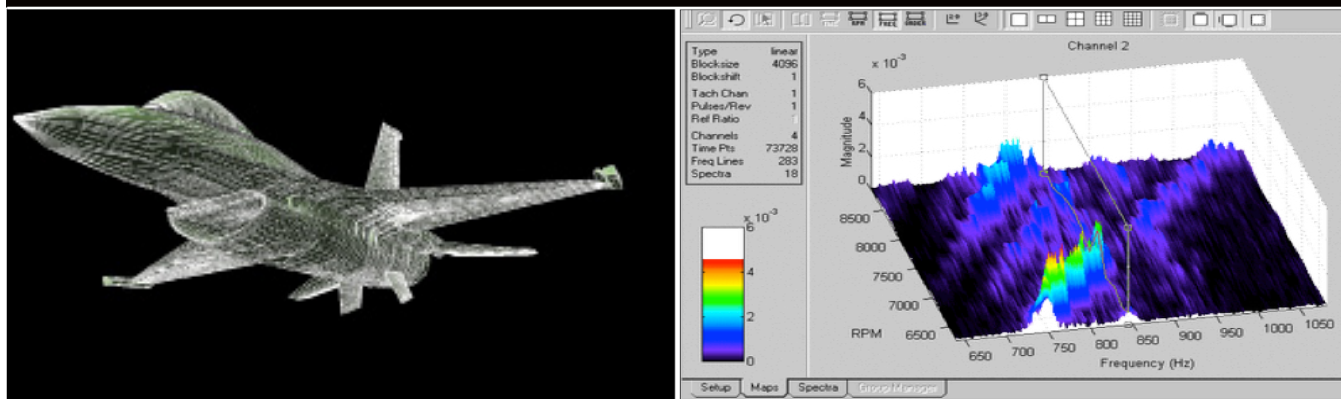


NVH TEST SOLUTIONS ENTER 4TH GENERATION



Introduction

Noise, vibration and harshness (NVH) test encompasses a broad range of applications including acoustics, modal, structural, and rotating machinery, which all rely on dynamic signal analyzer (DSA) instrumentation for acquisition and analysis. The HP 3565 was introduced in the 1980's to address this need and quickly became the most widely used modular DSA product platform in the industry; however, it was still difficult to accomplish high channel count and widely distributed tests with this solution.

DSA Gold Standard

In the early 1990's VXI-based hardware quickly emerged as the ideal approach for high channel count DSA applications by offering exceptional modularity and scalability, and the VT1432B family quickly emerged as the gold standard in the industry. Additionally, the need for specialized software tools spawned an entirely new industry of software solution providers focusing on a wide range of vertical application spaces. Companies including m+p International, LMS, Vibrant, Brüel & Kjær and Data Physics, as well as leading universities such as the SDRL, were quick to adopt this platform.

VTI Instruments Corporation purchased the mechanical test business unit from Agilent in 2003, which included the entire DSA product family, and immediately implemented a program of modernization and feature set improvements which resulted in the release of the 3rd generation of multi-channel DSA systems leading the market in performance and scalability. Furthermore, customer demand for higher speed data throughput, distributed measurements, and homogeneous data acquisition systems propelled VTI to establish the LXI Consortium in 2005, and launch a new family of mechanical data acquisition products based on the industry standard Ethernet interface.

Once again VTI succeeded in setting the gold standard for physical measurements with a new series of precision distributed temperature, voltage and strain instrumentation products. But now it's time for DSA instrumentation to receive a much needed technology and performance upgrade, and VTI is leading the way once more.

4th Generation Instrumentation

Over the past decade advances in technology have had a significant impact on our daily lives, whether storing and accessing data on the cloud or using ever more powerful tablet computers, and this trend can now be experienced in VTI's 4th generation of DSA instrumentation. Functionality such as FPGA-based synthetic instrument customization, corporate wide cloud data management, comprehensive runtime health monitoring, embedded self-calibration, and precision distributed measurement synchronization are all essential attributes of any new instrumentation platform.

