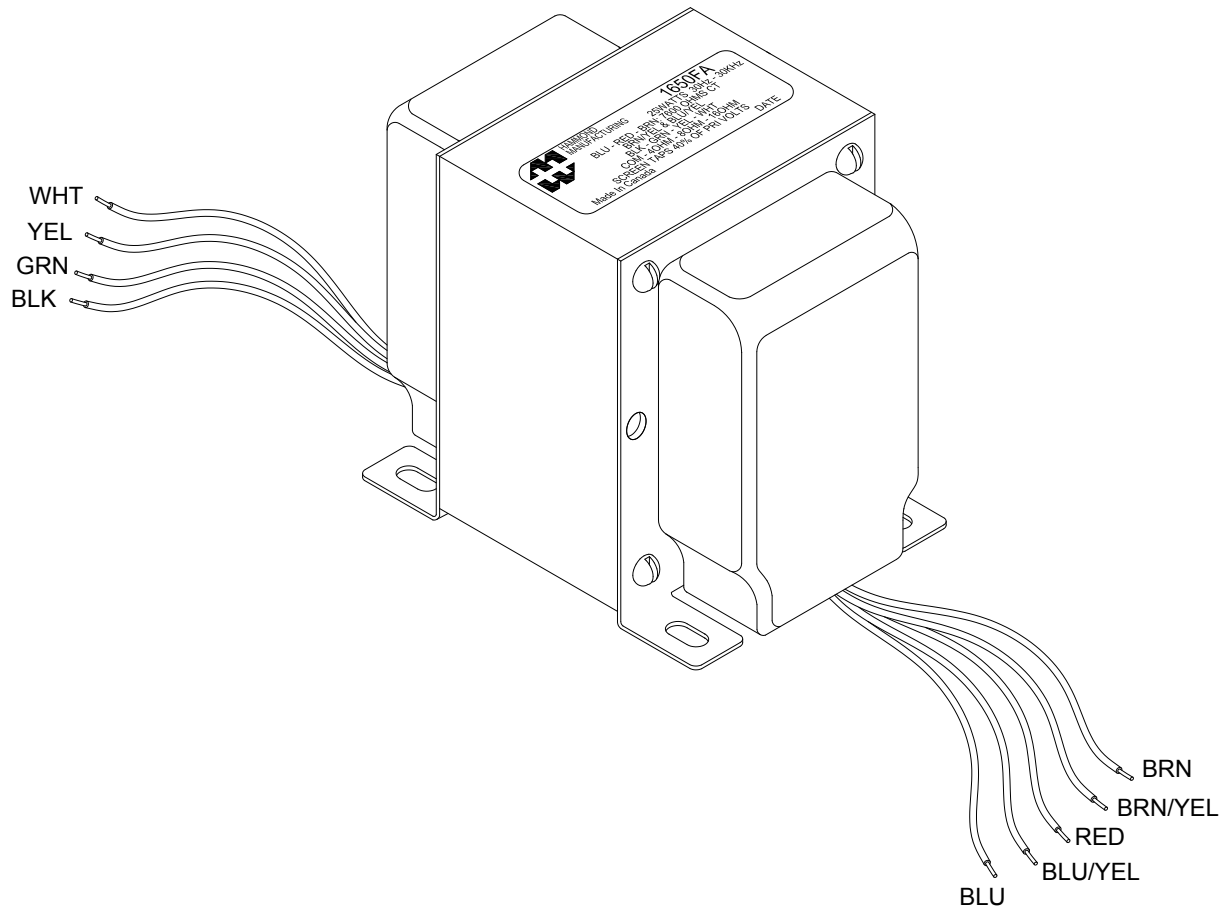




## 1650FA

### HI-FI AUDIO OUTPUT MULTIPLE SECONDARY TRANSFORMER

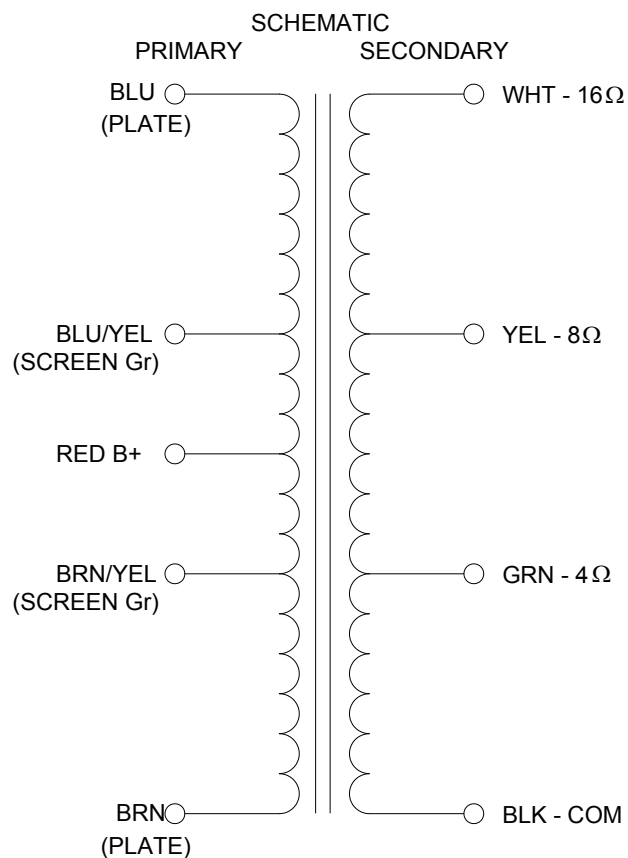
- NEW & improved version of our 1608-1650 Series multiple secondary output transformers (Re-designed secondaries for easy hook-up of secondary loads).
- Designed for push-pull tube output circuits.
- Units are designed to provide ample "headroom" at bass frequencies (Note the weight of each transformer).
- All models have a secondary tapped for 4, 8 or 16 ohm outputs.
