Hammond Mfg. Co. Ltd., Electronics Division

www.hammondmfg.com

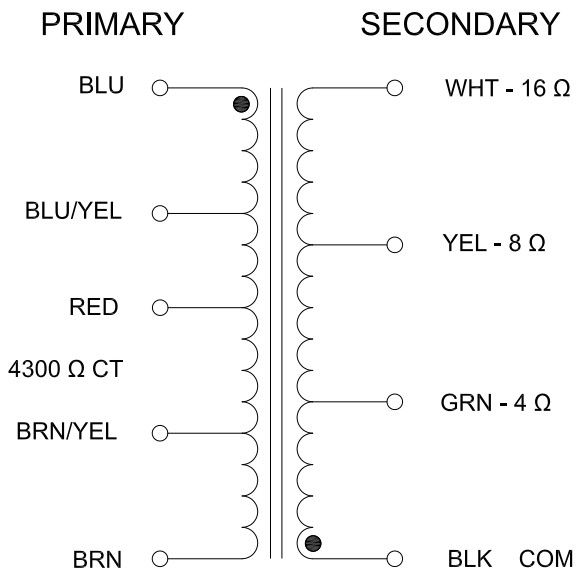
1650NA

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	4300 Ohms	
Output Impedance	4, 8 & 16 Ohms	
Output Power	60 Watts	
DCR		
Primary Blue-Red	37.19 Ohms	
Primary Red-Brown	42.17 Ohms	
Secondary Black-Green	0.244 Ohm	
Secondary Black-Yellow	0.377 Ohm	
Secondary Black-White	0.490 Ohm	
Inductance | Impedance	@ 60Hz, 10.0V OC	
Primary Blue-Brown	85.5H	40.6KOhm
Leakage Inductance	@ 60Hz, 10.0V SC	
Primary Blue-Brown	7.20mH	
Dielectric Strength	2000Vrms	
Temperature Range	-40 To 105°C	

