

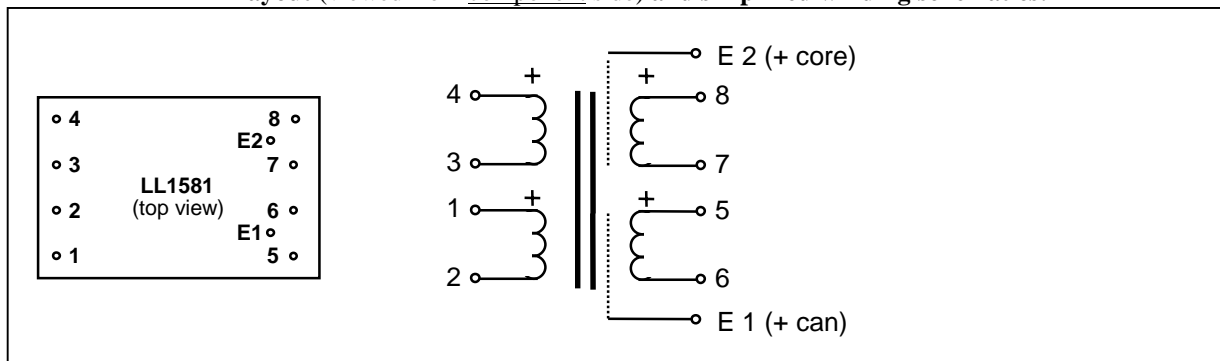
## LL1581XL Splitting Transformer

In many splitting applications, the splitting transformer must have a high immunity to input common mode signals, to stray magnetic fields from e.g. power transformers and to large ground potential differences in receiving systems. The LL1581XL is developed to handle those types of problems. When designing the LL1581, we have used our well established two coil structure to create a transformer with a high degree of symmetry. The transformer is built up from two primary windings (which should be used in parallel) and two secondary windings. Each secondary winding is built up from two sections, one from each coil. Its own electrostatic shields surround each secondary section. The symmetric structure results in an internal cancellation of noise signals caused by external magnetic field. It also increase immunity to ground noise between secondary systems and reduces the effects of input common mode signals. The transformer is housed in a mu-metal can and is impregnated in solventless epoxy resin.

**Turns ratio:**

1 + 1 : 1 + 1

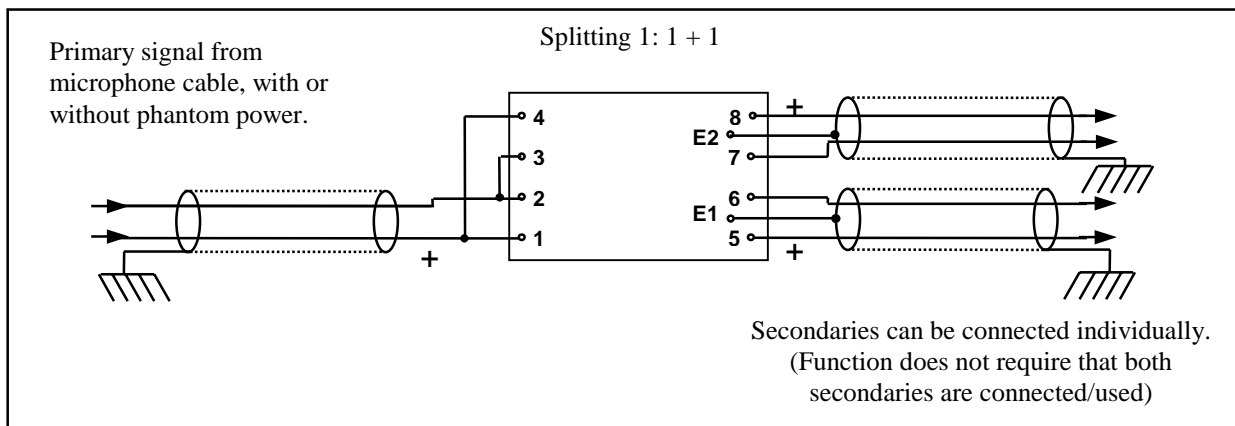
**Pin layout (viewed from component side) and simplified winding schematics:**



