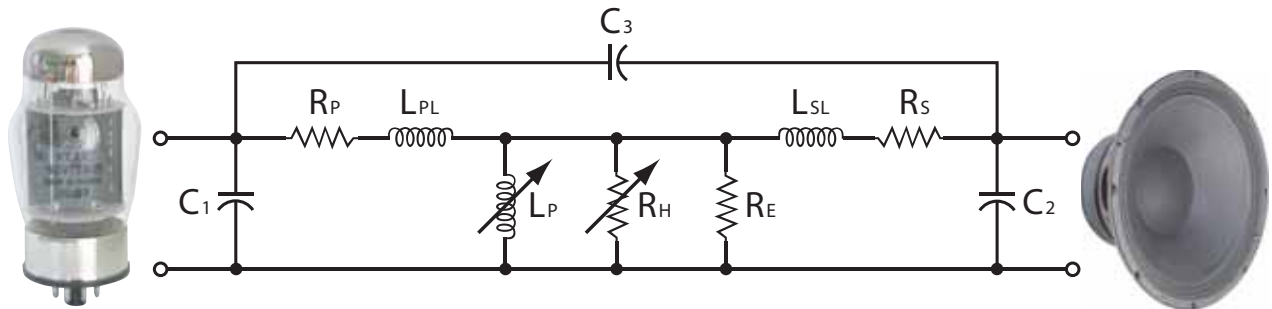




The Output Transformer Circuit

Mercury's circuit equivalent of an Output Transformer



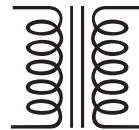
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|----------|------------------------------|-------|--------------------------|
| C_1 | Primary Self Capacitance | L_P | Primary Inductance |
| C_2 | Secondary Self Capacitance | R_P | Primary Resistance |
| C_3 | Interwinding Capacitance | R_S | Secondary Resistance |
| L_{PL} | Primary Leakage Inductance | R_E | Core Eddy Current Losses |
| L_{SL} | Secondary Leakage Inductance | R_H | Core Hysteresis Losses |

“Blessed are the Tone Makers”

The above circuit reveals the properties of an audio *output transformer*. The transformer is a *reactive* component—its values change depending upon the information feeding it. Transformers for tube-based electric guitar amps are designed to *intentionally provoke* the tubes into distortion—the polar-opposite of demands of *hi-fi*. The best guitar tone comes from harnessing and *manipulating* the inherent flaws of the imperfect transformer. This is where art meets science in our pursuit of great guitar tone.

—Sergio Hamernik

Consider the above vs. this typical dummied-down transformer symbol



Players who know tone insist on **Mercury Magnetics** transformers

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