8020-PP

The wide bandwidth toroidal push-pull output transformer 8020 is meant for medium power (20 Watt) high quality tube amplifiers with special tubes like the famous 300B and 2A3 triodes, or the standard EL84 or 6V6 medium power pentodes. Due to its 8 kOhm primary the effective primary load line is close to horizontal, thus creating extreme low distortions plus a good speaker damping without any feedback. For most domestic applications this is THE standard for extreme detailed clean sound reproduction with horn loudspeakers. The transformer has 33 % Ultra Linear feedback taps and the secondary impedance is at the standardized 5 Ohm. See (*) for a detailed description of this amplifier set up
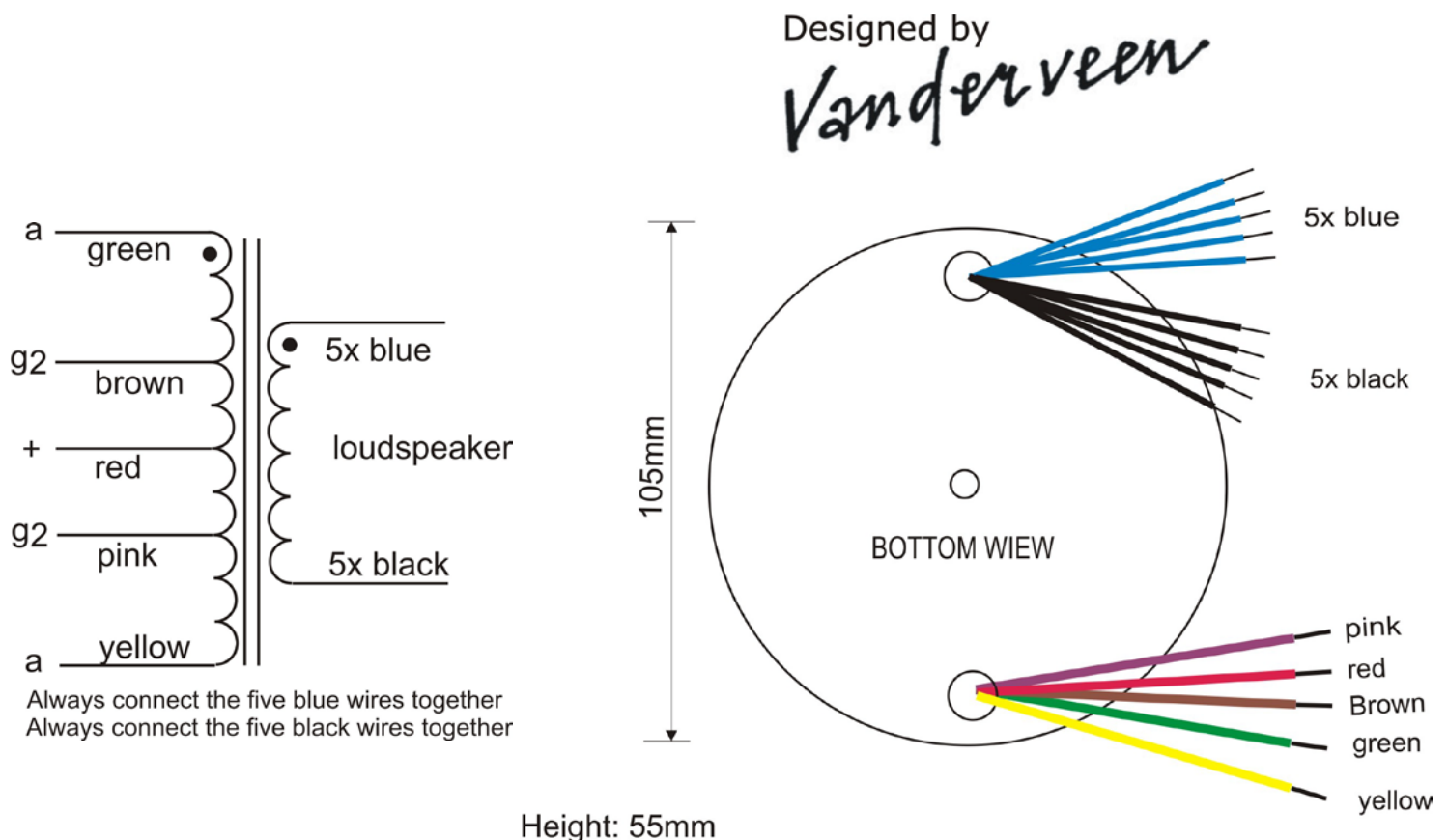
(*) Menno van der Veen: Modern High-end Valve Amplifiers
based on toroidal output transformers; Elektor, ISBN: 978-0-905705-63-7; chapter 11.

