



BRÜEL & KJÆR AND LDS

THE PERFECT MATCH



**A member of the
Brüel & Kjær group**

Brüel & Kjær is a world leading manufacturer and supplier of sound and vibration solutions. We help our customers solve their sound and vibration problems – from measuring traffic noise and vibration in car engines to evaluating building acoustics and performing quality control.



LDS experience and product portfolio of electrodynamic shakers, vibration slip tables, fixtures, amplifiers and vibration controllers together perfectly complement the Brüel & Kjær product range of transducers and data acquisition systems.

This combined business adds capability in offering complete vibration test solutions from a single source, providing our customers with a greater platform and an expanded team to service their needs and requirements.

Brüel & Kjær 
Incorporating LDS and Lochar

VIBRATION TEST SYSTEMS



LDS is a manufacturer of electrodynamic shakers for every vibration test need with force ranges from 9N to 289 kN. Our electrodynamic shaker systems offer high performance with high reliability.

LDS vibration testing solutions provide excellent all-round testing capabilities, with designs that have proven themselves under the most demanding requirements. With an impressive range of standard and optional fittings, there is sure to be a solution to meet virtually any test requirement in the world today. Our extensive technical experience means that we are able to specially tailor solutions in the event that a standard solution is not available.

We provide solutions for applications as diverse as laboratory testing, modal and structural analysis, squeak and rattle, package testing, and stress testing of sub-assemblies through to complete systems. Markets include Automotive, Aerospace and Defence, Electronics, Electrical and Machinery production. We currently deliver the industry-standard vibration test system for testing of complete satellite systems around the world.

The complete LDS solution comprises the latest control systems, energy-efficient power amplifiers, shakers and excellent global support, servicing and training.

AEROSPACE & DEFENCE

For any aircraft, helicopter, space vehicle or ballistic device, reliability is the number one priority. By using our vibration test systems, dynamic signal analysers, and Brüel & Kjær's transducers and high-speed data acquisition systems, a product's reliability and integrity can be proven.



ESA's VEGA launcher upper stage being tested on the LDS QUAD Shaker System, the European Space Research and Technology Centre (ESTEC), The Netherlands.

(Image courtesy of ESA, 2009)

Satellite Testing

When launching a satellite or vehicle to explore a neighboring planet, ensuring the survival after launch is fundamental. As a leader in satellite vibration testing, from component through to launch ready payload, LDS's experience makes us the obvious choice.

Aircraft Testing

From the latest unmanned combat drone through to the newest commercial airliner LDS's products have tested the smallest component to finished jet engines. Field test applications include in-vehicle, structural and modal and rotating machinery diagnosis.

Brüel & Kjær and LDS offer complete solutions, from transducers and data acquisition systems to shakers and controllers, for *field to lab* testing.

Ballistics & Missile Testing

Military personnel have to be confident that highly dangerous material is stored safely. In order to achieve this they often need to carry out a series of tests, including shock and vibration, temperature, altitude and humidity testing. LDS's complete line of electrodynamic shakers and controllers ensure that the smallest of triggers to the largest of missiles are properly designed for safe storage and transport.

Marine Testing

Proving the integrity of onboard components and systems to ensure they hold up against the most extreme ocean conditions is essential.

GROUND TRANSPORTATION

Manufacturers of cars, motorcycles, trucks, buses and rail vehicles all face similar requirements for improving performance durability, comfort and safety. Here at LDS, we provide a range of solutions to meet your needs.



Squeak & Rattle

Our *quiet* electrodynamic shakers support industry standard QA practices for Squeak and Rattle vibration testing, ensuring automotive components and interiors remain durable and free from noise, for greater passenger comfort. As emerging hybrid and electrical vehicles become more common, battery durability testing is key to the next generation of transport. LDS has developed a custom vibration test system for hybrid battery testing in conjunction with Highly Accelerated Life (HAL) testing of multi-cell computer managed batteries.

NVH Structural & Modal Testing

LDS and Brüel & Kjær products provide solutions for a wide variety of noise, vibration, and harshness test requirements. Field test applications include in-vehicle, structural and modal and rotating machinery diagnosis. LDS and Brüel & Kjær also offer complete solutions, from transducers and data acquisition to shakers and controllers, for *field to lab* testing such as road test simulation.

Rotating Machinery Testing

Brüel & Kjær analysers provide all the tools you need to rapidly isolate and diagnose vibration and noise problems in rotating machinery. Order tracking analysis, real-time waterfalls and spectrograms, octave band analysis, orbit plots, and cepstrum analysis are all available.