- Enclosed (shielded), 4 slot, above chassis Type "X" mounting.
- Manufactured with plastic coil forms for coil support and insulation.
- Frequency response 30Hz. to 30Khz. at full rated power (+/- 1db max. - ref. 1Khz) minimum.
- Insulated flexible leads 8" min.
- Included 40% screen taps for Ultra-Linear operation (if desired).
- Typical applications - Push-Pull: triode, Ultra-Linear pentode, pentode and tetrode connected audio output.



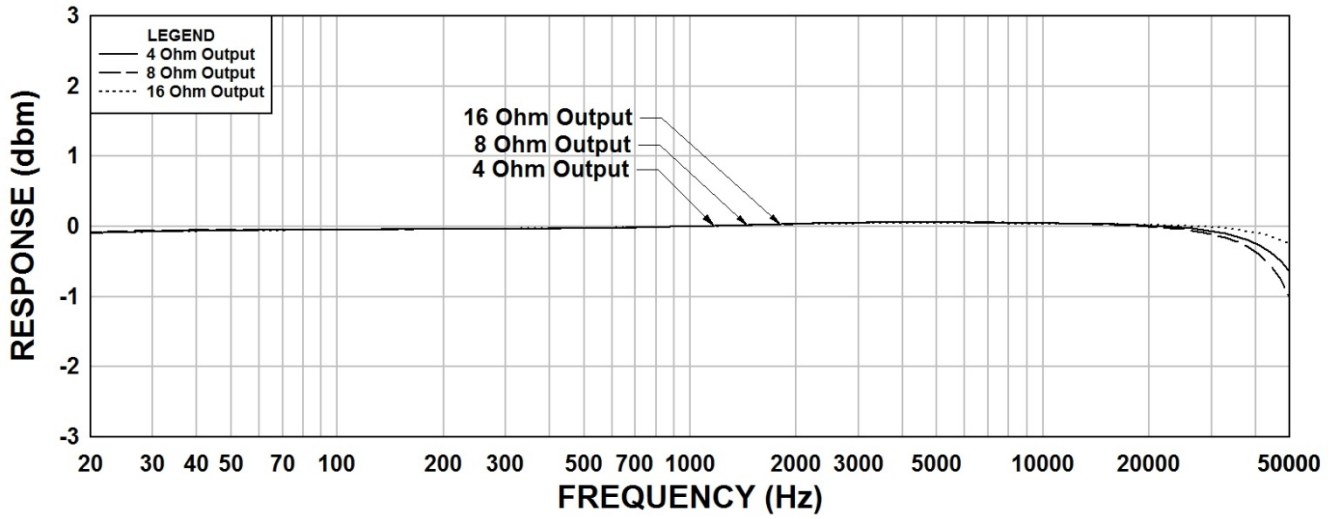
\*For Full Dimensional Details see page 4