SCHEMATIC

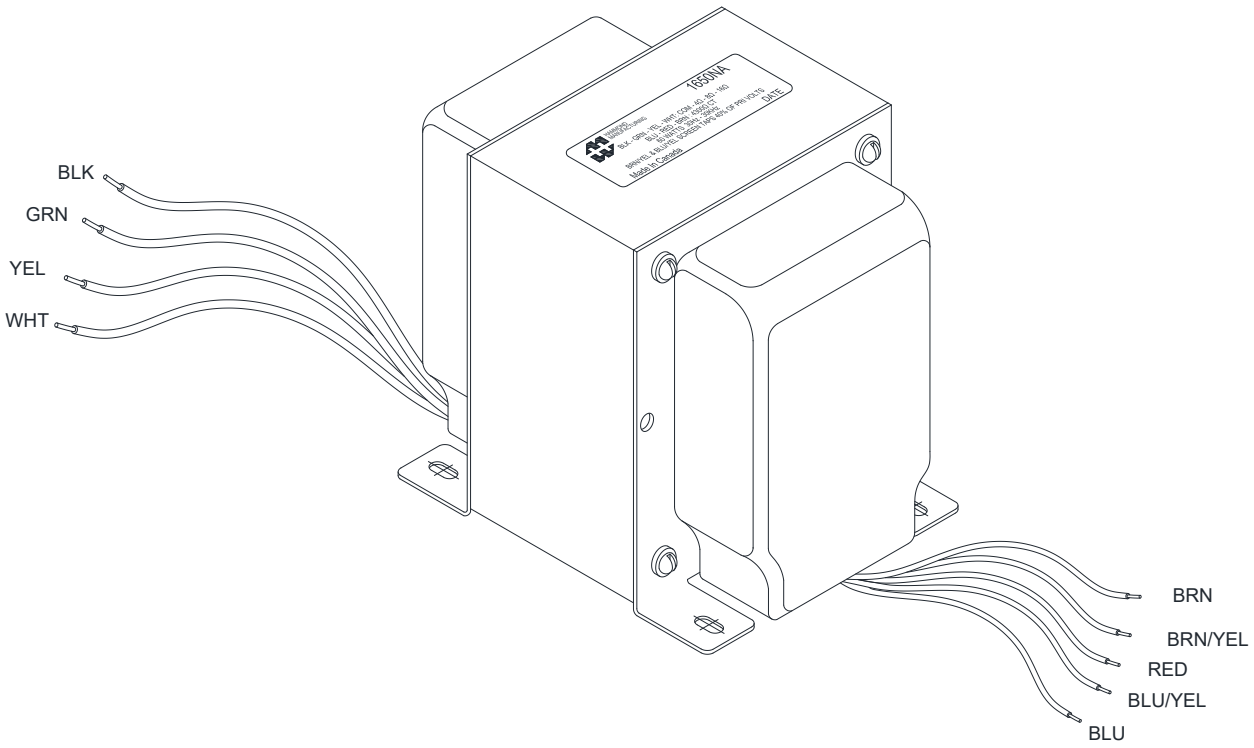


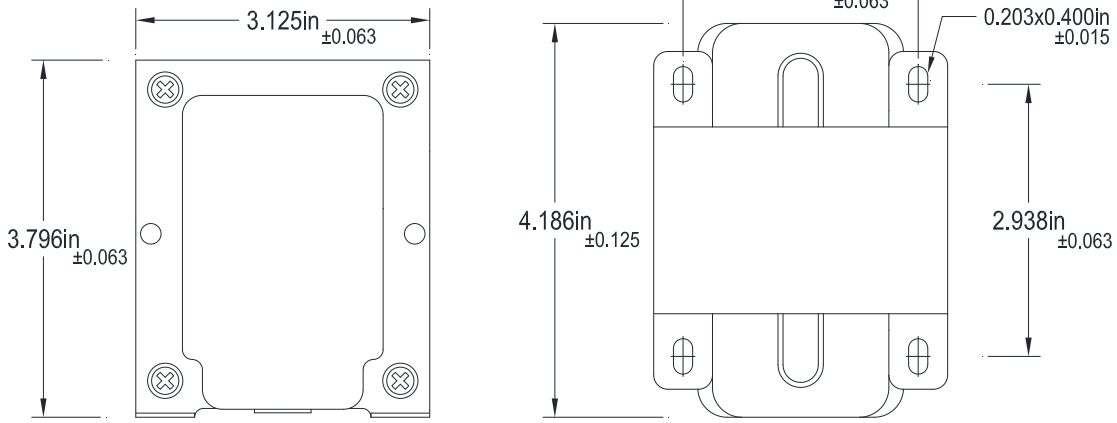
HAMMOND MANUFACTURING

1650NA

BLK - GRN - YEL - WHT: COM - 4Ω - 8Ω - 16Ω
BLU - RED - BRN : 4300Ω CT
60 WATTS 30Hz - 30KHz
BRN/YEL & BLU/YEL SCREEN TAPS 40% OF PRI VOLTS
Made In Canada DATE

DIMENSIONAL DETAILS:



