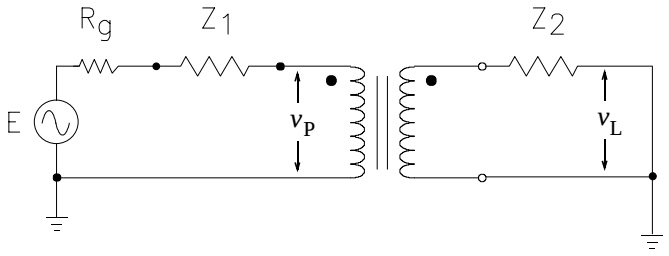
INSERTION LOSS

Insertion Loss (IL):

The insertion loss of the transformer is a measurement of the signal loss due to the insertion of the transformer in the circuit. Primarily due to the copper loss of the wire, it can also include losses due to the magnetic material. The test circuit below is used by Rhombus Industries to measure insertion loss. Unless otherwise stated in a data sheet, test signal level is 0 Dbm.



Insertion Loss Formula

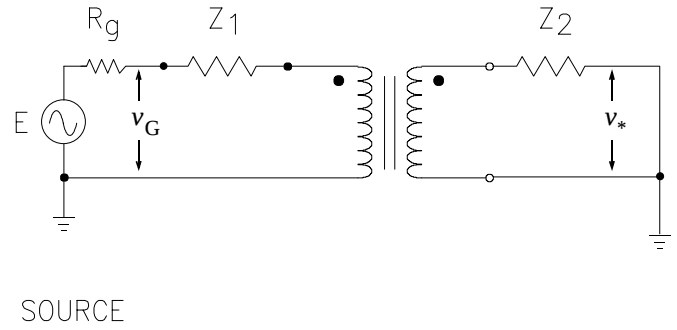
$$20\log \frac{V_L\sqrt{Z_1}}{V_P\sqrt{Z_2}}$$

V_P = Primary Voltage
V_L = Load Voltage
Z_1 = Primary Impedance
Z_2 = Load Impedance

FREQUENCY RESPONSE

Frequency Response (FR):

Rhombus Industries measures Frequency Response as a variation in Insertion loss over a specified range of frequencies. The test circuit below is used by Rhombus Industries to measure Frequency Response. A meter calibrated in Db can be used, However, care must be taken that the frequency range tested is within the capabilities of the meter. The source voltage must be held constant regardless of voltage measurement technique. Unless otherwise stated in a data sheet, the reference frequency for all audio transformers is 1 KHz and the test signal level is 0 Dbm.



Frequency Response Formula

$$20\log \frac{V_{Ltest}}{V_{Lref}}$$

$V^* = V_{REF}$ & V_{TEST}
V_{REF} = Voltage at reference frequency
V_{TEST} = Voltage at frequency under test
V_G = Source Voltage (Must be held constant)