TRANSPORT SIMULATION

The Quad V9 (4 x 105 kN lbf) Vibration Test System has been specially designed for a transport simulation application testing structures at frequencies from DC and payloads exceeding 6 tonnes. With a cross section over 6 m x 3 it is much larger in size than the vibration system interface plates. The capability to independently control the vibration accelerations at multiple positions on a single payload of this size is revolutionary.

The payload interfaces for each of the 4 V9s are not connected to each other. Therefore to control their relative positioning, a new Position Indicator Control Stand has been developed.

A special version of the LDS combo has been designed to incorporate a solid trunnion vibrator body mounting, with the slip table combo frame being attached directly to steel plates on top of a seismic mass. The base fabrication is designed to accept a Load Bearing Platform (LBP) used for vertical vibration.

An air isolated seismic block has been designed so that all forces are transmitted to this block. Testing is controlled using an LDS Multiple Amplifier Control (MAC) System together with a Multi Input Multi Output vibration controller (MIMO) to simultaneously control each V9 system independently in order to achieve the required combined effect. The four combos can be readily repositioned, using Airglides, the four combos can be readily repositioned into multiple orientations to enable both vertical and horizontal testing of various sized payloads.



PACKAGE TESTING

Most consumer products undergo vibration testing, the most common form being package testing. Package testing is designed to simulate a product's journey once boxed at the factory for transport through to the customer's home.

One such LDS package system was designed to enable the customer to simultaneously test two plasma screen television sets, weighing 85 kg each in their transport boxes. The tests were designed to reproduce the effects of transport experienced by the televisions. These tests allowed for the optimization of the packaging design and savings on materials such as polystyrene packaging. The customer used a combination of Sine tests, typically <5mm peak-to-peak in the 5 - 20 Hz range and Random tests <1.5g up to 200 Hz.

The system combines a rigidly mounted standard LDS V875-640 shaker with specially designed steel trunnions and a magnesium head expander, 1.8 m x 2.2 m, is supported by a Load Bearing Platform (LBP). The basic over-turning capability of the LBP is 5 kNm, and it is restrained by guide shafts which are part of the steel work. Air-bags located underneath the trunnions isolate the vibration. Pneumatic isolation is incorporated to prevent unwanted vibration being transmitted into the building.

Once on site the head expander is positioned at floor level, allowing the loading and unloading of the payloads by pallet truck for the quick turn around of large test articles. A remotely operated safety mechanism to lock and unlock the LBP had to be designed to allow access to the shaker.



V875-640 mounted in trunnions with Load Bearing Platform and 1.8 m x 2.2 m head expander

DEFENCE TESTING

Designed to test payloads for a defence customer, the Dual LDS V850-440 SPA24/56K special Vibration Test System has been engineered for coupled operation.



Each shaker is fitted with a Guided Head Expander that allows interfacing to the customer's specialised payload. A steel truss rigidly connects the shakers together.

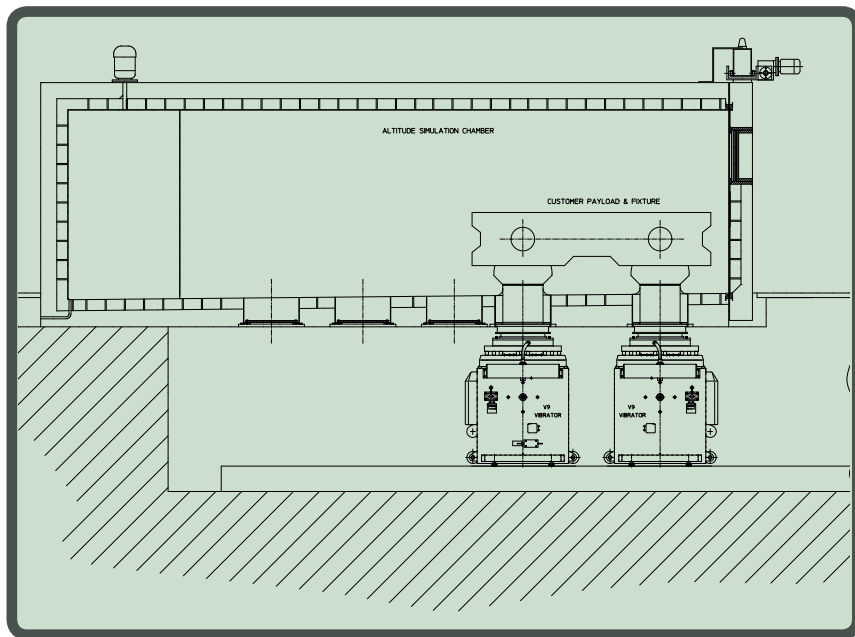
To ensure the dual system is mobile as required by the customer, each shaker base is integrated with Airglides allowing the full shaker assembly to be moved effectively on a cushion of air.

