LUNDAHL
– TRANSFORMERS –

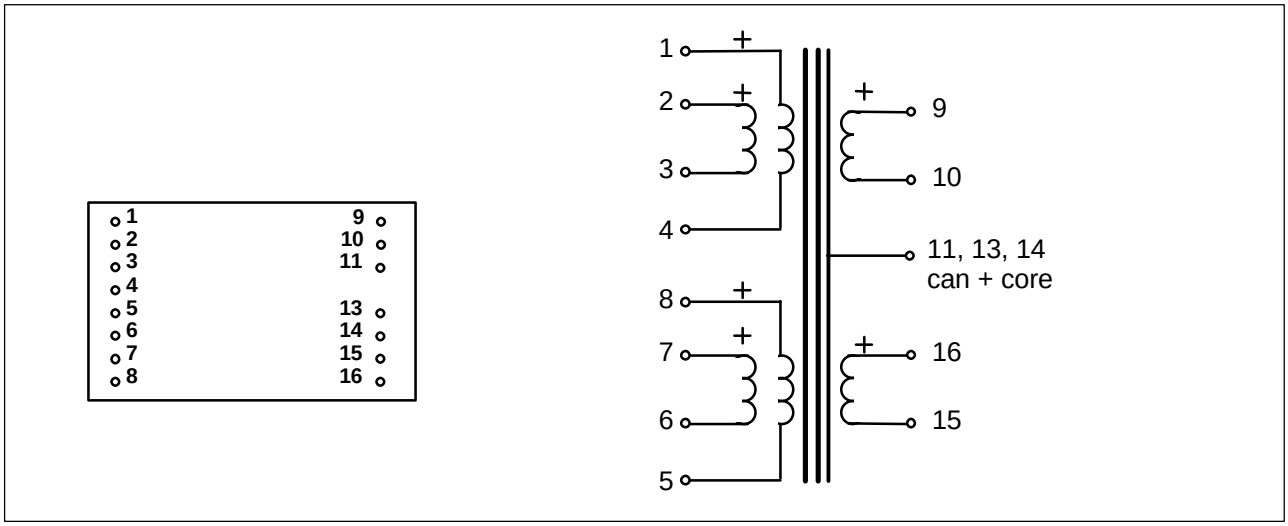
Tibeliusgatan 7
SE-761 50 NORRTÄLJE
SWEDEN

	International	Domestic
Phone	+46 - 176 13930	0176-13930
Fax	+46 - 176 13935	0176-13935

Audio Transformer LL1544A

LL1544A is a line input / general purpose audio transformer which can be used in many different applications ranging from bridging input to microphone input applications. The transformer is built up from two three-section coils with interleaved Faraday shields. The core is a two-component amorphous strip core. This core type combines a high sensitivity for very low signal levels with excellent high-level capabilities. In addition, as this type of core does not store energy (unlike conventional mu-metal cores), at low frequencies phase response is excellent and resonance with a series capacitor is practically eliminated.
The LL1544A replaces previous types LL1544 and LL1554.

Turns ratio: 1 + 1 + 1 + 1 : 2 + 2
Dims: (Length x Width x Height above PCB (mm)) 30 x 22.5 x 14.5
Pin Layout (viewed from pins side) and Windings Schematics:



Spacing between pins: 2.54 mm (0.1")
Spacing between rows of pins: 22.86 mm (0.9")
Weight: 27 g
Rec. PCB hole diameter: 1.5 mm
Static resistance of <u>each</u> primary (average): 130 Ω
Static resistance of <u>each</u> secondary (average): 260 Ω
Self resonance point: > 220 kHz
Recommended load for best square-wave response (Termination alternative A below): 6.7 kΩ + 470 pF
Frequency response (source 600Ω , load (6.7 kΩ + 470 pF) in parallel with 56 kΩ): 10 Hz - 70 kHz +/- 0.5 dB @ 0 dBU
Loss across transformer (at 1kHz with termination as above): 0.2 dB
Isolation between windings / between windings and shields: 3 kV / 1.5 kV

Data at different termination alternatives, showed on the following page:

