

## 2100-CFB-PP

The very wide bandwidth (220 kHz) toroidal push-pull output transformer 2100-CFB is meant for very high power (100 Watt) extreme loud high quality tube amplifiers. Four paralleled power tubes (6550, KT88/90) should be used for high-end applications. Separate cathode feedback windings of 10 % create extreme low tube distortions with high speaker damping factor without using any negative feedback. The primary impedance is close to 2 kOhm. The secondary is at the standardized 5 Ohm impedance. This transformer is meant for clean dynamic high quality sound reproduction. See (\*) for a description of this transformer.

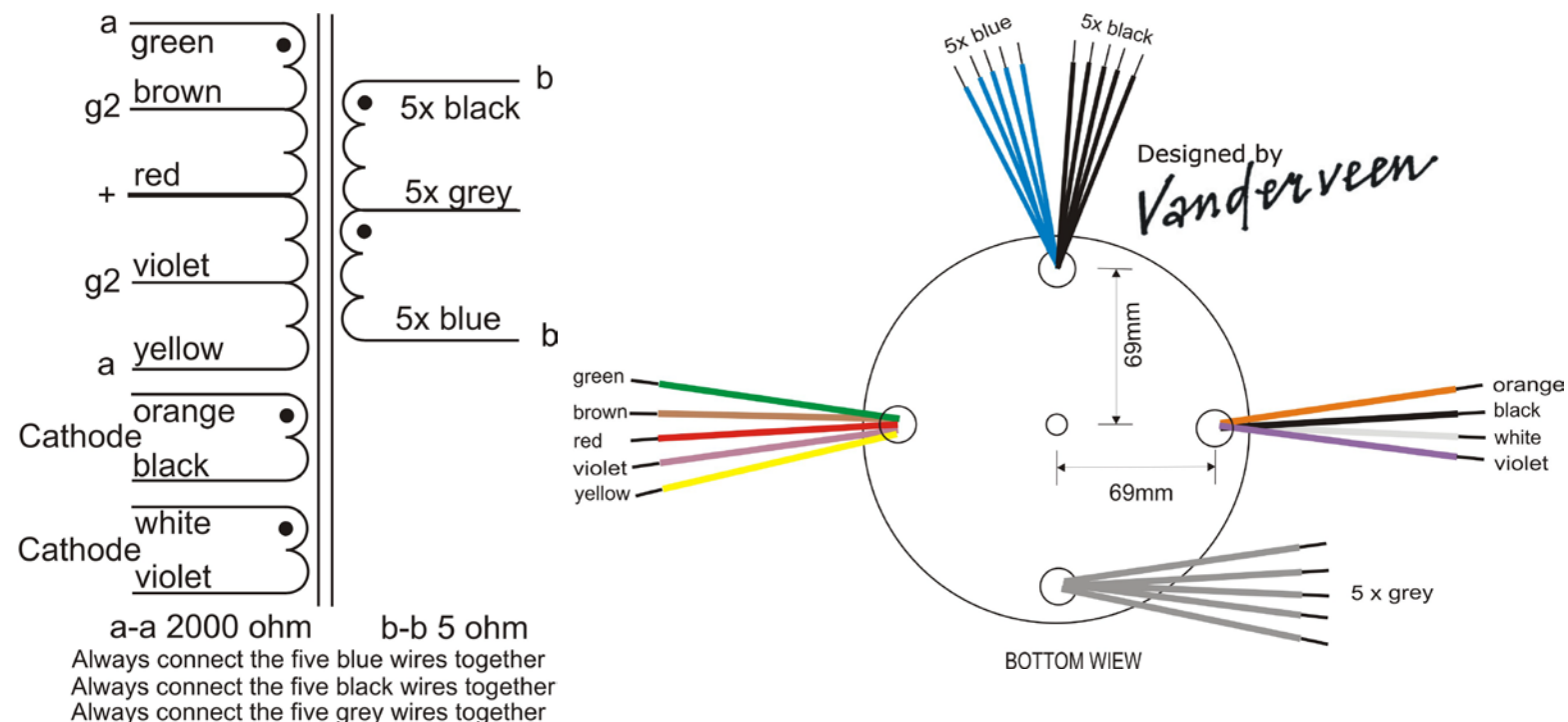
(\*) Menno van der Veen: High-end Valve Amplifiers 2, New models and applications; Elektor; ISBN: 978-0-905705-90-3; chapter 3

dimensions: 155mm x 90mm.

weight: 5,3 Kg.

price: 273€

technical data:



