2100-CFBH-PP

The very wide toroidal push-pull output transformer 2100-CFBH is meant for mid-high frequency power (100 Watt) tube amplifiers. The power bandwidth starts at 28 Hz up to 330 kHz. Four paralleled power tubes (6550, KT88/90) should be used. Separate cathode feedback windings of 10 % and the 33 % UL-taps 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 extreme high quality guitar or mid-high frequency quality sound reproduction. See (*) for a description of this transformer.

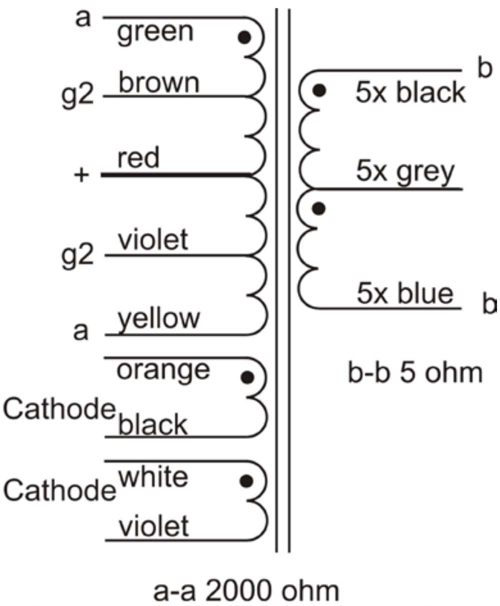
(*) Menno van der Veen: High-end Valve Amplifiers 2, New models and applications; Elektor; ISBN: 978-0-905705-90-3; chapter 3

dimensions: 125mm x 65mm.

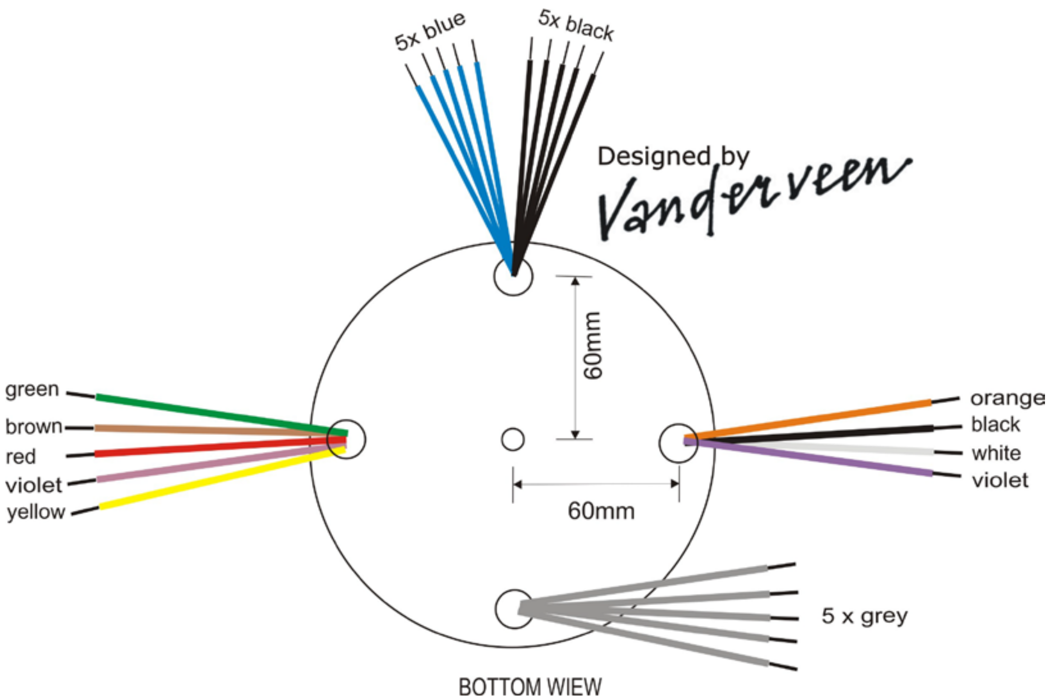
weight: 2,3 Kg.

price: 225€

technical data:



Always connect the five blue wires together
Always connect the five black wires together
Always connect the five grey wires together



WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

Type and Application		VDV-2100-CFBH.	
Primary Impedance	:	$Raa = 1.995$	[kΩ]
Secondary Impedance	:	$Rls = 5$	[Ω]
Turns Ratio Np/Ns	:	$Ratio = 19.976$	[ ]
UL-tap:		$tap = 33$	[%]
Cathode Feedback Ratio	:	$cfb = 10$	[%]
-.1 dB Frequency Range [Hz to kHz] (3)	:	$flf = 1.485$	$fhf = 131.334$
-1 dB Frequency Range [Hz to kHz] (3)	:	$fl1 = 0.633$	$fh1 = 204.48$
-3 dB Requency Range [Hz to kHz] (3)	:	$fl3 = 0.322$	$fh3 = 290.171$
Nominal Power (1)	:	$Pn = 100$	[W]
- 3 dB Power Bandwidth starting at	:	$fu = 28$	[Hz]
Total primary Inductance (2)	:	$Lp = 505$	[H]
Primary Leakage Inductance	:	$lsp = 1.5$	[mH]
Effective Primary Capacitance	:	$cip = 0.4$	[nF]
Total Primary DC Resistance	:	$Rip = 56$	[Ω]
Total Secondary DC Resistance	:	$Ris = 0.1$	[Ω]
Tubes Plate Resistance per section	:	$ri = 1$	[kΩ]
Insertion Loss	:	$Iloss = 0.204$	[dB]
Q-factor 2nd order HF roll-off (5)	:	$Q = 0.698$	[ ]
HF roll-off Specific Frequency (5)	:	$Fo = 293.864$	[kHz]
Quality Factor (5)	:	$QF = 3.367 \cdot 10^{5}$	[ ]
Quality Decade Factor = log(QF) (5)	:	$QDF = 5.527$	[ ]
Tuning Factor (5)	:	$TF = 2.674$	[ ]
Tuning Decade Factor = log(TF) (5)	:	$TDF = 0.427$	[ ]
Frequency Decade Factor (4,5)	:	$FDF = 5.954$	[ ]

(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

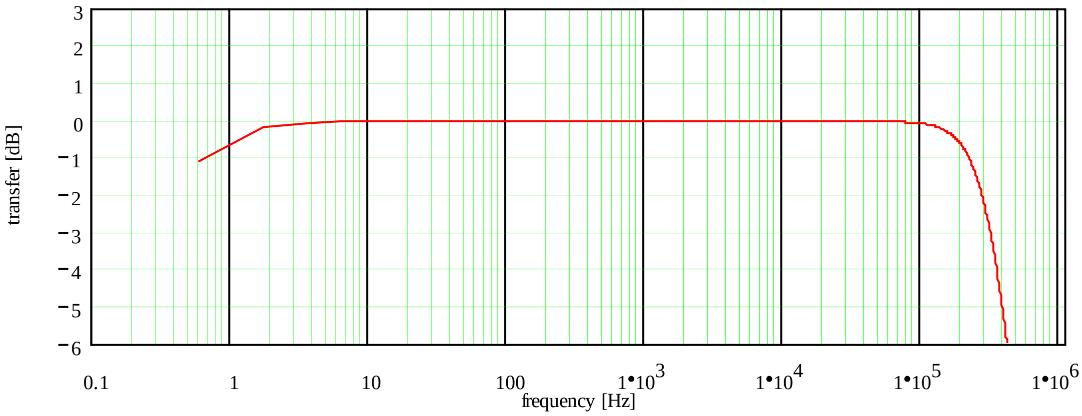
(4): defined as FDF = log(fh3/fl3) = number of frequency decades transfered

(5): ir. Menno van der Veen; Theory and Practise of Wide Bandwidth Toroidal Output Transformers; preprint 3887, 97th AES Convention San Francisco

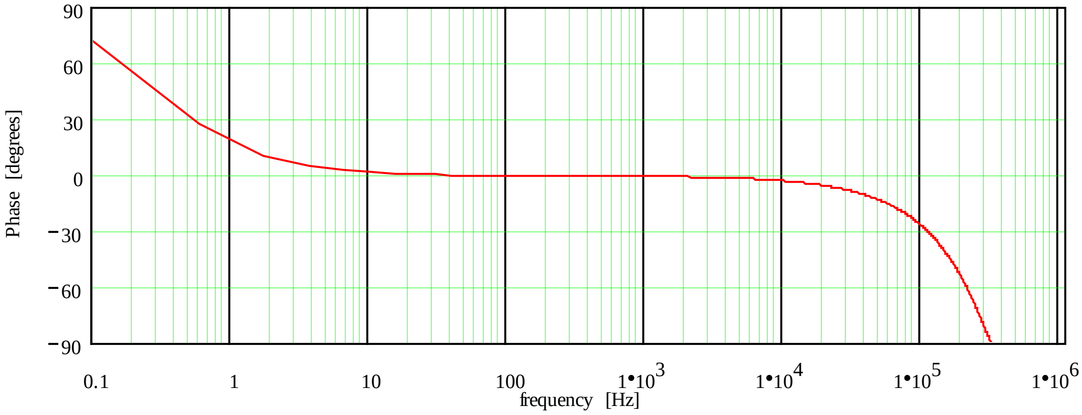
Final specs can deviate 15% or improve without notice

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

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