The special LDS Pneumatic Control Stands provide the operator with shaker body and armature position display and control. Shaker armature and body position are automatically controlled to ensure that the complete system remains balanced.

Both shakers can be used either individually or in the standard dual (push-push) configuration; the LDS Multiple Amplifier Control (MAC) System allows this. Each shaker is driven to a tight amplitude and phase tolerance of the other to ensure consistent application of vibration, minimizing cross-coupling and ensuring system and payload safety.

ALTITUDE SIMULATION

The Dual V9 (2 x 105 kN) Vibration Test System has been specially adapted to operate in conjunction with an altitude simulation chamber to enable testing of large payloads under near-vacuum conditions.



To prevent the vacuum pulling the shaker armature up into the environmental chamber, the shaker is fitted with a special Vacuum Compensation Extender System which provides an opposing force to hold the armature down to its mid-position. In both static and dynamic testing, the shaker armature and body positions are controlled by a special balancing control system.

To ensure the consistency of any vacuum effect, the shaker is sealed to the floor of the altitude simulation chamber, allowing full armature movement within its Velocity, Displacement and Acceleration capabilities.

To allow testing of large and long-shaped payloads, the V9 vibrators are operated in a dual configuration using the LDS Multiple Amplifier Control (MAC).



LOW FORCE RANGE

Solutions for Vibration Testing of Components, Small Assemblies, or Modal and Structural Analysis

- Wide frequency range (5 Hz to 13 kHz) combined with high peak forces (8.9 N - 489 N peak sine force)
- Low mass, high performance armature construction
- Robust, lightweight suspension system provides excellent torsional and transverse stiffness with minimal impact on system acceleration
- Base or trunnion mounted
- Powered by compact, quiet, energy efficient amplifiers
- Compatible with *COMET_{USB}*[™] and *LASER_{USB}*[™] Vibration Controllers



V406 shaker being used to test camcorder to ensure product reliability during operation.

Industry Applications

- ✓ Modal and structural analysis
- ✓ Electronic assembly test
- ✓ Laboratory experiments



V101, V201, V406/8, V450 AND V455 SHAKERS

This range of permanent magnetic shakers is ideal for modal analysis. Their efficient armature design enables them to deliver impressive peak forces and accelerations over a wide frequency range.

The shakers are controlled using either the *COMET_{USB}*[™] or *LASER_{USB}*[™] system controllers, or are compatible with 3rd party controllers and amplifiers.

Shaker Model	V101 -PA 25E	V201 -PA 25E	V406/8 -PA 100E	V406 -PA 500L	V450 -PA 500L	V455 -PA 1000L
System Sine Force Peak (N)	8.9	17.8	98	196	311	489
Shaker Max Random Force rms (N)	-	-	38	89	214	290
Max Acceleration Sine Peak (g_r)	140	91	50	100	74.5	117
System Velocity Sine Peak (m/s)	1.31	1.49	1.52	1.78	1.78	2.5
System Displacement Continuous pk-pk (mm)	2.5	5	14	17.6	19	19
Moving Element Mass (kg)	0.0065	0.02	0.200	0.200	0.426	0.426
Usable Frequency Range (Hz)	5-12,000	5-13,000	5-9,000	5-9,000	5-7,500	5-7,500

LOW-MEDIUM FORCE RANGE

Vibration Testing Solutions for Modal, Structural and Component Testing

- Wide frequency range from DC up to 6,300 Hz
- Peak force ratings from 667 N to 5,115 N
- Lightweight, high performance armature design (110 mm to 180 mm in diameter) delivers excellent acceleration and velocity performance
- Vertical or horizontal operation
- Optional software allows system tests to be controlled remotely using a PC
- Compatible with *COMET_{USB}*[™] and *LASER_{USB}*[™] Vibration Controllers
- Ease of use and power saving features on LDS amplifiers reduce operating costs
- Proven reliability maximises system availability, combined with global servicing and support



Industry Applications

- ✓ Automotive component testing
- ✓ Aerospace component testing
- ✓ Electronic assembly testing
- ✓ Structural testing
- ✓ Modal investigation
- ✓ Vibration stress testing under varied environmental conditions
- ✓ In-house test and calibration facilities



V555, V650, V721, AND V780 SHAKERS

Total System Solutions

With a combination of wide frequency range, high force and acceleration, this range of air-cooled shaker solutions delivers excellent all-round testing capabilities.

