LUNDAHL TRANSFORMERS

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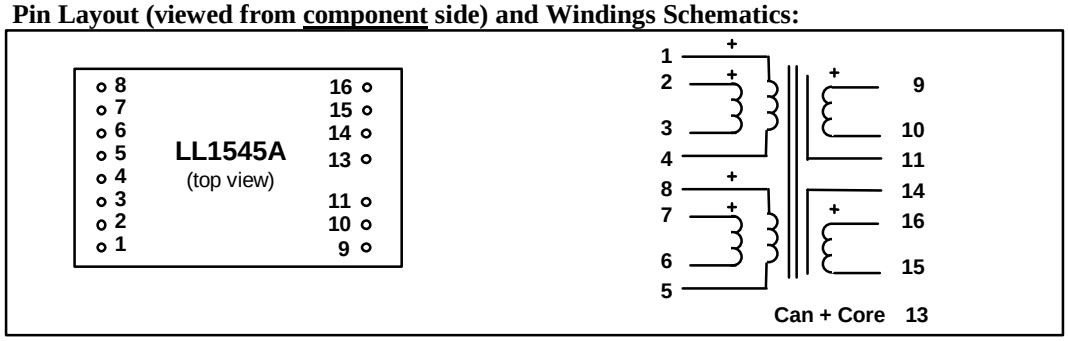
# Audio Transformer
# LL1545A

LL1545A is a general-purpose audio transformer with a variety of connection alternatives. The transformer is built up from two coils, each with a secondary winding surrounded by shields and two primary windings. This structure results in an excellent frequency response. The transformer can be used in many different applications such as a high impedance line input transformer (accepting signal levels of 22 dBU @ 40 Hz with primaries in series), for splitting or as a microphone input transformer.
The LL1545A is made with a mu-metal core and is housed in a mu-metal can.
Refer to page 2 of this sheet for termination alternatives.

**Turns ratio:** 1 + 1 + 1 + 1 : 2 + 2
**Dims: (Length x Width x Height above PCB (mm))** 37 x 22.5 x 14.5
**Pin Layout (viewed from component side) and Windings Schematics:**




**Spacing between pins:** 2.54 mm (0.1")
**Spacing between rows of pins:** 22.86 mm (0.9")
**Weight:** 46 g
**Rec. PCB hole diameter:** 1.5 mm
**Static resistance of each primary (average):** 147 Ω
**Static resistance of each secondary (average):** 295 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 midband with termination as above): 0.3 dB
**Core:** Mu-metal
**Isolation between windings / between windings and shields:** 3 kV / 1.5 kV

**Data at different termination alternatives, showed on page 2 of this data sheet.**

| Termination Alternative | Turns ratio | Copper Resistance prim/sec | Idle impedance @40 Hz, 0dBU | Suggested Use | THD < 0.2%@40 Hz primary level / real source impedance |
|---|---|---|---|---|---|
| **A** | 1:1 | 590 Ω / 590 Ω | 80 kΩ / 80 kΩ | 10 kΩ / 10 kΩ | 22 dBU / 600 Ω |
| **B** | 1:1 | 147 Ω / 147 Ω | 20 kΩ / 20 kΩ | 600 Ω / 600 Ω | 16 dBU / 150 Ω |
| **C** | 1:2 | 147 Ω / 590 Ω | 20 kΩ / 80 kΩ | 600 Ω / 2.5 kΩ | 16 dbU / 150 Ω |
| **D** | 1:2 | 37 Ω / 147 Ω | 5 kΩ / 20 kΩ | 200 Ω / 1 kΩ | 10 dBU / 37.5 Ω |
| **E** | 1:4 | 37 Ω / 590 Ω | 5 kΩ / 80 kΩ | 200 Ω / 3.2 kΩ | 10 dBU / 37.5 Ω |
| **F (Split)** | 2:1+1 | 590 Ω / 295 Ω + 295 Ω | | | |
| **G (Split)** | 1:1+1 | 147 Ω / 295 Ω + 295 Ω | Left side can also be connected as $B_{CenterTap}$ (1:1+1) or D (1:2+2) | | |

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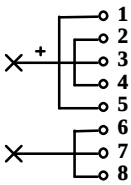
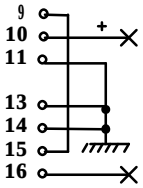
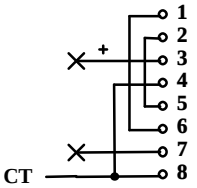
# LL1545A Connection alternatives
# (Left side is input if not stated otherwise)
# !!!! Pin side view !!!!

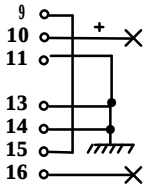



**A**




**A**
**CENTER TAP**

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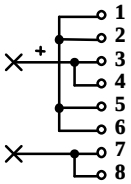
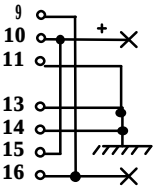
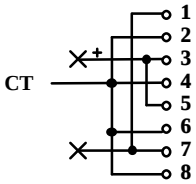
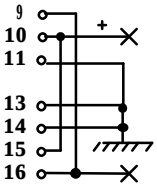



**B**




**B**
**CENTER TAP**

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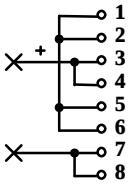
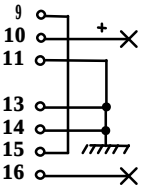
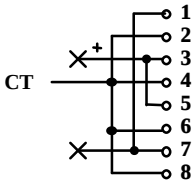
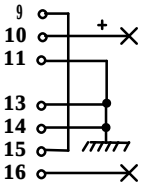



**C**




**C**
**CENTER TAP**

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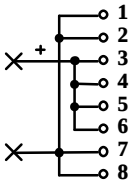
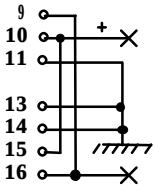
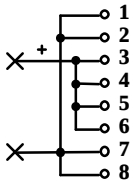
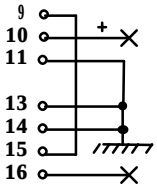



**D**




**E**

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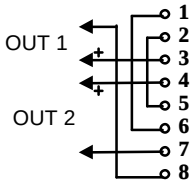
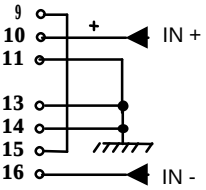
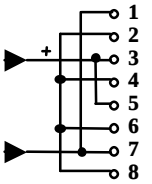
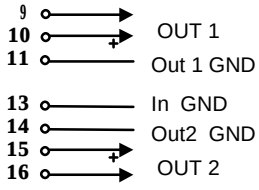



**F**
**SPLIT**




**G**
**SPLIT**

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