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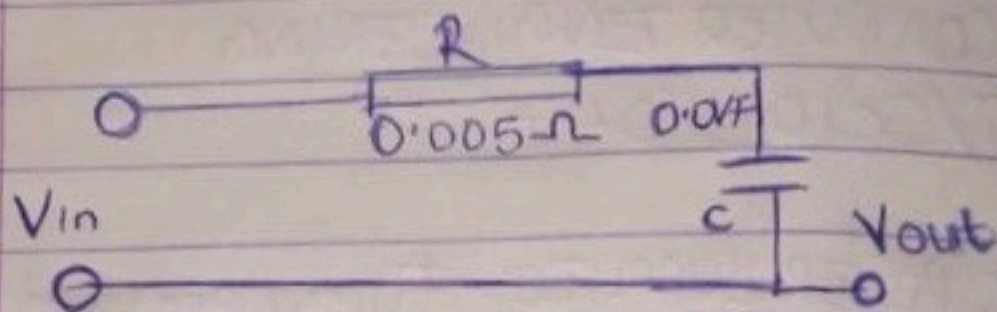
A' DC POWER SUPPLIES: Filters are used to eliminate undesired high frequencies (i.e noise) that are present on AC Input lines. Additionally, filters are used on a power supply's output to reduce ripple.

AUDIO ELECTRONICS: A crossover network is a network of filters used to channel low-frequency audio to woofers, mid-range frequencies to midrange speakers, and high-frequency sounds to tweeters.

RADIO COMMUNICATION: Filters enable radio receivers to only "see" the desired signal while rejecting all other signals (assuming that the other signals have different frequency content).

ANALOG-TO-DIGITAL CONVERSION: Filters are placed in front of an ADC input to minimize aliasing.

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$$f_c = \frac{1}{2\pi RC}$$

$$= 1$$

$$2 \times \pi \times 0.005 \times 0.01$$

$$\text{cut off frequency} = 3183.099 \text{ Hz}$$

