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Lansmont Field-to-Lab™

Field Notes

October 2003

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China

November 14, 2003
Field-to-Lab™ Seminar
Lansing, MI

New Product Release!

Powerful Low Cost Field Instruments

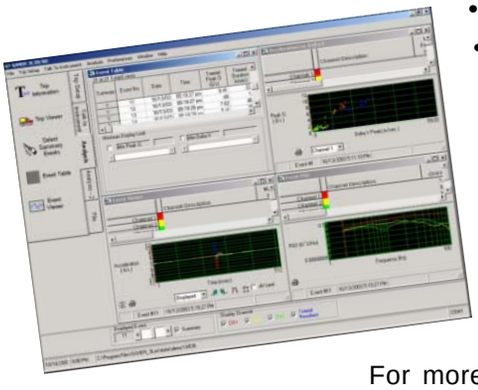
By Dave Huntley

Over the past few months, we've given some hints of a new product to be released and it has generated lots of interest. Well these new products are now complete, tested, and ready for the market. Lansmont's new SAVER™ 3L30 and 3L60 are ready for work!

The need for a low cost, waveform enabled, and re-usable data recorder has almost been overwhelming. Our new low cost devices really fit the bill…the SAVER™ 3L30 & SAVER™ 3L60 include a tri-axial waveform event recorder that will continuously measure the environment and store the 100 largest dynamic events. Each device can measure for a 30-day period (SAVER™ 3L30) or 60-day period (SAVER™ 3L60) on rechargeable batteries. These devices include visible Alarm indicators to notify you that an event was encountered over a user-defined threshold.

The user interface for these new products includes a windows™ based software package that will work on Windows 98, 2000, XP and NT. The product simply connects to your PC via a standard serial port and the easy to use software gets you up and running in minutes.

The powerful Analysis Software includes the following analysis features:



- **Trip View** - Events vs. Total Record Time
- **Event Viewer** - Waveforms
- **Accel vs. Delta V** - Damage Boundary
- **Event Table** - Spreadsheet of all Events
- **Trip Information**
- **Shock Response Spectrum** - SRS
- **Event PSD**
- **Summary PSD**

For more information call your local Lansmont representative or go to www.lansmont.com

Dave Huntley
Instruments Manager
Lansmont Corporation

"Trick or Treat"

By Joe Driscoll

Joseph L. Driscoll
Chief Executive
Lansmont Corporation

"Trick or treat?" That's the question little children will be asking all night long on this Halloween evening. Fortunately it's a question that has lost its literal meaning. Practically speaking, it is the equivalent of "Please and thank you Mr. Jones, can I have some candy real quick."

"Trick or treat?" is an analytical question that many business people might profit from asking every now and then. We are all optimists and as such we are vulnerable to occasionally being victimized by a "trick" masquerading as a "treat".

If it's too good to be true, it probably isn't. Thousands of otherwise intelligent Americans get hooked into reading letters that promise great bargains and instant winnings. The "treat" is the chance for good fortune, but there is a "trick" that accompanies many of these great deals.

Excess office supplies, slightly out of tolerance materials, and remanufactured equipment are all offered at tempting discounts from time to time. "Trick or treat?" Probably some of each. There are bargains to be had, but maintain a healthy dose of skepticism for deals that sound "too good to be true". There are far more "tricks" than "treats".

You're faced with making an important decision, the numbers look good but your natural instincts sense problems. "Trick or treat." You may be in for a nasty "trick" if you don't listen to your gut reaction. "Gut reactions" of experienced managers aren't whimsical fantasies. They are instincts developed from years of meaningful experience. They shouldn't govern the decision making process, but they certainly shouldn't be disregarded. In this case, knowing the "tricks" of the trade can be helpful.

Things that don't make sense, don't make sense. It seems obvious enough, but we all spend too much time trying to figure out things that don't make sense.

There are a lot of good talkers in this world. It may be an employee, a customer, or a supplier, but some place along the line, somebody is going to try to tell you that black is white, and that white is black. The approach may be convincing and you may be tempted to accept the explanation, but common sense tells you that this is nonsense. Don't be afraid to listen to your natural instincts. Remember, sometimes "the Emperor wears no clothes".

