The vb7® analyzer offers the power and convenience of dual-channel measurement and dual-plane balancing. Its balancing functions enable quick diagnosis and correction of dynamic unbalance, the most common form of unbalance. The vb7® analyzer's combination of accuracy, intuitive operation, ease of use, and outstanding storage capacity ensures the instrument delivers a premium return on investment. Purchase of a vb7® includes the powerful, award-winning Ascent® software.

Ascent® Level 2 enables you to program your instrument with thousands of separate machine definitions, covering a number of route choices. A library of over 300 customizable parameter sets is also available, enabling a vast array of measurement options.

Key features

Ascent® Level 2 software:
- Route enabled - Build routes in Ascent® and send these to your instrument
- CBDb - Commtest Bearing Database with over 30,000 bearings
- Waveform analysis tools - Perfect for power users
- Technical Associates Proven Method – for effortless setup of measurements and alarm levels

Enhanced instrument functionality:
- 2-channel simultaneous recordings
- Wide measurement range - 1,000 g, 25,000 mm/s, 2,500 mm
- 2 plane balancing
- Unique Commtest 6Pack™ recording system
- ≥ 95 dB dynamic range
- 6,400 lines FFT resolution
- 40 kHz Fmax
- 1 GB memory – Virtually unlimited spectra and waveform storage
- Laser speed sensor for automatic capture of machine running speed
- Keyphasor® tach mode
- 5 year warranty on the instrument hardware
- Option to add Flex features
### SPECIFICATIONS

**Sensor Input**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channels</td>
<td>2</td>
</tr>
</tbody>
</table>

**Compatible sensor types**

- Accelerometer, velocity, displacement, current

**AC coupled range**

- 16 V peak-peak

**DC coupled ranges**

- 0 V to 20 V, -10 V to 10 V, ±20 V to ±1 V

**Connectors**

- 2 x BNC (CH1/CH2)

**Analog to digital conversion**

- 24-bit ADC

**Spectrum Display**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>3200 lines max. for dual channel measurements</td>
</tr>
</tbody>
</table>

**Order tracking**

- Up to ±6 kHz peak, Orders-based channel

**Order tracking - Distortion**

- Less than -45 dB

### Tachometer

**Sensor**

- Laser sensor with reflective tape

**Spectrum Display**

- Laser sensor triggers on beam reflection

**Other Sensor types supported**

- Contact, TTL pulse, Keypahsor®

**Power supply to sensor**

- 5 V, 50 mA

**TTL pulse rating**

- 3.5 V (± 0.5 V) min, 28 V (± 5 V) max, off-state 0.8 V

**Keyphasor® thresholds**

- 7.7 ± 0.5 V, 13.3 ± 0.8 V, 18.8 ± 1 V

**Speed range**

- 10 to 300,000 RPM (0.2 to 5 kHz)

**Accuracy**

- +/- 0.1%

**Output to drive strobe**

- Up to 140 Hz (8400 CPM)

### Parameter Indication

**Maximum levels**

- > 1000 g (10000 m/s²)
  - > 1000 in/sec (250 000 mm/s)
  - > 100 in (2500 mm)
  - > 100000 amphs

**Dynamic signal range**

- > 95 dB (typical at 400 line resolution)

**Harmonic distortion**

- Less than -70 dB typical

**Units**

- g or m/s²
  - in/s or mm/s
  - mil or mm or µm
  - adB, dB, adB, dB, user-defined

**Magnitude & cursors**

- Overall RMS value, dual cursors, harmonics

**Base accuracy**

- ± 1% (approx. 0.1 dB)

**High frequency attenuation**

- ± 0.1 dB 100 Hz to 10 kHz
  - ± 3 dB 10 kHz to 40 kHz

**AC coupling attenuation**

- ± 0.1 dB 10 Hz to 100 Hz
  - ± 3 dB 1 Hz to ±10 Hz

**Attenuation due to Integration**

- ± 0.1 dB 1 Hz to 100 Hz
  - ± 1.5 dB 1 Hz to ±1 Hz
  - ± 1.5 dB 10 Hz to ±100 Hz
  - ± 1.5 dB 1 Hz to ±10 Hz

