

# VibroMap 1000

to measure and to understand

To ensure functionality of your designed structures

## To SEE and UNDERSTAND, FAST and EASY

To SEE the vibration of your designed structure is to UNDERSTAND the dynamic behaviour of your designed structure.

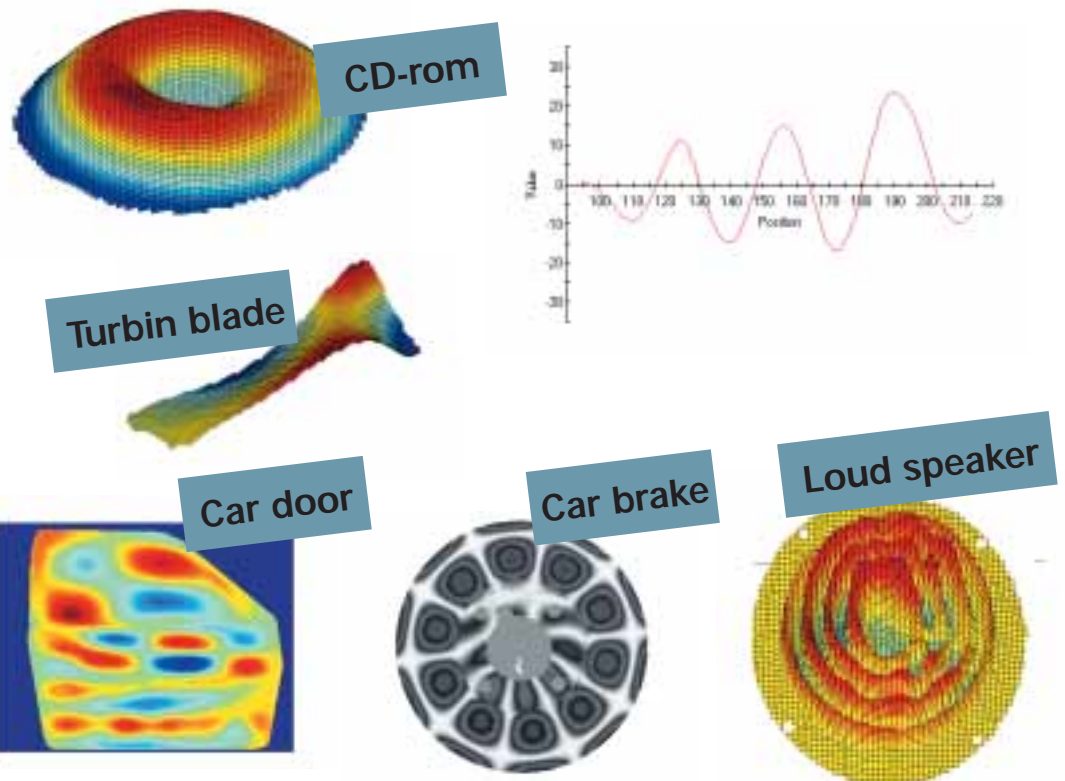
Interactive response is essential. When you:

- Noncontact
- Full field – Real time
- Amplitude, phase and deflection maps
- Animations
- High frequencies and high sensitivity
- Zoom lens
- 3D measurement option
- Results can easily be compared to computer simulations
- Resonance frequencies and modes easily detected
- Q-factors for resonance modes
- Simple user interface
- Extremely robust and long lifetime
- Also featuring static deflection measurement and nondestructive testing