Termination Alternative	Turns ratio	Copper Resistance Prim/sec	Idle impedance @40 Hz, 0dBU	Suggested Use	THD < 0.5%@50 Hz primary level / real source impedance
R4B / R4U : L4B / L4U	1:1	520Ω / 520Ω	80kΩ / 80kΩ	10 kΩ / 10 kΩ	20 dBU / 600Ω
R2B / R2U : L2B / L2U	1:1	130Ω / 130Ω	20kΩ / 20kΩ	600Ω / 600Ω	14 dBU / 150Ω
R2B / R2U : L4B / L4U	1:2	130Ω / 520Ω	20kΩ / 80kΩ	600Ω / 2.5 kΩ	14 dbU / 150Ω
R4B / R4U : L2B / L2U	2:1	520Ω / 130Ω	5kΩ / 20kΩ	10 kΩ / 2.5 kΩ	22 dBU / 37.5Ω
R4B / R4U : L1	4:1	520Ω / 65Ω	80kΩ / 5kΩ	10 kΩ / 600Ω	22 dBU / 37.5Ω

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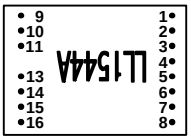
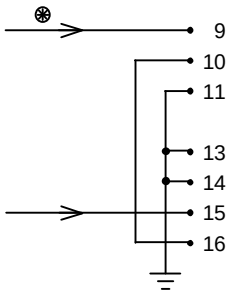
Connection alternatives for LL1544A
Component side view

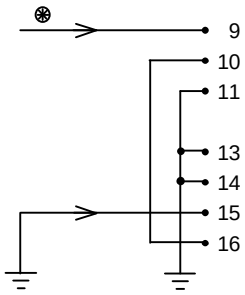


Component side view

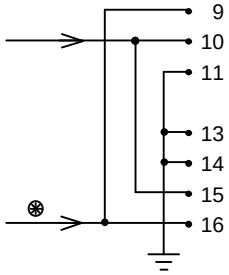
Connection: R4B
Balanced source



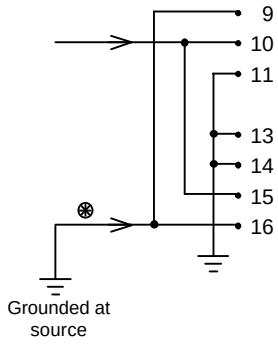
Connection: R4U
Unbalanced source



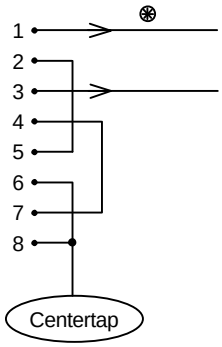
Connection: R2B
Balanced source



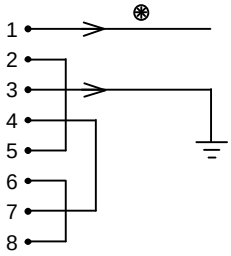
Connection R2U
Unbalanced source



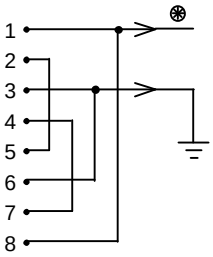
Connection L4B
Balanced load



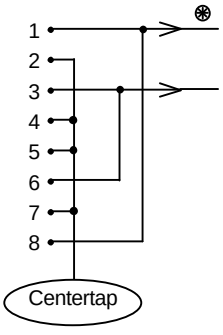
Connection L4U
Unbalanced load



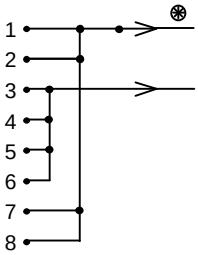
Connection L2U
Unbalanced load



Connection L2B
Balanced load



Connection L1



Turns ratio	Application	Transformer Input (primary)	Transformer Output (secondary)
1:1	Line input to unbalanced circuits	R4B / R4U	L4U
1:2	Line input to unbalanced circuits	R2B / R2U	L4U
2:1	Line input to unbalanced circuits	R4B / R4U	L2U
1:1	Low impedance line input to unbalanced circuits	R2B / R2U	L2U
1:1	Line input to balanced circuits	R4B / R4U	L4B
1:2	Line input to balanced circuits	R2B / R2U	L4B
2:1	Line input to balanced circuits	R4B / R4U	L2B
1:1	Low impedance line input to balanced circuits	R2B / R2U	L2B