

# OMS LaserScan LS01

## Scanning Laser Vibrometer



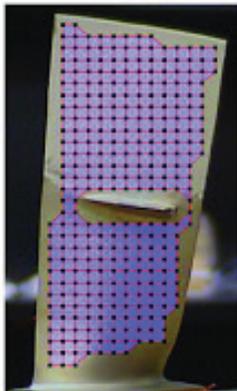
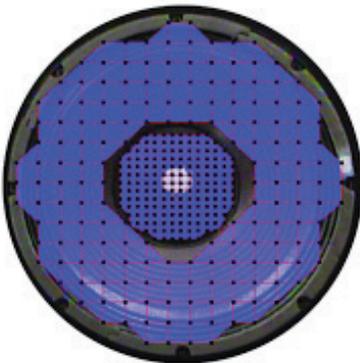
## Features

- > Easy-to-use point and measure operation
- > No focusing or surface treatment required
- > Compact, portable system
- > Extensive data analysis and filtering options
- > 3-D animation and visualization of results
- > Complete access to all time and frequency domain data

The OMS LaserScan LS01 offers a complete, high-quality, cost-effective solution for full-field non-contact vibration characterization, structural analysis, operation deflection shapes, and experimental modal analysis. The turnkey LaserScan LS01 is an integrated scanning vibrometer and data acquisition system that is designed to meet the needs of a wide range of industries. The system is suited for a variety of measurement goals, including troubleshooting, design verification, finite element model validation, and fundamental research. When you need to visualize the motion of your test object, look no further than the OMS LaserScan LS01.

## Flexibility

The OMS LaserScan LS01 has the flexibility to characterize the vibrations of nearly any type of object. The powerful software allows users to create scan areas of any shape with complete control of the grid resolution.



## Powerful Data Acquisition System

The OMS LaserScan LS01 features a data acquisition module with precision anti-aliasing filters to ensure the highest fidelity in the velocity data. Additional input channels are available to connect other types of sensors into the measurement. The data acquisition module also features a signal generator that can produce a variety of outputs (sine, chirp, random noise, etc.) to drive a shaker or PZT.

## Efficiency

The OMS LaserScan LS01 includes features such as dithering and a fast “Lock-In” mode to reduce measurement times and to facilitate measurement tasks. This increases overall lab and testing efficiency and accelerates product development and research.



## Applications

**Automotive** > Disk brakes, engine block, door panels

**Aerospace** > Structural dynamics, defect detection

**Audio and Music** > Speakers, guitars, violins

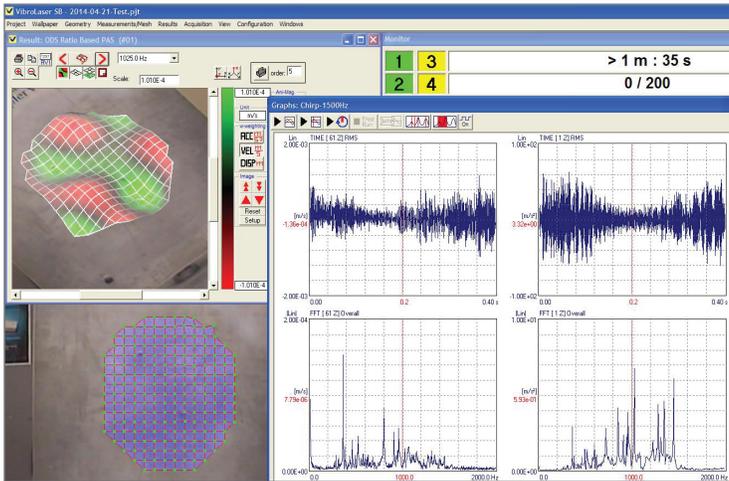
**Industrial Equipment** > Appliances, compressors, computers

**Medical** > Hearing aids, prosthetics, muscles, respiration

**Military** > Landmine detection, noise source identification

**Non-destructive testing** > Delaminations, stiffness, voids

**Structural Integrity** > Bridges, buildings, columns



## Time Domain Analysis

The OMS LaserScan LS01 offers time domain acquisition, analysis, and export, allowing users complete flexibility to analyze temporal events in the time domain at each measurement location.

## Frequency Domain Analysis

The OMS LaserScan LS01 offers real-time frequency analysis with FFTs, FRFs, cross correlations, coherence, and many more functions, allowing the user to quickly identify resonances, damping values, and harmonic content from the frequency spectrum at each measurement location.