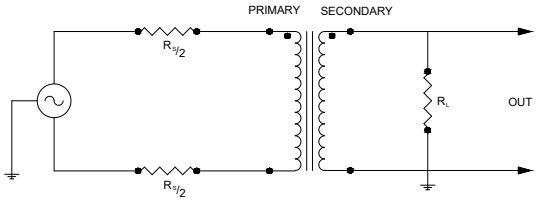


TEST CONDITIONS

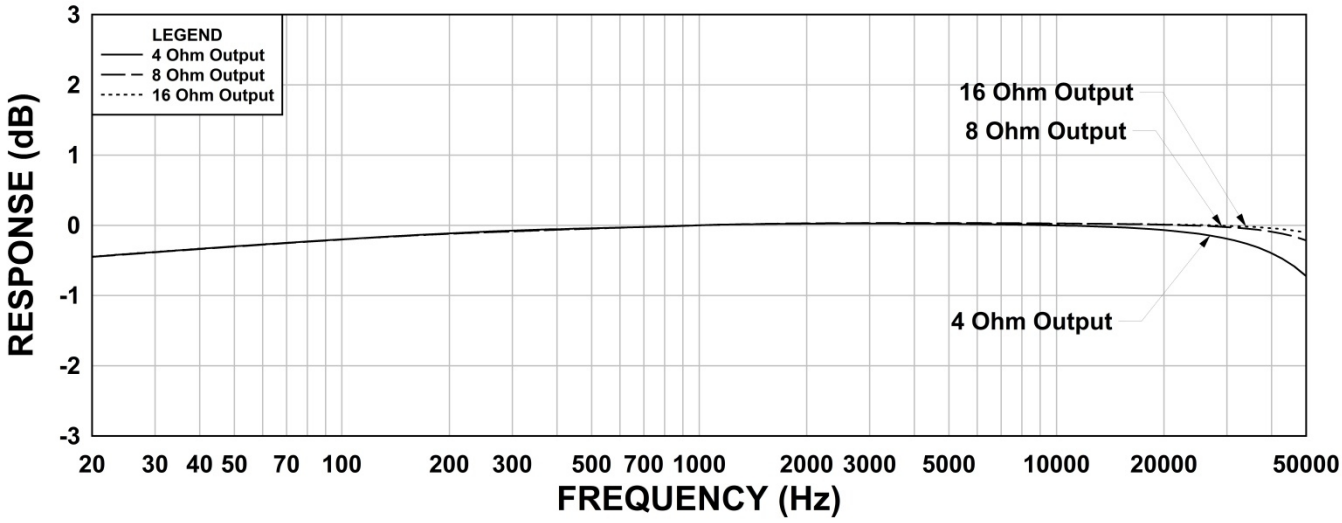
Measurement Instruments:
- dScope Series III Audio Analyzer
- Wayne Kerr 3255B with a 3265B Inductance Analyzer
- HP 4192a LF Impedance Analyzer
- Keithley 2010 DVM

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

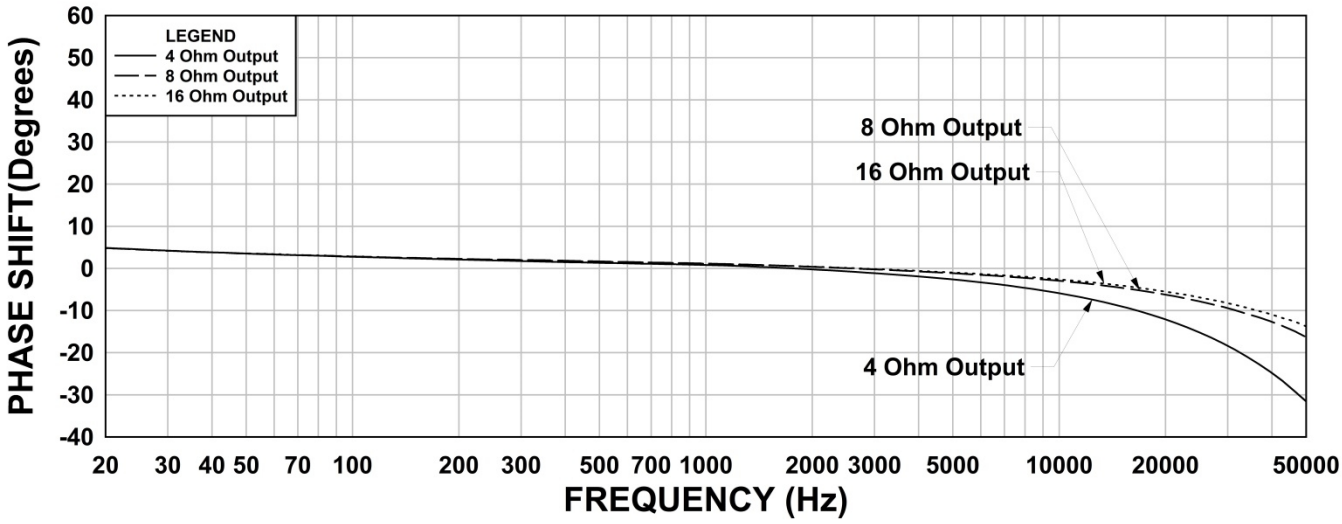
TYPICAL TEST CIRCUIT



1650NA Frequency Response RS = 4300 Ohms



1650NA Phase Shift RS = 4300 Ohms



1650NA THD+N RS = 4300 Ohms