ECON

Portable Dynamic Signal Analyzer

Technical Specifications

MI-7108

89.47dB(A)

Econ Technologies Co., Ltd.

Overview

Portable Dynamic Signal Analyzer, MI-7108，new integrated design: The instrument and PC are highly integrated for data acquisition, management and display by compact and solid industrial design, which not only simplifies the site test but also improves the high reliability of the system.

Features

✧ Powerful recording and analysis functions, including long-playing record, time domain and frequency spectrum analysis, spectrogram analysis etc., can easily identify the confidence coefficient of the data and get the results at the scene of the test.

✧ Support to acquire and record the data of vibration, acoustic and tacho synchronously for multi-channel. Can easily get the analysis of acoustic and vibration.

✧ Independent tacho acquisition channel

✧ Abundant and practical live test instrument: Sensor calibration, system balance, record and playback of sound

✧ New humanized UI design, one-click data record and store, optimized setup of test and analysis, which make the site test easy.

✧ High sensitivity, 10.4' capacitive touch screen, make the operation convenient and rapid.

Specifications

Input

Channels:	4 or 8 , can be custom-made
AC Filtering:	0.4Hz@-3dB analog highpass filter
Digital Filtering:	Independent analog anti-alias filter and 160dB/Octave digital filter for each channel
Resolution:	24-bit ADC
Power Supply:	12V or 24V
Range:	0.1V,1V, 10V
Input impedance:	1MΩ
Sampling frequency:	Up to 102.4kHz
Coupling mode :	AC,DC,IEPE
Max. Input:	±10 V
Dynamic range:	110dB
Harmonic distortion:	< -100dB
Channel match:	Amplitude within 0.05dB (DC~20kHz) Phase ≤ ±0.5°
Channel cross talk:	≤ -100dB
Signal-to-noise:	>100 dB
Amplitude Linearity:	≤0.05%
Frequency Response:	≤±0.01%

Output

Channel:	1, for self calibration only

Tacho/Trigger input channel

Channel:	1 digital tacho channel
Sampling Frequency:	10MHz
Max.Rve:	10Wr/min，independent
Input impedance:	1MΩ
Power Supply:	12V or 24V
Input Voltage:	0 - +24V$_{PEAX}$

System Configuration

CPU:	Intel Celeron J1900，four cores
OS:	WIN7
RAM:	4G
HDD:	64G
Interface:	LAN,USB
Screen:	10.4inch projected capacitive support gesture recognition, multi-touch

EMC

Radiated interference:	EN55022 Information technology equipment radio disturbance characteristics limits and methods of measurement ClassB
Radiated immunity:	GB/T17626.3 Electromagnetic compatibility- Testing and measurement techniques- Radiated, radio-frequency, electromagnetic field immunity test 3V/M
Electrostatic immunity:	GB/T17626.2 Electromagnetic, compatibility- Testing and measurement techniques- Electrostatic discharge immunity test Contact discharge 4KV，Air discharge 4KV

Mechanical parameter

Internal power supply:	Lithium battery,7.4V 6500mAh,two parts with 4 hours at least
External power supply:	DC 9 to 28 Volts
Power consumption:	＜23W
Dimension:	36*286*258mm
Weight:	≤2.6Kg（battery included）

Criteria

Environmental reliability experiment:	GB/T6587.1-86　Ⅱ
Regulation:	GB4793.1-1995 Safety requirements for electrical equipment for measurement, control and laboratory ues-Part 1: General requirements

Systems Software

Main Function

➢ Online analysis

➢ Data record

➢ Offline analysis

➢ Instrument self-calibration

Accessibility

➢ Data and file management

➢ Sensor calibration

➢ System balance

➢ Cursor mark

➢ Sound audition

Data Record

Signal Analysis

Time domain:	Time capture
Frequency domain:	FFT

Capture

Sampling frequency:	Up to 102400Hz, Min.100Hz
Points:	512, 1024, 2048, 4096, 8192

Spectrum Analysis

Span:	Up to 40000Hz
Lines:	200, 400, 800, 1600, 3200

Measurement Analysis

Statistic analysis:	Max., Min., RMS, average, sound level, tacho
Analysis Interval:	0.125s,0.25s,0.5s,1s
Span:	1024
Display:	History curve,Current Value
Weighting:	Z,A,B,C,D
Time Length:	1s,2s,3s,4s,5s
Condition monitoring:	Blue, yellow, red

