

$$Z_{//} = R_{pr} // C_{pr} \Leftrightarrow Z_{//} = \frac{R_{pr}}{1 + j\omega R_{pr} C_{pr}}$$

$$V_2 = V_1 * \frac{Z_{//}}{R_1 + Z_{//}}$$

$$\mathbf{H} = \frac{R_{pr}}{R_1 + R_{pr}} * \frac{1}{1 + j\omega \left(\frac{R_1 * R_{pr} * C_{pr}}{R_1 + R_{pr}} \right)}$$

$$\mathbf{A} = \frac{R_{pr}}{R_1 + R_{pr}} * \frac{1}{\sqrt{1 + \left(\omega * \frac{R_1 * R_{pr} * C_{pr}}{R_1 + R_{pr}} \right)^2}}$$

$$\mathbf{Arg}(\mathbf{H}) = -\arctan \left(\omega * \frac{R_1 * R_{pr} * C_{pr}}{R_1 + R_{pr}} \right)$$

$$A = \frac{R_{pr}}{R_1 + R_{pr}} * \frac{1}{\sqrt{1 + (\tan(\arg(H)))^2}}$$

$$(R_1 + R_{pr}) \left(A * \sqrt{1 + (\tan(\arg(H)))^2} \right) = R_{pr}$$

$$R_1 * A * \sqrt{1 + (\tan(\arg(H)))^2} = R_{pr}(1 - A * \sqrt{1 + (\tan(\arg(H)))^2})$$

$$\mathbf{R_{pr}} = \frac{R_1 * A * \sqrt{1 + (\tan(\arg(H)))^2}}{1 - A * \sqrt{1 + (\tan(\arg(H)))^2}}$$

$$\tan(\arg(H)) = -\omega * \frac{R_1 * R_{pr} * C_{pr}}{R_1 + R_{pr}}$$

$$\mathbf{C_{pr}} = - \frac{\tan(\arg(H)) * (R_1 + R_{pr})}{\omega * R_1 * R_{pr}}$$