

## Audio Output Transformer LL1517

LL1517 is an audio output transformer for balanced or unbalanced drive. The transformer is built from two threesection coils, with primaries and secondaries separated by electrostatic shields, and a audio C-core of our own production. The transformer is housed in a mu-metal housing.

The LL1517 has sufficient low copper resistance to meet broadcast specifications in a conventional drive configuration, but is (as all output transformers) ideally used with mixed feedback drive circuits. (See separate paper for mixed feedback design principles).

Turns ratio: $1 + 1 : 1 + 1$ Dims (Length x Width x Height above PCB (mm)): $47 \times 34 \times 18$ Pin layout (viewed from component side) and winding schematics:	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
9 + core & housing	
Spacing between pins:         5.08 mm (0.2")           Spacing between rows of pins:         35.56 mm (1.4")           Weight:         105 g	
Core: Audio C-core	
Housing: Mu-metal	
Rec. PCB hole diameter: 1.5 mm	
Static resistance of each primary: $9.2 \Omega$ Static resistance of each primary: $0.5 \Omega$	
Static resistance of each secondary: $9.5 \Omega$ Lashers inductors of secondary: $0.2 \text{ mH}$	
Leakage inductance of secondaries (sec. in series): $0.3 \text{ mH}$ No-load impedance:Typically > 600 $\Omega$ @ 50 Hz,	
No-load impedance:Typically > $600\Omega$ @ 50 Hz,Optimum source impedance:Minus 18 $\Omega$ (See above)	+20 <b>ub</b> U
<b>Balance of output</b> (according to IRT, source $< 10 \Omega$ , Load 600 $\Omega$ ): $> 60 \text{ dB}$	
<b>Maximum output level before saturation</b> (sec. in series, load 600 $\Omega$ ) + 24 dBU @ 30 Hz	
<b>Distortion</b> (achieved with mixed feedback drive circuit, load 600 $\Omega$ ) $< 0.03 \% (a) 20 \text{ dBU}$ , 30Hz	
<b>Frequency response</b> (source $10 \Omega$ , load $600 \Omega$ ): $10 \text{ Hz} - 80 \text{ kHz} + - 0.3 \text{ dB}$	
<b>Loss across transformer</b> (at midband with 600 $\Omega$ load): 0.3 dB	
Isolation between primary and secondary windings / between 4 kV / 2 kV	
windings and core:	