Measurement process

Order test:	Any time in one day
Auto stop:	In 5s-60s;
Measurement control:	Sampling on/off, record on/off Record file deletion
Display:	Record time,running status (trigger and sampling)

Trigger

Source:	No trigger, Input channel or External trigger
No trigger:	Time delay is available or no
Trigger channel:	Analog input trigger
Slopes:	Any input channel
Level:	Positive, negative or bi-polar
Trigger mode:	Voltage level within voltage range Pre-trigger or post-trigger,Output trigger
Trigger mode:	TTL
Slopes:	Positive, negative, high level,low level

Data saving

Signal file formats:	ECON binary or UFF binary
Data Record:	for offline analysis

Signal display

Cursors:	Single with X1, Y1

Sensor Calibration

Modal:	Acceleration, microphone
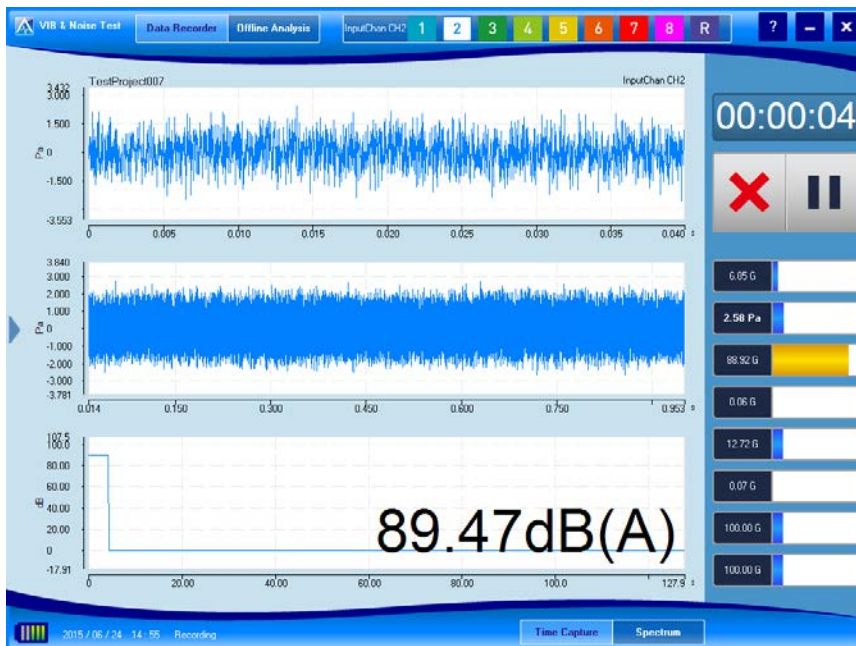
Offline Analysis

Offline Analysis

Signal file formats:	ECON binary or UFF binary
Source:	Recorded by the unit
Analytical content:	FFT/ autopower spectrum, statistic analysis（RMS,instantaneous sound level etc.）,1/3 octave, spectrogram

Analysis Model

Tracking type:	RPM tracking or time tracking
Playback:	Tracking analysis with all analysis content followed
Transient:	Choose one frame of data to analysis
Range:	Choose one section of data to analysis
Sound audition:	Listen to all types of data
Multi-comparison:	Up to 4 items

Signal Display

Original time domain data:	All can be displayed in the bottom
Analysis Display	Up to 4 panes
Cursors:	Single with X1, Y1
Cursor linkage:	Cursors in different panes synchronized moving

Signal/picture store

Store:	Signal,panes
Signal format:	ECON binary/ASCII or UFF binary/ASCII or TXT, wave,Excel
Compatible:	Excel,MATLAB etc.
Picture format:	Png

Time-frequency analysis

Line:	50,100,200,400,800,1600,3200,6400,12800
Window:	Rectangle,Hanning,Hamming,Exponential,Bartlett, Welch,Tukey,Blackman,Blackman Maximum, Blackman Minimum, Flat-Top,Kaiser-Bessel
Overlap:	0%,25% ,50%,75%
Averaging:	None,Exponential, Linear, Peak hold
Frequency weighting:	Z,A,B,C,D

