

## SignalCalc Dynamic Signal Analyzers

[What are SignalCalc and SignalStar?](#)

[What is a Dynamic Signal Analyzer \(DSA\)?](#)

[How many channels can I use?](#)

[Who is Agilent and what happened to your HP VXI modules?](#)

[What are some of the application options for my DSA?](#)

[Are any DP Analyzers portable?](#)

[Does ACE support modal analysis?](#)

### What are SignalCalc and SignalStar?

SignalCalc is a family of products which includes: all four of the Data Physics Dynamic Signal Analyzers ACE, SignalCalc 430, SignalCalc 620 and SignalCalc Mobilyzer two vibration controllers, the SignalCalc 550 and the SignalCalc 350.

SignalStar is another family of products which includes: two state of the art Vibration Controllers – the single-axis SignalStar Vector and the multi-axis SignalStar Matrix.

[Top](#)

### What is a Dynamic Signal Analyzer (DSA)?

Also called an FFT analyzer, a DSA is a hardware/software product that provides the following :

- Signal conditioning (e.g. AC/DC/ICP coupling, e.g. single-ended and differential inputs),
- Multiple input ranges (e.g. 10, 5, 2.5, ..., 0.010 volts) with full calibration, including use of physical units (e.g. m/sec, g, PSI, ...)
- Digitization (i.e. Analog to Digital and Digital to Analog)
- Multiple alias-protected sampling rates (e.g. for 20kHz, 10kHz, ..., 2Hz, 1Hz baseband analysis ranges)
- ZOOM input and MOOZ output ranges (e.g. at any center frequency between 1Hz and 20kHz)
- channel match specs that include the entire path from BNC to measurement
- frequency domain analysis (e.g. frequency spectrum, Power Spectral Density, FFT, transfer function, coherence, Shock Response Spectrum (SRS), ...)
- order domain analysis (i.e. harmonic and sub-harmonic decomposition of a signal based on a tachometer)
- time domain analysis (e.g. triggered capture, correlation, envelope detection, integration, ...)
- amplitude domain analysis (e.g. histogram, probability density, ...)
- playback of previous measurements using all analysis modes
- comprehensive display options (live report quality displays, waterfalls, many formats, ...)
- comprehensive import/export (many applications formats in addition to ASCII)
- output signal sources (e.g. sine, random, pink noise, swept sine, ...)

You can see that a DSA provides much more than a data acquisition system, which provides data samples without addressing the issues of calibration, match, or measurement.

[Top](#)

### How many channels can I use?

This depends on the hardware platform associated with the product :

For the SignalStar Matrix vibration controller and the SignalCalc 620 DSA, the Agilent VXI platform scales to an unlimited number of channels.

The SignalCalc SignalStar Vector vibration controller and Mobilyzer DSA support up to 16 input channels and 8 sources.

The ultra-portable SignalCalc ACE DSA supports 2 input channels and 2 sources.

[Top](#)

### Who is Agilent and what happened to your HP VXI modules?

The Hewlett Packard Company recently split into two separate operating companies to provide better focused service delivery. Computers, printers, and peripherals continue under the Hewlett Packard banner while the

instruments that built the company to its preeminent position are now marketed under the new Agilent brand. Agilent manufactures, sells and services all of the fine HP instruments developed before the name change and continues to improve and evolve these offerings.

Agilent is our choice for the highest quality VXI measurement modules and mainframes used in the SignalCalc 620 analyzer and SignalCalc Matrix controller. We are proud of our continued Channel Partner relationship with Agilent and the fine HP engineers and technicians who have been our old friends for years.

#### **What are some of the application options for my DSA?**

Many application options are available, including Order Tracking, 1/3 Octave Analysis, Sine Reduction, Drop Test Analysis, QC, Modal Analysis, and Motion Replication (road simulation).

#### **Are any DP Analyzers portable?**

Yes, in fact DP Dynamic Signal Analyzers set the standard for portability. The ultra-portable ACE is a PCMCIA card that works in PC based notebooks. The SignalCalc Mobilyzer DSA includes comprehensive DC-power options so it can satisfy virtually every mobile and battery-powered need.

[Top](#)

#### **Does ACE support modal analysis?**

Yes, the ultra-portable ACE can be used to collect the key measurements (FRF/Transfer Function) that are required for modal analysis. The resulting fully attributed FRF data can be exported in a variety of formats (including ASCII) to various applications including ME Scope, SMS STAR, and our own SignalCalc Standard Modal. Alternately, our SignalStar Matrix controller offers both Modal Analysis and Normal Mode Testing.

If you cannot find your answer please click [here](#) to fill our Technical Support Request Form. Your questions and suggestions are welcome.