

Analog System Lab Kit **PRO**

Teach analog systems with ease



Overview

Introduce your students to analog systems with the Analog System Lab Kit PRO (ASLK PRO). The kit is designed for easy integration into your classroom for undergraduate or postgraduate curriculum and provides students with the platform bed they need to test almost any analog system using general-purpose ICs such as OP-Amps and analog multipliers.

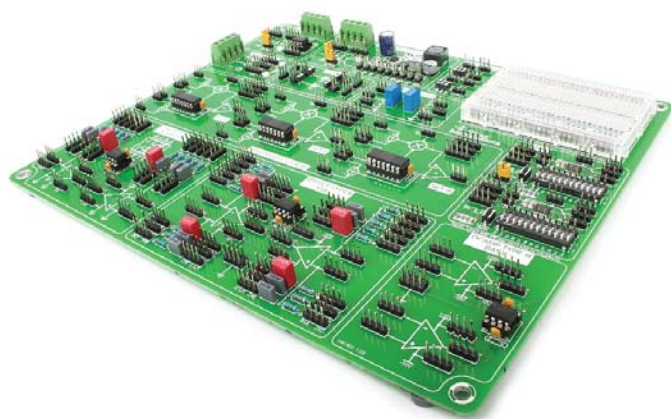
Part I – Learning the basics

In the first part, the students will be exposed to the operation of the basic building blocks of analog systems. Using the general-purpose operational amplifiers and the precision analog multiplier, the student will build gain stages, buffers, instrumentation amplifiers and voltage regulators.

These experiments bring out several important issues, such as measurement of gain-bandwidth product, slew-rate, as well as saturation limits of the operational amplifiers.

Part II – Building analog systems

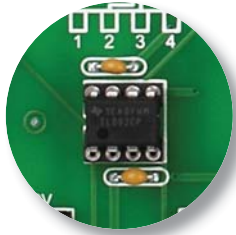
In the second part, the students will be focused on learning about analog systems. Integrators and differentiators will be introduced, which are essential for implementing filters that can band-limit a signal prior to the sampling process to avoid aliasing errors.



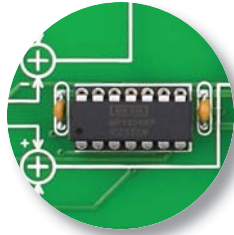
14 step-by-step lab exercises

1. Negative feedback amplifiers
2. Instrumentation amplifier
3. Regenerative feedback system, astable and monostable multivibrator
4. Integrators and differentiator circuits
5. Analog filters
6. Self-tuned filter
7. Function generator and voltage-controlled oscillator/FM generator
8. Phase Lock Loop (PLL)
9. Automatic gain control (AGC). Automatic volume control (AVC)
10. DC-DC converter
11. Low dropout (LDO) regulator
12. LDO integrated circuit
13. Digitally controlled gain stage amplifier
14. Digitally programmable square and triangular wave generator/oscillator

Hardware



Three general-purpose OP-Amps



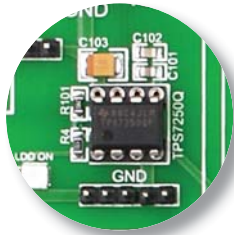
Three analog multipliers



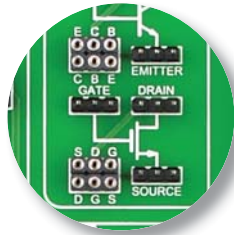
Two D/A converters



A wide-input non-synchronous buck-type DC/DC controller



A low-dropout regulator



Two transistor sockets



A general-purpose area which can be used as a proto-board



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