A number of optional extras enable the system to be tailored to suit most applications. Trunnion mounting and slip tables enable both

vertical and horizontal testing, and the further addition of a thermal barrier allows for improved product testing under diverse environmental conditions.

The shakers can be controlled using either the *COMET_{USB}*[™] or *LASER_{USB}*[™] system controllers, or are compatible with 3rd party controllers or amplifiers.

Shaker Model	V555	V650	V650	V721	V780
	-PA 1000L	-PA 1000L	-HPA-K	-PA 1000L	-HPA-K
System Sine Force Peak (N)	940	1,620	2,200	2,900	5,120
System Max Random Force rms (N)	640	1,090	1,540	1,900	4,230
Max Acceleration Sine Peak (g _r)	100	73.7	100	66.3	111
System Velocity Sine Peak (m/s)	1.5	1.4	1.5	0.7	1.9
Displacement pk-pk (mm)	25.4	25.4	25.4	25.4	25.4
Moving Element Mass (kg)	0.94	2,24	2.24	4.46	4.7

MEDIUM FORCE RANGE

Medium and Large Air-Cooled Electrodynamic Shakers

- V800 - V8 series shaker systems are ideal for sine, random and high-acceleration shock tests and many more control profiles
- Lightweight yet robust interchangeable armatures give the highest performance with reduced capital cost
- Advanced switching power amplifiers offer high reliability, reduced space requirements, simple installation and operation
- Systems can be tailored for special applications
- State-of-the-art vibration control system enables remote monitoring and control
- Compatible with *COMET_{USB}*[™] and *LASER_{USB}*[™] Vibration Controllers
- Vertical or horizontal operation with optional slip table

Brüel & Kjær offers a full range of accelerometers to complement your LDS vibration test system.



Industry Applications

- ✓ Automotive parts and systems - qualification testing
- ✓ Electronic assembly, computer equipment testing
- ✓ Avionics and military hardware testing
- ✓ Satellite component testing
- ✓ Product and package testing
- ✓ General stress screening



V800-V8 SERIES SHAKERS

Industry Standard for Automotive, Military and Electronic Testing

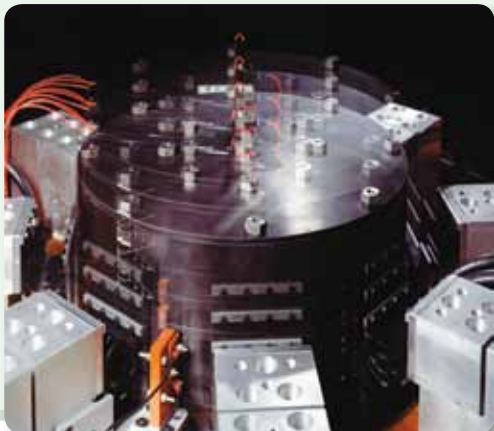
Providing the versatility and capability demanded by research and development, product qualification and stress screening, the V800 - V8 series shaker systems combine superior performance with low capital and running costs.

Shaker Model	V830-185	V830-335	V850-240	V850-440	V875-240	V875LS-440	V875LS-640	V875-640EF	V8-440	V8-640
System Sine Force Peak (kN)	8.9	9.8	17.8	22.2	35.6	35.6	35.6	37.8	60	57.8
System Max Random Force rms (kN)	5.78	9.81	13.3	22.2	31.1	35.6	32.5	37.8	66.0	55.6
Max Acceleration Sine Peak (g _r)	120	75	125	60	163	112	90.9	57.3	140	40
System Velocity Sine Peak (m/s)	2.0	2.0	2.0	2.0	2.0	1.8	1.8	1.8	1.8	1.8
Displacement pk-pk (mm)	50.8	50.8	50.8	50.8	50.8	76.2	76.2	50.8	63.5	63.5
Moving Element Mass (kg)	6.98	12.05	14.0	23.8	22.3	32.4	39.9	63.2	42.0	47.0

