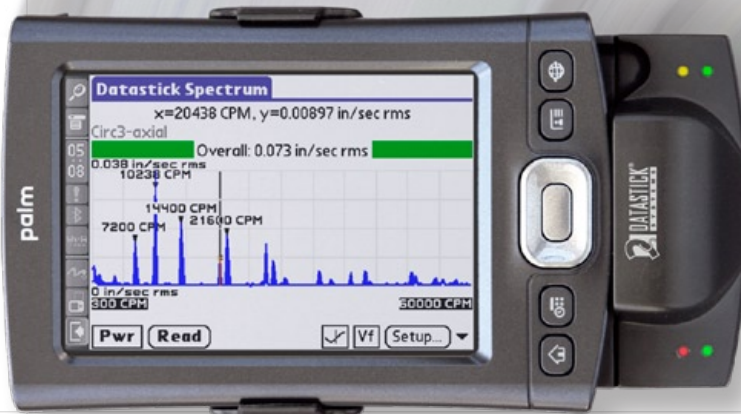


For Palm T|X handheld computers
Handheld instruments for
vibration data collection and analysis

Datastick® VSA-1214™ VSA-1215™ Vibration Spectrum Analyzers

Pocket sized, 10 ounces
Easy to learn, simple to operate
Unlimited storage capacity
PC software designed for data sharing



www.datastick.com

The Datastick VSA-1214 and VSA-1215 put vibration analysis into your hands. Easily.

Vibration analysis is one of the most effective methods of increasing machine reliability and reducing downtime. So why don't more facilities take advantage of it? For many, it comes down to two barriers: high initial cost and lack of available expertise.

Datastick VSA-series Vibration Spectrum Analyzers smash both of those barriers.

VSA systems are priced for easy budget approval and the included training videos make it simple to get started quickly.

If you already have an expensive analyzer, you can prevent resource schedule conflicts and save money by using VSA systems for the routine tasks that take up 80% of your time. And you don't have to have an in-house vibration expert. You can send data to any

consultant you like because the included PC software, Datastick Reporting System, is based on Microsoft® Excel®. Anyone with Excel can view the data instantly.

The VSA-1214 and VSA-1215 Vibration Spectrum Analyzer systems consists of:

- VSA-1214 or 1215 hardware module
- Palm® TIX handheld computer*
- Datastick Spectrum handheld software
- Datastick Manager handheld file-management software
- Datastick Review handheld data-comparison software
- Datastick Reporting System for VSA software for Windows PCs
- SD memory card, 128 MB or greater
- Quick-start training videos

VSA System Specifications

Channels: 1

A-to-D: 12 bit

Antialiasing Filter: 10th order hardware

Sensor Input: BNC, ICP®-compatible

Sensor Types Accepted:

VSA-1214: Accelerometer

VSA-1215: Accelerometer or velocity sensor

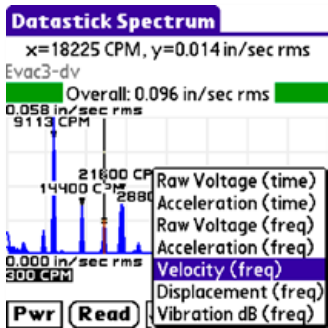
Input Impedance: 100 k Ohm

Sensor Sensitivity: 100 mV/g nominal, adjustable from 10 mV/g to 10,000 mV/g

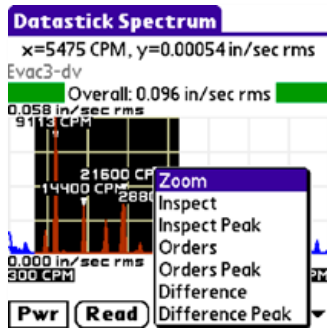
Sensor Power (for ICP-compatible sensors):

VSA-1214: 24 V, 10 mA

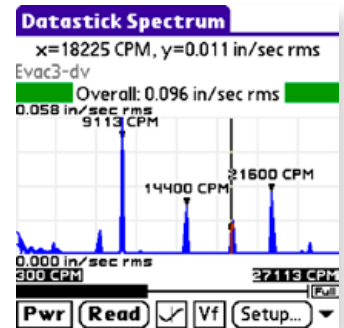
VSA-1215: Selectable: ICP Power off/on, 5 V, 12 V, 18 V, 24 V; 2 mA, 5 mA, 10 mA, 20 mA, 25 mA



Datastick Spectrum handheld software displays the spectrum (or waveform), peaks, overall vibration, colored alerts, and pop-up mode menu all on one high-res screen.



