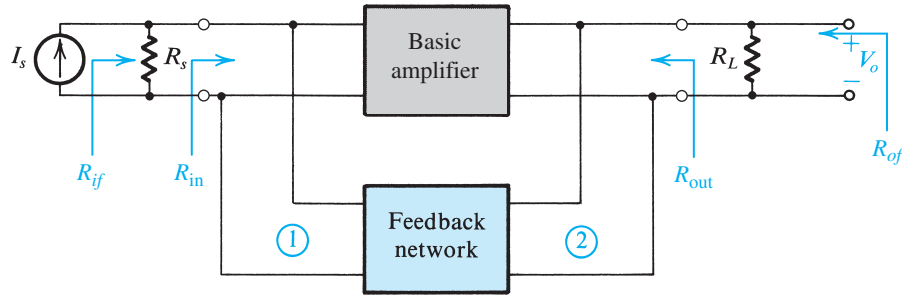
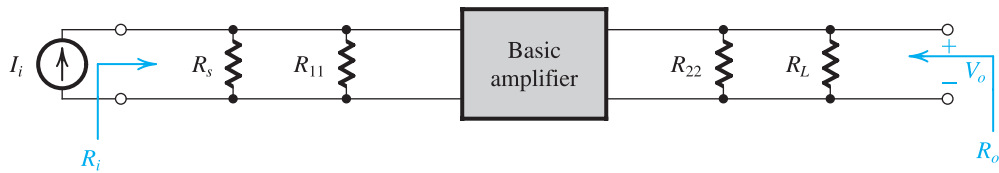
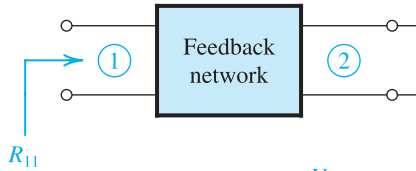
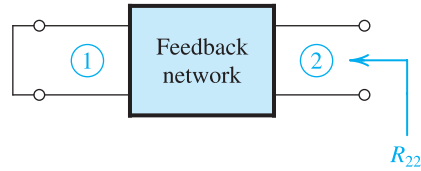


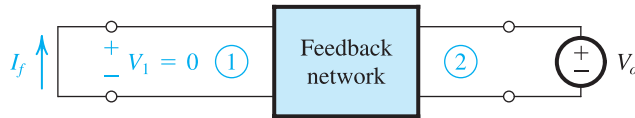


(a) General Structure


 (b) Finding the A Circuit and β

(i) The A circuit is


 where R_{i1} is obtained from

 and R_{22} is obtained from

 and the gain A is defined $A \equiv \frac{V_o}{I_i}$

 (ii) β is obtained from


$$\beta \equiv \frac{I_f}{V_o} \Big|_{V_1 = 0}$$

(c) Gain, Input, and Output Resistance

- Use the formulas in Fig. 11.21 to find A_f , R_{if} , and R_{of} .
- R_{in} and R_{out} can then be found from

$$R_{in} = 1 / \left(\frac{1}{R_{if}} - \frac{1}{R_s} \right)$$

$$R_{out} = 1 / \left(\frac{1}{R_{of}} - \frac{1}{R_L} \right)$$

Figure 11.23 The feedback transresistance amplifier (shunt–shunt).