AVANT® Dynamic

AVANT is an all-in-one solution dedicated for data acquisition, FFT based analysis, raw data recording and report generation, working as an excellent choice for vibration and noise measurement, structural modal test, rotating machinery diagnostics and acoustics. AVANT also provides versatile modular software to help test engineers get instant measurement results and automatically generated reports.

Applications
- Vibration & Noise Analysis
- Data Recorder and Playback Review
- Rotating Machinery Diagnostics
- Structural Modal Test
- Shock Data Capture
- Acoustic Analysis

Specification
- 4, 8, 16 synchronized inputs
- 1, 2, 4 waveform outputs
- 300 MHz floating point 32-bit DSP processing
- 24-bit ADC/DAC
- Higher than 120 dB dynamic range
- Voltage, IEPE and TEDS sensor compatibility
- Built-in battery (option)

Vibration and Noise Measurement
Up to 16 channels Data Acquisition at max. 51.2/102.4/204.8 kHz synchronized sampling (DC-40 kHz analysis bandwidth); Real-time FFT, Overall (time vs. level), Characteristic Values, 1/N Octave, RPM, Analyzer mode recording, Waterfall, Data exportation to TXT, Excel, MATLAB, and more options.

Rotating Machinery Diagnostics
Order tracking is widely used to make rotating machinery diagnostics like engines, gearing box, speed transmission devices. AVANT Dynamic Signal Analyzer provides an effective re-sampling technique which ensures powerful function for tracking rapid RPM change.
Real-time FFT

The accuracy of test tasks is highly ensured by complete time domain and frequency domain analysis (FFT, FRF, CPB, PDF, CDF, coherence, histogram, etc.) and assisted by functions of averaging, windowing, overlapping and triggering.

1/NOctave

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Data Recorder

AVANT provides over 10MB/sec data throughput to fulfill continuous raw data recording at all channels and timely saving signals in computer hard disks. Recorded data could be played back and analyzed by dedicated offline analysis software.

Order tracking

Order tracking analysis is one of the crucial technologies of rotating machinery vibration signal analysis and fault diagnosis and a method for spectrum analysis of sampling signals of rotational angle. Order range is up to 320 with resolution as fine as 1/32 in each order.

Structural Modal Test

AVANT is tailored for complicated structural modal test with flexible triggering, adjustable force to exponential window end automatic modal data selection and management. Besides impact excitation, AVANT supports modal thrusters excitation by up to 4 waveform outputs and multiple kinds of excitation signal.

Acoustics

AVANT provides sound pressure, sound power and sound density analysis from field to lab. IEC compliant with ANSI, IEC and ISO criterion. Its 1/N octave filter functions fit the criterion of ANSI-2004 and A, B, C, D or linear weighing.

Shaker Performance Verification

Powered by a highly automatic software module which is compliant with ISO criterion, AVANT supply a unique solution to verify the performances and characteristics of shakers, such as THO, system dynamic range, transverse vibration ratio, etc., help users inspect shakers quality instantly in shaker installation and acceptance.
AVANT family has more hardware and software for different scale and different operation mode. This supply users more choices from field to lab. The kemef technology is same with latest DSP technology, low noise hardware design, 24-bit ADC/DAC resolution.

**Touch Screen, On-site DAQ Recording and Measuring**

AVANT MI-70080 is a brand new integrated DAQ analyzer. It would bring the engineers a brilliant experience for its professional industrial design, robust hardware and powerful software. The reliability and accuracy of on-site testing becomes available anywhere, everywhere and at any time.

- 1-8 synchronized input, 1-output (signal source),
- 1 channel for measuring rotating speed
- Max. Sampling 204.8 kHz
- Coupled mode: AC, DC, IEPE, TEDS
- Built-in rated power supply in I/M & output and provide 12V, 24V, IEPE constant current source
- 128G hard disk satisfied enough test data storage
- More than 4 hours discharging
- 10.4” Capacitive touch screen (1024*788)

**More Modules**

For better integrated solution, ECON also presents more modules, like conditioning amplifier, shock measurement analyzer, and more accessories. They are all supplied in AVANT family with class 1 professional quality and performance.

**Conditioning Amplifier**

MI-2004 is designed for high performance signal conditioning, at 4 channels per unit, delivered especially to those users who often use charge mode sensors. Also, it can be used for IEPE and TEDS Sensors Conditioning.

- Vibration/Shock/JMod & Acoustics
- Single Axis and Tri-axial
- IEPE/ICP/TEDS Sensor Conditioning
- Support IntegraL DifFerential calculation
- PC Software Control (Optional)
- RS-232 Connectivity

**Shock Measurement Analyzer**

MI-52XX series and MI-51XX series are tailored for shock/drop test in lab, transportation and packaging test, compliant with ISO, MIL-STD-810 criterion.

MI-52XX is suitable for measure shock acceleration range under 5,000g, with 192 kHz sampling, and MI-51XX is specially designed for highly acceleration range up to 100,000g with 1 MHz sampling.
**Modal Genius Modal Analysis Software**

ModalGenius visual engineering series software characterized by its freedom and simplicity is a kind of experimental modal analysis software. The data analyzed by Modal Genius come from real testing in engineering field, which is able to help users to make a dynamic performance analysis to engineering structure with high efficiency.

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**Ordering Information**

<table>
<thead>
<tr>
<th>Hardware</th>
<th>MI-7004</th>
<th>MI-7008</th>
<th>MI-7016</th>
<th>MI-70010</th>
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<td>Compatibility</td>
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**Signal Analyzer**

**More Hardware and software, there is always one for you**