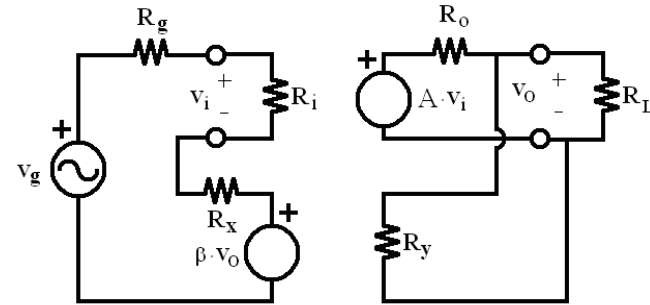
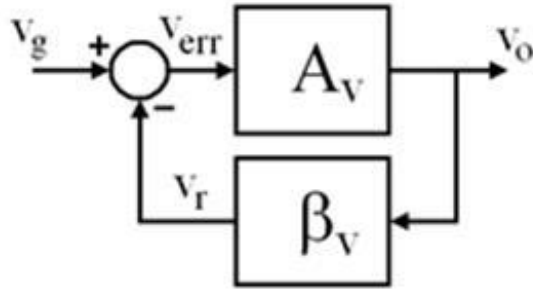


V-V (Serie-Paralelo)



CASO IDEAL

$$R_g = 0$$

$$R_L = \infty$$

$$R_X = 0$$

$$R_Y = \infty$$

$$G = \frac{v_o}{v_g} = \frac{A_V}{1 + A_V \cdot \beta_V}$$

Ganancia

$$Z_i = R_i \cdot (1 + A_V \cdot \beta_V)$$

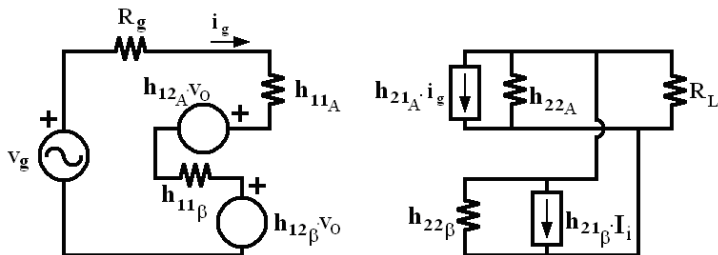
Impedancia de Entrada

$$Z_o = \frac{R_o}{1 + A_V \cdot \beta_V}$$

Impedancia de Salida

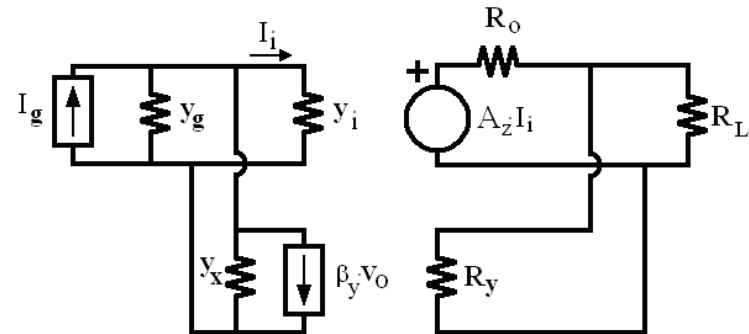
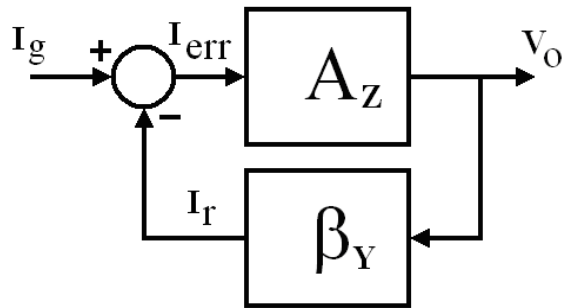
CASO REAL

Parámetros privilegiados: h



	$R_i' = R_g + h_{11A} + h_{11\beta}$	$Y_o' = h_{22A} + h_{22\beta} + y_L$	$\beta = h_{12\beta}$
$A' = \frac{v_o}{v_i}$	$v_i = i_g \cdot (R_g + h_{11A} + h_{11\beta}) = i_g \cdot R_i'$ $v_o = -\frac{i_g \cdot h_{21A}}{Y_o'}$	$A' = \frac{-h_{21A}}{R_i' \cdot Y_o'} = \frac{-h_{21A}}{h_{22A} + h_{22\beta} + y_L} \cdot \frac{1}{R_g + h_{11A} + h_{11\beta}}$	

I-V (Paralelo-Paralelo)



