

APEX SL

Vibration Control System

APEX SL is UD's next generation Vibration Control / Analysis Workstation, benefiting from UD's 25 years of digital control system products. This all new hardware design consists of a Slim Line control chassis (dedicated to real-time control applications) interfaced through a simple USB 2.0 connection to a host computer (for user test configuration, monitoring and storage). **APEX SL** embraces new ideas and utilizes the latest in digital signal processing technologies, incorporating new capabilities desired by UD customers. A more centralized design focused on performance and value, enhance the vibration and shock control experience to an exciting new level.



An extensive library of **APEX SL** software modules is available with an unprecedented number of functions and features to satisfy basic testing needs as well as advanced applications, data acquisition and specialized, custom testing.

Modules include:

- Random
- Sine (Swept and Fixed Frequency)
- Classical Shock
- Resonance Dwell (Phase Tracked)
- SRS Shock and Analysis
- Sine on Random (up to 12 tones)
- Random on Random
- Import Profiles (Time & Spectrum)
- TRAC (Long Time History Control)
- Signal Analyzer
- Transient Capture
- Burst / Chirp Shock
- Seismic Test Control
- SMART Tool (shaker health/PM/surveys)
- Transducer Calibrator
- Export Data Utility

Technical Features

- Powerful Host Workstation, including:
 - * Intel i5 Processor
 - * 20" Hi-res LCD Monitor
 - * 4 GB RAM / 500 GB HDD
 - * Windows 7 64-bit Operating System
 - * MS Word for Report Generating Utility
- Slim Line Controller Chassis (17" W x 9" D x 1.75" H) for Desktop or 19-inch Rackmount Placement
- 4, 8, 12 or 16 Input Channels (easily expandable in one chassis)
- High Speed USB 2.0 Connectivity to Host
- Three ADI High Speed DSP Processors
- 24-bit A/D Input Resolution with Antialiasing Filters and Scaling for Precise Measurement
- 24-bit D/A Output with Attenuation Scaling for Precise Control
- 120 dB Input Dynamic Range (typical)
- Drive and COLA Outputs
- <100 dB Output Distortion
- Input and Output Sample Rate to 102.4 kHz.
- Built in Power Source for IEPE type Accelerometers
- Remote Operation: TCP/IP or Opti-Coupled Digital I/O (option)
- Front Panel Stop Button and Rear Panel Contact Closure



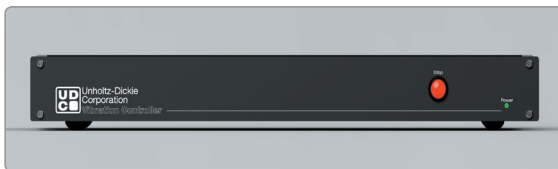
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Powerful

The **APEX SL** Digital Signal Processing Hardware provides parallel 24 bit A/D input channels with sampling rates up to 102.4 kHz and anti-aliasing filters. Two 24 bit high fidelity output channel DAC's are sampled simultaneously with the input channels and are combined with reconstruction filters for transient-free operation. Each input and output is combined with programmable scaling stages, providing typically 120 dB input dynamic range and less than 100 dB output distortion.

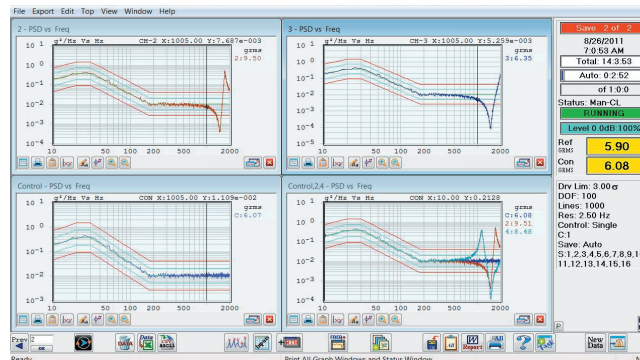
The **APEX SL** advanced architecture incorporates three Digital Signal Processor's from ADI. The versatile and proven SHARC and Blackfin processors are the industry standard for high performance and power efficiency. This powerful hardware set is used exclusively for control loop processing and host communication, assuring accurate real-time control and simultaneous data acquisition, while all graphics related processing is reserved for the host computer's Core i5 processor.



Intuitive

APEX SL is designed with ease of use and safety in mind. It includes an intuitive and comprehensive user interface, utilizing the familiar "point-and-click" push button functionality of previous Unholtz-Dickie vibration controllers, increasing lab functionality and efficiency.

Numerous safety checks are provided in the **APEX SL** software to help protect against operation beyond shaker system limits and to prevent test initiation without proper control feedback. Additional more subtle checks include active aborts at first equalization level, start-up voltage limit checks, noise floor checking, and IEPE bias voltage checks. In addition, password protection features allow selectable security in terms of operator access to test modes, test data, and specific test setups.



Versatile

Whether running simple sine sweeps or complex vibration tests like Sine on Random or Shock Response Spectrum, **APEX SL** provides the tools necessary to get the job done. Powerful hardware and a comprehensive software suite are combined in one, easy to use, intuitive package. Additional Standard Features Include:

- The Slim Line Chassis is readily configured for 4, 8, 12 or 16 input channels with plug-in modules.
- AUTO and MANUAL modes perform fully automated or manually adjustable tests.
- Powerful Test Data Manager organizes the saved data for quick retrieval and analysis.
- Word Report: Single click to automatically generate a test report in a Word document format.
- Spectrum and Time Graphs provide convenient monitoring and detailed analysis of tests.
- Command Link Option with UD Class D Power Amps for complete system on/off control, output current & voltage metering and system interlock monitoring from the host PC.



* SHARC and Blackfin are Trademarks of Analog Devices Inc.

World Headquarters
West Coast Division
European Division
Website:

6 Brookside Drive, Wallingford, Connecticut 06492
409 N. Pacific Coast Hwy #132, Redondo Beach, CA 90277
Karl-Unsin-Str. 1 D-83059 Kolbermoor, Germany
www.udco.com

Tel: (203)265-3929 FAX: (203)265-2690
Tel: (310)316-0275 FAX: (310)347-4120
Tel: +49 8031 234 734 FAX: +49 8031 234 735
E-mail: info@udco.com