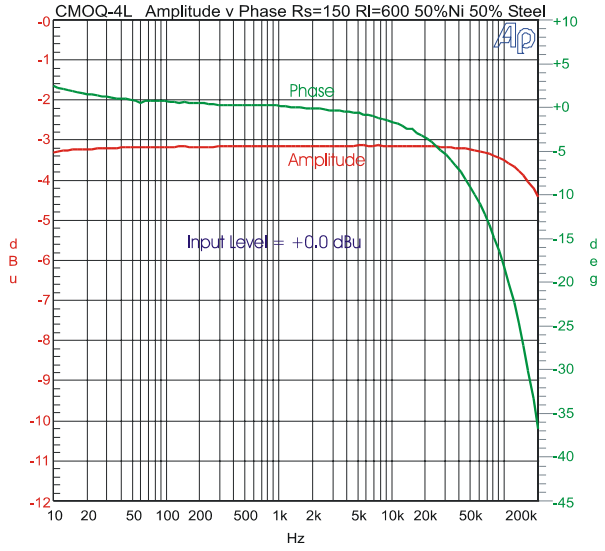
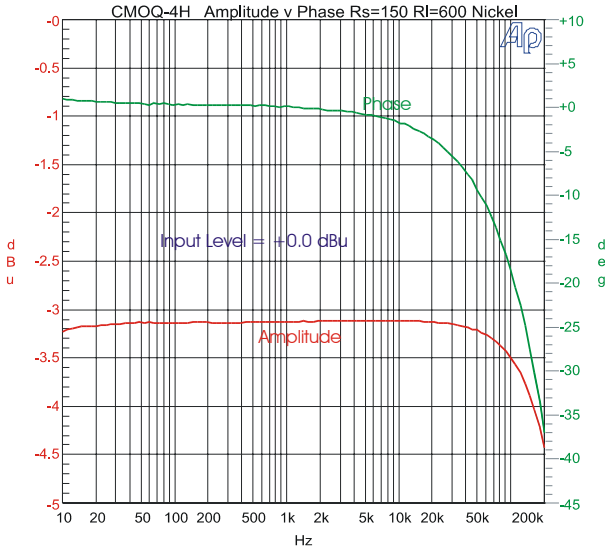
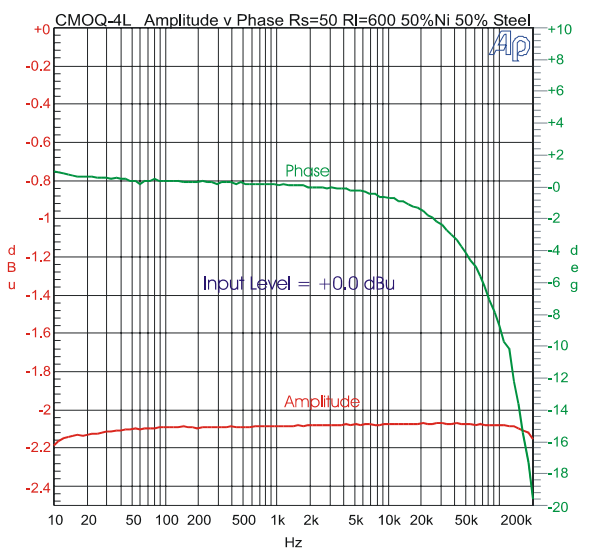
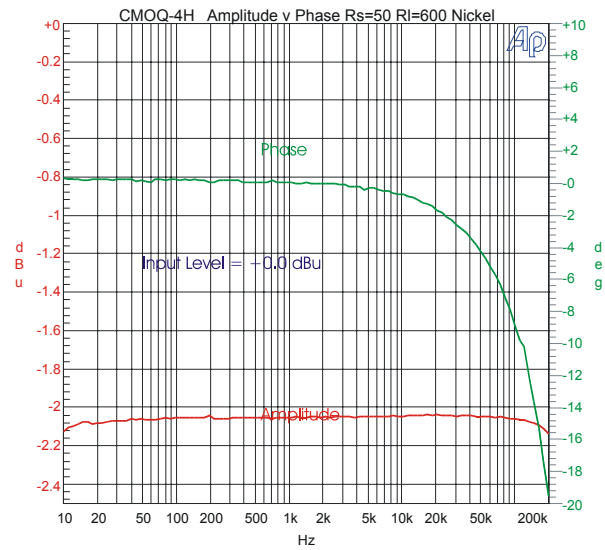
### LINE OUTPUT TRANSFORMER Quadfilar Windings

