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This is a low pass filter. A typical low pass filter is formed when the output of an RC circuit is taken off the capacitor

The transfer function is

$$H(\omega) = \frac{V_2}{V_1} = \frac{1/j\omega C}{R + 1/j\omega C}$$

$$H(\omega) = \frac{1}{1 + j\omega RC}$$

Note that $H(\omega) = 1.H(\infty) = 0$

The half-power frequency which is equivalent to the corner frequency on the Bode plate but in the context of filters is usually known as Cut off frequency [ω_c], is obtained by setting the ~~magnitude~~ magnitude of $AC(\omega)$ equal to $1/\sqrt{2}$ thus;

$$H(\omega) = \frac{1}{\sqrt{1 + \omega_c^2 + R^2C^2}} = \frac{1}{\sqrt{2}}$$

$$\omega_c = 1/RC$$