Seven cursor tools include Direct Zoom™, which lets you select an area of interest on the screen with the handheld's stylus, or with your finger, and zoom up to 64 x.



When zoomed in, a scroll bar lets you scroll left and right. The Inspect cursor tool (shown here at 18225 CPM) shows you the x and y values of any point you touch.

* Included in most packages; can be purchased separately.

The Datastick VSA-1214 and VSA-1215 put vibration analysis into your hands. Easily.

Maximum Input Levels (Selectable):

VSA-1214: 20 g, 5 g

VSA-1215: 50 g, 20 g, 10 g, 5 g, 2 g, 1 g

Dynamic Range:**

VSA-1214: 90 dB total; 65 dB/input range

VSA-1215: 130 dB total; 65 dB/input range

Displays:

Time Domain: Acceleration or voltage waveform, optional overall vibration

Frequency Domain: Acceleration, velocity, displacement, voltage, or vibration dB FFT spectrum; optional overall vibration

Maximum Frequencies (Selectable):

VSA-1214: 10, 5, 4, 2, 1 kHz, 800, 500, 400, 200, 100, 50 Hz

VSA-1215: 20, 10, 5, 4, 2, 1 kHz, 800, 500, 400, 200, 100, 50 Hz

FFT Resolution (Selectable):

VSA-1214: 1600, 800, 400 lines

VSA-1215: 3200, 1600, 800, 400 lines

Display Units: Hz or CPM; English or metric

FFT Windows: Rectangle (Uniform), Hanning, Hamming, Flattop, Blackman, Bartlett

Averaging: Linear or peak hold, 1, 2, 4, or 8 averages

Peak Detection: Up to 15 highest peaks

Cursors: Zoom/Pan, Inspect (any x-y value), Peak inspect (peak x-y values), Orders, Peak orders, Difference (between two points), Peak difference (between two peaks)

Alerts: Color-coded for ISO 10816-3 or user-specified levels

Route-inspection Capability: Reloadable configurations allow every test point to be uniquely named and exactly repeatable.

Power Supply: Internal 900 mA/h Li-ion battery; optional external 3000 mA/h Li-ion battery powers both the VSA module and the Palm handheld

Operating Time (Typical, internal battery):

8 hours continuous (VSA-1215 powering sensor at 24 V, 5 mA)

Dimensions (with Palm T1X): 5.75 x 3.125 x 1.875 in (146 x 79 x 48 mm)

Weight (with Palm T1X): 10 oz (283 g)

Palm T1X Handheld Specifications

CPU: Intel 312 MHz ARM-based processor

Operating System: Garnet™ OS 5.4.9

Memory: 100 MB user-accessible nonvolatile memory (holds up to 3000 spectra)

Unlimited Memory Expansion: Record directly to SD (Secure Digital) memory cards up to 2 GB each

Screen: 320 x 480 transfective color TFT touchscreen, landscape and portrait modes

Sync: USB sync cable for HotSync® operation or direct file transfer to PC via SD card

Power: Internal Li-ion battery, AC adapter

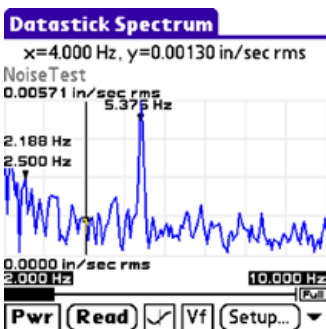
PC System Requirements

Windows XP or Windows Vista,™ and Microsoft Office® 2003 or 2007 Microsoft Excel 2003 or 2007 standalone

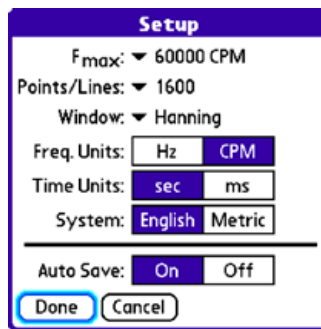


Optional RC-4 rugged enclosure provides protection from impacts and the elements.