**1650FA ELECTRICAL SPECIFICATIONS\*\*****Schematic and Hook Up Data**

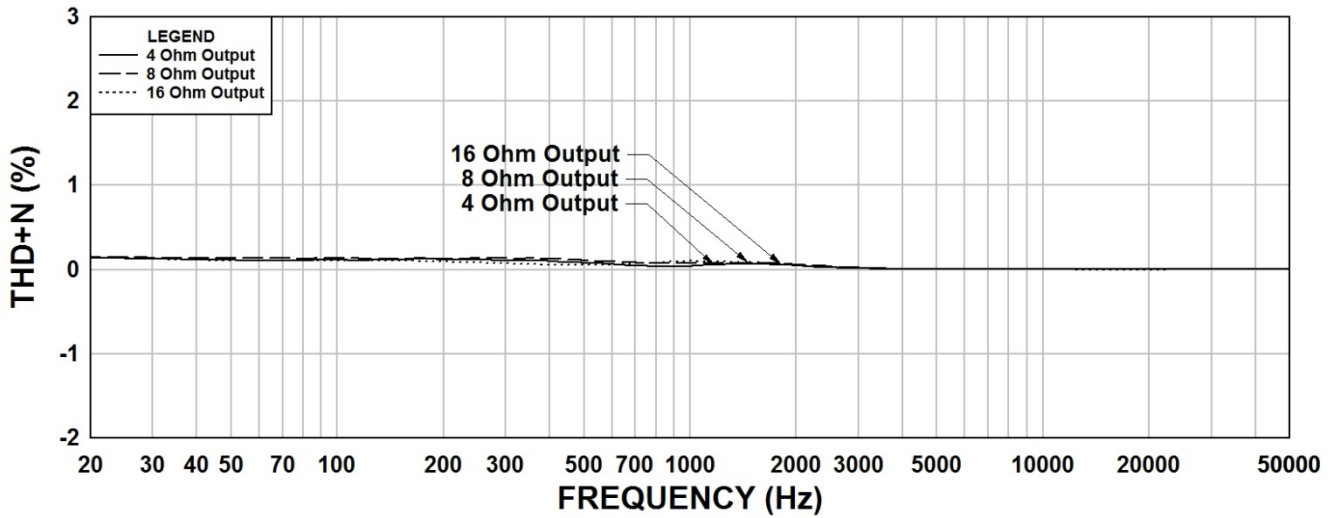
<b>Characteristic</b>	<b>Typical</b>
Input Impedance	7600Ω
Output Impedance	4Ω/8Ω/16Ω
Output Power	25Watts
<b>Primary - DCR</b>	
Blue – Brown	203.4Ω
<b>Secondary DCR</b>	
Black – Green	252mΩ
Black – Yellow	398mΩ
Black – White	621mΩ
<b>Leakage Inductance</b>	@ 1.0kHz, 1.0V SC
Primary – Blue – Brown	702.5mH
<b>Inductance</b>	@ 1.0kHz, 1.0V OC
Primary – Blue – Brown	19.5Hy
<b>Impedance</b>	@ 1.0kHz, 1.0V OC
Primary – Blue – Brown	70KΩ
Black – Green	217.6Ω
Black – Yellow	403.9Ω
Black – White	710.2Ω
Frequency Response	See graphs for specific response, Typ. ±1.0db from 30Hz to 30KHz
Dielectric Strength	2000Vrms
Temperature Range	-40 To 105°C



