

WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

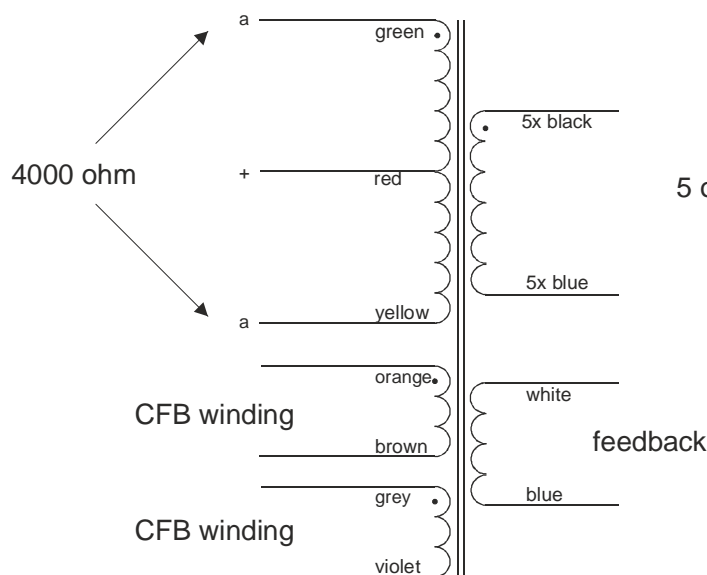
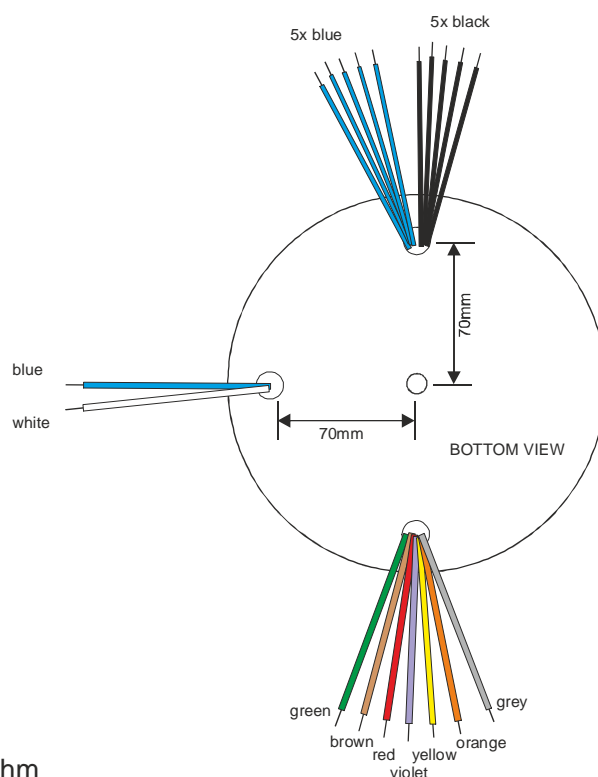
Type and Application	VDV-1070-UC.		
Primary Impedance	:	$R_{aa} = 4$	[k Ω]
Secondary Impedance	:	$R_{ls} = 5$	[Ω]
Turns Ratio N_p/N_s	:	Ratio = 28.284	[]
UL-tap:	:	tap = -100	[%]
Cathode Feedback Ratio	:	cfb = 100	[%]
-1 dB Frequency Range [Hz to kHz] (3)	:	f _{lf} = 0.367	f _{hf} = 114.824
-1 dB Frequency Range [Hz to kHz] (3)	:	f _{l1} = 0.156	f _{h1} = 249.653
-3 dB Frequency Range [Hz to kHz] (3)	:	f _{l3} = 0.08	f _{h3} = 441.47
Nominal Power (1)	:	$P_n = 70$	[W]
-3 dB Power Bandwidth starting at	:	$f_u = 14$	[Hz]
Total primary Inductance (2)	:	$L_p = 1.76 \cdot 10^3$	[H]
Primary Leakage Inductance	:	$L_{sp} = 0.971$	[mH]
Effective Primary Capacitance	:	$c_{ip} = 0.349$	[nF]
Total Primary DC Resistance	:	$R_{ip} = 67.2$	[Ω]
Total Secondary DC Resistance	:	$R_{is} = 0.122$	[Ω]
Tubes Plate Resistance per section	:	$r_i = 0.53$	[k Ω]
Insertion Loss	:	$I_{loss} = 0.175$	[dB]
Q-factor 2nd order HF roll-off (5)	:	$Q = 0.545$	[]
HF roll-off Specific Frequency (5)	:	$F_o = 606.987$	[kHz]
Quality Factor (5)	:	$QF = 1.82 \cdot 10^6$	[]
Quality Decade Factor = log(QF) (5)	:	$QDF = 6.26$	[]
Tuning Factor (5)	:	$TF = 3.047$	[]
Tuning Decade Factor = log(TF) (5)	:	$TDF = 0.484$	[]
Frequency Decade Factor (4,5)	:	$FDF = 6.744$	[]