dimensions: 105mm x 55mm

weight: 1,2 Kg.

price: 160€

technical data:

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

Height: 55mm

WIDE BANDWIDTH TOROIDAL PUSH-PULL TUBE OUTPUT TRANSFORMER

|			
Type and Application		VDV-8020.	
Primary Impedance	:	Raa = 8	[kΩ]
Secondary Impedance	:	Rls = 5	[Ω]
Turns Ratio Np/Ns	:	Ratio = 40	[ ]
UL-tap:		tap = 33	[%]
Cathode Feedback Ratio	:	cfb = 0	[%]
-.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 Requency 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	[Ω]
Total Secondary DC Resistance	:	Ris = 0.161	[Ω]
Tubes Plate Resistance per section	:	ri = 8	[kΩ]
Insertion Loss	:	Iloss = 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)	:	$QF = 6.063 \cdot 10^4$	[ ]
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	[ ]

(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
(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-8020

Frequency Response; Vertical 1 dB/div; Horizontal .1 Hz to 1 MHz   (3)
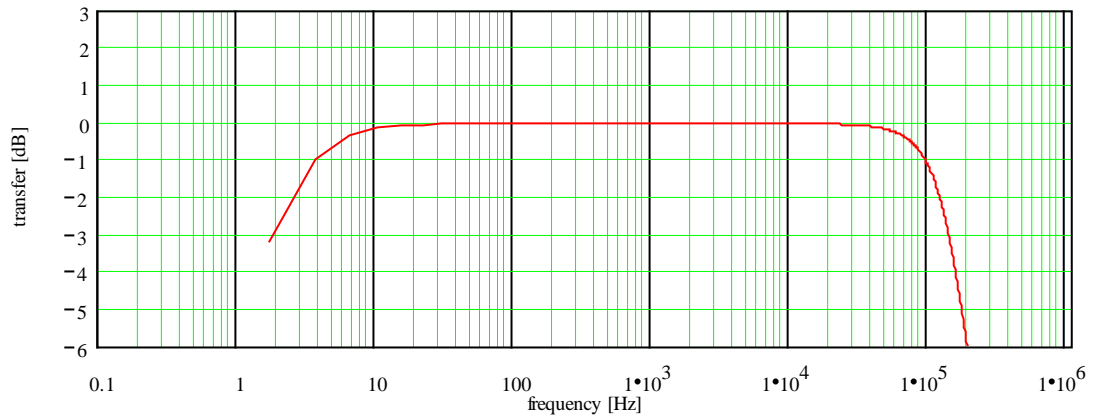
Phase Response; Vertical 30 deg./div; Horizontal .1 Hz to 1 MHz
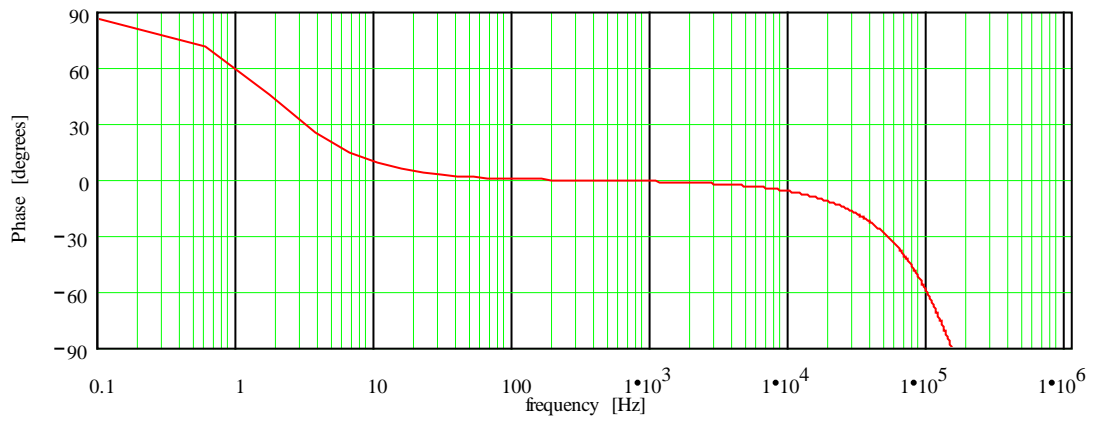
Differential Phase Distortion; vert. 30 deg./div; hor .1 Hz to 1 MHz

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