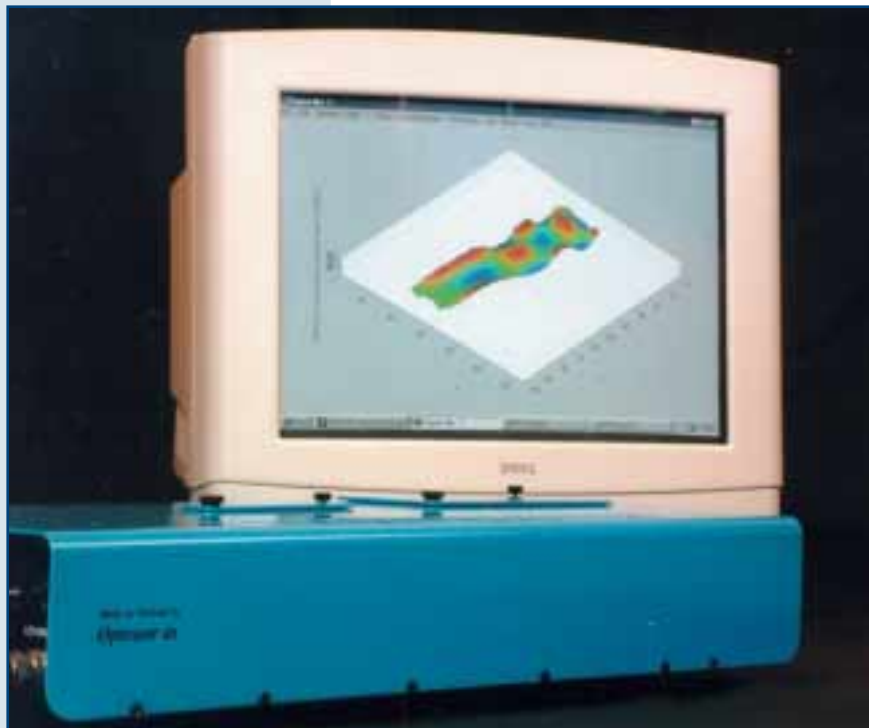
- turn a screw on your test object slightly
- put a small bit of clay on the object's surface
- change the frequency with one Hertz
- change the temperature with 1K
- touch the object by hand

You want to see the effect on the object vibration in real time, by your own eyes. This is what the VibroMap 1000 offers you, in addition to detailed quantitative information on the object vibration.

*Small structures - Large structures - High temperature objects - Long distance measurements  
Outdoor measurements - Underwater measurements - Sound field measurements*



# how it works



The Optonor VibroMap 1000 system is based on the technology of TV-holography. This is a laser based interferometric technique, where the object is illuminated by an expanded laser beam and imaged by a built-in video system. When the object vibrates, the laser light reflected from the object's surface also "vibrates". This is in turn detected by the VibroMap by use of an internal reference laser beam

which interferes with the object light. The VibroMap 1000 measures the vibration one frequency at a time and object excitation is normally controlled by the computer. The VibroMap operates in two modes: real time mode and quantitative mode. In real time mode, 30 video holograms (measurement images) are generated per second. With this mode, the vibration is presented by amplitude fringes.

In the quantitative mode, the computer calculates numerical values of amplitude and phase distribution, and generates line or 2D and 3D graphics, also including an animated display of the vibration. The quantitative routine uses from a few seconds to a couple of minutes for a single frequency recording.

VibroMap 1000 is a compact and portable instrument with simple user interface, turn the key and start your measurements.

## Specifications, standard system

|                           |  |                       |   |
|---------------------------|--|-----------------------|---|
| Size of optical head:     | 525x230x100 mm (LxWxH)   | Laser class:          | IIIA (5 mW system)  |
| Weight of optical head:   | 7 kg   | Imaging lens:         | Zoom 12.5 – 75 mm   |
| Laser:                    | 5 mW – 200 mW or higher  | Min. object size:     | < 1 cm  |
| Min. vibration frequency: | < 30 Hz  | Max. object size:     | 2x2 meter or more   |
| Max. vibration frequency: | Unlimited for real time meas.<br>50 kHz standard for quant.<br>measurement. (GHz optionally) | Amplitude resolution: | Sub nanometer   |
|                           |  | Max amplitude:        | 40 nanometer for quant.<br>Appr. 10 micrometer real time<br>measurement |

[www.optonor.com](http://www.optonor.com)