QUALITY MAGNETICS SINCE 1979

# CMO-60/600

## TUBE OUTPUT TRANSFORMER
## 10 : 1 Step-down turns ratio

- Excellent bandwidth even with high Z source
- -0.5 dBu at 20 kHz Rs=20K
- High Nickel (“H”) core or 50% Nickel + 50% steel core (“L”)
- Distortion (“H”) core: 0.003% at 20 Hz +28 dB in Rs=600Ω
- 0.02% at 20Hz +28dB in Rs=20K
- Phase Shift: -31° at 20 kHz Rs=20K
  -4° at 20kHz Rs=600

The CineMag CMO-60/600 tube output transformer is designed for either capacitor coupled or balanced bridging output stages. It performs very well being driven from both very low and high source impedances. It is available both with 80% Nickel (“HiNi”) and 50% Nickel/50% Steel laminations. As with all vacuum tube driven transformers, the amplifier feeding it should be capable of cleanly delivering the power required to reach maximum operating level.

## CMO-60/600H & CMO-60/600L

| Parameter | Conditions | Typ |
|---|---|---|
| Turns Ratio | | 10 : 1 |
| Voltage Gain | 1 kHz Rs=600Ω | -20.52 dB |
| Distortion (THD+N%)<br>CMO-60/600H | 1 kHz, +28 dBu input, Rs=600Ω Test Circuit 1<br>1 kHz, +21 dBu input, Rs=50Ω | ≤ 0.0005%<br>0.0003 % |
| 20 Hz Input Level<br>CMO-60/600H | THD+N%, Rs=600Ω Input=+28dBu Test Circuit 1<br>THD+N%, Rs=20K Input=+28dBu | 0.005%THD+N<br>0.02%THD+N |
| Response, ref 1 kHz | 20 Hz Rs=10K Test Circuit 1<br>20 kHz Rs=10K Test Circuit 1<br>60 kHz Rs=10K Test Circuit 1 | -0.1 dB<br>-0.3 dB<br>-3.4 dB |
| Phase Shift at 20Hz<br>Phase Shift at 20 kHz | Referenced to source generator<br>Rs=20K Test Circuit 1 | -1°<br>-22° |
| CMRR<br>Rs=20K | 60 Hz Test Circuit 2 per IEEE Std 389-1996 ¶19<br>1 kHz Test Circuit 2 per IEEE Std 389-1996 ¶19 | 107 dB<br>84 dB |
| Max Operating Voltage | | 270 V |
| Operating Temp Range | Operation and storage | 0° C Min 70° C Max |