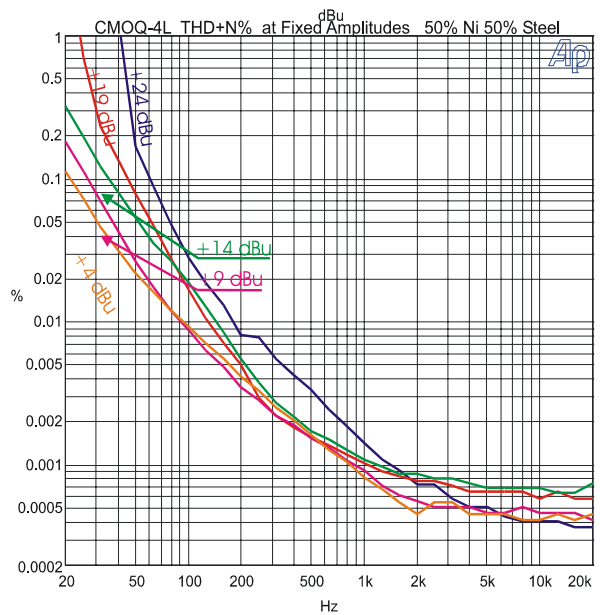
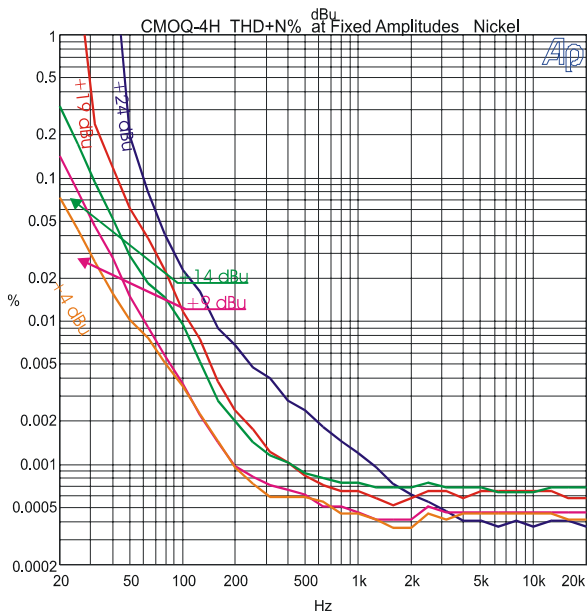
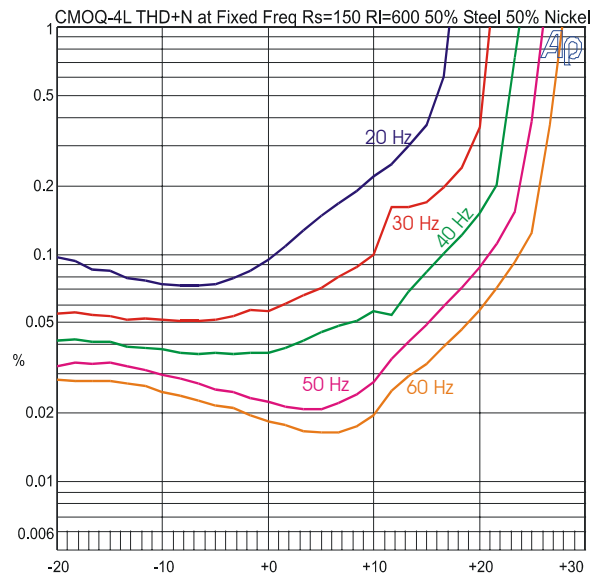
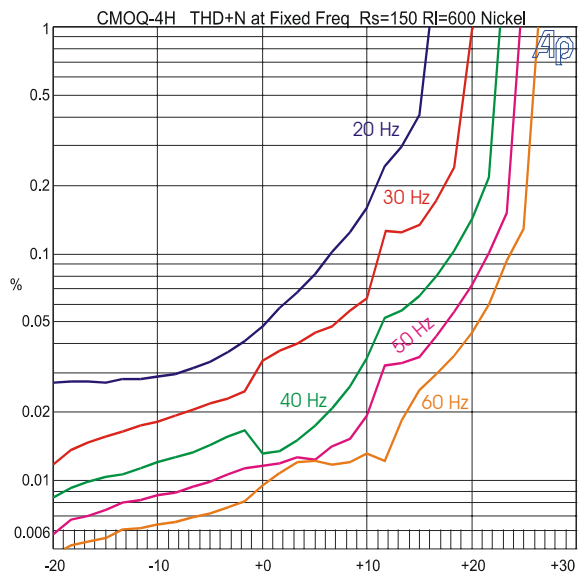
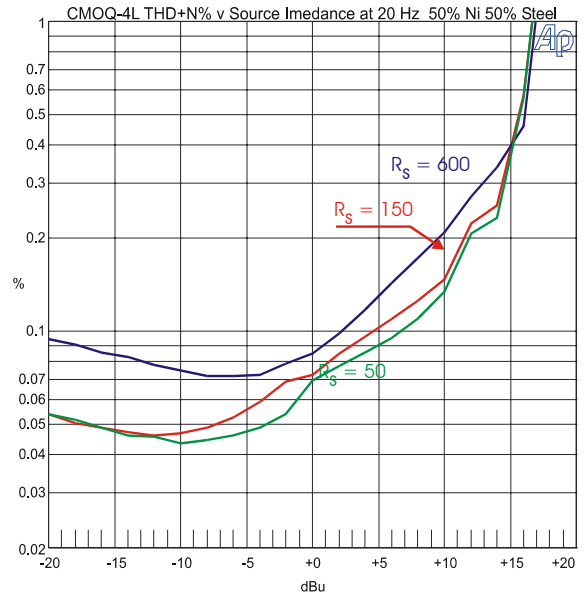
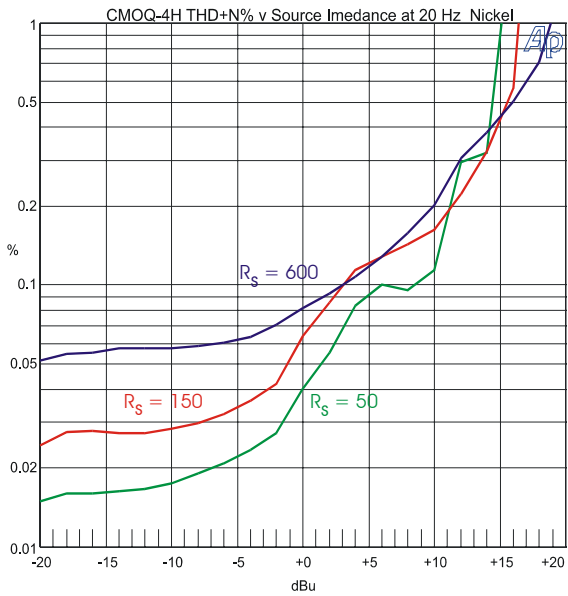
- Excellent bandwidth -0.1 dB at 200 kHz
- $R_s=50\Omega$  80% Nickel (“HiNi”) laminations
- Distortion <0.05% typ at 20 Hz,  $R_s=150\Omega$  HiNi
- +15 dBm at 20 Hz, 1% THD+N  $R_s\leq 150\Omega$
- Phase Shift -3.5° at 20 kHz,  $R_s=150\Omega$
- Excellent coupling