**Spectrum Display**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fmax ranges</td>
<td>25, 50, 100, 125, 150, 200, 300, 400, 500, 600, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000, 6000, 8000, 10000, 15000, 20000, 30000, 40000 Hz</td>
</tr>
<tr>
<td>Resolution</td>
<td>3200 lines max. for dual channel measurements</td>
</tr>
<tr>
<td>Frequency scale</td>
<td>Hz, CPM, Orders</td>
</tr>
<tr>
<td>Amplitude scale</td>
<td>Acceleration, velocity, displacement or current</td>
</tr>
<tr>
<td>Window shapes</td>
<td>Hanning, rectangular</td>
</tr>
<tr>
<td>Overlap</td>
<td>0, 12.5, 25, 37.5, 50, 62.5, 75, 87.5%</td>
</tr>
<tr>
<td>Number of averages</td>
<td>1, 2, 4, 8, 16, 32, 64, 128</td>
</tr>
<tr>
<td>Averaging types</td>
<td>Linear, exponential, peak hold, synchronous</td>
</tr>
</tbody>
</table>

### Logical & Analysis

**Output formats**

- LCD screen, Ascent, XML

**Data storage**

- Dual 1 GB non-volatile flash memories

**Data storage structure**

- Folders / machines / points / locations / routes

**Max Folder size**

- 10 000 measurement locations

### Power Supply

- 24 V maximum

- -20 V to 0 V

- 2.2 mA required for ICP®-type accelerometer

- 18.8 ± 1 V

- 5 V, 50 mA

### Ruggedness

- 4’ (1.2 m) drop onto concrete, IP65

- 18.8 ± 1 V

- ± 0.8 V

### Logically

- Optically isolated input

### Battery & Charger

- USB 2.0, supplying 5V, 250mA

- USB port

- 2.7 lb (1.2 kg)

- Including battery and strap

### Environmental

- Operating temperature: -14 °F to 122 °F (-10 to 50 °C)

- Storage temperature & humidity: -4 °F to 140 °F (-20 to 60 °C), 95% RH

- If storage exceeds 1 month: Up to 95 °F (35 °C), 85% RH

- EMC

- EN61326

- Ruggedness: 4’ (1.2 m) drop onto concrete, IP65

### Contructs

- 9.9 "W x 5.8 "L x 2.4 "H

- (252 x 148 x 68) mm

- Battery & Charger: Custom Lithium Ion pack, 7.4 V, 4500 mAh

- Operating time: 10 hours

- Charger type: External power pack 12 V DC, 3 A output

- Charge rate: 3 A nominal

- 3 hours for complete charge

### Mechanical

- Size

  - 9.9 “W x 5.8 “L x 2.4 “H

  - (252 x 148 x 68) mm

- Weight

  - 2.7 lb (1.2 kg)

- Battery & Charger

- Electrically

  - Custom Lithium Ion pack, 7.4 V, 4500 mAh

- Operating time: 10 hours

- Charger type: External power pack 12 V DC, 3 A output

- Charge rate: 3 A nominal

- 3 hours for complete charge

- Environmental

  - Operating temperature: -14 °F to 122 °F (-10 to 50 °C)

  - Storage temperature & humidity: -4 °F to 140 °F (-20 to 60 °C), 95% RH

  - If storage exceeds 1 month: Up to 95 °F (35 °C), 85% RH

  - EMC

  - EN61326

  - Ruggedness: 4’ (1.2 m) drop onto concrete, IP65

### Technical Details

- Demodulation bandwidth options

- Vb7 23 bandwidth options

- From 125 Hz to 1250 Hz up to 16 kHz to 20 kHz

- 6Pack

- Up to 40 kHz & 3200 lines 1 channel

- Up to 20 kHz & 1600 lines 2 channel

- Spectrum and waveform for low freq, high freq, demod.

- Order tracking

- Up to ±6 kHz Fmax, Orders-based channel

- Tachometer required, mounted on high-speed shaft

- Order tracking - Distortion

- Less than -45 dB

- Within 50% to 200% speed variation during recording

### Display & Communication

- Display

  - Graphic Grayscale LCD

  - White LED Backlight

- Resolution & size

  - 480 x 320 (HVGA), 5.5” (140 mm)

  - Readable in direct sunlight

- Supported Languages

  - ENG, FRA, SPA, POR, RUS, CHI

  - Firmware releases in English, US & SI options for both adB & vdB

- Communication with PC

  - USB and Ethernet

  - PROFIBUS allows instrument software to be upgraded

- USB host port

  - USB 2.0, supplying 5V, 250mA

- Save folders to USB Flash drive

- Battery & Charger

  - Custom Lithium Ion pack, 7.4 V, 4500 mAh

  - Operating time: 10 hours

  - Charger type: External power pack 12 V DC, 3 A output

  - Charge rate: 3 A nominal

  - 3 hours for complete charge