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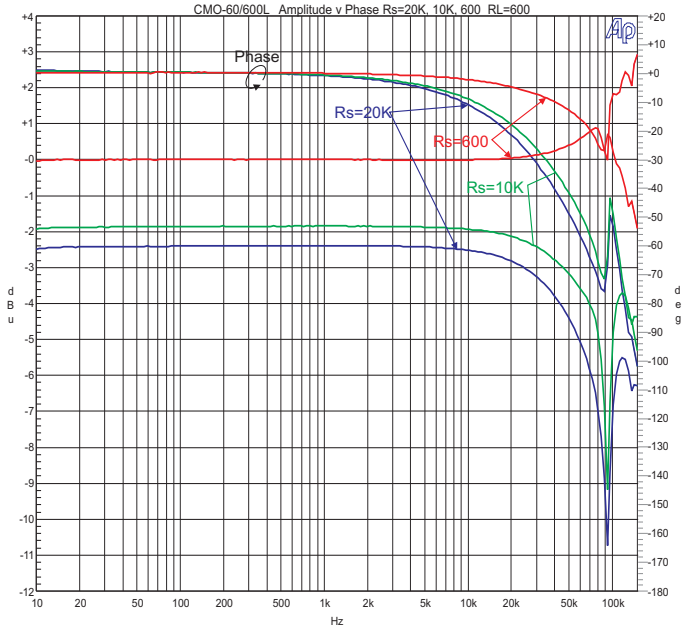
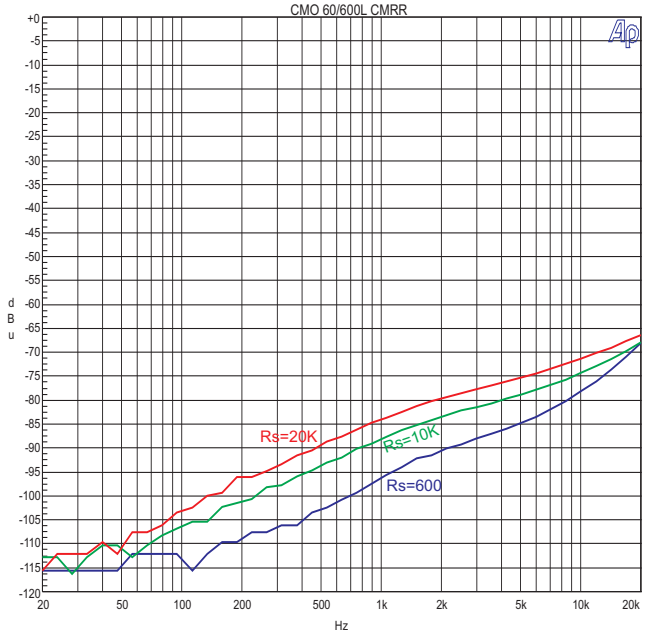
