

## LL1590

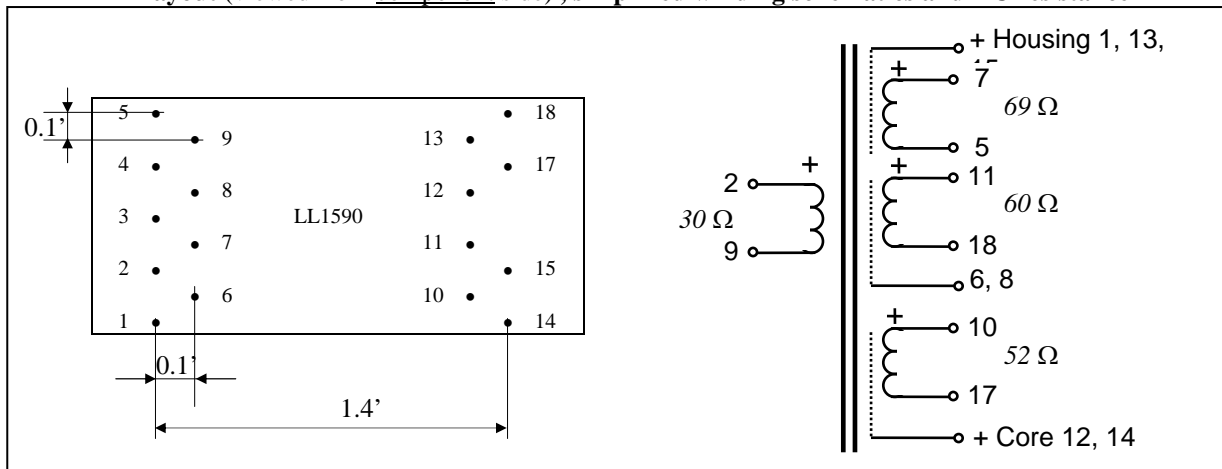
### Splitting Transformer, 1 direct + 3 isolated

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 LL1590 is developed to handle those types of problems. When designing the LL1590, we have used our well established two coil structure to create a transformer with a high degree of symmetry. The primary winding consists of four sections, two on each coil, connected in parallel. The three secondary windings consists each of two sections, one from each coil, separated from the primary sections by electrostatic shields. 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 epoxy resin.

**Turns ratio:**

1 : 1 + 1 + 1

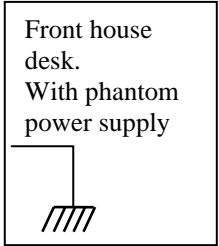
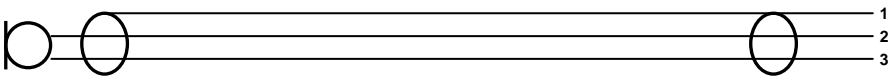
**Pin layout (viewed from component side), simplified winding schematics and DC resistance**



<b>Dimensions (Max. L x W x H above PCB(mm))</b>	47 X 28 X 23
<b>Recommended PCB hole diameter:</b>	1.5 mm
<b>Weight:</b>	115 g
<b>Static resistance of windings:</b>	See above figure
<b>Self resonance point :</b>	> 200 kHz
<b>Distortion</b>	0.2% @ +6 dBu, 50 Hz
<b>CMRR at 15kHz</b> (according to IRT, source 600 ohm, load 1k)	Typically 50 dB
<b>Frequency response</b> (Ref : +1 dBu, 1kHz)	10 Hz -- 100 kHz +/- 0.5 dB
<b>Test arrangement:</b> Signal on input - outputs measured individually . Source 150Ω , load 10 kΩ	
<b>Isolation test:</b> Any winding to shield or housing / shield – shield	1.5 kV / 700 V RMS

