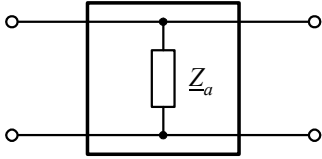
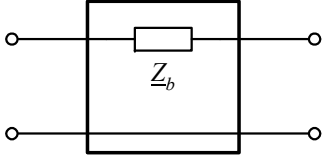
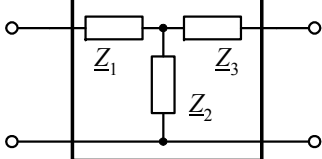
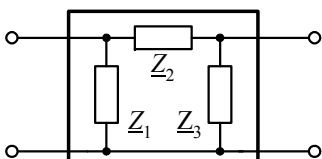
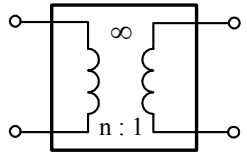
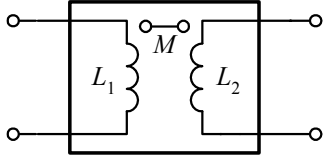


2-Tor	\underline{Z}	\underline{Y}	\underline{A}
<p>Querimpedanz</p> 	$\underline{Z}_Q = \begin{bmatrix} \underline{Z}_a & \underline{Z}_a \\ \underline{Z}_a & \underline{Z}_a \end{bmatrix}$	<p>existiert nicht</p>	$\underline{A}_Q = \begin{bmatrix} 1 & 0 \\ 1/\underline{Z}_a & 1 \end{bmatrix}$
<p>Längsimpedanz</p> 	<p>existiert nicht</p>	$\underline{Y}_L = \begin{bmatrix} 1/\underline{Z}_b & -1/\underline{Z}_b \\ -1/\underline{Z}_b & 1/\underline{Z}_b \end{bmatrix}$	$\underline{A}_L = \begin{bmatrix} 1 & \underline{Z}_b \\ 0 & 1 \end{bmatrix}$
<p>T-Glied</p> 	$\underline{Z}_T = \begin{bmatrix} \underline{Z}_1 + \underline{Z}_2 & \underline{Z}_2 \\ \underline{Z}_2 & \underline{Z}_2 + \underline{Z}_3 \end{bmatrix}$	$\underline{Y}_T = \frac{1}{\underline{Z}_1 \underline{Z}_2 + \underline{Z}_2 \underline{Z}_3 + \underline{Z}_1 \underline{Z}_3} \cdot \begin{bmatrix} \underline{Z}_2 + \underline{Z}_3 & -\underline{Z}_2 \\ -\underline{Z}_2 & \underline{Z}_1 + \underline{Z}_2 \end{bmatrix}$	$\underline{A}_T = \begin{bmatrix} 1 + \frac{\underline{Z}_1}{\underline{Z}_2} & \underline{Z}_1 + \underline{Z}_3 + \frac{\underline{Z}_1 \underline{Z}_3}{\underline{Z}_2} \\ \frac{1}{\underline{Z}_2} & 1 + \frac{\underline{Z}_3}{\underline{Z}_2} \end{bmatrix}$
<p>π-Glied</p> 	$\underline{Z}_\pi = \frac{1}{\underline{Z}_1 + \underline{Z}_2 + \underline{Z}_3} \cdot \begin{bmatrix} \underline{Z}_1(\underline{Z}_2 + \underline{Z}_3) & \underline{Z}_1 \underline{Z}_3 \\ \underline{Z}_1 \underline{Z}_3 & \underline{Z}_3(\underline{Z}_1 + \underline{Z}_2) \end{bmatrix}$	$\underline{Y}_\pi = \begin{bmatrix} \frac{1}{\underline{Z}_1} + \frac{1}{\underline{Z}_2} & -\frac{1}{\underline{Z}_2} \\ -\frac{1}{\underline{Z}_2} & \frac{1}{\underline{Z}_2} + \frac{1}{\underline{Z}_3} \end{bmatrix}$	$\underline{A}_\pi = \begin{bmatrix} 1 + \frac{\underline{Z}_2}{\underline{Z}_3} & \underline{Z}_2 \\ \frac{1}{\underline{Z}_1} + \frac{1}{\underline{Z}_3} + \frac{\underline{Z}_2}{\underline{Z}_1 \underline{Z}_3} & 1 + \frac{\underline{Z}_2}{\underline{Z}_1} \end{bmatrix}$

2-Tor	\mathbf{Z}	\mathbf{Y}	\mathbf{A}
<p>idealer Übertrager</p> 	existiert nicht	existiert nicht	$\mathbf{A}_N = \begin{bmatrix} n & 0 \\ 0 & 1/n \end{bmatrix}$
<p>Gegeninduktivität</p> 	$\mathbf{Z}_M = \begin{bmatrix} sL_1 & sM \\ sM & sL_2 \end{bmatrix}$	$\mathbf{Y}_M = \frac{1}{\sigma} \cdot \begin{bmatrix} \frac{1}{sL_1} & \frac{-k^2}{sM} \\ \frac{-k^2}{sM} & \frac{1}{sL_2} \end{bmatrix}$	$\mathbf{A}_M = \begin{bmatrix} L_1/M & sM(1/k^2 - 1) \\ 1/(sM) & L_2/M \end{bmatrix}$ $k = \frac{M}{\sqrt{L_1 L_2}}, \quad \sigma = 1 - k^2$