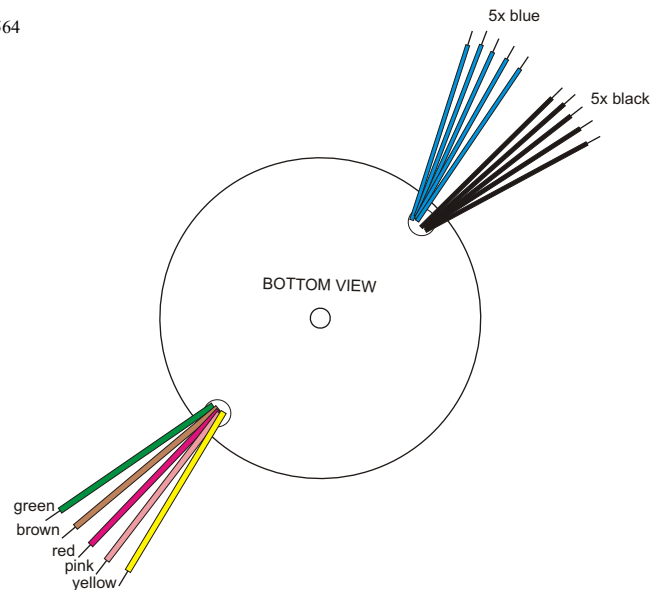


WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

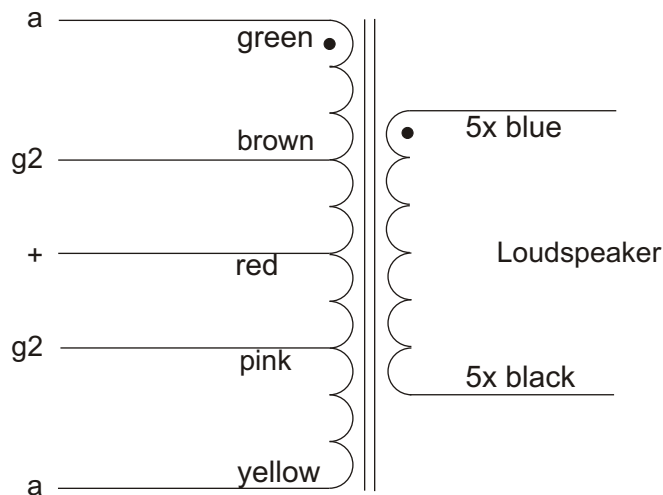
Type and Application	:	VDV8020PP = PAT4000: 2 x EL84.
Primary Impedance	:	Raa 8 [k]
Secondary Impedance	:	Rls 5 []
Turns Ratio Np/Ns	:	Ratio 40 []
Ultra Linear Tapping at	:	tap 33.3 [%]
-1 dB Frequency Range [Hz to kHz] (3):	:	flf 8.261 fhf 51.826
-1 dB Frequency Range [Hz to kHz] (3):	:	fl1 3.524 fh1 89.045
-3 dB Frequency Range [Hz to kHz] (3):	:	fl3 1.793 fh3 131.564
Nominal Power (1)	:	Pn 20 [W]
- 3 dB Power Bandwidth starting at	:	fu 28.5 [Hz]
Total primary Inductance (2)	:	Lp 485 [H]
Primary Leakage Inductance	:	lsp 8 [mH]
Effective Primary Capacitance	:	cip 0.25 [nF]
Total Primary DC Resistance	:	Rip 155.4 []
Total Secondary DC Resistance	:	Ris 0.161 []
Tubes Plate Resistance per section	:	ri 8 [k]
Insertion Loss	:	lloss 0.219 [dB]
Q-factor 2nd order HF roll-off (5)	:	Q 0.671 []
HF roll-off Specific Frequency (5)	:	Fo 139.013 [kHz]
Quality Factor (5)	:	QF 6.063·10 ⁴ []
Quality Decade Factor = log(QF) (5)	:	QDF 4.783 []
Tuning Factor (5)	:	TF 1.21 []
Tuning Decade Factor = log(TF) (5)	:	TDF 0.083 []
Frequency Decade Factor (4,5)	:	FDF 4.866 []

DESIGNED BY
VANDERVEEN



- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the power tubes driving the transformer
 (2): maximum value, measured over secondary, transferred to primary
 (3): calculation at 1 mWatt in Rls; ri and Rls are pure Ohmic
 (4): defined as $FDF = \log(fh3/fl3)$ = number of frequency decades transferred
 (5): ir. Menno van der Veen; Theory and Practice of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Francisco
 (C): Copyright 1994 Vanderveen; Version 1.7; design date.....