Fun Photo

Great Pumpkin Sighting...

near Salinas CA...

Did It Pass?
What you need to know!

by James Earle

Before starting any testing program, it is important to have a well-developed game plan. Without the game plan, crucial steps can get overlooked. Let's face it, on a tight schedule the project momentum can cause details to be overlooked.

An often overlooked point in the planning phase of the test plan: *What do we really want to learn about the product and/or package?*

What Defines Failure?

Before setting foot inside the test lab…
Determine measurable criteria to evaluate the items response to the testing.

Any criteria can be used to define damage and it will likely be unique to the product itself. For example, in the consumer driven market where looks are important, physical damage such as scratches, tears, or bends could constitute failure. Because these things tend to be a matter of degree, measurements should define what is OK and what is not acceptable. The criteria might also be based upon the cost of the damaged part or the importance of the component to overall product. It might be related to a product's functionality ability, you could use QA tests to determine, "does it function as designed or not?"

What to Look for Before Testing?

Before any testing starts, the condition of the test item should be fully understood and documented. Generally when using a remote test facility, this means you will need to over-package prototypes or test packages for delivery to the test facility. The first step upon delivery, evaluate the measurable damage criteria to ensure the item is still "OK". You may even re-package prototypes upon delivery before the testing starts.
If the unit is already damaged before you start, your ability to learn from the testing will be diminished.

During Testing and Between...

As the testing commences, it's always important to examine the unit for change. For example in vibration, critical components should be monitored closely for changes in frequency response or transmissibility. It's a good idea to also monitor the unit with your ears for audible changes. Listening for shifts in response are clues to areas that may have changed physically during the test. Accelerometers placed on critical components can monitor their response and provide helpful clues for designers to understand exactly when and how a component becomes damaged. This helps designers pinpoint weaknesses and make adjustments.

After Test Inspection

Did it pass?
Many times we get asked this question right at the conclusion of a test.
Well… this all goes back to the first step…
If the inspection satisfies the predetermined test plan, then it's a pass!

(continued on page 4)

James Earle
Lab Manager
Sunnyvale Testing Center
Lansmont Corporation

Did It Pass?

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Documentation

You can never have too much information. Two weeks, or a month from now you may be asked, "What was that we tested again?" and "What did we see?" Documentation is a simple and easy step that will let you answer those questions with confidence.

Photos, drawings, descriptions, times, dates, the event, configuration, product revision, package revision, test weight, alterations to the unit, and so on… It's amazing what you know when you are doing it, and what you can't remember once you're done.

Conclusion

Save your company two valuable commodities, time and money. Planning sets the stage for a test plan that can be well executed and produce documented results. Identifying results from testing performed without a good test plan is more like gambling. If you're not going to plan, document, and learn from testing, you just might want to take your money straight to Las Vegas!!!

The HeavyWeight

by Peter Brown

In last month's issue of Field Notes, I had described some of the intricacies and challenges of performing precision free-fall drops utilizing Lansmont's PDT-56 series drop testers. The PDT-56 series testers utilize high-speed pneumatics to insure precise "flat" drops and are a perfect testing solution for packages and products weighing less than 175 Lbs. "What if my package/product weighs more that 175 Lbs?" Glad you asked!

For those testing applications requiring a bit more muscle, Lansmont offers the PDT-227 series "Heavy Weight" drop tester. Notice the "PDT" in the title? The 227 is a member in good standing of Lansmont's Precision Drop Tester family. Although the end result of the drop is the same with the PDT-227, the design concept that it employs to achieve its precise, flat drops are very different than the PDT-56 series tester. Let's take a closer look at what makes the PDT-227 so accurate.

First, the concept: Rather than utilizing a platen that is pneumatically fired straight down and rotated out of the way of the test specimen as with the PDT-56 series, the PDT-227 utilizes a welded carriage that is accelerated straight down, faster than the acceleration of gravity. The welded steel carriage is guided by precision bearings on a guide rail and accelerated by a simple, reliable spring cable system. Once the carriage reaches the impact surface, it disappears into recesses in the base and its motion is arrested by a hydro-pneumatic snubbing device to prevent it from rebounding back into the test specimen.