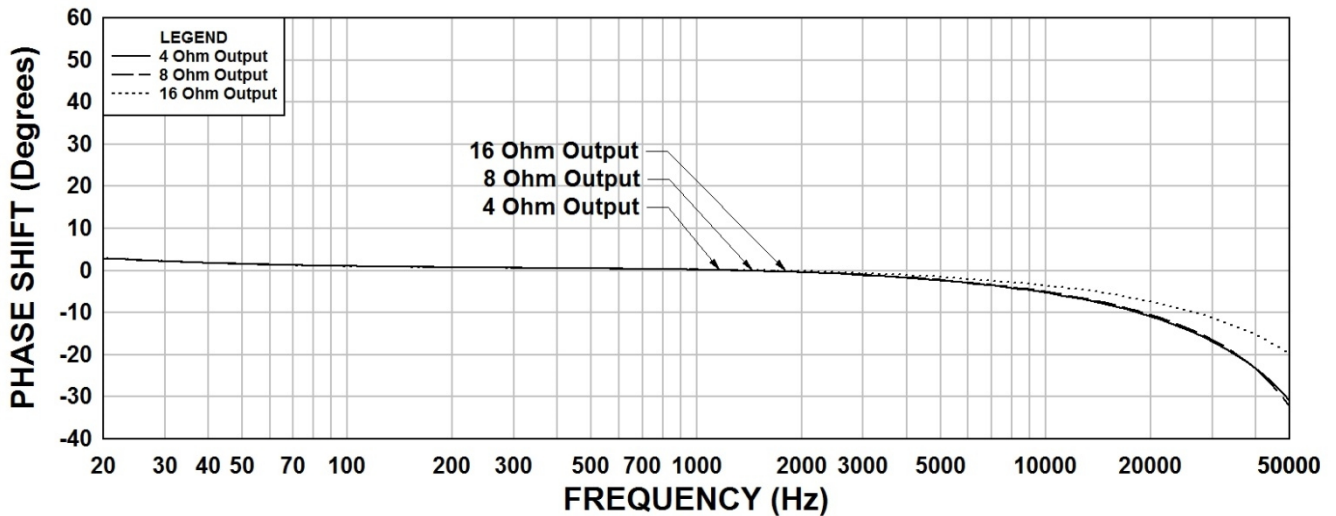
### 1650FA Frequency Response $R_s = 7.6K$ Ohms