Always connect the five blue wires together
 Always connect the five black wires together
 diameter approx. 104mm
 height approx. 52mm
 Lead length solid leads approx. 200mm
 fully potted in black plastic shell



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HB

02-03-2003

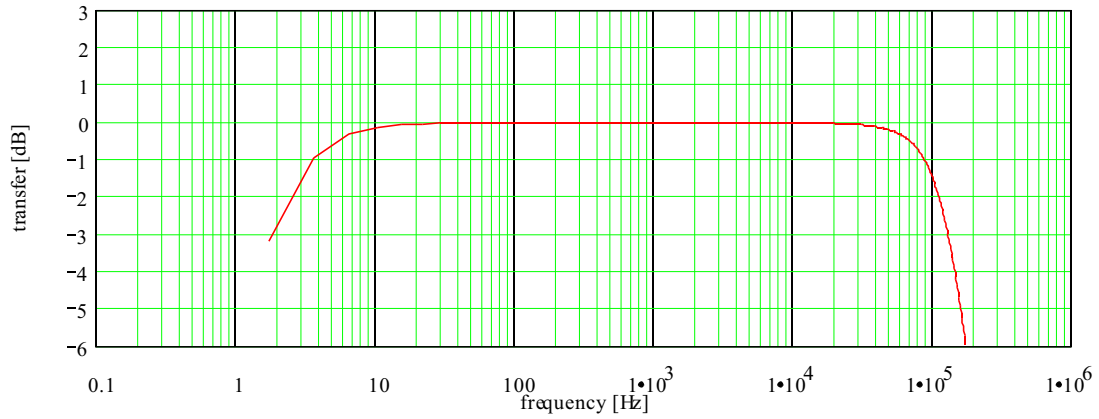
VDV8020PP / PAT 4000

wide bandwidth toroidal
 Push-Pull tube output transformer

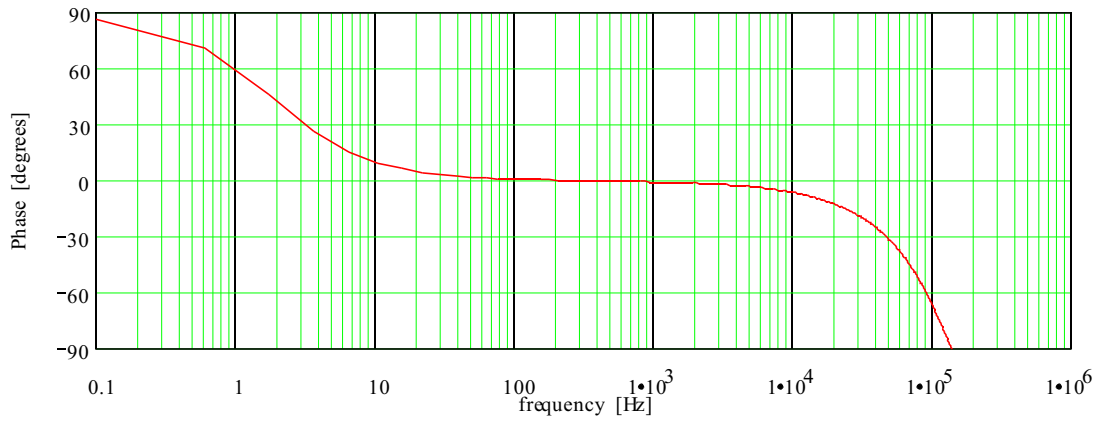
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WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER ;8020=PAT4000

Frequency Response; Vertical 1 dB/div; Horizontal .1 Hz to 1 MHz (3)

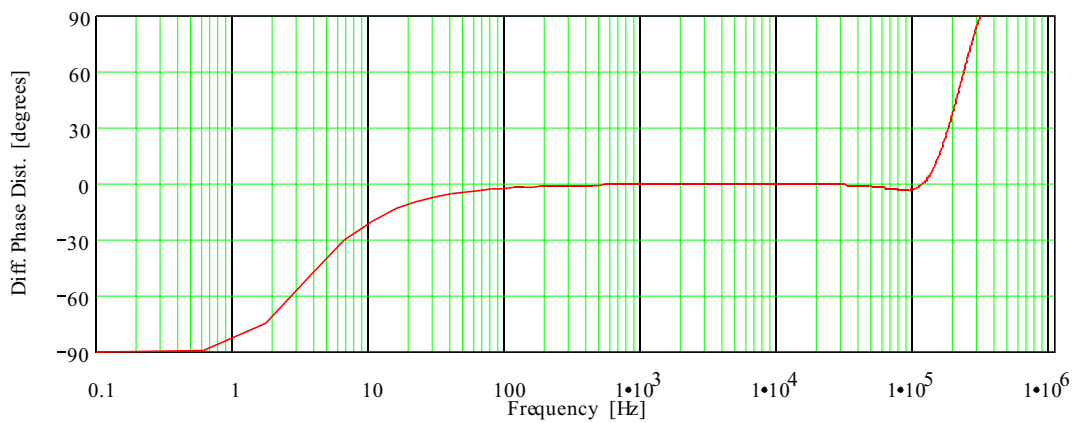


Phase Response; Vertical 30 deg./div; Horizontal .1 Hz to 1 MHz



Differential Phase Distortion; vert. 30 deg/div; hor .1 Hz to 1 MHz

See: W.M.Leach, Differential Time Delay..; JAES sept.89 pp.709-715



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