## Operating Deflection Shape Analysis

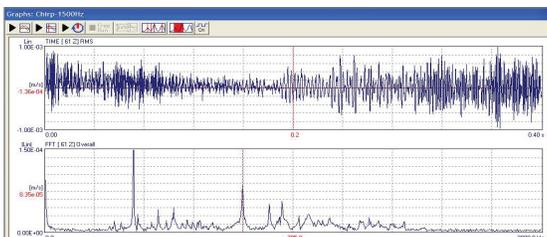
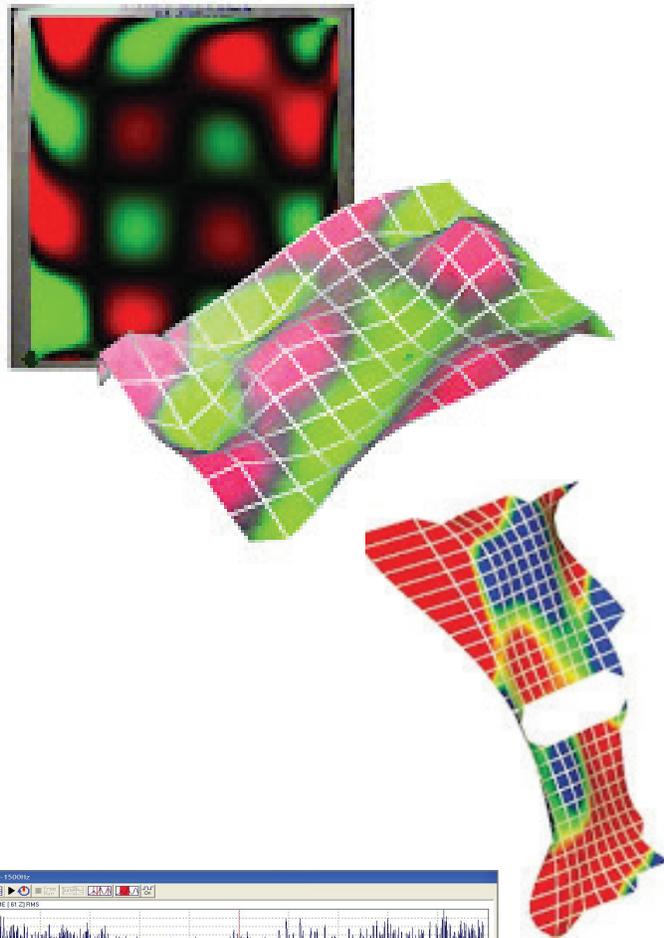
Through the integration of the data acquisition and analysis software with our laser vibrometer technology, nearly any test object can be quickly scanned and its vibratory motion can be viewed at any frequency.

## Modal Analysis

An optional modal analysis package can be run within the main software package to identify vibration modes and damping rates.

## Data Export

The time and frequency data from every measurement point can be exported in a variety of formats, including ASCII and Universal File Format (UFF). 3-D animations can be easily exported as AVI files for inclusion in reports or presentations.



## Specifications

Velocity Range	5 microns/sec to 800 mm/sec
Frequency Range	0.1 Hz to 20 kHz <sup>1</sup>
Working Distance	0.1 to 5 m
Beam Size	1 mm diameter
Scan Range	± 20 degrees, each axis
Low Pass Filters	1, 2, 5, 10, 20 kHz
Laser (Measurement)	780 nm, <20 mW, Class 3B
Laser (Pointing)	650 nm, <1 mW, Class 2
Power Requirements	110–220 V at 50–60 Hz
Temperature Range	3 to 45°C
Laser Head Weight	10.0 kg (22 lbs)
Controller Weight	6.2 kg (14 lbs)
Laser Head Dimensions	36 x 25 x 18 cm
Controller Dimensions	43 x 33 x 10 cm

<sup>1</sup> Contact OMS to discuss higher frequency ranges  
Specifications are subject to change without notice

The OMS LaserScan LS01 is your full field vibration mapping solution. Customers worldwide rely on the OMS LaserScan LS01 for certainty in their testing, research, and manufacturing measurements.

Visible and Infrared Laser Radiation  
Avoid Direct Exposure  
Class 2 Laser Product at 650 nm  
Class 3B Laser Product at 780 nm



*To learn more or discuss your application, please contact us*

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