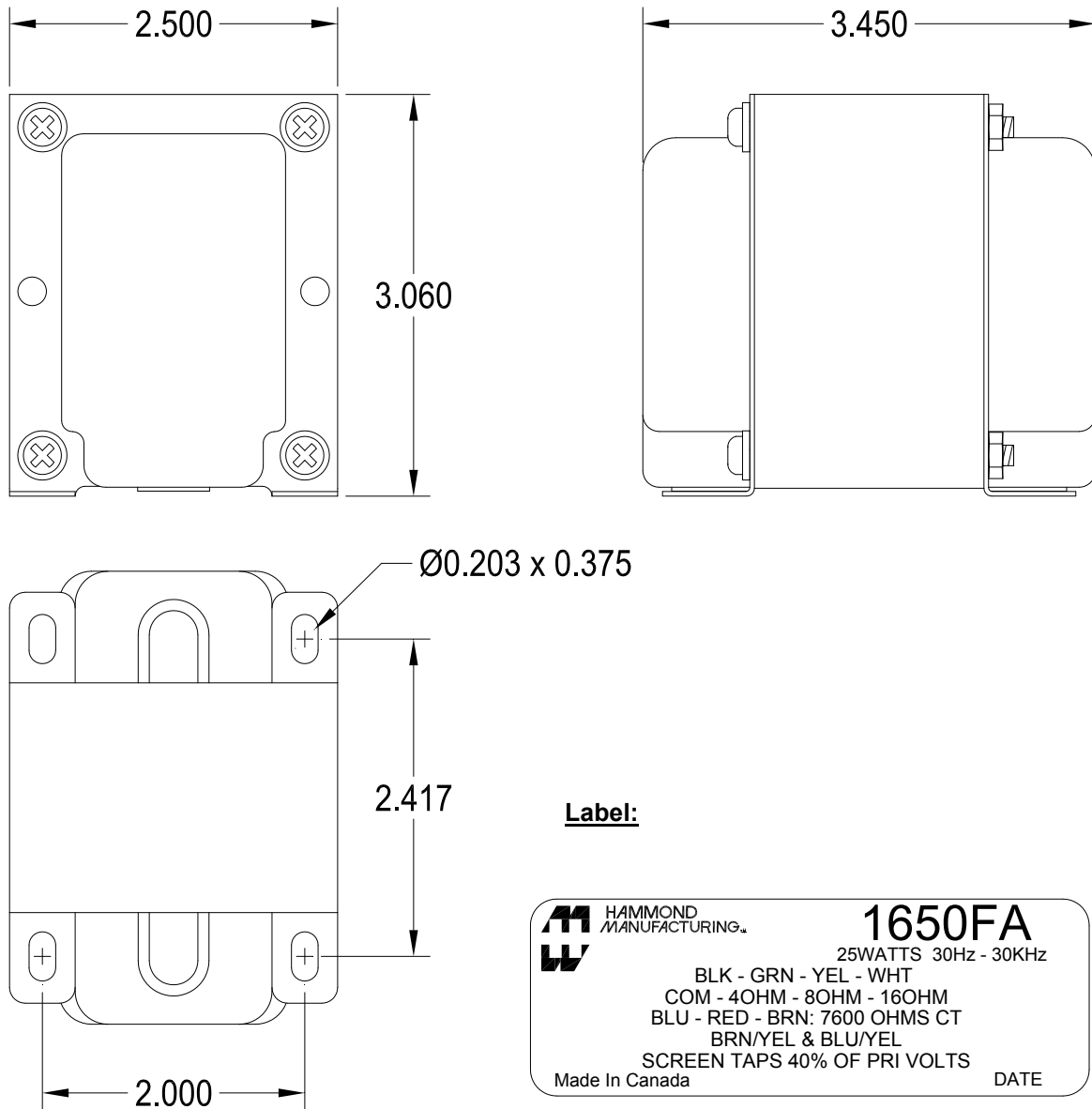
### 1650FA THD+N $R_s = 7.6K$ Ohms



### 1650FA Phase Shift $R_s = 7.6K$ Ohms



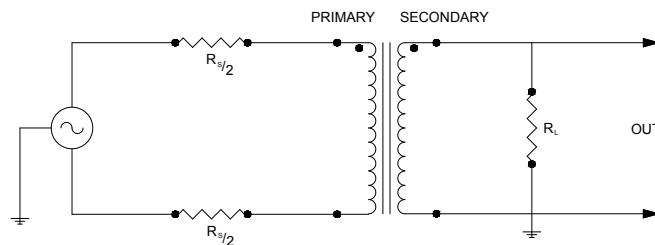
**Dimensional Details:**



TYPICAL TEST CIRCUIT

Measurement instruments  
 Hp4192a impedance analyzer  
 Hp3456a DVM  
 Keithley 2002 DVM  
 D scope series iii audio analyzer  
 Wayne Kerr 3255B with a 3265B

\* All graphs input level 20dbu.  
 \*\* The results are typical and are subject to normal manufacturing and electrical tolerances.



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