



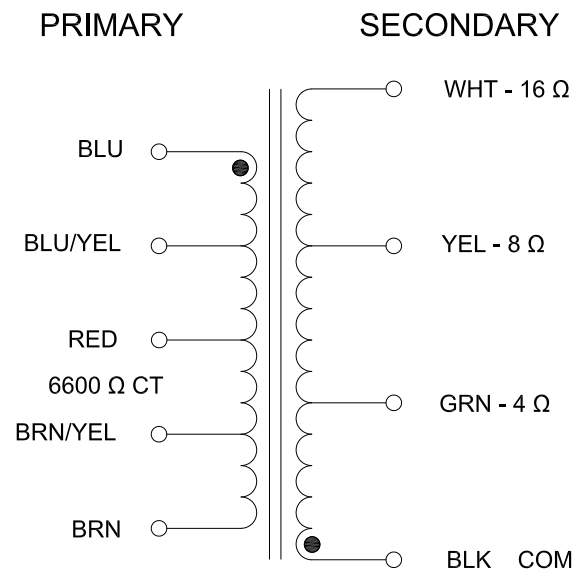
# 1650PA

## HI-FI AUDIO OUTPUT MULTIPLE SECONDARY TRANSFORMER

- NEW & improved version of our 1608-1650 Series multiple secondary output transformers (Re-designed secondaries for easy hook-up of secondary loads).
- Designed for push-pull tube output circuits.
- Units are designed to provide ample "headroom" at bass frequencies (Note the weight of each transformer).
- Enclosed (shielded), 4 slot, above chassis Type "X" mounting.
- Manufactured with plastic coil forms for coil support and insulation.
- Frequency response 30Hz. to 30KHz (+/- 1db max. - ref. 1KHz) minimum.
- Insulated flexible leads 8" min.
- Typical applications - Push-Pull: triode, Ultra-Linear pentode, pentode and tetrode connected audio output.

ELECTRICAL SPECIFICATIONS	
Characteristic	Typical
Input Impedance	6600 Ohms
Output Impedance	4, 8 & 16 Ohms
Output Power	60 Watts
<b>DCR</b>	
Primary Blue-Red	71.34 Ohms
Primary Red-Brown	80.42 Ohms
Secondary Black-Green	0.237 Ohm
Secondary Black-Yellow	0.364 Ohm
Secondary Black-White	0.473 Ohm
<b>Inductance   Impedance</b>	
	@ 60Hz, 10.0V OC
Primary Blue-Brown	230.0H   106.0KOhm
<b>Leakage Inductance</b>	
	@ 60Hz, 10.0V SC
Primary Blue-Brown	9.40mH
<b>Dielectric Strength</b>	
	2000Vrms
<b>Temperature Range</b>	
	-40 To 105°C

