

# Multipoint Vibrometer

This system measures vibrations of objects at 100 points simultaneously. There is no need scanning laser using built-in Optical Comb interferometer, therefore complicated vibrations are visualized in real time which help various industries and applications. Accuracy is up to  $1\mu\text{m}$ . This system is non-contact and non-destructive to objects. Microscopic samples are also available.

## ■ Features

- ◆ **Measures 100 points simultaneously**  
Measures vibrations at 100 points simultaneously.
- ◆ **Non-Contact / Non-Destructive**  
Measures objects non-contact and non-destructive using laser beam.
- ◆ **High Resolution**  
Measures objects with high resolution by using Optical frequency comb, high-coherent wide band light source.
- ◆ **High Accuracy**  
Optical frequency comb is highly accurate laser which is available to optical frequency standard.
- ◆ **High Speed**  
Measures up to 100kHz vibrations.
- ◆ **Microscopic Sample**  
Microscopic samples (ex. MEMS) are available by a head mounted on a microscopy.



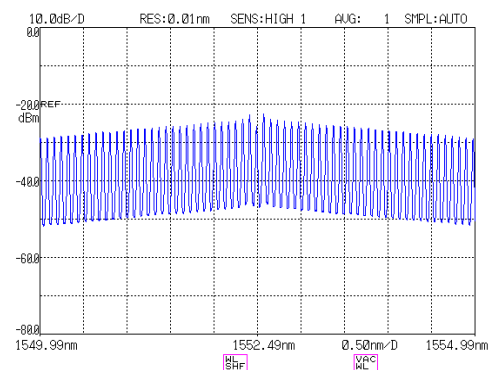
**Microscopic Multipoint Vibrometer**

## ■ Industries and Applications

- ◆ **Industries**  
Energy: Wind-power, Turbine, Aerospace, Ship, Railway  
Automotive: Engines, Flames  
Heavy equipments: Tires, Body  
MEMS industries
- ◆ **Applications**  
Inspection of various vibrations; Surface Waves, Ultrasonic Waves, Solid of revolution, Amplitude, Noise, etc

## ■ Optical Frequency Comb Spectrum

The light source with equally spaced multi wavelength.

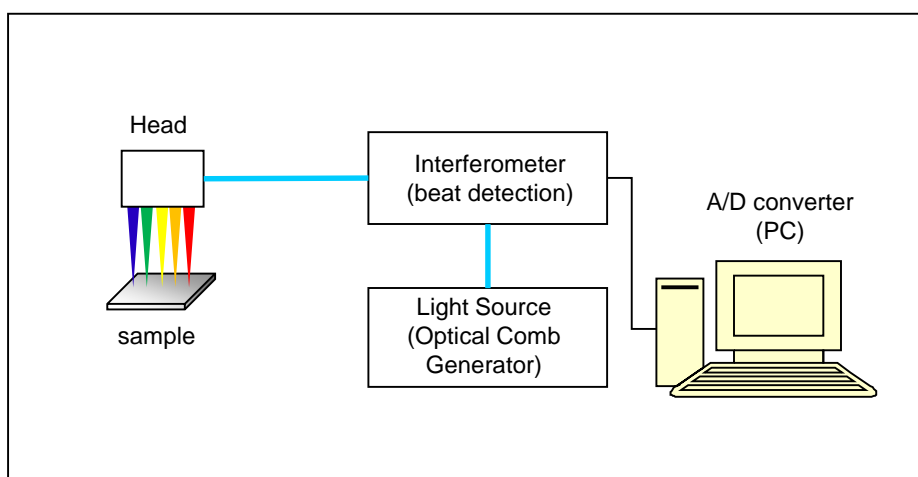


## ■ Specifications

Item	Specifications
Frequency Range	~ 100kHz
Amplitude	0.1 $\mu$ m ~ 3 $\mu$ m
Number of measurement spots	~ 100
Interval between spots*	100 $\mu$ m (equally spaced in a line)
Beam Diameter*	100 $\mu$ m (output from a head)
Wavelength	1,550nm
Connection to Microscopy	C-mount

\*Beam specifications depend on lenses of a microscopy.

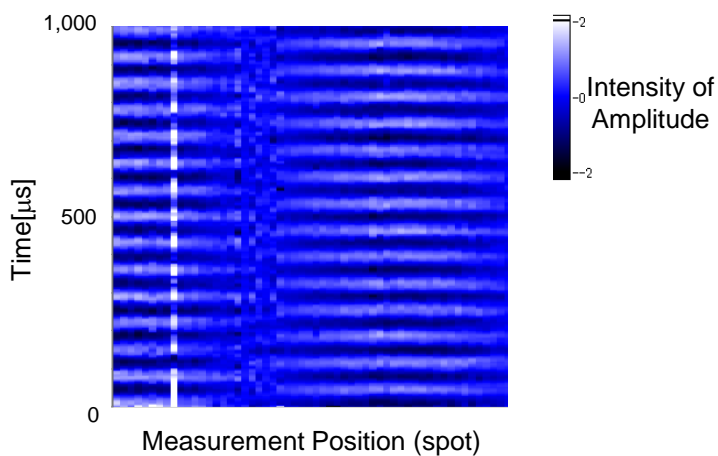
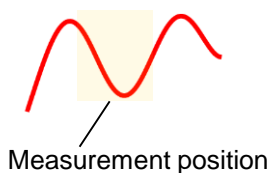
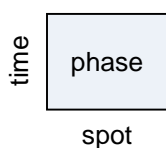
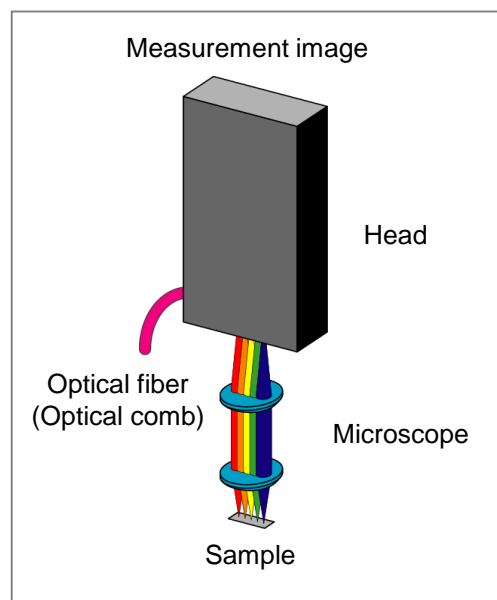
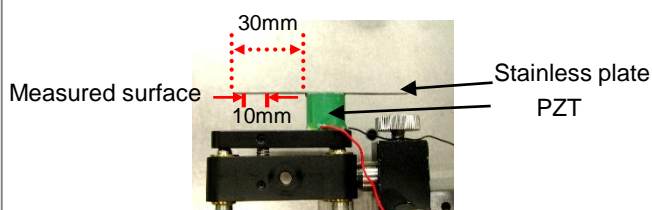
## ■ System Configuration



## ■ Measurement Example

### Measurement Conditions

Objects : Stainless plate  
 PZT frequency : 14kHz  
 Beam interval : 100 $\mu$ m  
 Number of spots : 50  
 Measurement time : 2 $\mu$ s/line



Vibration Analysis (PZT operated at 14kHz)

### ■ Office

KDX Kanda Misaki-cho Building 3F  
 3-6-12, Misaki-cho, Chiyoda-ku,  
 Tokyo 101-0061 Japan  
 Phone: +81-3-6380-9807 Fax: +81-3-6380-9795

URL: <http://www.optocomb.com>  
 Email: [info@optocomb.com](mailto:info@optocomb.com)