CASO IDEAL

$$y_g = 0$$

$$R_L = \infty$$

$$y_x = 0$$

$$R_Y = \infty$$

$$G_Z = \frac{A_Z}{1 + A_Z \cdot \beta_Y}$$

$$Z_i = \frac{1}{y_i \cdot (1 + A_Z \cdot \beta_Y)}$$

$$Z_o = \frac{R_o}{1 + A_Z \cdot \beta_Y}$$

CASO REAL

Parámetros privilegiados: Y

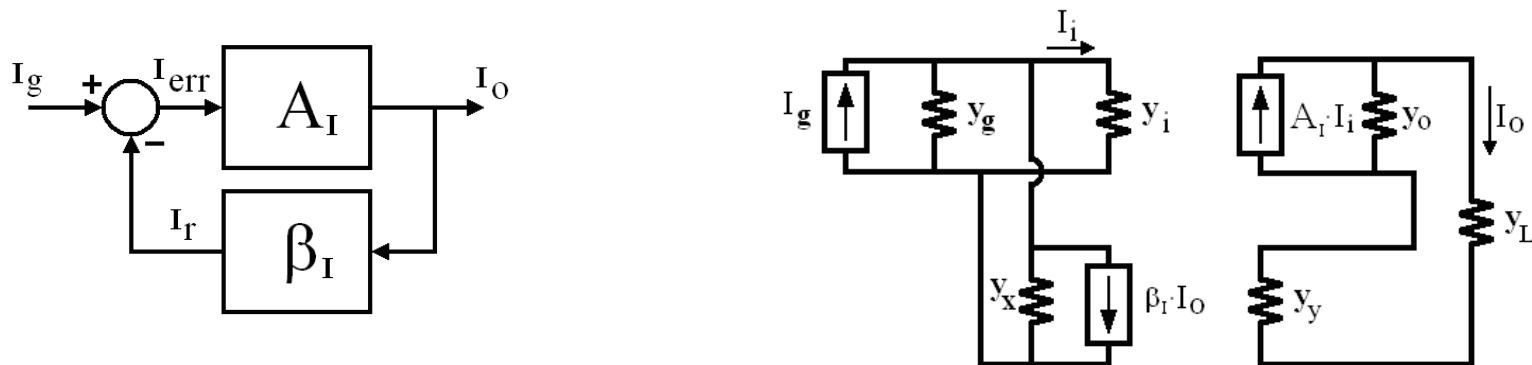
$$Y'_i = Y_g + Y_{11A} + Y_{11\beta}$$

$$Y'_o = Y_{22A} + Y_{22\beta} + Y_L$$

$$A'_Z = \frac{-Y_{21A}}{Y'_i \cdot Y'_o}$$

$$\beta_Y = Y_{12\beta}$$

I-I (Paralelo-Serie)



CASO IDEAL

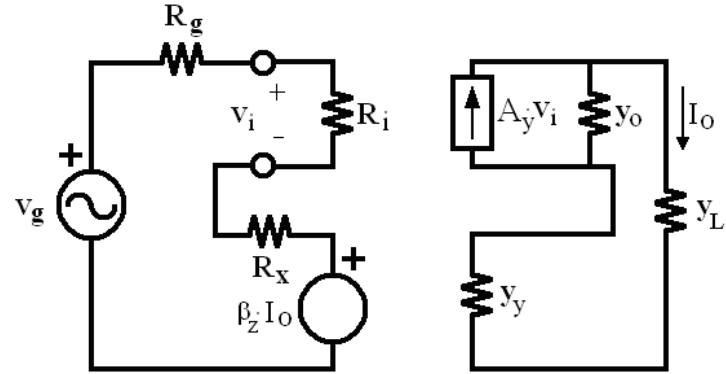
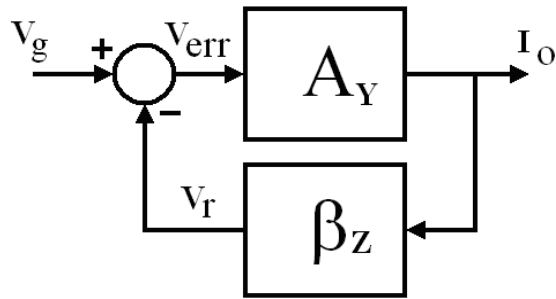
$y_g = 0$	$y_L = \infty$	$y_x = 0$	$y_Y = \infty$
$G_I = \frac{I_o}{I_g} = \frac{A_I}{1 + A_I \cdot \beta_I}$	$Z_i = \frac{1}{y_i \cdot (1 + A_I \cdot \beta_I)}$	$Z_o = \frac{1 + A_I \cdot \beta_I}{y_o}$	

CASO REAL

Parámetros privilegiados: g

$Y'_i = Y_g + G_{11A} + G_{11\beta}$	$R'_0 = G_{22A} + G_{22\beta} + R_L$	$A'_I = \frac{G_{21A}}{Y'_i \cdot R'_0}$	$\beta_Y = G_{12\beta}$
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I-I (Serie-Serie)



CASO IDEAL

$$R_g = 0$$

$$y_L = \infty$$

$$R_x = 0$$

$$y_y = \infty$$

$$G_I = \frac{I_o}{I_g} = \frac{A_I}{1 + A_I \cdot \beta_I}$$

$$Z_i = \frac{1}{y_i \cdot (1 + A_I \cdot \beta_I)}$$

$$Z_o = \frac{1 + A_I \cdot \beta_I}{y_o}$$

CASO REAL

Parámetros privilegiados: Z

$$R'_i = R_g + Z_{11A} + Z_{11\beta}$$

$$R'_o = Z_{22A} + Z_{22\beta} + R_L$$

$$A'_Y = \frac{Z_{21A}}{R'_i \cdot R'_o}$$

$$\beta_Z = Z_{12\beta}$$