



Schmartboard Active Filter

Applications for the Active Filter Board include being used as an anti-aliasing filter for A/D conversion or as a reconstruction filter after D/A conversion.

The Active filter Board is configured as a two pole active filter followed by a third passive pole if desired. The op amp circuitry forms the two pole filter while the RC network at the output of the operational amplifier forms the third passive pole.

The operational amplifier used for this board is the Texas Instrument's OPA172 whose main features make it very suitable for experimenting.

These features are,

- Wide Supply Range: +4.5 V to +36 V, ± 2.25 V to ± 18 V
- Low Offset Voltage: ± 0.2 mV
- Gain Bandwidth: 10 MHz
- Input Range Includes the Negative Supply
- Input Range Operates to Positive Supply
- Rail-to-Rail Output
- Low Noise: 7 nV/ $\sqrt{\text{Hz}}$
- High Common-Mode Rejection: 120 dB
- Low Input Bias Current: ± 8 pA
- Low Quiescent Current: 1.6mA per Amplifier

The OPAMP Board can be operated with single or dual power supplies and the 10MHz bandwidth makes is sufficient for most experimenter's circuits.

Schmartboard SchmartModule Family



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