HIGH FORCE RANGE

High-Force Long-Duration Electrodynamic Shaker

- Full water cooling, including body cooling, enables prolonged testing at maximum force levels
- Long 76.2 mm stroke allows greater acceleration at low frequencies, combined with higher maximum velocity
- Advanced switching power amplifier offers high reliability, simple installation and operation
- Powerful LDS vibration control system enables remote monitoring and control
- Payloads up to 1,800 kg
- Systems can be tailored for special applications such as load bearing platforms
- Vertical or horizontal operation with optional slip table



Industry Applications

- ✓ High force, long duration automotive testing
- ✓ Avionics and military hardware testing
- ✓ Low-frequency and shock pulse testing
- ✓ Product and package testing

V9 SHAKER

The Standard for High Force, Long Duration Vibration Testing

Providing the versatility and capability demanded for both research and development and production testing, the V9 shaker system offers exceptional performance combined with low capital and running costs. The V9 shaker offers the highest achievable envelope of testing parameters.

Shaker Model	V9
System Sine Force Peak (kN)	105
System Max Random Force rms (kN)	105
Max Acceleration Sine Peak (g_r)	150
System Velocity Sine Peak (m/s)	3.0
Displacement Continuous pk-pk (mm)	76.2
Moving Element Mass (kg)	49.8
Usable Frequency Range (Hz)	DC - 2,700*

*Control strategy and isolation dependant

HIGH FORCE RANGE

High-Force Electrodynamic Shaker

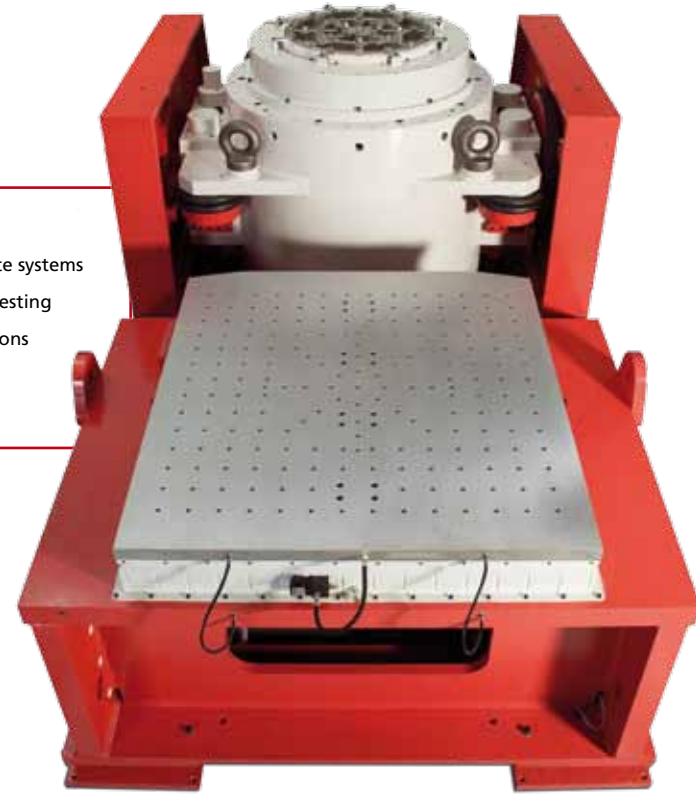
- Peak force ratings from 89 kN to 289 kN – highest available force of any shaker available today!
- Wide frequency range up to 2,500 Hz
- Combination of high performance armature design and water-cooled coils deliver excellent acceleration and velocity performance
- Automatic armature and body position load compensation system ensures larger loads can be comfortably accommodated
- Trunnions feature Lin-E-Air suspension system as standard, resulting in improved low-frequency performance, providing air isolation from test vibration
- Rolling strut armature suspension system provides up to 50.8 mm displacement for sine operation and 63.5 mm for transient pulses
- Vertical or horizontal operation, with optional slip table
- Thermal barriers available for all systems for improved environmental test capability
- Compatible with *COMET_{USB}*[™] and *LASER_{USB}*[™] Vibration Controllers



Mars Mission Satellite Testing.
(Photo courtesy of NASA/JPL-Caltech)

Industry Applications

- ✓ 3 axis testing of complete satellite systems
- ✓ Avionics and military hardware testing
- ✓ Multi-shaker, multi-axis applications
- ✓ Structural dynamics testing
- ✓ Clean room environments



V964, V984, AND V994 SHAKERS

High Force, High Reliability

Ideal where large payloads need high performance vibration or shock testing, the LDS V900 Series gives engineers the confidence they need to develop highly reliable products. These systems have been used in single and multi-shaker configurations, and are suited to test products such as satellites and missiles.

