

Signal Conditioning Guide

Active Filters, Buffers & Instrumentation for Sensors/Audio

Version 1.0

Outline

- Analog front-end blocks: buffer, gain/offset, anti-alias & reconstruction filters.
- Power integrity: π /LC + post-LDO clean-up for analog rails.
- Impedance, bandwidth, and settling time considerations.
- Protection at inputs/outputs: ESD/TVS, clamps, series-R.
- Layout best practices for low noise.

Quick Reference

- Key terms: keep consistent with on-site taxonomy for SEO.
- Cross-links: LDO, Buck/Boost, Isolated Power, Supervisors & Watchdog, Sensing.
- Diagrams: reuse inline SVG styles from the web pages.
- Checklist: specs, selection tips, thermal/EMI notes, safety/automotive flags.