LL1590 application example.  
1 + 3 Out Splitting box

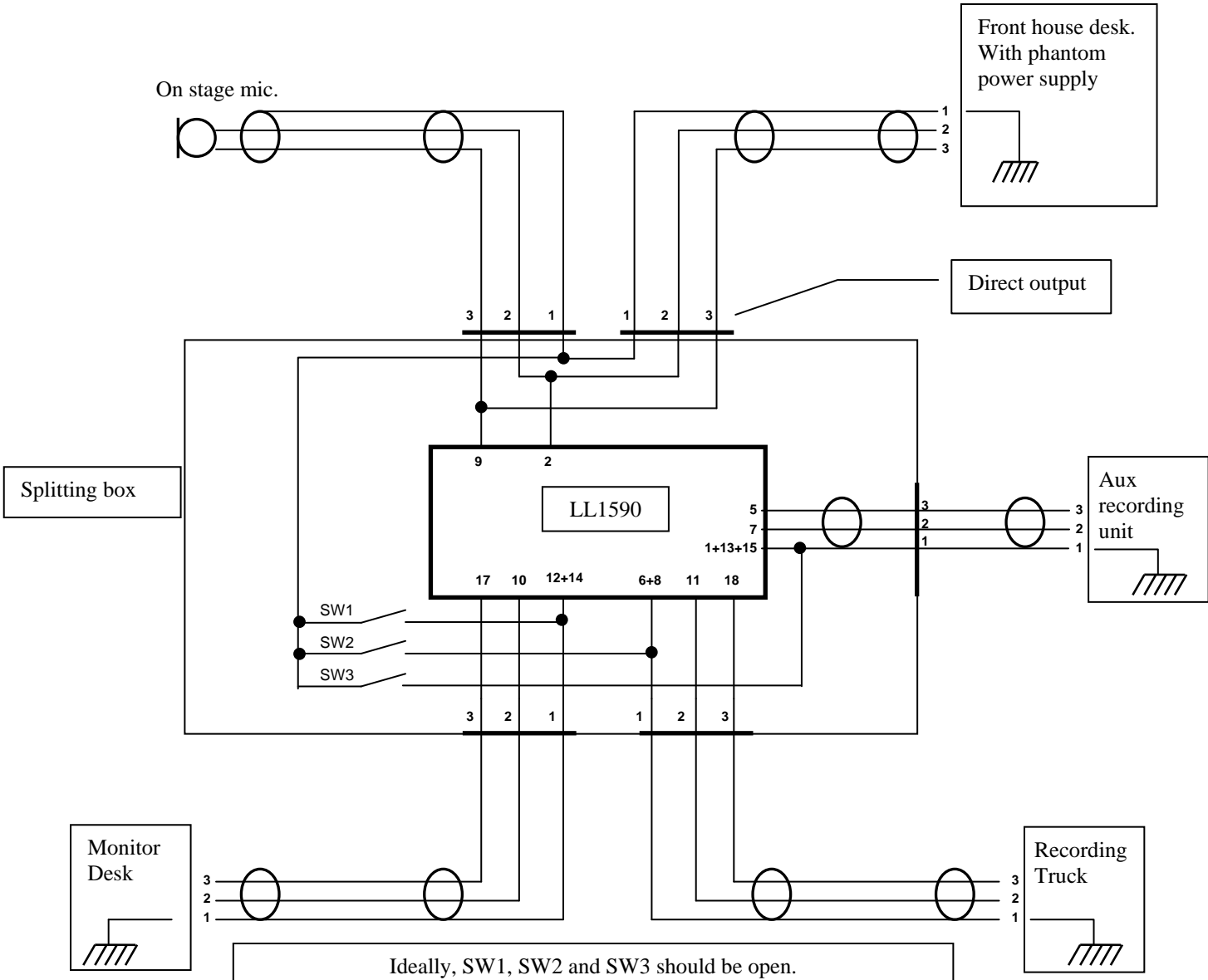
On stage mic.



Before connecting splitting box



With splitting box



Ideally, SW1, SW2 and SW3 should be open.  
Close SW1, SW2 and / or SW3 when there is no ground reference available from Monitor desk, Recording truck or Aux unit respectively.