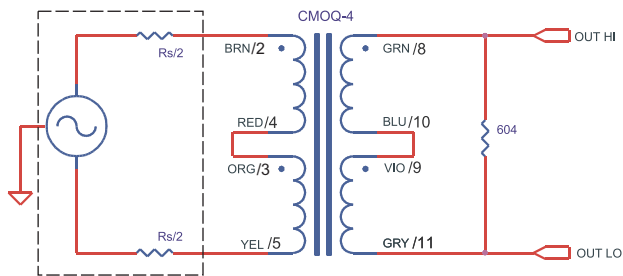
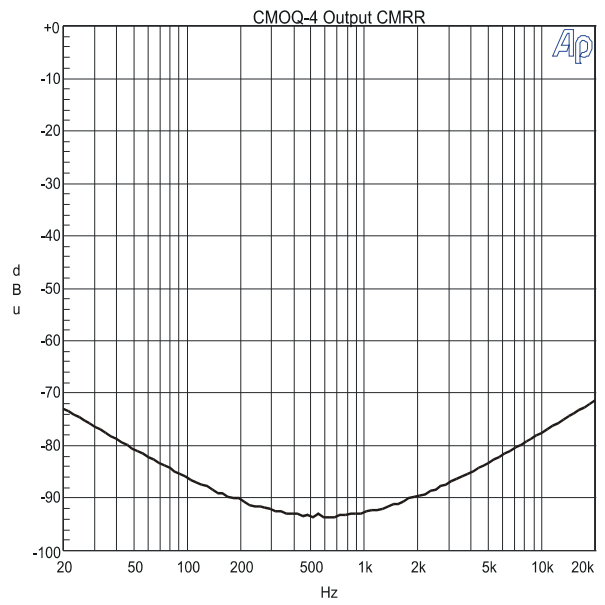
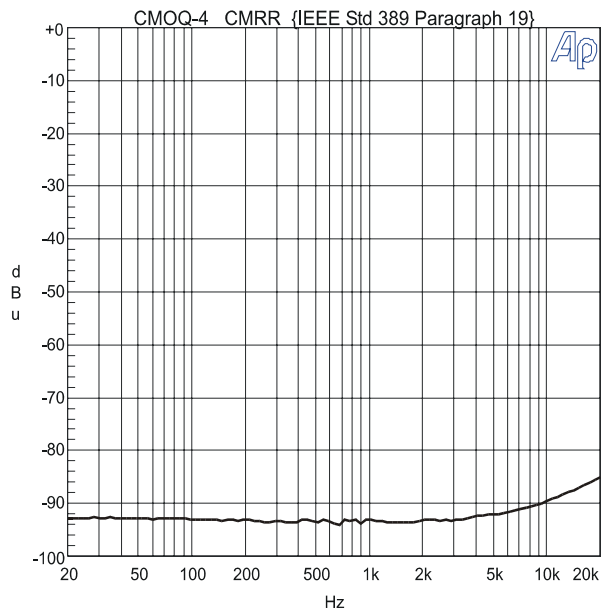
The CineMag CMOQ-4 output transformer uses quadfilar construction techniques. This four-winding transformer delivers good coupling between windings as well as excellent bandwidth. It is available both with 80% Nickel (“HiNi”) and 50% Nickel/50% Steel laminations. It can be driven with source impedances of up to 600  $\Omega$ . As with all line driving devices, the amplifier feeding it should be capable of cleanly delivering the power required to reach maximum operating level. See AN-102.

