

## SpinCheck HR Spindle Metrology System

- ▲ Non-contact capacitance gauging
- ▲ Up to 6 measurement channels
- ▲ Up to 50,000 r.p.m.
- ▲ Sub nanometer resolution
- ▲ Selectable digital filter for maximum resolution & flexibility
- ▲ Production and Analysis Modes

### State-of-the-Art motor and spindle performance analysis

Utilizing advanced, patented algorithms, the SpinCheck HR computes asynchronous error motion (NRRO), synchronous error motion (RRO) and TIR, for spindles, motors, and any rotating machinery. In addition, FFT calculations display spectral data. The SpinCheck HR System includes a desktop PC, data acquisition boards, SpinCheck software, and associated cables and accessories. SpinCheck HR is designed to operate with Microsense active capacitance gauging modules. SpinCheck accepts and stores the output of the gauging modules for analysis, display and printout.

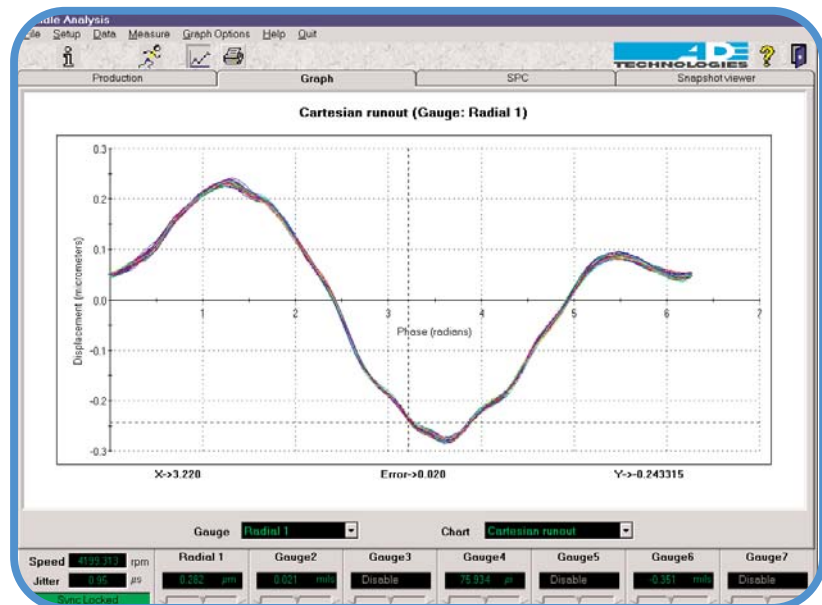
### High resolution, high bandwidth measurement

SpinCheck HR, when combined with any of the following Microsense non-contact, capacitance gauging modules, provides you with an exceptionally powerful data gathering and analysis tool. Use with Microsense 5300, 5800, 5810 and 6810 gauging modules.

### Complete and ready to operate

A Desktop PC running Windows 2000 is supplied. The computer is configured with SpinCheck HR data acquisition boards and software installed, and is configured as follows:

- MS Windows NT 4.0 or greater
- Pentium III, 933 MHz or higher
- 512MB RAM
- 18GB Hard Drive
- Super VGA 15" LCD monitor



## Specifications

### SpinCheck HR system specifications:

Number of Channels:	6 simultaneous
RPM range	250 to 50,000, automatically detected
Maximum TIR	Limited by operating range
Maximum operating range	40 mils/1000 microns (varies with probe selection)
System resolution (SpinCheck HR)	16-bit. (0.001 microinch/ 0.03 nanometers) 1KHz Filter, typical
Spindle speed resolution	0.1 RPM @ 10,000 RPM
Jitter Resolution	50 nanoseconds
Maximum number of revolutions	Limit set at 2048
Input filters	Selectable Digital low pass, zero phase shift
System and Channel Resolution	0.055 microinch/1.4 nanometers, 1KHz filter, 5810 gage and 5504 probe (0.5mm sensor), +/-50um range.

### Trigger Requirements:

A synchronization signal must be supplied to the Data Acquisition boards for the SpinCheck software to function. This trigger may be once per revolution, called an Index Trigger. The trigger signal should be TTL compatible. More specifically, the trigger signal must meet the following conditions:

Trigger signal specifications:

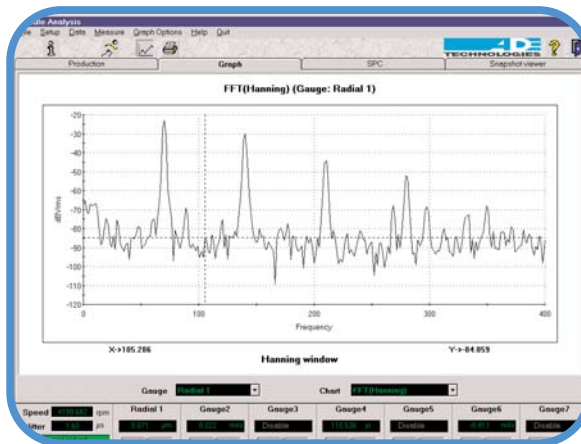
- (1) Logical Low <0.8 Volts
- (2) Logical High > 3.5 Volts, < 5.5 Volts, minimum source or sink current: 2.5 mA

Index Trigger (once per revolution) Timing Specifications:

- (3) Minimum State Level Time > 0.7 microseconds

### Time and Frequency Domain Data Analysis:

- (1) Graphing Capabilities
  - Single Screen display of Multiple Graphs
  - Polar and Cartesian graphs for TIR and AEM
  - FFT of Complete Data
  - Display limits for AEM, NRR, and TIR
- (2) FFT Analysis
  - Windowing Options (Hamming, Hanning, None)
  - User defined FFT Tolerance Limit Banding



### Patented AEM/NRR Algorithm

### Security feature determines level of User Access



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