Statistic analysis

Statistic analysis:	Max., Mini, rms,average,sound level,rve
Interval:	0.125s,0.25s,0.5s,1s
Span:	60s,120s,180s,240s,300s,360s
Sound level weighting:	Z,A,B,C,D

www.econ-group.com
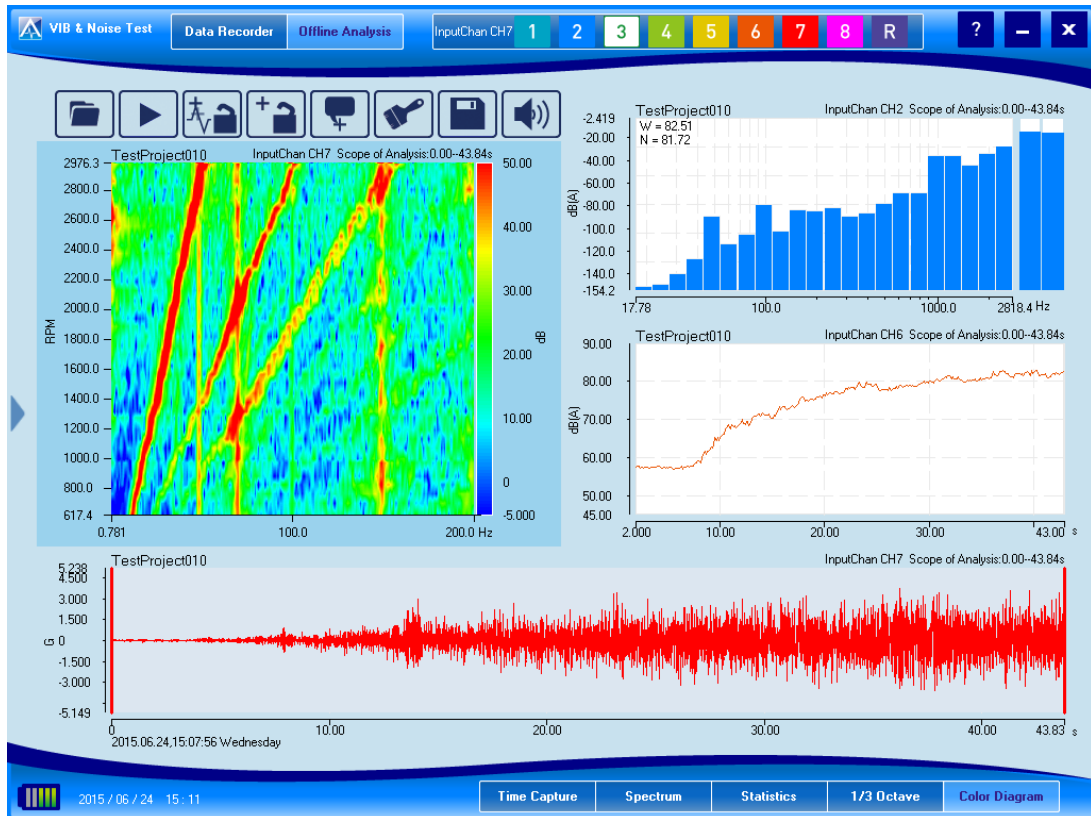
<div style="background:blue;color:white;padding:4px;font-weight:bold;">About Us</div>

ECON is a leading designer and manufacturer of instruments and equipment for test and measurement, headquartered in Hangzhou, China.

With more than 10 years experiences, ECON is also a comprehensive solution supplier for Vibration Test, Vibration and Noise Measurement and Analysis, Structural Model Test, Transducer Calibration, and Environmental Reliability Test.

- Leading role in design and manufacturing of instrument and equipment for test and measurement in China
- A global sales and marketing network.
- Over 2,000 instruments installed worldwide: China-Mainland, Taiwan, Europe, USA, Russia, Mid-east, India, Korea, Japan……
- Customers among Aerospace, Aviation, Automotive, Electronics, IT & Computers, Packaging, transportation, Institutes and Universities…...
- 70 employees, with an experienced and innovative R&D Team.
- A subsidiary company specialized in environmental test service.

ECON is supplying products, solution and service to customers under support of our local partners and sales representatives. Also ECON is looking forward to more global partners for promotion in their area.

Econ Technologies Co., Ltd.

Add: Building 4, 1418-41 Moganshan Rd., Hangzhou 310015, China

Tel: +86-571 88178376   Fax: +86-571 88178385

Email: Sales@econ-group.com (receipt of enquiry only)

Support@econ-group.com (technical support and maintenance)

Commercial@econ-group.com (order processing, invoices, and delivery)

Coordinator@econ-group.com (sales support to distributor or sales Rep.)

Website: http://www.econ-group.com

Econ All Rights Reserved