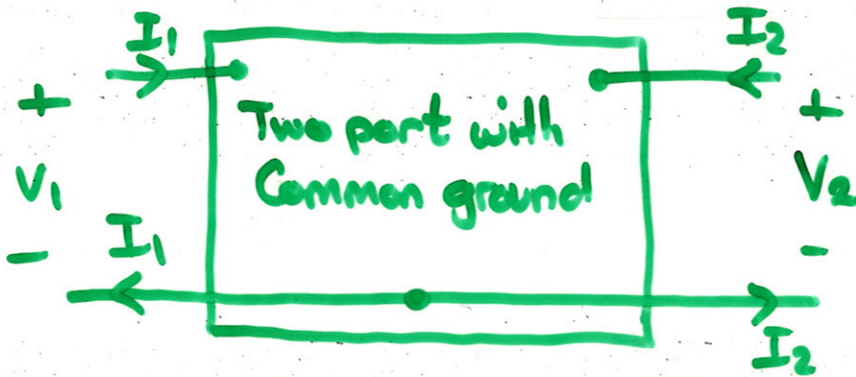
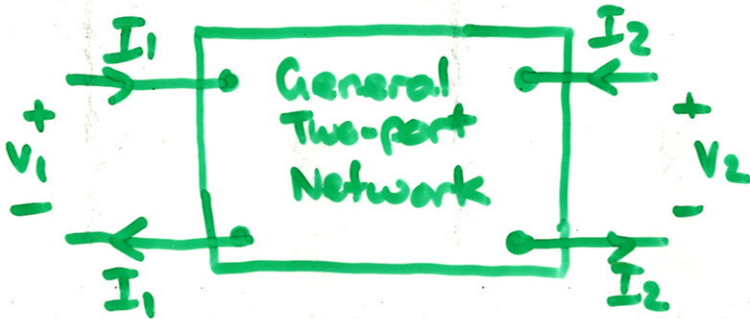


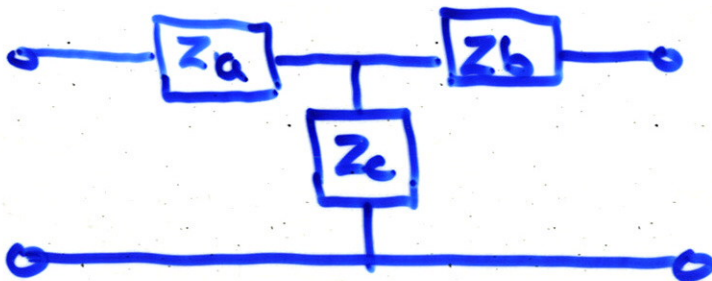
Interconnection of two-port networks: Clarifications

Two classes of two-port network:

