PLITRON
DESIGNED BY VANDERVEEN

Musical Instrument (Guitar)
Output Transformers

PAT-4151-00

Ratings

Type & Application	:	2 OHM	4 OHM	8 OHM	
Primary Impedance	:	Raa = 4.028	Raa = 4.026	Raa = 4.028	[kΩ]
Secondary Impedance	:	Rls = 2	Rls = 4	Rls = 8	[Ω]
Turns Ratio Np/Ns	:	Ratio = 44.878	Ratio = 31.724	Ratio = 22.439	[ ]
Ultra Linear Tapping at	:	tap = 0	tap = 0	tap = 0	[%]
Flat Frequency Range	:	flf = 14.624 [Hz]-> fhf = 96.623	flf = 14.58 [Hz]-> fhf = 66.837	flf = 14.573 [Hz]-> fhf = 56.072	[kHz]
-1 dB Frequency Range	:	fl1 = 6.238 [Hz]-> fh1 = 106.877	fl1 = 6.219 [Hz]-> fhf = 86.855	fl1 = 6.216 [Hz]-> fh1 = 83.53	[kHz]
-3 dB Frequency Range	:	fl3 = 3.174 [Hz]-> fh3 = 127.093	fl3 = 3.165 [Hz]-> fhf = 114.534	fl3 = 3.163 [Hz]-> fh3 = 116.532	[kHz]
Nominal Power (1)	:	Pn = 90	Pn = 90	Pn = 90	[W]
-3 dB Power Bandwidth starting at	:	fu = 90	fu = 90	fu = 29	[Hz]
Total Primary Inductance (2)	:	Lp = 189.5	Lp = 189.5	Lp = 189.5	[H]
Primary Leakage Inductance to sec.	:	lsp = 6.09	lsp = 4.82	lsp = 4.16	[mH]
Effective Primary Capacitance	:	cip = 0.41	cip = 0.493	cip = 0.49	[nF]
Total Primary Resistance	:	Rip = 21.8	Rip = 21.8	Rip = 21.8	[Ω]
Total Secondary Resistance	:	Ris = 0.03	Ris = 0.049	Ris = 0.089	[Ω]
Tube-Resistance per section	:	ri = 25	ri = 25	ri = 25	[kΩ]
Q-factor 2-nd order HF roll-off	:	Q = 0.91	Q = 0.758	Q = 0.711	[ ] (5)
HF roll-off Specific Frequency	:	Fo = 104.779	Fo = 107.392	Fo = 115.949	[kHz](5)
Quality Factor = Lp/Lsp	:	QF^4= 3.112¥10	QF^4= 3.932¥10	QF^4= 4.555¥10	[ ] (5)
Quality Decade Factor = log(QF)	:	QDF = 4.493	QDF = 4.595	QDF = 4.659	[ ] (5)
Tuning Factor	:	TF = 1.287	TF = 0.921	TF = 0.809	[ ] (5)
Tuning Decade Factor = log(TF)	:	TDF = -0.109	TDF = -0.036	TDF = -0.092	[ ] (5)
Frequency Decade Factor (4)	:	FDF = 4.602	FDF = 4.559	1FDF = 4.566	[ ] (5)

PAT4151-00 Application: EL84 90 W
This transformer is a guitar amplifier push-pull output Transformer. Due to its small dimensions, the internal leakage and capacitance are very small resulting in a broad bandwidth up to 108 kHz when driven with 4 times EL84 tubes in pentode configuration. The transformer can handle 90 Watts with a primary impedance of 4 kOhm. The -3dB power frequency is at 90 Hz, making this transformer ideal for rhythm and solo guitars. The secondary impedances are at 2, 4 and 8 Ohms.

Toroidal Output Transformer for Tube Amplifiers

Plitron Manufacturing Inc. 8 – 601 Magnetic Dr. Toronto, Ontario, Canada M3J 3J3 1-800-PLITRON (1-800-754-8766) Tel. 416-667-9914 FAX 416-667-8928