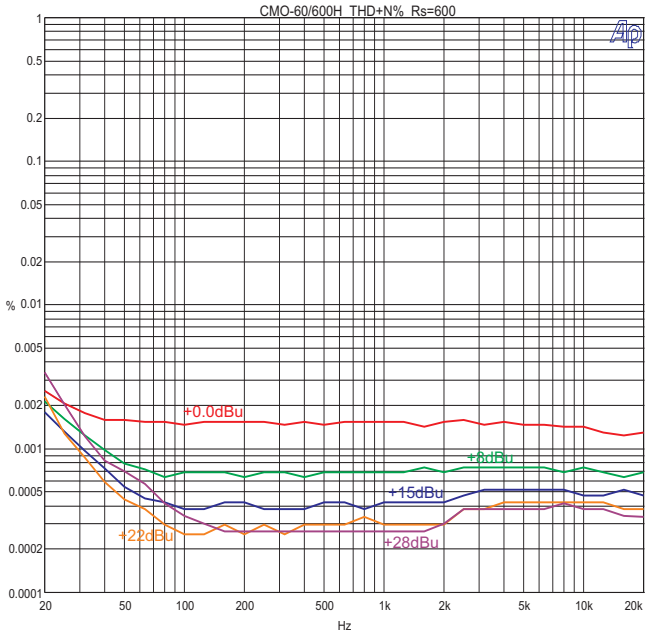
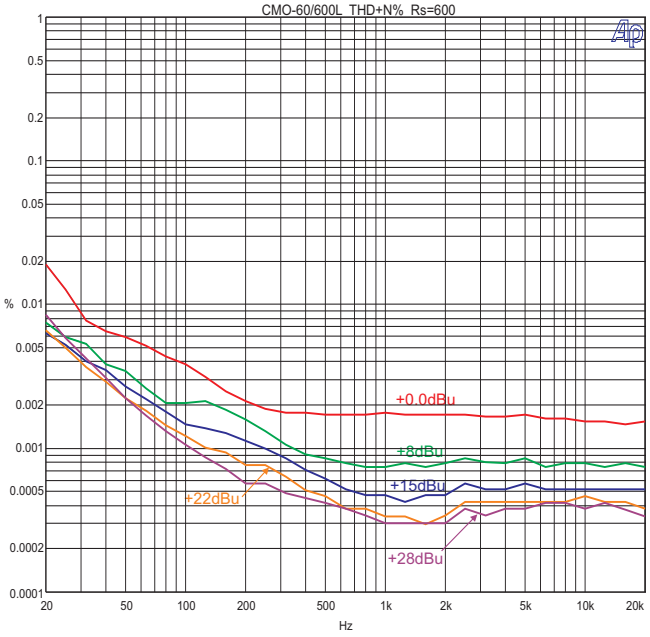
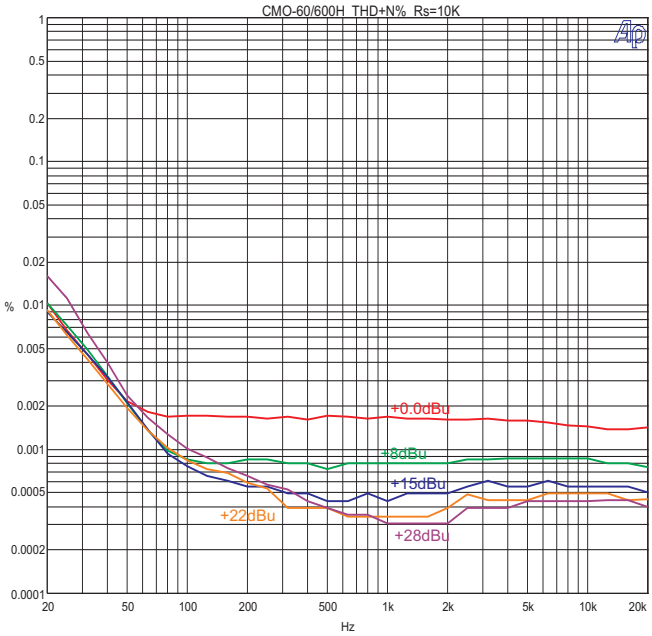
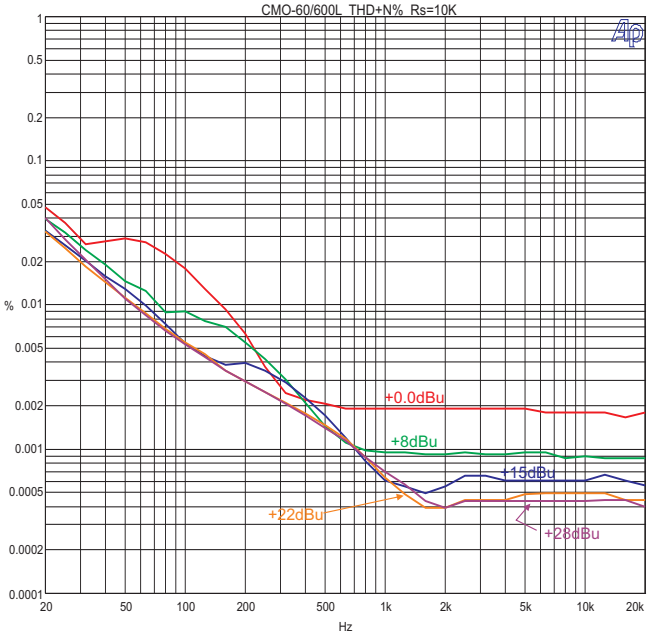