#### CMOQ-4H / CMOQ-4L PC mounting available on request.

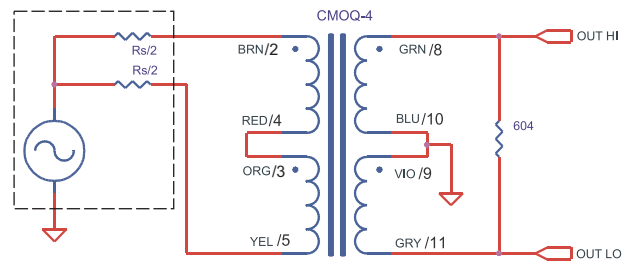
Parameter	Conditions	Typ
Turns Ratio		1 : 1.00
Input Impedance, $Z_i$	20 Hz to 20 kHz, 0 dBu Test Circuit 3	657 $\Omega$
Voltage Gain	1 kHz HiNi Core, $R_s=150$ Test Circuit 1 1 kHz 50% Nickel/50% Steel Core, $R_s=150$	-3.13 dB -3.15 dB
Distortion (THD+N%)	1 kHz, +9 dBu, $R_s=150$ HiNi Test Circuit 1 1 kHz, +9 dBu, $R_s=150$ 50%Ni/50% Steel	0.0005% 0.0009%
Max 20 Hz input level	1.0% THD+N, $R_s\leq 150$ HiNi Test Circuit 1 1.0% THD+N, $R_s\leq 150$ 50% Ni 50% Steel	+16 dB +16 dB
Response, ref 1 kHz	20 Hz $R_s=150\Omega$ HiNi Test Circuit 1 20 kHz $R_s=150\Omega$ HiNi Test Circuit 1 200 kHz $R_s=150\Omega$ HiNi Test Circuit 1	-0.05 dB -0.02 dB -1.2 dB
Phase Shift at 20Hz Phase Shift at 20 kHz	Referenced to source generator Test Circuit 1	+3° -3.5°
CMRR	60 Hz Test Circuit 4 per IEEE Std 389-1996 ¶19 1 kHz Test Circuit 4 per IEEE Std 389-1996 ¶19	92 dB 93 dB
Output CMRR	60 Hz Test Circuit 2 1 kHz Test Circuit 2	82 dB 92 dB
Operating Temp Range	Operation and storage	0° C Min 70° C Max



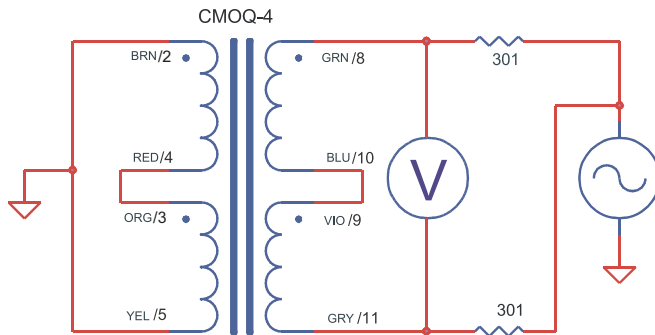




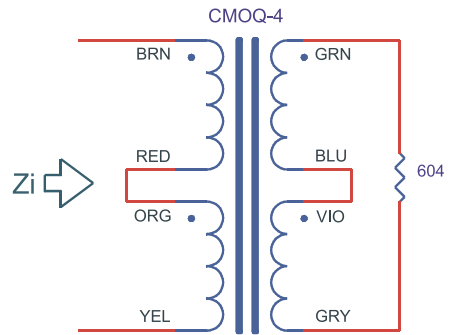
TEST CIRCUIT 1



TEST CIRCUIT 2



TEST CIRCUIT 3



TEST CIRCUIT 4

NOTES:

1. All graphs generated from one (1) randomly chosen device. No statistical averaging or weighting. Data from one sweep.
2.  $R_L = 604$  unless otherwise noted.