Spacing between pins	Spacing between rows of pins	Offset of earth pins from adjacent row:	Recommended PCB hole diameter:
5.08 mm (0.2")	27.94 mm (1.1")	2.54 mm (0.1")	1.5 mm

<b>Dimensions (Max. L x W x H above PCB(mm))</b>	38 x 24 x 20.5
<b>Weight:</b>	61 g
<b>Static resistance of each primary:</b>	61 Ω
<b>Static resistance of each secondary (Pins 5 - 6 and pins 7 to 8):</b>	51 and 71 Ω
<b>Self resonance point :</b>	> 200 kHz
<b>Distortion</b>	0.1% @ +3 dBu, 50 Hz 1 % < @ +13 dBu, 50 Hz
<b>Frequency response (Ref : -6 dBu, 1kHz)</b>	10 Hz -- 100 kHz +/- 0.5 dB
<b>Test arrangement:</b> Parallel input - parallel output . Source 150Ω , load 10 kΩ	
<b>CMRR at 20 kHz (Source 600 ohms, load 2 x 10k)</b>	> 60 dB
<b>CMRR at 20 kHz from sec. to sec. (Source 600 ohms, load 2 x 10k)</b>	> 40 dB
<b>Isolation test primary - secondary / secondary - secondary / E1 - E2</b>	4 kV / 2 kV / 1 kV RMS

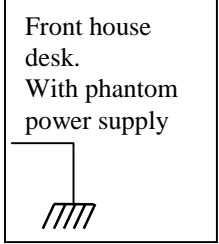
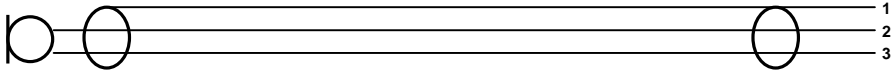
Application example. Component side view.



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LL1581XL application example.  
1 + 2 Out Splitting box

On stage mic.

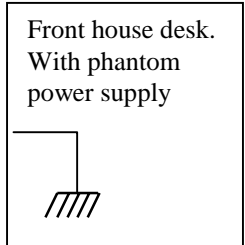


**Before connecting splitting box**

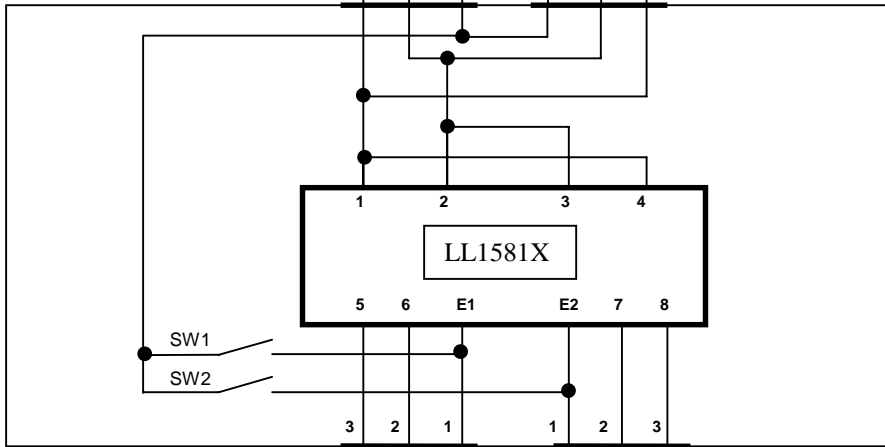


**With splitting box**

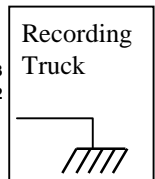
On stage mic.



Direct output



Splitting box



Ideally, SW1 and SW2 should be open.  
Close SW1 and / or SW2 when E1 and / or E2 do not receive ground reference from Monitor desk or from Recording truck respectively.

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