Specialist Range Series output transformers for tube amplifiers

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): measured at 230Vrms at 50Hz over total primary calculation at 1 Watt in R_{ls} ; r_i and R_{ls} are pure Ohmic
 (3): defined as $FDF = \log(f_{h3}/f_{l3})$ = number of frequency decades transferred
 (4): defined as $FDF = \log(f_{h3}/f_{l3})$ = number of frequency decades transferred
 (5): Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Francisco
 Copyright 1994 Vanderveen; Version 1.7; results date 29-08-2011.
 Final specs can deviate 15% or improve without notice



Always connect the five blue wires together
 Always connect the five black wires together
 diameter approx. 152mm
 height approx. 89mm
 Lead length solid leads approx. 200mm
 fully potted in aluminium black textured shell



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Jan-2012

VDV1070UC

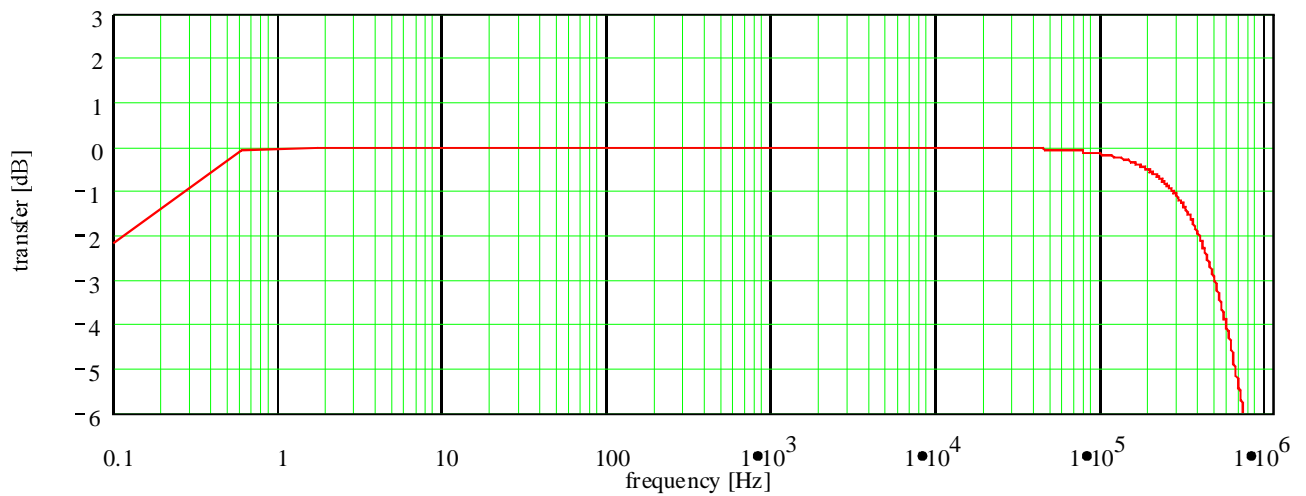
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 SPECIALIST RANGE
 TUBE OUTPUT TRANSFORMER



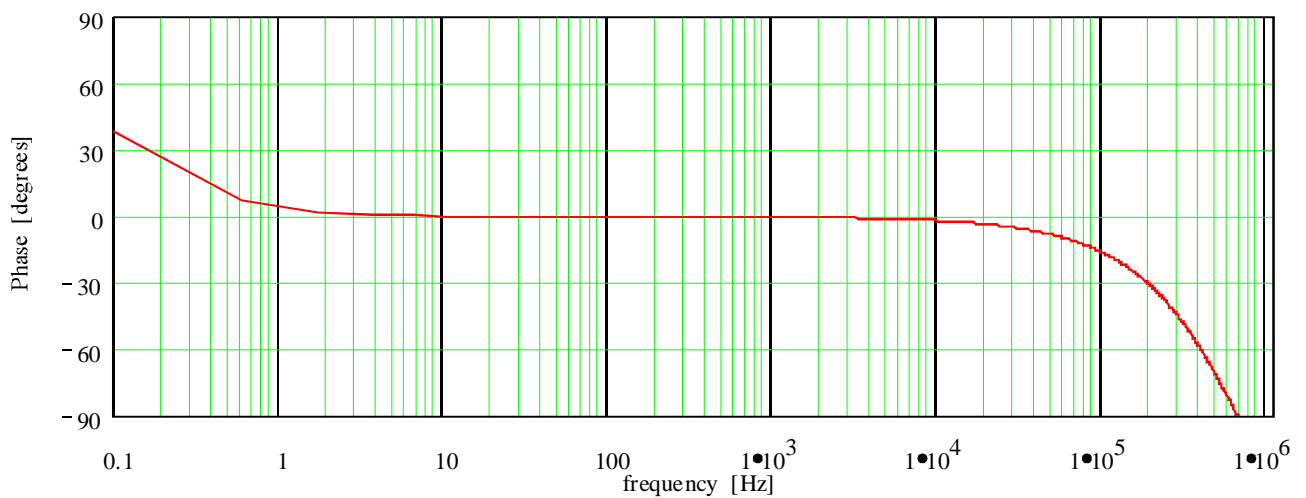
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AMPLIMO TOROIDAL PUSH-PULL TRANSFORMER ; VDV-1070-UC; reference specs

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