CMO-60/600L Amplitude v Phase Rs=20K, 10K, 600 RL=600
Phase
Rs=20K
Rs=600
Rs=10K
dBu
deg
Hz

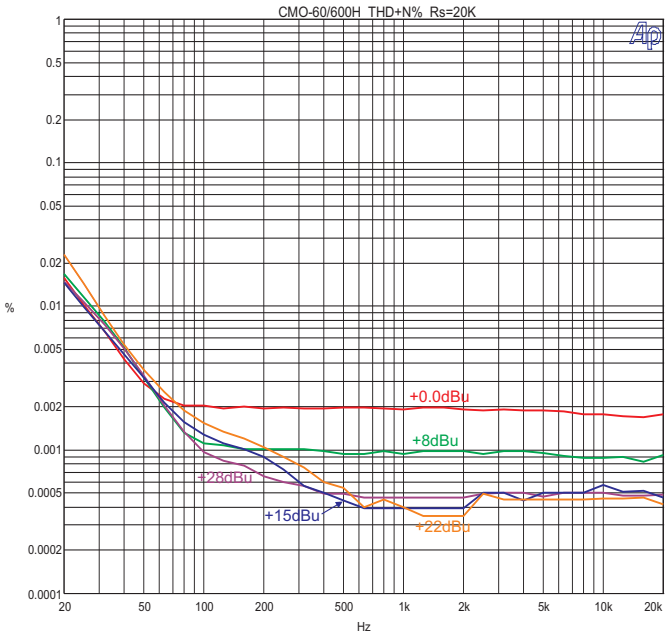

CMO 60/600L CMRR
Rs=20K
Rs=10K
Rs=600
dBu
Hz

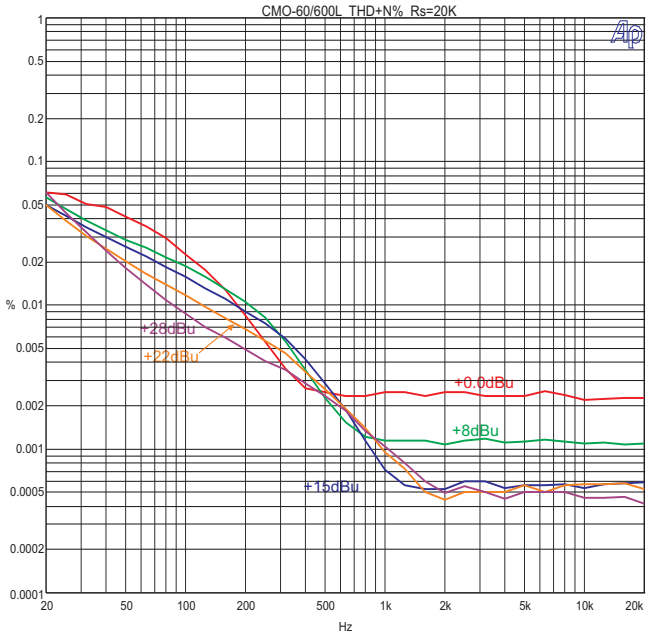

CMO-60/600H THD+N% Rs=600
+0.0dBu
+8dBu
+15dBu
+22dBu
+28dBu
%
Hz

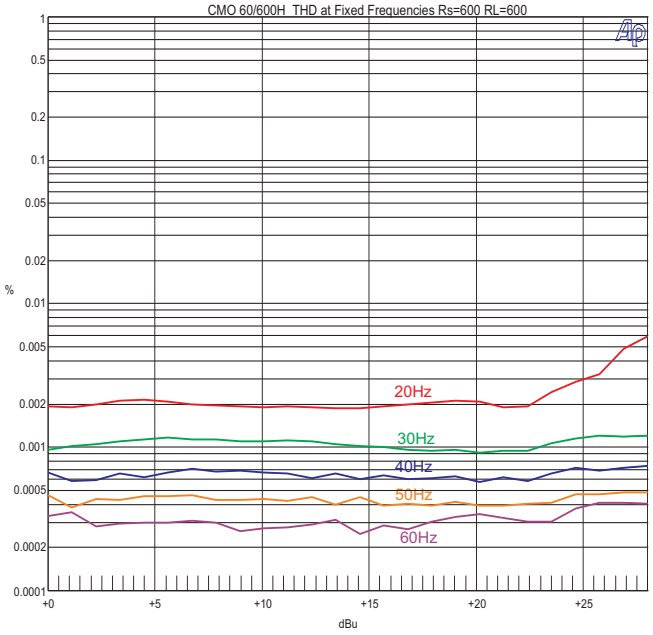

CMO-60/600L THD+N% Rs=600
+0.0dBu
+8dBu
+15dBu
+22dBu
+28dBu
%
Hz

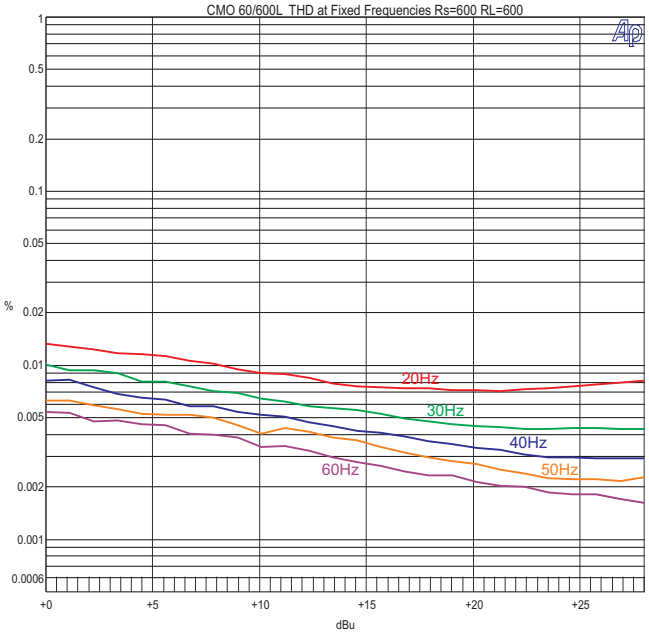

CMO-60/600H THD+N% Rs=10K
+0.0dBu
+8dBu
+15dBu