The Lin-E-Air shaker suspension system gives excellent isolation, reducing the effects of vibrations from the shaker on the surrounding environment. An optional guided head expander ensures that loads with off-centre centres of gravity can be tested effectively and safely. The addition of a slip table enables products to be tested in both vertical and horizontal axes. The slip table is also available with a thermal barrier for use in environmental tests.

Shaker Model	V964 - DPA-K	V984 - DPA-K	V994 - DPA-K
System Sine Force Peak (kN)	89	160.1	289.1
System Max Random Force rms (kN)	89	160.1	266.9
Max Acceleration Sine Peak (g _r)	100	100	75
System Velocity Sine Peak (m/s)	2.0	2.0	2.0
Displacement Continuous pk-pk (mm)	38.1	38.1	50.8
Moving Element Mass (kg)	59.0	130.2	254.9
Usable Frequency Range (Hz)	DC-2,500*	DC-2,000*	DC-1,700*

*Control strategy and isolation dependant

AMPLIFIERS/REPLACEMENT AMPS

The LDS line of linear and digital switching amplifiers offers energy efficient and robust operation for power requirements up to 280 kVA.

The standard SPA-K range of power amplifiers can be used to power legacy LDS and third party shakers, and include a unique remote control capability allowing the user to control the amplifier remotely via a PC.

SPA-K & HPA-K Switching Power Amplifiers

These amplifiers power air-cooled electrodynamic shakers and come with integral field power and blower power supplies and range from 8kVA to 176kVA.

The HPA-K amplifier is designed for use with V650 and V780 electrodynamic shakers.

DPA-K Switching Power Amplifiers

Designed for use with water-cooled electrodynamic shakers, DPA-K amplifiers offer a maximum power output of 280kVA, providing optimum performance for your vibration test system.

PA 100L - PA 1000L Linear Power Amplifiers

Compact standalone amplifiers designed to support LDS vibration test systems use both permanent magnet shakers and also small electrodynamic shakers. Both are used with a separate field power supply when required.



VIBRATION CONTROLLERS

Powerful, Flexible and Economical Vibration Controllers

LASER_{USB}[™] and *COMET_{USB}*[™] bring vibration test into the new era of USB connectivity!

LASER_{USB}[™]

- Full capability for vibration control, data analysis, and signal/modal analysis
- Kurtosis control and fatigue monitoring reduce test time and improve product reliability
- Multi-channel with 2 to 16 channels for multi-point control, limiting and analysis
- 24-bit resolution with programmable voltage ranges provide wide dynamic range to control highly dynamic structures
- Processing independent of the host PC with fast loop times for the ultimate in performance and safety
- Amplifier and thermal chamber interfaces for seamless lab integration

COMET_{USB}[™]

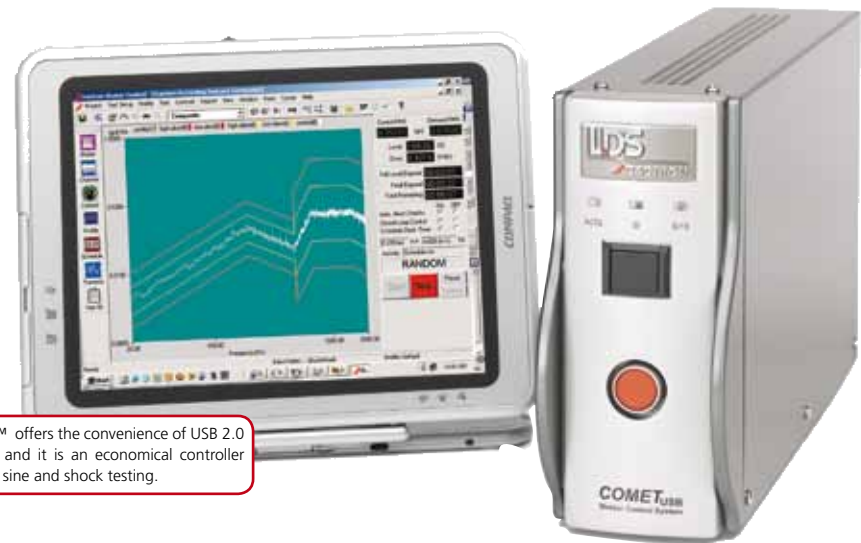
- Very economical yet suitable for random, sine and shock tests
- Simplified or advanced user interfaces are suitable for different operators and tests
- Setup wizard for error free test setup

COMET_{USB}[™] VIBRATION CONTROL SYSTEM

Economical for Production Test with the Performance for R&D Testing

Offering high performance at a very affordable price, the *COMET_{USB}*[™] Vibration Controller is an ideal solution to the everyday demands of your shock and vibration testing.

