Enhanced Vibrex™ 2000 Plus (EV2K+)

The cost-effective balancer/analyzer with superior performance

Honeywell
The Enhanced Vibrex™ 2000 Plus (EV2K+) is a cost-effective balancer/analyzer for fixed-wing propeller balancing or helicopter rotor track and balance with superior performance. The EV2K+ is a vibration analysis and balancing tool that rapidly and accurately acquires and analyzes aircraft and engine vibration data. It uses that data to calculate balance solutions and to analyze aircraft vibration levels across a broad frequency range.

The balancer/analyzer acquires accurate fixed-wing and helicopter vibration readings and allows you to balance the propellers or blades using the integrated display – without the use of paper charts, or you can use any of the 150 available Honeywell or factory paper charts. Beyond that, the unit is also capable of balancing shafts and blowers, making the EV2K+ a complete balancing tool.

The spectrum analyzer provides the operator with an overview of rotor and drive train and engines with component frequencies of 600,000 rpm or less, and balance speeds below 30,000 rpm.

**EV2K+ Features:**
- Built-in configurations for popular helicopter and fixed wing models – can be modified and saved to meet user requirements or to support other helicopters
- EV2K+ now interfaces with the hands-free FasTrack optical tracker; allowing use with both the Strobex or FasTrak
- Fixed-wing propeller balance
- Helicopter rotor track & balance (RT&B)
- Vibration and spectrum analysis
- Four channel input for multiple balance jobs (with optional cables)
- Two tachometer channels (mag pickup and photocell)
- Automatic weight sensitivity correction
- Uses common rechargeable or disposable D-cell batteries
- Usable with all legacy Polar Charts
- ASCII output (non proprietary)
- Auto shutoff
- Auto tuning
- Display, review and print measurements and solutions
- Built-in-test (BIT) check and self calibration on power up
- Battery power indicator
Easy to understand menus allow the user to initiate and complete up to four different balancing jobs at one time. The EV2K+ will automatically correct for the propeller/rotor response to weight changes and this correction can be saved for future balancing exercises. A “first round hit” solution means less vibration, even on the first adjustment. Two azimuth channels have the capability to support magnetic pickup, photocell and FasTrak® optical tracker.

With the use of optional interface cables, the EV2K+ can support up to four vibration inputs.

All measurements, sensitivities, solutions, and annotations are stored in memory and can be reviewed on the instrument, printed on the optional portable thermal printer, or downloaded to a personal computer.

The EV2K+ comes with pre-programmed software for:

**Helicopters**

- **Airbus**
- **AgustaWestland**
  - A109E Power, A119, AW139
- **Bell**
  - BL206B, BL206L, BL212, BL222, BL407, BL427, UH-1H
- **Enstrom**
  - x80
- **MD Helicopters**
  - MD-500, MD-520N
- **Robinson**
  - R-22, R-44, R-66
- **Sikorsky**
  - S-61
- **Schweizer**
  - SW-300

**Fixed Wing**

- **Aerospatiale**
  - ATR42, ATR72
- **Antonov**
  - AN-32
- **Bombardier**
  - DASH 4, DASH 5, DASH 6 (Twin Otter), DASH 7, DASH 8
- **British Aerospace**
  - BAE 146
- **Canada Air**
  - CL215T, 415
- **Casa**
  - C212, 295, CN235
- **Cessna**
  - Caravan 2, Conquest
- **Dornier**
  - DO228, DO328
- **Embraer**
  - EMB-120, Tucano
- **Lockheed**
  - C-130J
- **Pilatus**
  - PC-6, PC-7, PC-7 Mkd, PC-9, PC-12
- **Piper**
  - CHEYENNE
- **Raytheon**
  - 1900D, KING AIR, BONANZA
- **Saab**
  - 340
- **Short**
  - 312, Tucano
- **Swearingen**
  - MERLIN, METRO III

The EV2K+ comes with all the software, accessories and instructions for your particular application in a rugged, portable carrying case. Ground software includes Vibrex™ 2000 Download and Vibrex 2000 Plot. An aircraft kit will normally consist of the following:

- **Main Kit** – Main accessory kit.
- **FasTrak Kit** – For helicopter main rotor blade tracking.
- **Application Kit** – Consists of the custom brackets and cables.
### EV2K + Specifications:

<table>
<thead>
<tr>
<th><strong>Physical</strong></th>
<th><strong>Dimensions:</strong> 7.38&quot; H x 7.25&quot; W x 1.81&quot; D (18.75 cm x 18.42 cm x 4.6 cm)</th>
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<tbody>
<tr>
<td></td>
<td><strong>Weight:</strong> 3.5 lbs. (1.58 kg) (with batteries) nominal</td>
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<td></td>
<td><strong>Power Requirements:</strong> 3.0 - 6.4 Vdc 250mA (internal batteries)</td>
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<td><strong>Battery Life:</strong> 40 hrs (typical)</td>
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<td><strong>Interfaces</strong></td>
<td><strong>Vibration Sensor:</strong> 2 ea. Velocimeter (19 mV/ips sensitivity) (4 ea. with optional cables)</td>
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<td><strong>Magnetic pickup / Tachometer:</strong> 2 ea. Pulse input, magnetic pickup or logic type</td>
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<td><strong>Accessory Power:</strong> 4 ea. D-cell batteries. Reverse polarity circuit protected and fused</td>
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<td><strong>Portable Computer or Printer:</strong> 1 RS-232 Serial, 9600 baud</td>
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<tr>
<td><strong>Balance Measurements</strong></td>
<td><strong>Phase Accuracy:</strong> ± 15°</td>
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<td><strong>Balance Frequency Range:</strong> 120 to 30,000 rpm</td>
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<td><strong>Phase Resolution:</strong> 2 minutes or 1 degree</td>
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<td><strong>Performance</strong></td>
<td><strong>Accuracy:</strong> ± 0.5dB from 4 Hz to 500 Hz / ± 1dB from 501 Hz to 10 KHz</td>
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<td><strong>Spurious Free Dynamic Range:</strong> &gt;50dB</td>
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<td></td>
<td><strong>Velocimeter Input Ranges:</strong> 0 to 380mV peak (20 ips)</td>
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<td></td>
<td><strong>Velocimeter Input Sensitivity:</strong> 19mV/ips peak</td>
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<td><strong>High-pass Filter:</strong> 3-pole Chebyshev, -3.0 dB @ 1.5 Hz</td>
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<td><strong>Mag pickup, Input Freq. Range:</strong> 100 - 50,000 rpm</td>
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<td></td>
<td><strong>Mag pickup, rpm Accuracy:</strong> 0.15%</td>
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<td><strong>Mag pickup, Input Voltage Range:</strong> 0.5 to 12 Volts peak nominal</td>
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<tr>
<td><strong>Spectrum Analysis</strong></td>
<td><strong>Analysis Ranges (Fmax, rpm):</strong> 1200-600,000</td>
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<td><strong>FFT Resolution:</strong> 400 Lines</td>
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<td><strong>Window Type:</strong> Flat top</td>
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<td><strong>Environmental</strong></td>
<td><strong>Temperature:</strong> 0°C to 50°C</td>
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<tr>
<td></td>
<td><strong>EMI susceptibility and radiated emissions:</strong> Equipment Class Standard EN50081-2</td>
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<td><strong>Industrial Electronic Control CE certified:</strong> Standard EN50082-2</td>
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