## SCHEMATIC



# 1650PA

BLK - GRN - YEL - WHT: COM - 4Ω - 8Ω - 16Ω

BLU - RED - BRN : 6600Ω CT

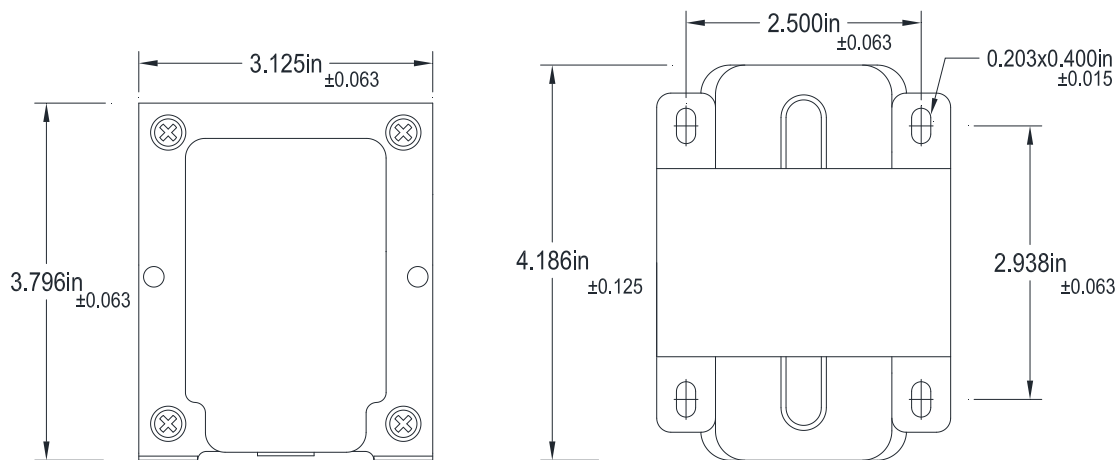
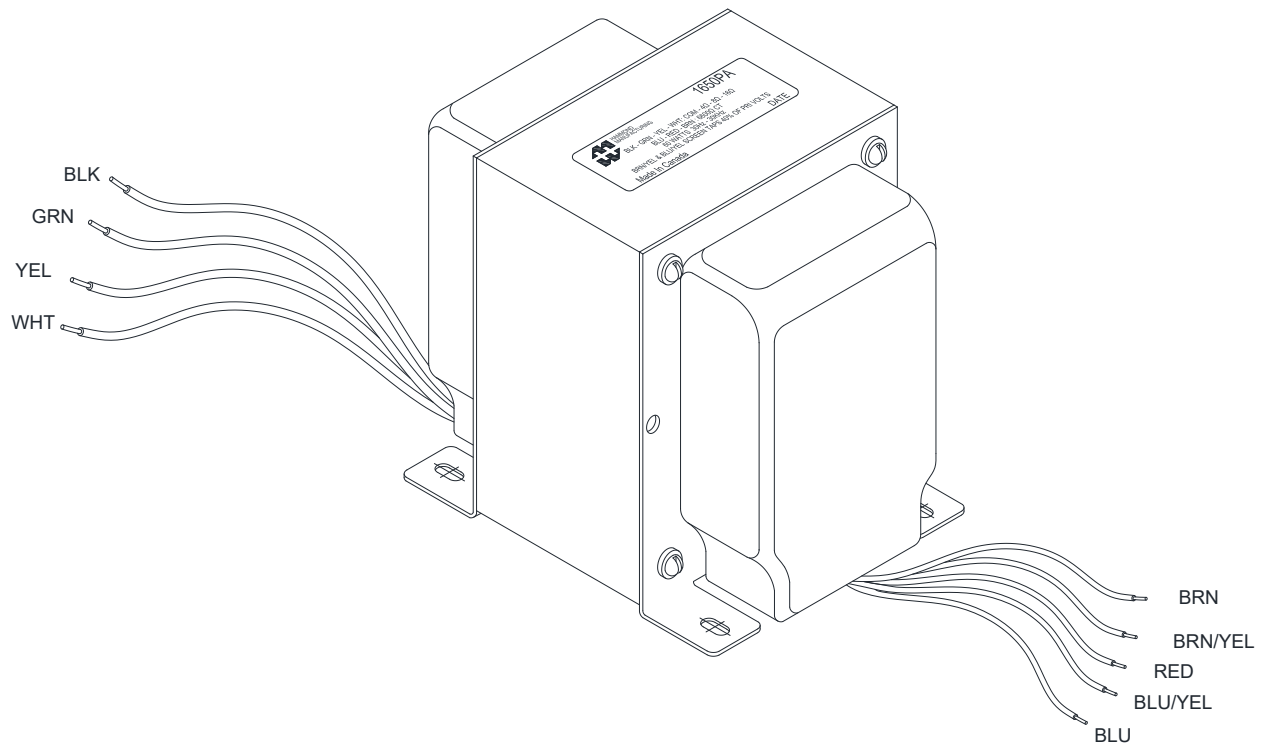
60 WATTS 30Hz - 30KHz