COMET_{USB}[™] provides the flexibility to do random, swept sine, and shock testing on both electrodynamic and hydraulic shakers. Easy to use software together with extensive automation features make it a perfect fit for vibration stress screening and production test applications.



COMET_{USB}[™] offers the convenience of USB 2.0 connectivity and it is an economical controller for random, sine and shock testing.

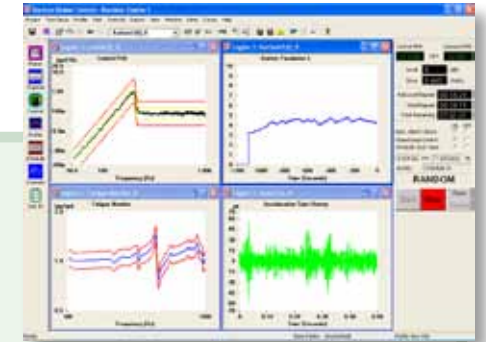


LASER_{USB}[™] VIBRATION CONTROL SYSTEM

LASER_{USB}[™] has a USB 2.0 interface for easy PC connectivity and its multiple DSP processors handle the control loop independent of the PC host.

Delivering what Test Engineers Demand: Convenience, Performance, Flexibility and Safety

LASER_{USB}[™] is the ideal controller for your test lab as it combines convenience, performance, flexibility and safety. It offers 24-bit precision with wide control dynamic range, and fast loop times to provide superb control for your most challenging tests. LASER_{USB}[™] is also a highly flexible answer for your test needs with full capability control and analysis software applications for random, swept sine, resonance dwell, classical shock, random on random, sine on random, shock SRS, and field data replication. Advanced technologies such as kurtosis control and fatigue monitoring reduce test time and increase the reliability of your product. One-click reporting makes it quick and easy to create comprehensive reports for your design group or customer, and special Active Reports allow you to re-scale, zoom, or cursor any data plots within a Microsoft® Word report document.



Lab Integration

LASER_{USB}[™] can make your lab more efficient with capabilities that integrate and coordinate all of your test equipment. The Amplifier Controller software option allows control of a LDS SPA-K amplifier from the same PC used to run the Vibration Control software. A seamless connection with the control software of many popular chamber makers is provided by the Chamber Interface option.

NET-Integrator provides ActiveX commands that interface Vibration Control applications to user programs. This capability makes it possible to develop simple user interfaces and automate complex test procedures.

Advanced Technologies

Kurtosis Control for Better Real World Simulation - The capability to specify kurtosis, the “peakedness” of a random signal, provides for better simulation of real world environments. Tailoring kurtosis is also important to accelerate fatigue tests.

Fatigue Monitor Protects Test Article & Shaker - Offering an unprecedented level of protection, the Fatigue Monitor detects looseness or fatigue in the product, fixture or shaker system.

PULSE - YOUR SOUND & VIBRATION ANALYSER PLATFORM

Developed as an advanced solution for sound and vibration measurement, Brüel & Kjær's PULSE™ is the analyser platform of the future. With its vast range of software applications and hardware configurations, PULSE is today the most popular analyser solution in the world with more than 10,000 systems delivered.



Data Acquisition

With the LAN-XI PULSE front-end your data acquisition is scalable from 2 channels to more than 1000 channels with an analysis measurement bandwidth of up to 100kHz. The LAN-XI PULSE front end supports one-cable operation where both synchronisation (PTP), power (POE) and data transfer, is achieved using a standard ethernet cable. PULSE LAN-XI front ends can even synchronize with your existing PULSE IDAe front ends allowing modular expansion of existing systems.

Real-time

The real-time capability of PULSE means that there is the closest possible link between cause and effect. You see your analysis results instantaneously on-screen as they are measured, enabling you to validate your data immediately.

Multi-analysis

The multi-analysis side of PULSE means that you can perform FFT, 1/n-octave (CPB), order, and overall analyses simultaneously on the same or different channels/signals while displaying real-time results on screen and possibly storing the acquired time data.



Post Processing

With PULSE's brand new range of post processing products, PULSE Reflex, you get a work-flow oriented post processing tool with integrated time data editing, strong post-processing analysis tools together with extremely flexible display function.

