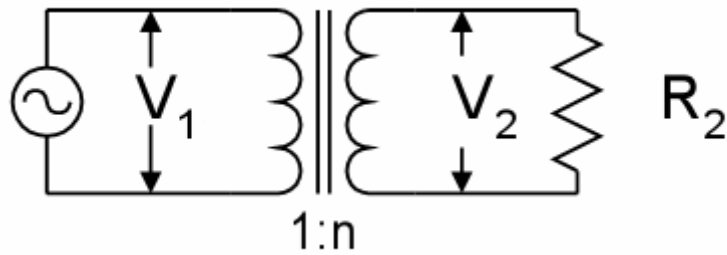


变压器扩展 [对于 升压变压器]



对于一个完美的放大器[无损耗], 初级的功率等于次级的功率。因此:

$$V_1 I_1 = V_2 I_2$$

代替电流, 此时 R_1 =映射至初级的次级电阻

$$V_1 \frac{V_1}{R_1} = V_2 \frac{V_2}{R_2}$$

$$\frac{V_1^2}{R_1} = \frac{V_2^2}{R_2}$$

$$R_1 = \frac{V_1^2 R_2}{V_2^2}$$

但是 $V_2 = nV_1$

$$R_1 = \frac{V_1^2 R_2}{(nV_1)^2} = \frac{V_1^2 R_2}{n^2 V_1^2}$$

所以

$$R_1 = \frac{R_2}{n^2}$$