BRN/YEL &amp; BLU/YEL SCREEN TAPS 40% OF PRI VOLTS

Made In Canada

DATE

**DIMENSIONAL DETAILS:**

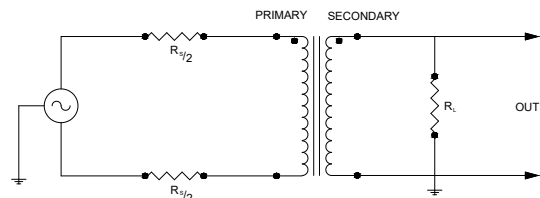


**TEST CONDITIONS**

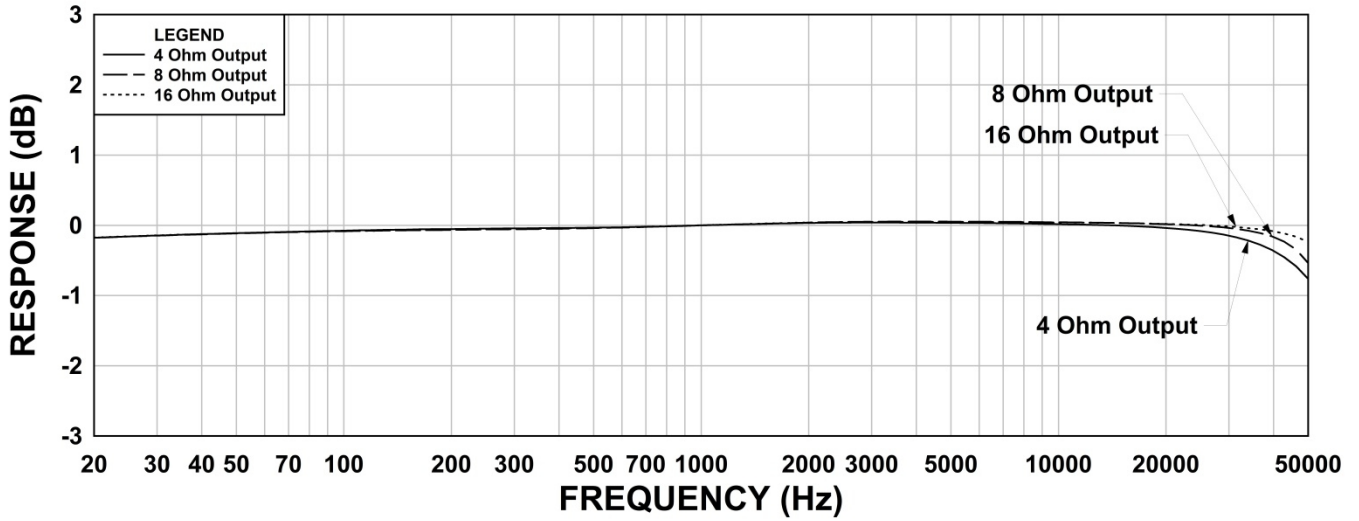
Measurement Instruments:  
 dScope Series III Audio Analyzer  
 Wayne Kerr 3255B with a 3265B Inductance Analyzer  
 HP 4192a LF Impedance Analyzer  
 Keithley 2010 DVM

\* All graphs input level 27dBu @1.0KHz reference.  
 \*\*The results are typical and are subject to normal manufacturing and electrical tolerances.

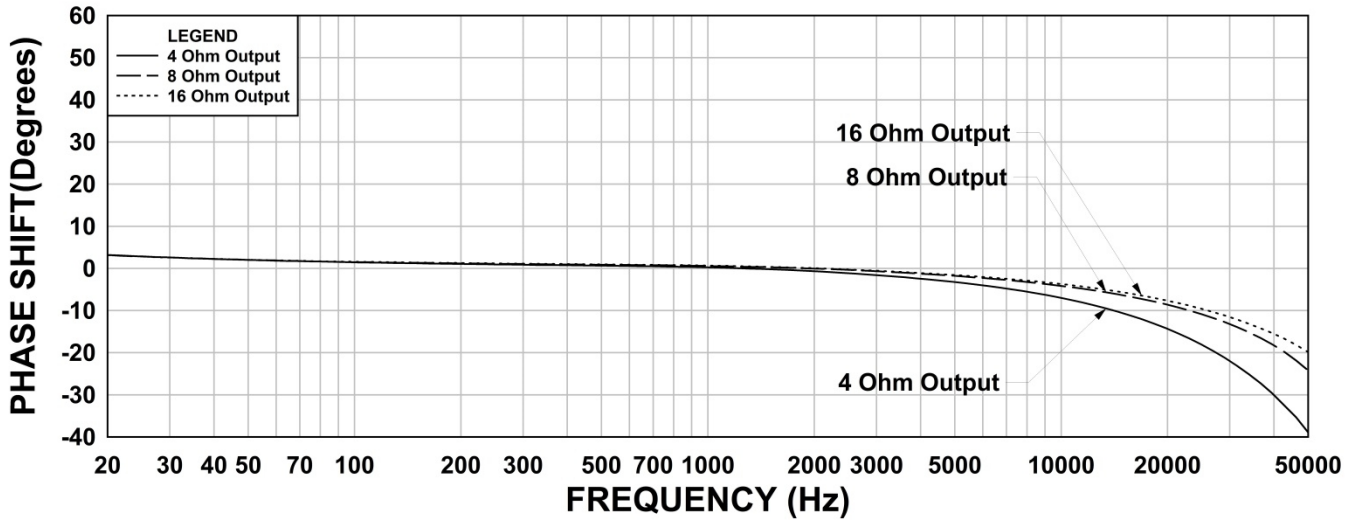
**TYPICAL TEST CIRCUIT**



### 1650PA Frequency Response RS = 6600 Ohms



### 1650PA Phase Shift RS = 6600 Ohms



### 1650PA THD+N RS = 6600 Ohms