+22dBu
+28dBu
%
Hz

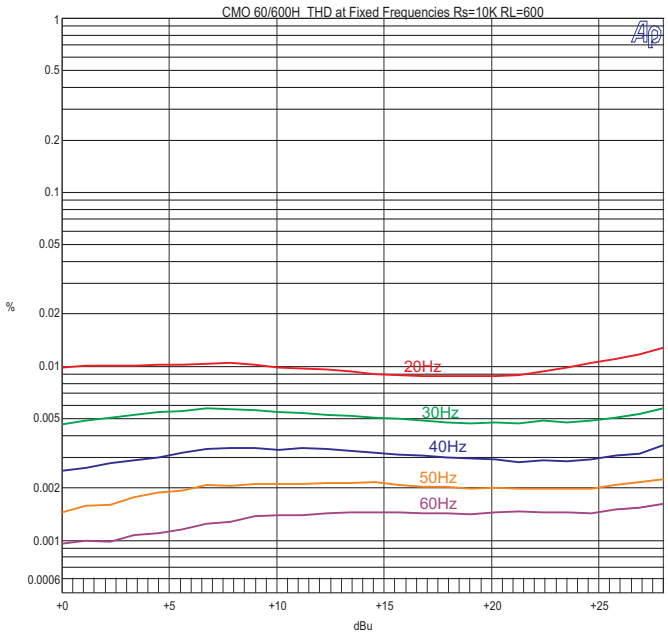

CMO-60/600L THD+N% Rs=10K
+0.0dBu
+8dBu
+15dBu
+22dBu
+28dBu
%
Hz

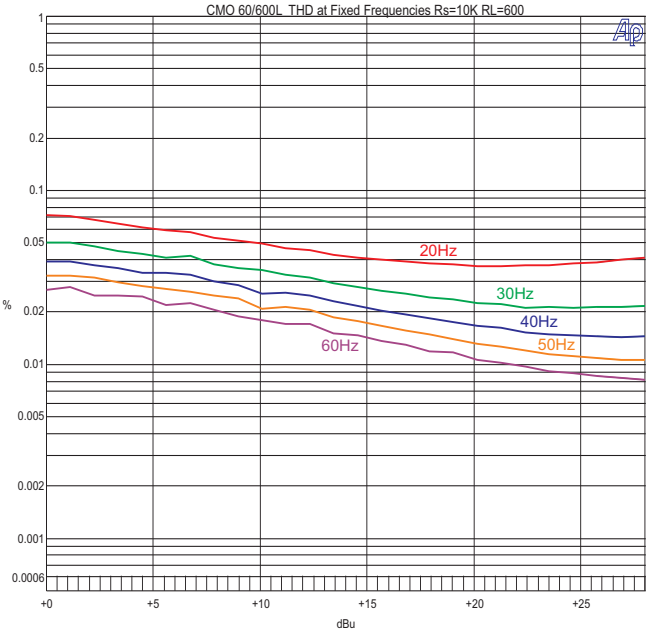

CMO-60/600H THD+N% Rs=20K
%
Hz
+0.0dBu
+8dBu
+28dBu
+15dBu
+22dBu

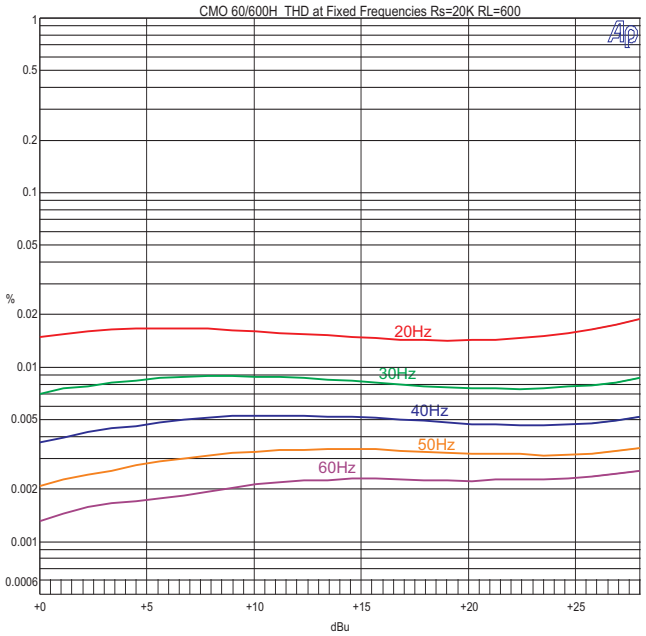

CMO-60/600L THD+N% Rs=20K
%
Hz
+28dBu
+22dBu
+0.0dBu
+8dBu
+15dBu

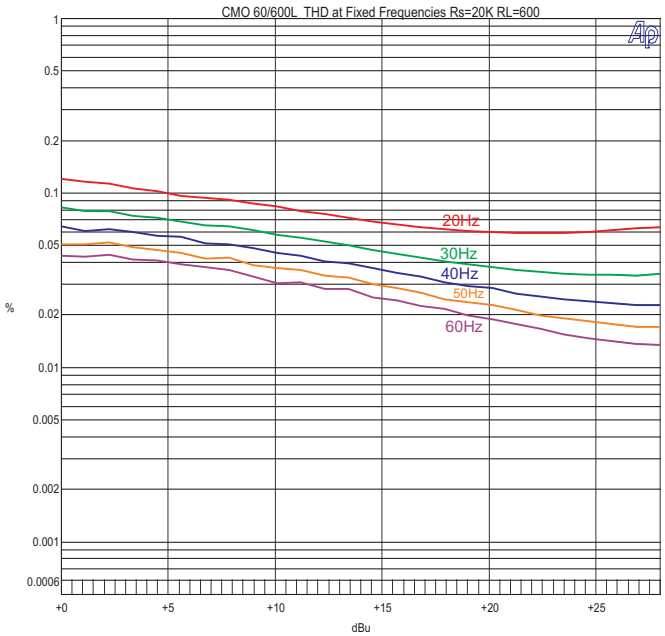

CMO 60/600H THD at Fixed Frequencies Rs=600 RL=600
%
dBu
20Hz
30Hz
40Hz
50Hz
60Hz


