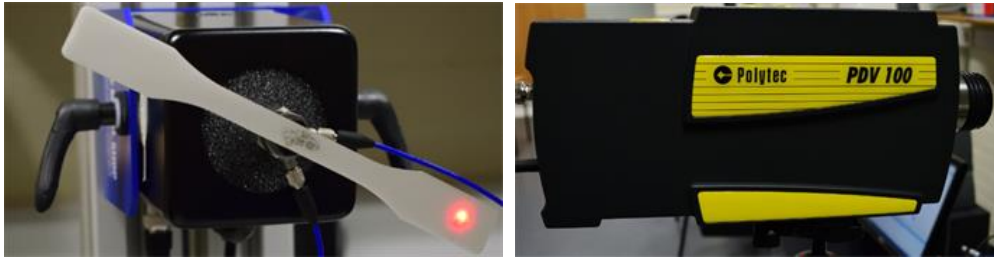




Manufacturing Metrology Team – Instrument Data Sheet

Polytec laser vibrometer and piezo accelerometer



Instrument description

- Vibration damping and isolation are very important fields of study of the dynamic behaviour of a structure.
- The Polytec PDV-100 portable digital laser vibrometer provides a non-contact vibration measurement of a structure and is very suitable to measure the vibration of small or inaccessible areas.
- The Polytec VIB-E-400 junction box and its data acquisition and analysis software Vibsoft 84 provides harmonic analysis capability from measured vibration data of a structure.
- In addition, the PCB 288D01 impedance head provides contact measurement and recording of vibration and force within a structure. With the force sensor, structural frequency response can be analysed.
- The Modal Shop SmartShaker K2007E01 provides a vibration source to simulate an external vibration to a structure, with adjustable frequency and vibration types, for example sinusoidal and burst-type vibrations.



Specifications - PDV-100 Portable Digital Vibrometer

- Non-contact velocity measurement from 0 to 22 kHz
- Three velocity ranges for highest resolution
- Digital signal processing
- Analog signal outputs
- Variable working distance from 0.2 m up to 30 m
- Eye-safe, visible laser

Specifications - VIB-E-400 Junction box

- In-built signal generator and imaging source for component video
- High resolution FFT (12800 lines)
- 4 BNC ports for input signals (1 laser vibrometer and 3 reference signals), up to 80kHz
- 4 BNC ports for output signals
- BNC port for trigger signal, AUX in

Specifications - Modal Shop SmartShaker K2007E01

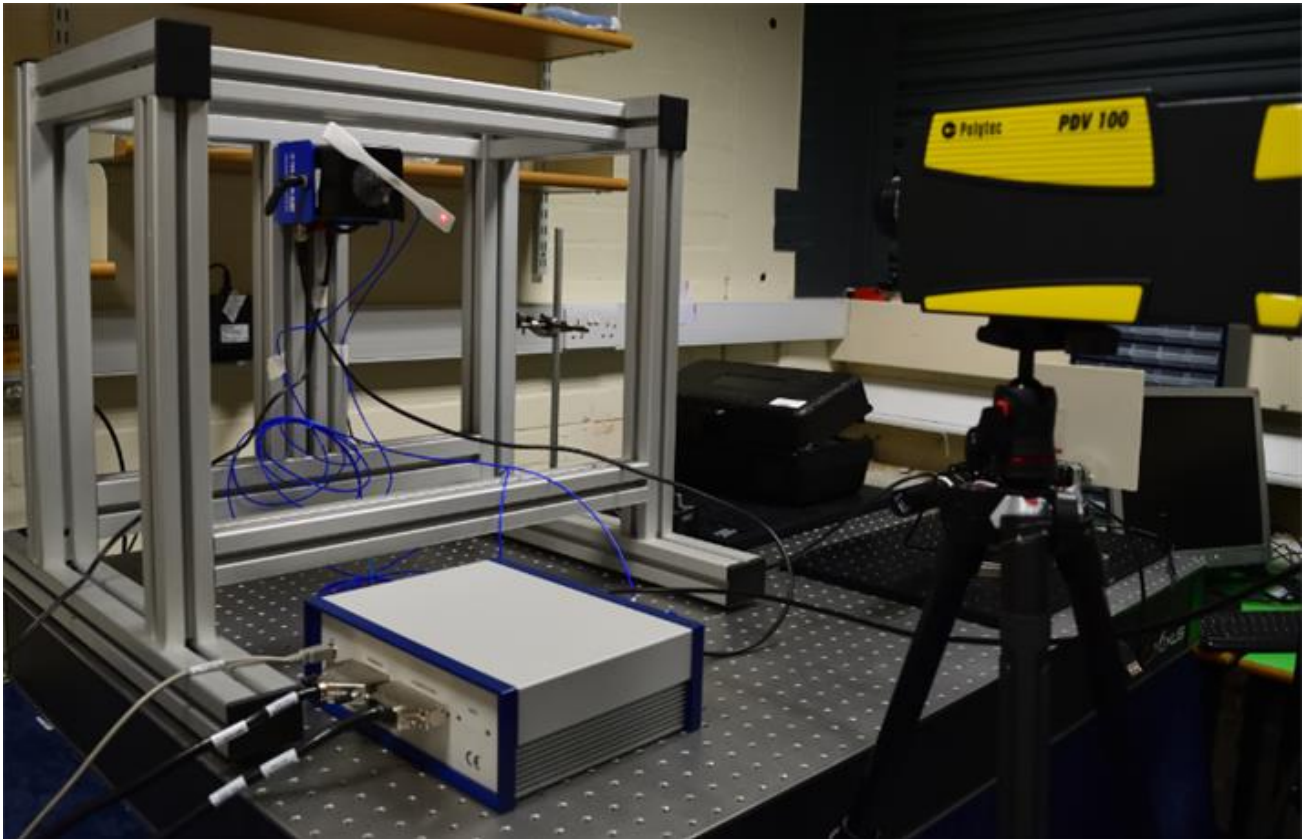
- Integrated power amplifier
- Up to 7 pounds (31N) pk sine force during testing
- 10-32 threaded mounting insert supports payloads up to 2 lbs (0,91 kg)
- Up to 9kHz vibration

Specifications - PCB 288D01 impedance head

- ICP® impedance head
- Force: 100 mV/lb range +/- 50 lbs
- Acceleration: 100 mV/g, 50 g range



Example experimental set-up



- Vibration generated at the centre of an additively manufactured test sample by the piezo accelerator while vibration of the sample tip is being measured by the laser vibrometer.

For contract measurement enquiries, please contact:

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