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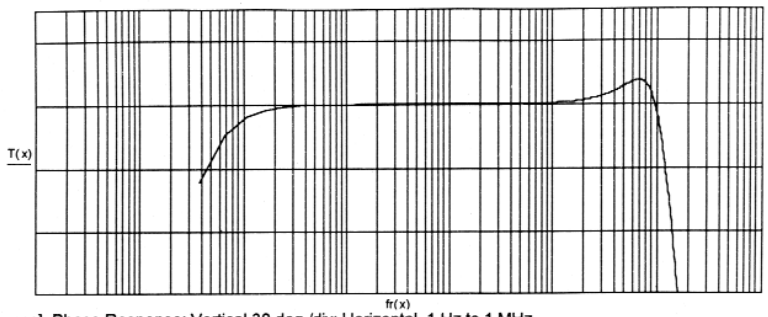
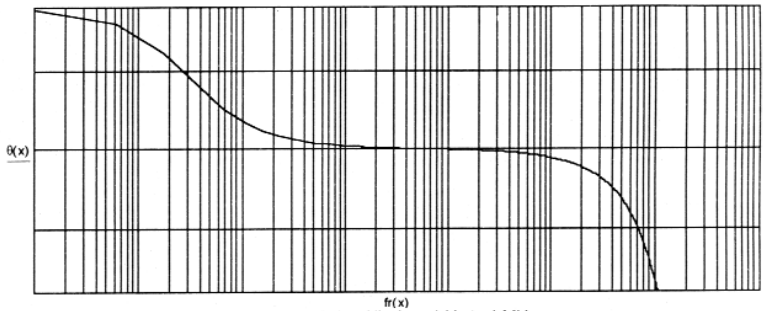
Response Curves

2 OHM

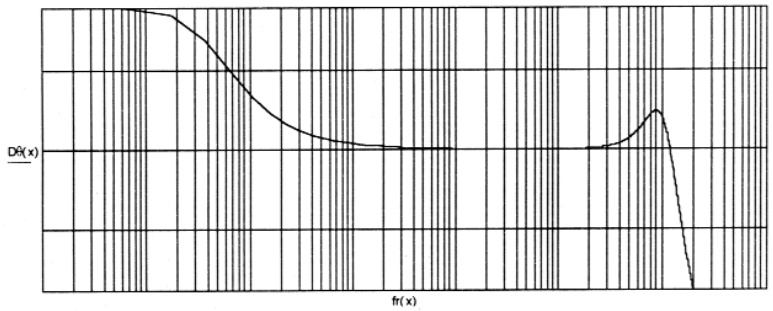
[dB] Frequency Response; Vertical 1 dB/div; Horizontal .1 Hz to 1 MHz (3)



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

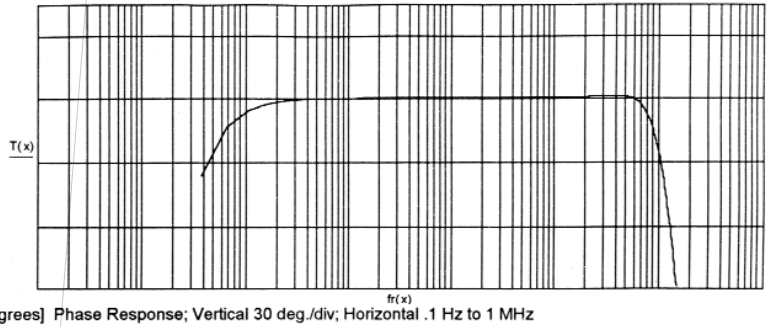


[degrees] Differential Phase Response; vert 30 deg./div; hor .1 Hz to 1 MHz
See: W.M.Leach, Differential Time Delay..; JAES sept.89 pp.709-715

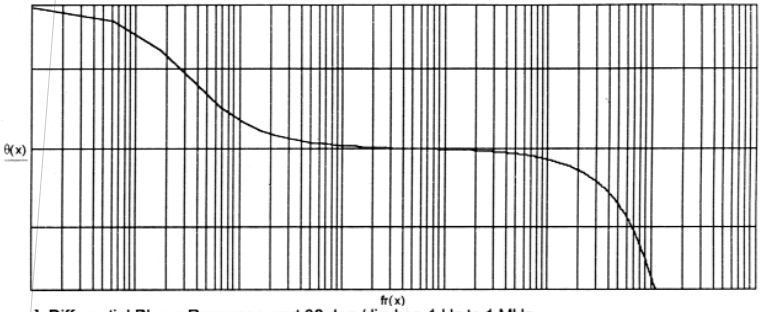


4 OHM

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



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



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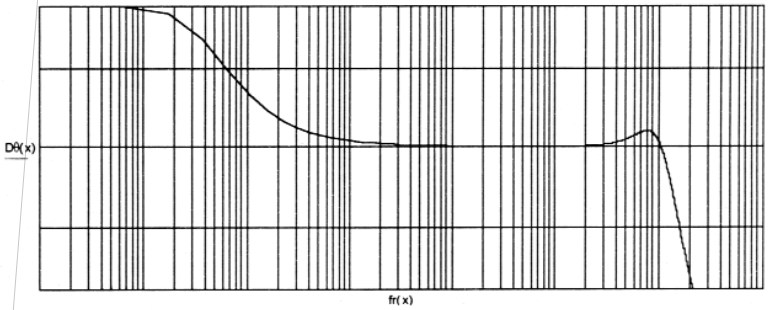