VSA systems are available in a number of packages, including this Turnkey package.



The VSA-1215's low noise floor is shown in this zoomed-in span of 2–10 Hz. This 5.375 Hz, 0.00571 in/sec peak pops out of noise measured at 0.0013 in/sec at 4 Hz.



Datastick Spectrum is designed for fast, easy setup. The most frequently used settings are grouped into one window. Pop-up menus and buttons can be finger activated.



Direct observations are often even more important than numbers. That's why the Add Note dialog lets you attach a text note to any measurement and export it to the PC.

** Total dynamic range measured in overall vibration (RMS) from the top of the highest input range to the bottom of the lowest input range.

Vibration analysis with the convenience and versatility of Excel

Datastick Reporting System for VSA software breaks new ground for ease of reporting on your PC. It's built around the familiar framework of Microsoft Excel, so you spend less time learning the software and more time getting work done. And you can share your data and reports with anyone.

You start by moving your data to your PC via a pushbutton HotSync transfer or by copying straight from an SD card. It's that easy.

Here's a quick tour:

- 1. Home Screen:** The gateway to Datastick Reporting System. Vibration data files from the Palm OS handheld are sorted by date, time, and collection location. You can import all files or just the ones you choose.
- 2. Tabular Display:** Imported files populate individual spreadsheets — one for each inspection point. Future inspections of the same point are added to the same sheet to create a history.

- 3. Graphing Tool:** Select the data you want, pick a style of graph, and click.
- 4. FFT Spectrum Graph:** Cursor-point data display, auto- manual- or log scaling— all selectable by mouse or keyboard.
- 5. Waveform Graph:** Offers the same tools as the FFT Spectrum Graph.
- 6. Stacked Graphs:** Graphs align for fast historical comparison of up to four spectra.

- 7. View Pallet for Graphs:** Navigation and frequency-span selection tools are always handy when you need them.
- 8. Waterfall Graph:** Display any number of spectra in a waterfall. 3-D tools let you view from any angle.
- 9. Tool Pallet:** Provides master controls for all of DRS. The Tool Pallet is always just a keystroke away.
- 10. Trend Report:** Overall vibration trend reports are as easy as selecting the data and clicking the mouse.
- 11. Exception Report:** DRS automatically finds level exceptions and produces comprehensive reports with a mouse click.



The collage includes the following screenshots:

- 1:** Home Screen showing file import options.
- 2:** Tabular display of inspection data in an Excel spreadsheet.
- 3:** Graphing tool dialog box for selecting data and graph styles.
- 4:** FFT Spectrum Graph showing frequency readings.
- 5:** Waveform Graph showing a time-domain signal.
- 6:** Stacked Graphs showing multiple spectra for comparison.
- 7:** View Pallet for Graphs with navigation and selection tools.
- 8:** Waterfall Graph showing a series of spectra.
- 9:** Tool Pallet with master controls like HOME, VIEW, and PRINT.
- 10:** INSPECTION POINT TREND REPORT showing a line graph of data over time.
- 11:** EXCEPTION MEASUREMENTS table listing specific data points.

| Inspection Point | Value | Units | Severity | Date/Time |
|------------------|----------|----------|----------|-------------------|
| Fan-1a | 0.257038 | mm/s rms | Critical | 10/26/06 10:30:53 |
| Fan-1b | 0.257038 | mm/s rms | Critical | 10/26/06 10:30:53 |
| Fan-1c | 0.257038 | mm/s rms | Critical | 10/26/06 10:30:53 |



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