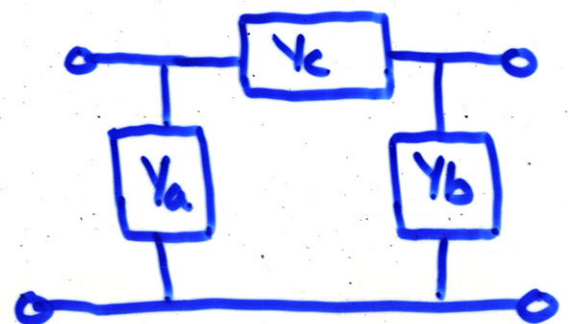


Most two port networks that we will consider will have a common ground; eg.,

T- Network



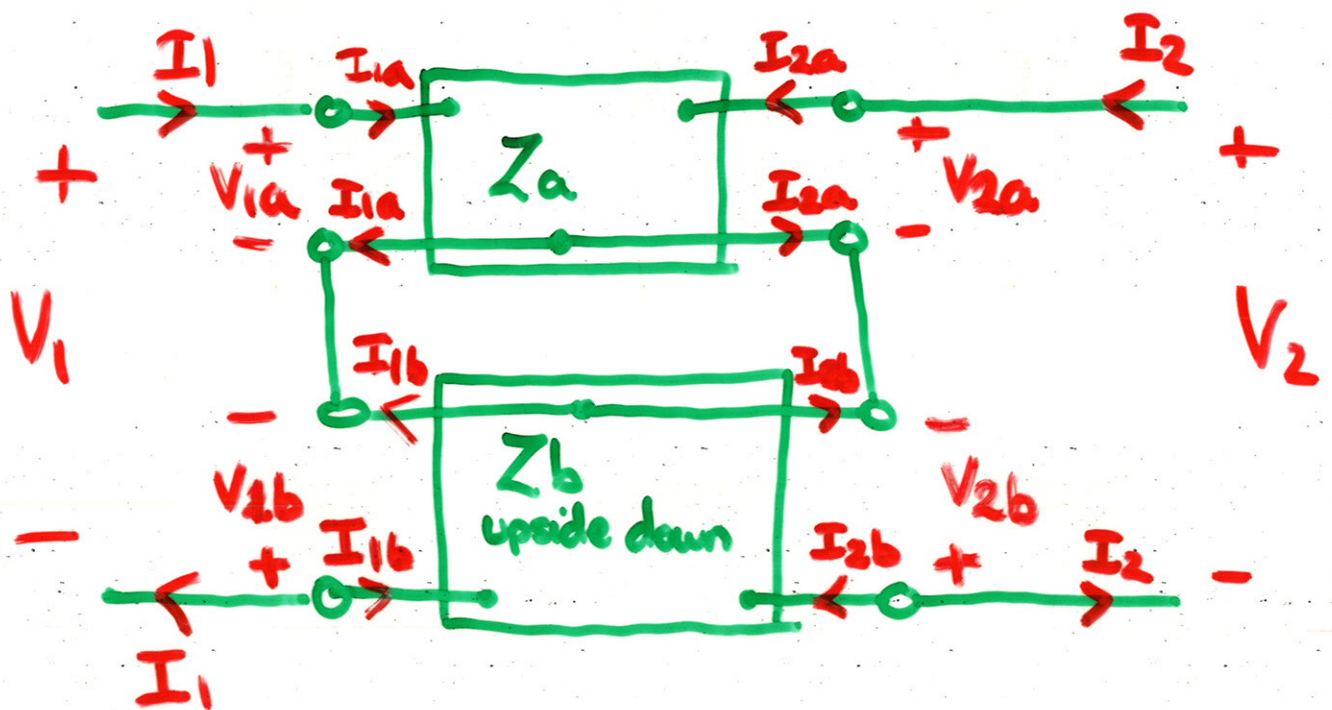
Π - Network



SERIES CONNECTION

If two two-part networks ~~are~~ with common ground are connected in series with the common grounds common, then

$$Z = Z_a + Z_b.$$

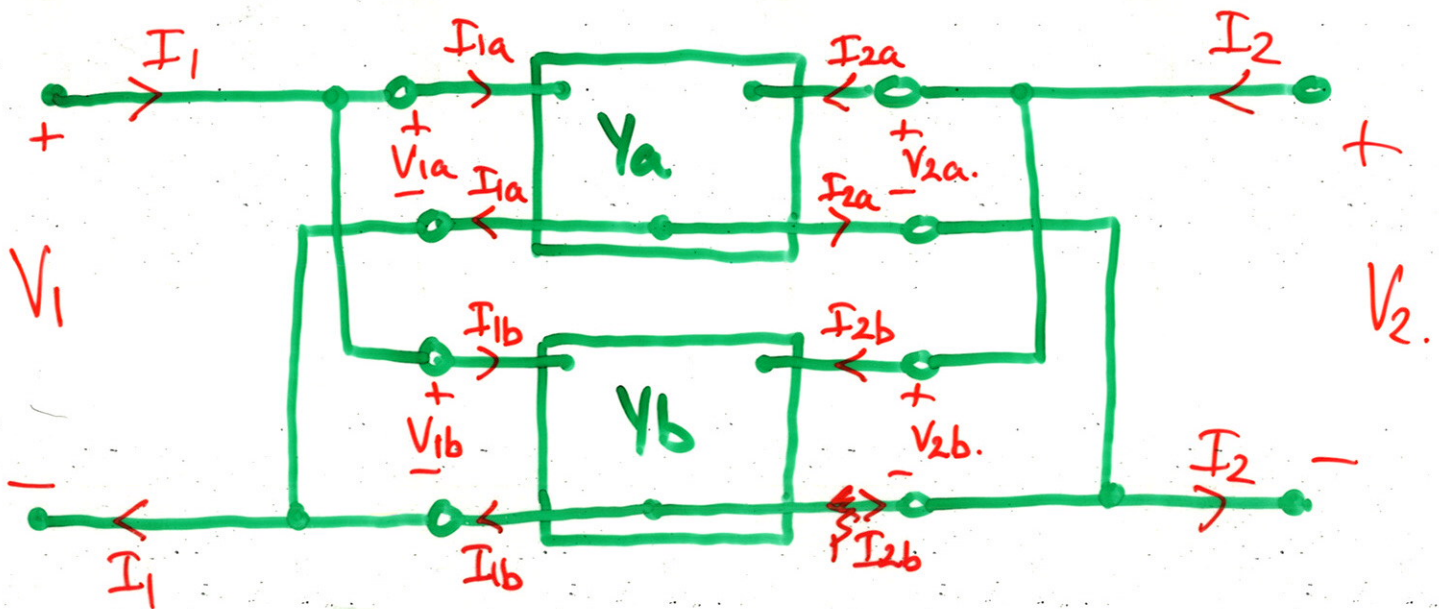


Note that series connection is not a two part with common ground in the general case.

Parallel Connection

- If two two-port networks with common ground, are connected in parallel with the common ground common, then

$$Y = Y_a + Y_b.$$

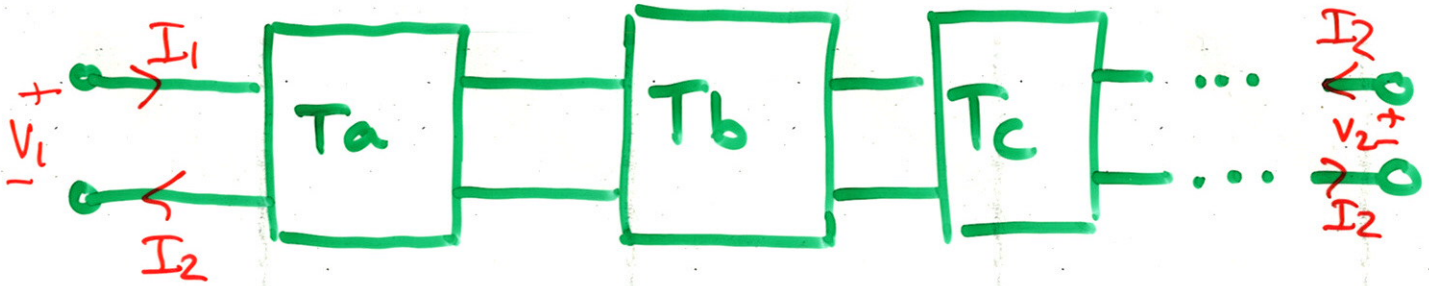


Note that the parallel connection also has a common ground.

Hence for K two-ports connected in this way,

$$Y = \sum_{k=1}^K Y_k$$

CASCADE CONNECTION



For general two-port networks.

$$T = T_a T_b T_c \dots$$

Note the order of the product

Matrices do not commute in general