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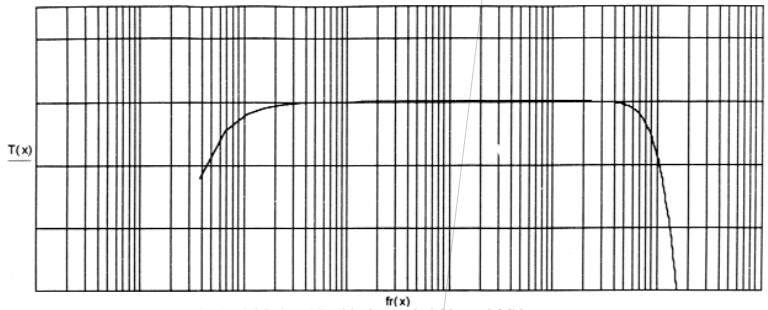
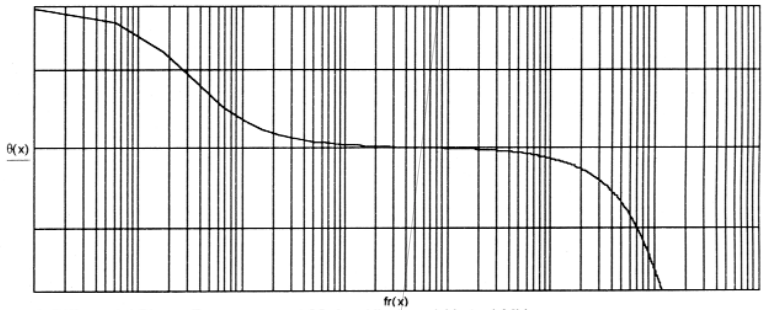
Response Curves

8 OHM

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



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



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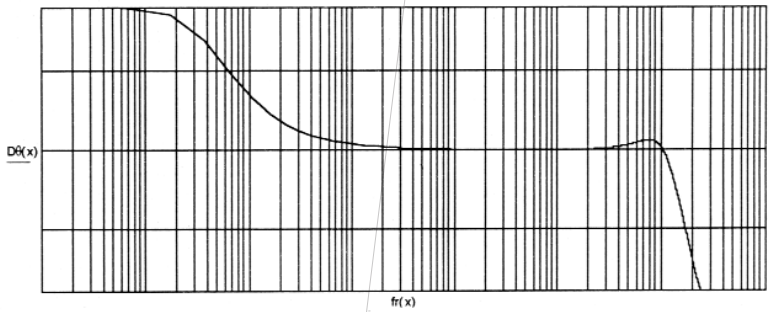
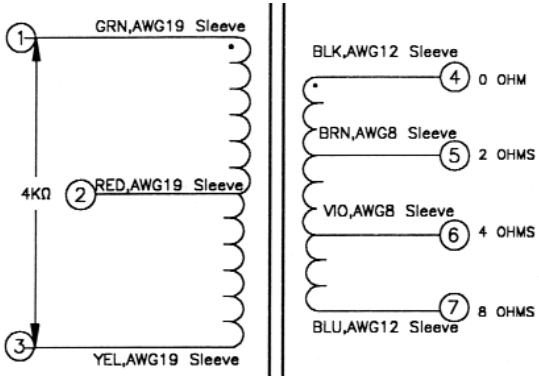
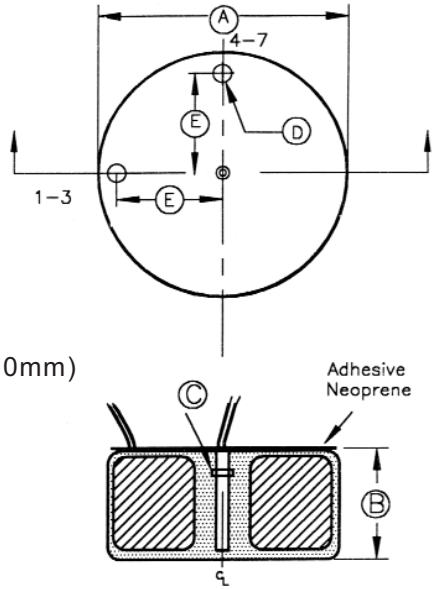


Schematic



Mechanical

REF	Dimension, in mm
A	125.0 nominal
B	65.0 nominal
C	5/16-18 T-NUT
D	20.0 +/-5
E	50 +/- 5



Weight: 2.0kg
Lead Length: 200mm (+/- 10mm)

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