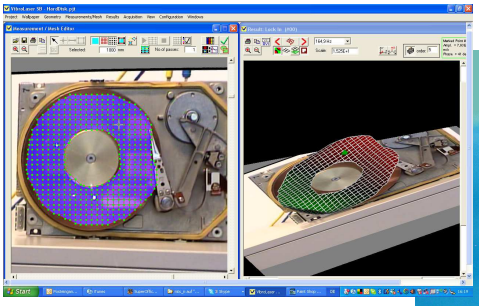
MAUL – THEET
Vibration & Test Solutions

Scanning Laser Doppler Vibrometer



- *4 to 16 Input Channels*
- *Velocity range 5 µm/s to 1 m/s*
- *Working distance 1 cm to 5 m*
- *20 KHz Bandwidth*
- *Low Pass Filters 1,2,5,10,20 kHz*
- *Portable*
- *24-bit ADCs Per Channel*
- *AC, DC, ICP*
- *Anti-Aliasingfilter*
- *USB Data Link*
- *No focusing collimated Laser*

Overview

The laser beam of the Scanning Laser Doppler Vibrometer is deflected by two mirrors which are controlled by a computer. A camera inside the head delivers the picture of the object being tested. On this picture the measurement points can be arranged with a CAD software. After the setup of points the measurement is done automatically by the computer.
The Scanning Laser Doppler Vibrometer is based on the single point laser vibrometer VibroMet™500V. The laser beam measures the velocity on the surface of the test object. The velocity signal is measured by a data acquisition system and stored in the computer.

Components

- Laser head with mirror unit
- Controller box
- Data acquisition
- Laptop or Desktop PC with control and analysis software

The complete system is very compact and is easy to carry, for example when travelling on an airplane.

Laser head

The laser head includes the laser unit, the mirrors and the video camera. An adjustment of any lenses or the optical system is not necessary. The position of the laser beam is controlled by the scanning software.

Controller

The components inside the controller box are the RF amplifier, the demodulator and the output filter. The amplifier increases the signal level, the demodulator makes a velocity signal out of the Doppler signal and the output low pass filter limit the frequency range of the signal.

MAUL-THEET GmbH
Bülowstrasse 66
D-10783 Berlin
tel: 0049 (0) 30 8620 7775
fax: 0049 (0) 30 8620 7568
info@maul-theet.com

Data acquisition

The data acquisition unit for the laser scanner is available as an internal PCI card or as an external USB box.

Technical Data	
Number of channels:	4 up to 16 channels
AD converter:	24 Bit resolution
Frequency range:	1Hz to 20 kHz adjustable
Max. Input voltage:	±1V and ±10V adjustable
Coupling:	AC, DC, ICP source(2mA)
Anti-Aliasing filter:	Automatically tracked

Scanner software

The control and analysis software has all of the modules required for a vibration measurement.

⇒ Video frame grabber
⇒ Measurement point generator / editor
⇒ FFT Analyzer
⇒ Laser beam control
⇒ Operating deflection shape analysis
⇒ Animation
⇒ Optional Modal analysis

The software works with standard PCs or laptops under Windows XP/widows 7. It also can be used as an office version without any hardware to do the data analysis in the office.

The results are available as time records, spectra, FRF's, operating deflection shapes, mode shapes and eigenvalues. They can be exported to several file formats.

The animation module can generate AVI videos to transfer the animated shapes to third parties.

Benefits

⇒ Ultra compact and rugged design for simple local and international transport
⇒ Simple test operation requiring no special training.
⇒ No focusing needed
⇒ Standard USB interfaces for DAQ, framegrabber, mirror and CCD camera control

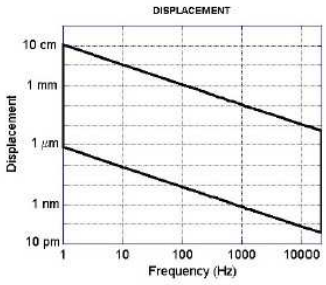
MAUL-THEET GmbH
Bülowstrasse 66
D-10783 Berlin
tel: 0049 (0) 30 8620 7775
fax: 0049 (0) 30 8620 7568
info@maul-theet.com

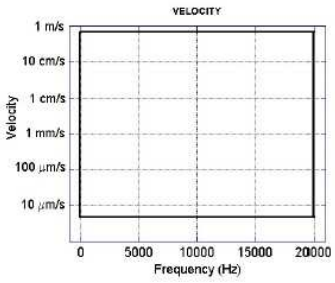
MAUL – THEET
Vibration & Test Solutions

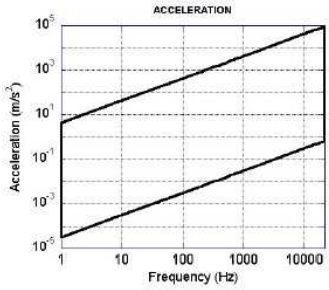
Laser Specifications

The Laser Scanning Doppler Vibrometer bases on the well-known Vibromet™500V.

Velocity Range	5 µm/s to 1m/s
Displacement Range	0.1 nm to 10 mm
Vibration Frequency Range	0,1Hz to > 20kHz
Working Distance	1 cm to 5 m
Optics	Collimated, No focusing needed
Surface Reflectivity	Realistic Surfaces
Signal Output	Analogue demodulated and 10.7 MHz FM
Output Voltage (max)	+/-10 Volts
Low Pass Filters	1, 2, 5, 10, 20 kHz
Laser	780 nm, <15mW, class IIIb 650 nm, <1mW, class II
Temperature Range	3 to 45°C
Power Requirement	100 to 230 V~ at 50/60 Hz







Information:

For more information or a demonstration please do not hesitate to contact us.

Vibromet™ a registered brand of MetroLaser Inc./USA.

MAUL-THEET GmbH
Bülowstrasse 66
D-10783 Berlin
tel: 0049 (0) 30 8620 7775
fax: 0049 (0) 30 8620 7568
info@maul-theet.com