CMO 60/600L THD at Fixed Frequencies Rs=600 RL=600
%
dBu
20Hz
30Hz
40Hz
50Hz
60Hz

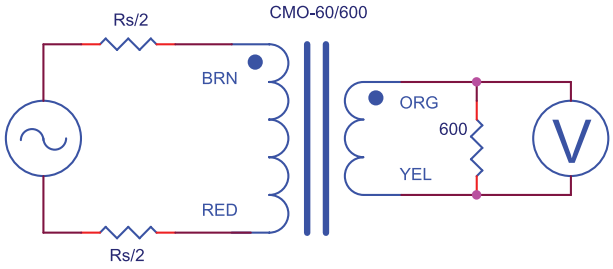

CMO 60/600H THD at Fixed Frequencies Rs=10K RL=600
%
dBu
20Hz
30Hz
40Hz
50Hz
60Hz


CMO 60/600L THD at Fixed Frequencies Rs=10K RL=600
%
dBu
20Hz
30Hz
40Hz
50Hz
60Hz

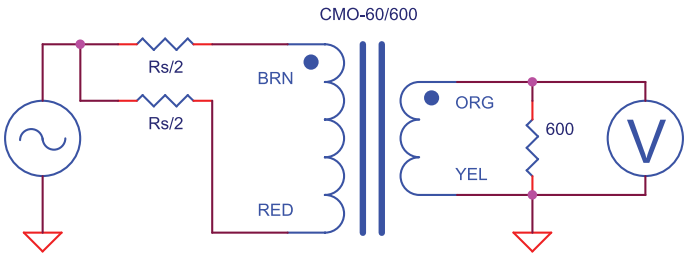



NOTES:
1. All graphs generated from one (1) randomly selected device. No statistical averaging or weighting. Data from one sweep.




Test Circuit 1




Test Circuit 2