

# Data Reduction and Throughput to Disc



Photo courtesy of Johns Hopkins University APL, USA

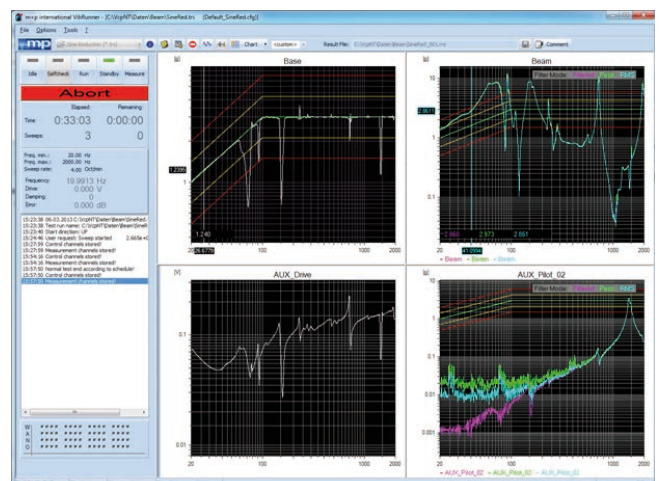
High-channel count data acquisition and vibration control system for large-scale spacecraft testing

## Data Reduction for High-Channel Count Systems

Data reduction systems with or without time history recording are frequently used in critical aerospace testing applications where complete measurements of a high number of channels are required for post-test and possible failure analysis. The m+p VibControl data reduction system configurations are tailored to the specific needs of high-performance measurement applications requiring hundreds or thousands of input channels.

The online analysis and display functions give a fast overview of the test results during the test or when stored data are replayed. Advanced data analysis tools include the m+p Analyzer post-processing software for random, sine, shock and acoustic data, providing seamless integration with Microsoft Office products for comprehensive test reporting.

Data formats and data plots of the m+p VibControl data reduction and vibration control systems are the same allowing for a common reporting environment.



Online data reduction during closed-loop sine vibration test

## YOUR BENEFITS

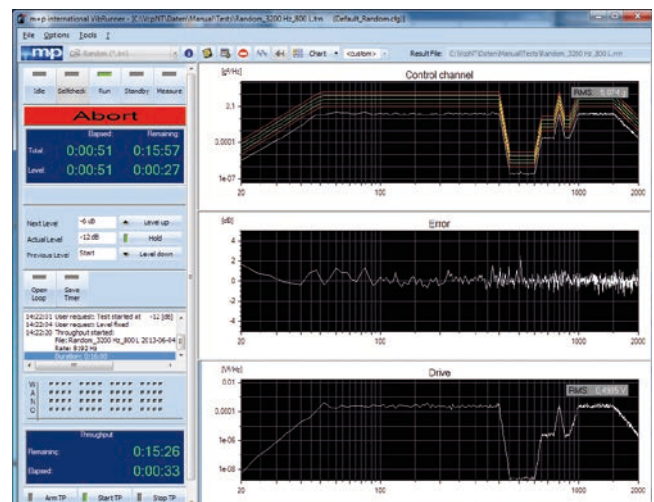
- Online data reduction for sine/random/transient capture testing
- Fully replaces tape recorder
- Time history recording to throughput disc in parallel with data reduction
- Instant online results
- Common hardware platform and user interface with m+p's vibration control system
- Post-test tools including file format conversion and data export
- Common data and plot formats of m+p VibControl data reduction and vibration control systems for transparent test reporting
- Multi-monitor support enables easy online monitoring of up to 1,280 channels
- High sample rates for time domain data storage: up to 32,768 Hz for sine and random and 102.4 kHz for transient capture (per channel)

### Gap-Free Time History Recording during Vibration Control

For the most critical tests time history data can be recorded in parallel with vibration control with no reduction in control performance. This facility is also available in recorder modes without closed-loop control. The real-time throughput data capture function allows you to record all selected channels continuously in the time domain on the embedded data server ("throughput to disc") irrespective of the channel count and the frequency range utilized. This means that you can always access all the original data for analysis purposes.

One method which is still widely used consists of the time data recording of a vibration test to a second measurement acquisition system in parallel with the usual frequency data recording. This results in additional costs for hardware and more complex system operation. Using m+p international's throughput function simplifies the process and, in addition, you can easily post-process the recorded time data after the test run. The throughput function can be started and stopped independently of the vibration control process. The time data are analyzed using the data reduction software.

*With data reduction, throughput data capture and vibration control running in parallel in one m+p VibControl system, laboratories can reduce their test costs and operator training significantly.*



Parallel time data recording and random vibration testing

Solar array testing



Photo courtesy of Airbus Defence and Space, Germany



## INTERNATIONAL

### **m+p international**

Founded in Hannover, Germany in 1980, m+p international develops and manufactures test and measurement systems for vibration testing, dynamic signal analysis, multi-channel data acquisition and monitoring and test stand engineering. Our product reputation and broad experience coupled with valuable user feedback have led to significant market share in numerous key industries worldwide.

The company has its headquarters in Hannover, Germany with sales/marketing subsidiaries in New Jersey (USA), England, France and China, along with representatives and agents in many countries.

Learn more on the full range of m+p international products and services and their applications. Select the m+p literature library on our website and download the desired product literature.

m+p VibControl, m+p Analyzer, m+p Coda, m+p VibPilot, m+p VibRunner, m+p VibMobile, m+p HFDST-3000-E and m+p ACON are products of m+p international.

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