The New SentinelEX Series of Smart Dynamic Signal Analyzers incorporate the latest technological innovations, along with best-in-class analog design methodology, to deliver industry leading measurement performance that will change the way you view NVH test. This instrument is ideal for a wide range of applications including acoustics, modal, order analysis, and machine condition monitoring, as well as general purpose high speed digitization and signal analysis.



sentinel**EX**

Synthetic Hardware Customization and the Cloud

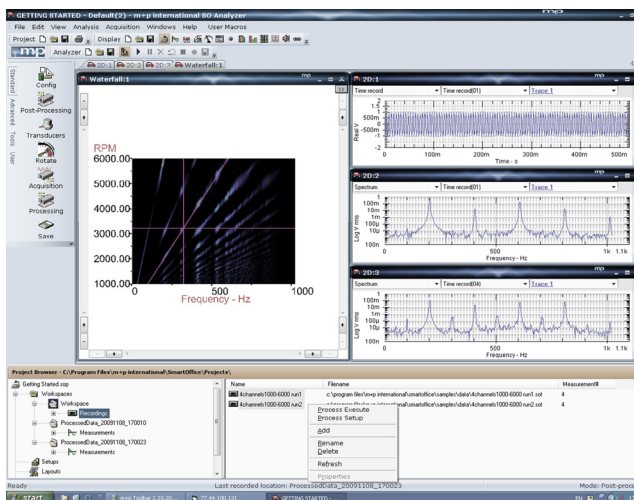
Corporate wide cloud data management delivers advanced test data access, security and storage services throughout the organization, accessible from web browsers and other applications, on desktop or mobile devices. Simplified, next generation user data services eliminate the need for knowledge of the physical location or configuration of the system, and provides dynamically scalable data management services.

Advanced AXI-based open-platform FPGA synthetic instrument customization extends traditional hardware performance by combining nearly unlimited user-defined computational, processing, and control possibilities to deliver unmatched measurement performance and flexibility. Industry standard MATLAB® and Simulink® and other model based design tools simplify implementation, maximize re-usability, and provide access to hundreds of standard filters and algorithms such as real-time distributed analysis.

Uncompromised Analog Performance

Measurement performance is elevated to new levels with 409.2 k samples / second / channel data rates, true differential inputs with superior common mode performance (CMRR of -120 dB) reducing unwanted noise and interference, an industry leading spurious free dynamic range (SFDR of -125 dB) offering exceptional measurement fidelity, and uncompromised IEPE excitation flexibility, fully programmable from 2 mA to 20 mA, to maximize transducer performance and response.

Essential hardware enhancements also include comprehensive runtime health monitoring and self-calibration, without the need to disconnect external transducer cabling, for uninterrupted system level confidence and peace of mind. While precision distributed measurement synchronization is accomplished utilizing IEEE 1588 (precision time protocol) ensuring that test data is time correlated, whether the instrumentation is centrally located or distributed around the test article



Trusted Legacy

VTI's 4th generation SentinelEX Series of Smart Dynamic Signal Analyzer's builds upon a proud legacy, established in the 1980's, by continuing to deliver trusted solutions to the NVH marketplace. These innovative solutions are part of the largest worldwide install-base of DSA instrumentation, delivering unmatched performance and measurement confidence. To learn more about these exciting new solutions visit our website at:

<http://www.vtiinstruments.com/SentinelEX.aspx>
or call 949-955-1894 and ask to speak to your local NVH engineering specialist.

Open Platform Advantage

All development activities have been based on solid open-architecture design methodologies, resulting in a level of hardware and software independence not available in previous generations of DSA instrumentation. An open hardware approach guarantees that a well-defined set of signal and interface characteristics have been adopted, resulting in reduced cost, extended life cycles, and commercial off the shelf (COTS) availability. While industry standard drivers and open application programming interfaces provide the flexibility and freedom of choice to select the environment best suited to the specific development requirements.

X-Modal III, SDRL's open-source modal analysis software, exemplifies these concepts. sX-Modal III is a MATLAB-based solution featuring intuitive task oriented user interfaces, extensive modal parameter estimation algorithms, parallel display capabilities, flexible data management, and unparalleled channel expandability. Proprietary source code and data access restrictions, costly licensing fees, and dependence on third party development priorities are also eliminated by adopting this approach.

Open-source programming environments also enable user community collaboration that can drive core functionality and feature enhancements, as well as encourage the sharing of innovative new analysis routines and algorithms. Adopting this approach also facilitates expansion into other vertical NVH application areas including acoustics, rotating systems, machinery maintenance, holography, structures, and pyro/shock.

Industry standard drivers and programming interfaces support all major programming environments and provide the basis for software applications, whether they are open-source, internally developed or proprietary turn-key solutions. SO Analyzer is an example of a turn-key DSA application that delivers comprehensive support for modal, shock, rotating machinery, and acoustics test. Complete turn-key solutions, such as X-Modal III and SO Analyzer, are available and supported through VTI Instruments Corporation.



RELIABLE DATA FIRST TIME EVERY TIME