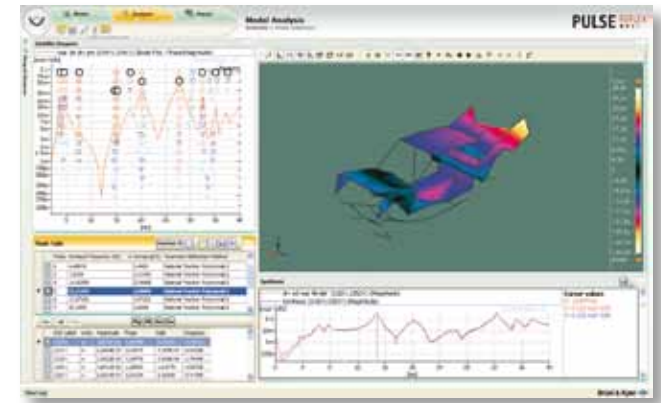
Reporting

PULSE Reflex with built-in support for Microsoft® Word , Microsoft® Excel® and Microsoft® PowerPoint® makes reporting easy whether it is for a meeting or a report.

Solid Foundation

PULSE's flexibility, combined with industry-specific solutions, has made PULSE the best-selling analyser platform in a wide range of industries, including:

- Automotive
- Electroacoustics and Telecommunications
- Aerospace and Defence
- Consumer Products



PULSE Reflex Modal Analysis guides you efficiently through measurement validation, parameter estimation setup, mode selection, analysis validation and reporting. Type 4524 a lightweight triaxial piezoelectric accelerometer, as seen left. Images left Courtesy of CTAG.



LDS SERVICE

Consider the benefits

- Complete range of high quality support services
- Site surveys, installation, commissioning and decommissioning warranty plans
- Personalised maintenance contracts from simple return to factory repairs to a complete on-site system strip-down
- System modifications and upgrades
- Spares service



Your choice of a service partner is as critical as your choice of system. Effective maintenance and adequate training are vital if you are to get the most out of your investment.

To make sure all our customers worldwide have access to professional services and training resources, LDS Service has developed a market-leading support network.

Whether installing a system for the first time or maintaining existing equipment, reliability, efficiency and investment protection will naturally be high priorities. LDS Service understands the cost implications of down-time and appreciates that no two users' needs are identical. We can provide a portfolio of support services which can be carefully tailored to complement your own resources, meeting your needs and budget and ensuring compliance with all necessary safety directives.

Your needs. Our commitment.

The prime goal of LDS support services is to ensure that your system is fine tuned to your needs and that any problems are resolved quickly.

LDS UNIVERSITY



LDS University offers both standard and custom training courses for established or new vibration test engineers. Regular scheduled courses are held globally; custom on-site courses can also be arranged explaining how to interpret specific vibration test specifications and apply them to customers' vibration test systems.

LDS University is part of the Brüel & Kjær Knowledge Network.

LDS provides you with complete solutions that are ready to run. Even though they are designed for ease-of-use, we offer specialised training for your people to become real experts in less time.

LDS TEST AND MEASUREMENT LTD
Jarman Way, Royston
Herts, SG8 5BQ

Phone: +44 (0) 1763 255 255
E-Mail: sales.lids@bksv.com

BRUEL & KJAER NORTH AMERICA INC
2815-A Colonnades Court
Norcross, GA 30071, USA

Phone : +1 (770) 209-6907
E-Mail: bkinfo@bksv.com

LDS TEST AND MEASUREMENT GMBH
Carl-Zeiss-Ring 11-13
D-85737 Ismaning

Phone: +49 421 17 87 - 0
E-Mail: infobk.de@bksv.com

BRÜEL & KJAER FRANCE
46 Rue du Champoreux, B.P. 33
MENNECY, F-91540

Phone: +33 (0)1 69 90 71 00
E-Mail: info.fr@bksv.com

SPECTRIS INSTRUMENTATION AND SYSTEMS SHANGHAI LTD
Rm 1818 Beijing Shougang International Building, No. 60
North Street, Xizhimen, Haidian District, Beijing, 1000880

Phone: +86 10 59935888
E-Mail: info@bksv.com.cn

HEADQUARTERS: Brüel & Kjær Sound & Vibration Measurement A/S · DK-2850 Nærum · Denmark
Telephone: +45 77412000 · Fax: +45 4580 1405 · www.bksv.com · info@bksv.com
Local representatives and service organisations worldwide

Brüel & Kjær 
Incorporating LDS and Locharð