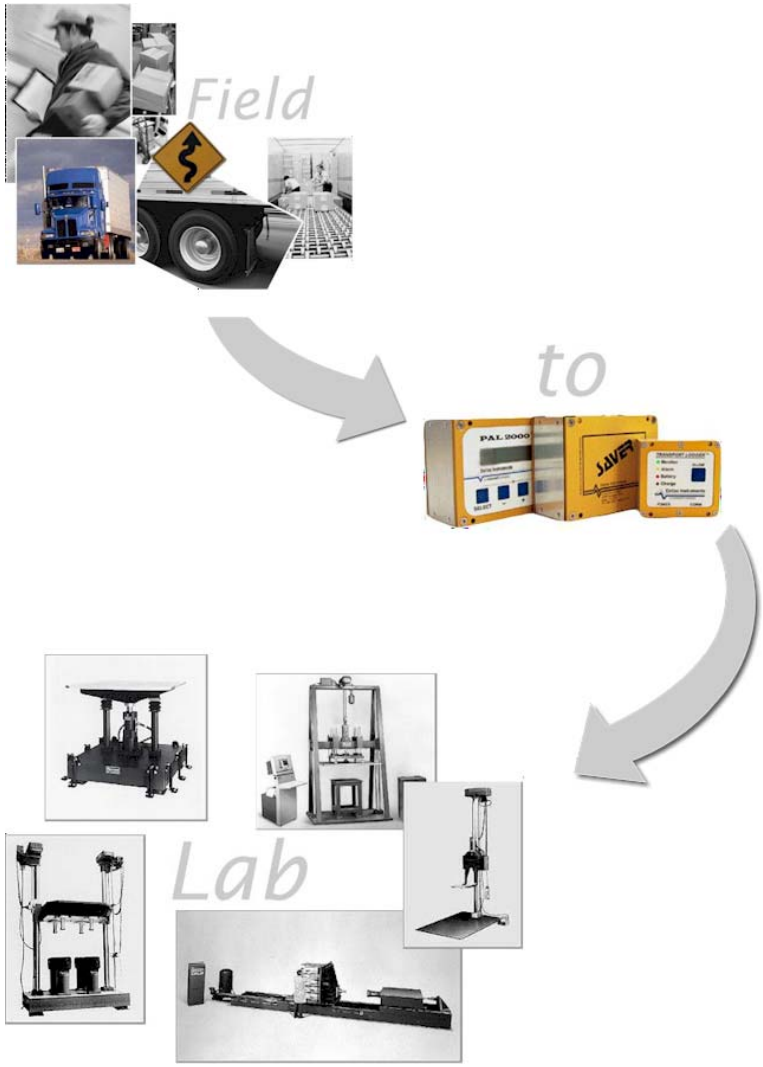
With the Lansmont PDT-227, the customer has the choice of two different impact surfaces. The most popular option is to mold the carriage recesses directly into the laboratory's concrete floor. This allows the concrete floor itself to be used as the impact surface. As long as the floor is level, there are no side-to-side dimension restrictions using this approach. Lansmont provides all concrete forms, making installation easy and accurate. The second option offered is a solid steel base that the carriage drops into. This option is very convenient if unrestricted side-to-side capabilities are not required and makes relocating the machine from one place to another much easier.

The Lansmont PDT-227 gets its muscle from an industrial grade, ½-Ton hoist. Rather than complicated hydraulic lifting devices which can be slow and require more maintenance, the industrial hoist provides fast carriage positioning with minimal service requirements. Additionally, the electric hoist provides one additional safety feature: an electric braking system which prevents the carriage and payload from dropping in the event of a power failure.

Lansmont's PDT-227 utilizes the same Micro-Test™ hand-held controller as the PDT-56 series tester for positioning the drop carriage, programming drop heights, auto-height return, and arm and drop functions. The Micro-Test™ controller is easy to use, reliable, and packed with safety features that protect the operator and prevent inadvertent drops.

Whether you are drop testing cell phones or refrigerators, the Lansmont Corporation has a Precision Drop Tester to meet your needs! Give us a call today and let us help you configure the perfect drop tester for your application.

Peter Brown
General Manager
Lansmont Corporation



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