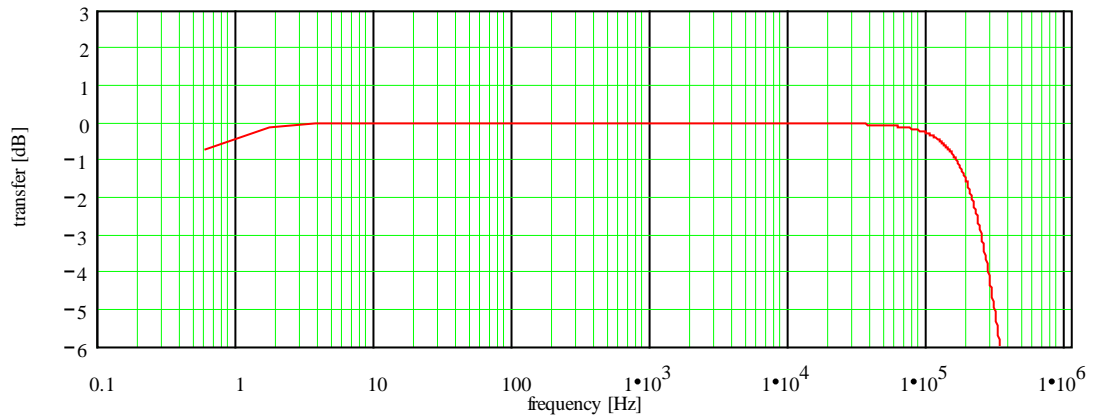
## WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application		VDV-2100-CFB.	
Primary Impedance	:	Raa = 1.995	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 19.977	[ ]
UL-tap:		tap = 33	[%]
Cathode Feedback Ratio	:	cfb = 10	[%]
-1 dB Frequency Range [Hz to kHz] (3)	:	flf = 1.141	fhf = 83.91
-1 dB Frequency Range [Hz to kHz] (3)	:	fl1 = 0.487	fh1 = 149.547
-3 dB Frequency Range [Hz to kHz] (3)	:	fl3 = 0.248	fh3 = 224.74
Nominal Power (1)	:	Pn = 100	[W]
- 3 dB Power Bandwidth starting at	:	fu = 14	[Hz]
Total primary Inductance (2)	:	Lp = 663	[H]
Primary Leakage Inductance	:	lsp = 1.4	[mH]
Effective Primary Capacitance	:	cip = 0.638	[nF]
Total Primary DC Resistance	:	Rip = 63	[Ω]
Total Secondary DC Resistance	:	Ris = 0.17	[Ω]
Tubes Plate Resistance per section	:	ri = 1	[kΩ]
Insertion Loss	:	Iloss = 0.276	[dB]
Q-factor 2nd order HF roll-off (5)	:	Q = 0.66	[ ]
HF roll-off Specific Frequency (5)	:	Fo = 241.886	[kHz]
Quality Factor (5)	:	QF = 4.736•10 <sup>5</sup>	[ ]
Quality Decade Factor = log(QF) (5)	:	QDF = 5.675	[ ]
Tuning Factor (5)	:	TF = 1.916	[ ]
Tuning Decade Factor = log(TF) (5)	:	TDF = 0.282	[ ]
Frequency Decade Factor (4,5)	:	FDF = 5.958	[ ]

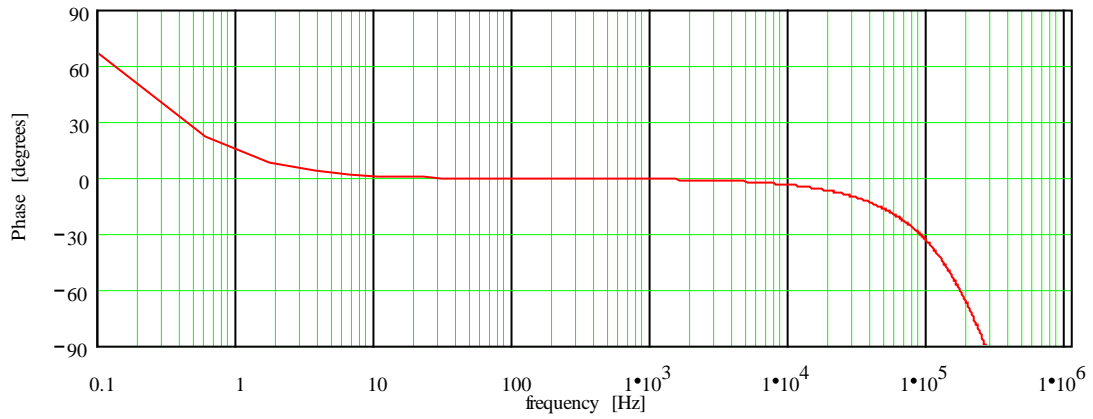
- (1): calculated under the conditions of balancing the DC-currents and the AC-anode voltages of the powertubes driving the transformer
- (2): measured at 230Vrms at 50Hz over total primary
- (3): calculation at 1 Watt in Rls; ri and Rls are pure Ohmic
- (4): defined as FDF = log(fh3/fl3) = number of frequency decades transferred
- (5): ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887. 97th AES Convention San Francisco
- (C): Copyright 1994 Vanderveen; Version 1.7; results date 2-2-2012.  
Final specs can deviate 15% or improve without notice

TRAFCO TOROIDAL PUSH-PULL TRANSFORMER ; VDV-2100-CFB

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

