4 TO 128 CHANNEL NOISE AND VIBRATION ANALYZER

Novian™

Novian D08

Novian D04

Novian D16

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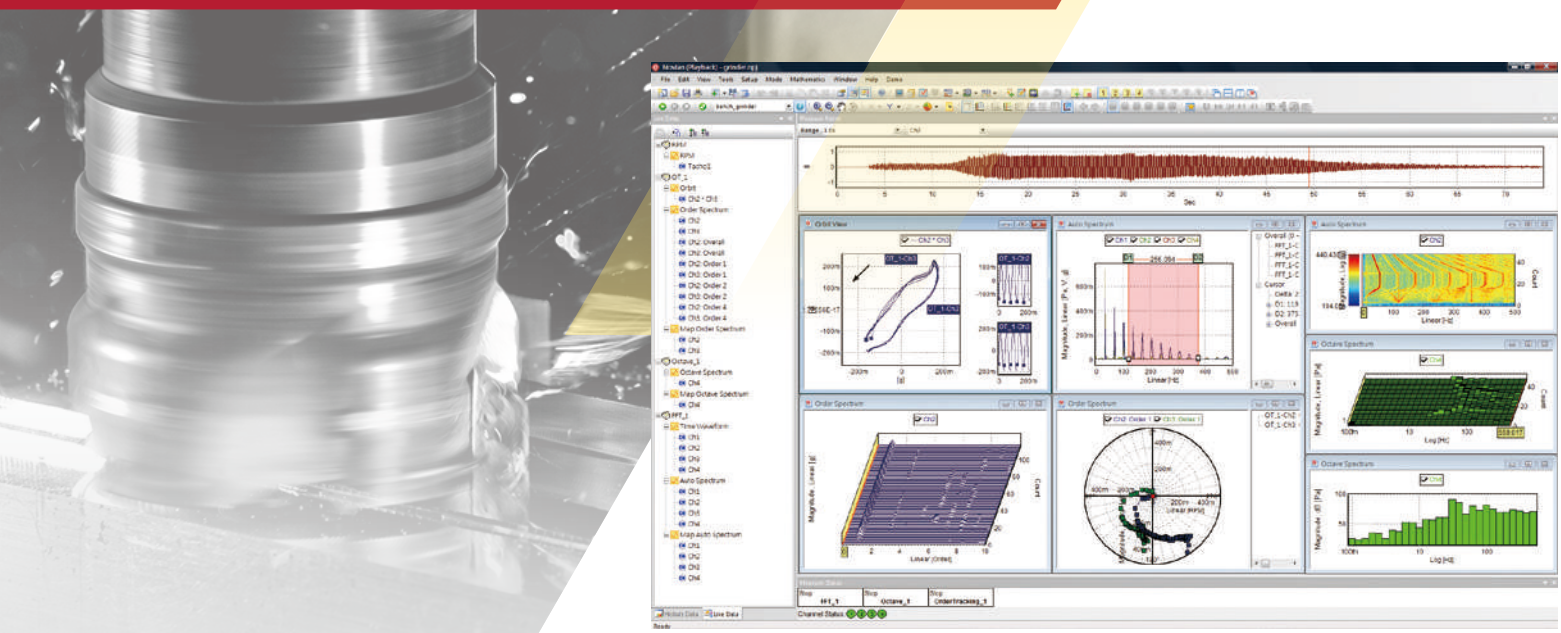


Novian™

is a powerful 4 to 128 channel real-time analyzer built for your sound and vibration measurements. Measure and record raw data, conduct real-time FFT, Octave and Order Tracking measurements, or use Novians'built in playback analysis feature for previously measured raw data.

Why Novian™ ?

Easy and ready to use

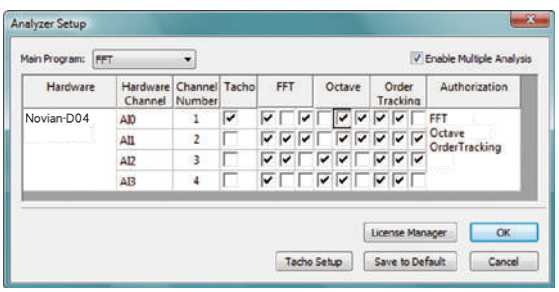
Novian's menu structure is straightforward to use and does not have scripts or require graphical programming. Simply put, Novian's easy to use menu structure provides the user with understandable functionality with built-in flexibility for your advanced analysis needs.

Extremely high speed performance

Novian software is programmed in C++, and optimized to run on computers with Intel multi-core processors at a very high rate of speed.

Advanced features and powerful capability

Novian supports multiple analysis mode which allows you to run different analysis programs at the same time such as multiple FFT and Octave analysis for example.



What can Novian™ do for you?

Real-time analysis

Conduct real-time measurements such as; multiple FFT's, Order Tracking, and Octave measurements with wide range of functionality and analysis capability.

Raw data recording

Measure and record raw data to your hard disk continuously at the same time you perform real-time monitoring of time wave-forms or spectrums.

Playback analysis

Replay the previously saved raw data file(s) as if it were a live reading. Now you can recreate the event as if you were on-site and perform playback analysis of the saved data file.

Real-time analysis with raw data recording

Conduct real-time analysis and record the raw data into the hard disk at the same time for the backup of important data.

Data viewing, processing and report

- Add or import data files for data viewing, analysis and playback
- Work with multiple channels on a single graph, or separate channels as needed.
- Perform post processing; FFT, IFT, integration, differentiation, weighting functions, filters and more.
- Generate reports directly with Microsoft Word
- Work with multiple cursor types: dual, side-band, harmonic, peak and multiple single cursors.
- Export data files to XML, CSV, UFF, ASCII or WAV file formats.

Function generator

Use Novian's built in function generator to create various signals like sine waves, square waves, ramp, pulse, random or chirp signals. These signals created by the function generator can be used through the output devices.

Specifications

Instrument modes : Real time analysis, raw data recorder, real-time + recorder, playback analysis and report

Display : Select up to 9 user defined display layouts for quick display toggling.

Types of plots :

Linear plot, polar plot, waterfall and intensity plot or Bode plot.

Cursor types for linear plots :

Multiple single cursors, side band cursor, harmonic cursor and dual cursor; cursor label and peak cursor.

Cursor types for waterfall or intensity maps :

Single vertical, dual vertical, single horizontal, dual horizontal, diagonal or single comprehensive.

Y axis : Linear, log, dB; magnitude, real, imaginary or phase; separate or overlap display.

X axis : Linear or log scale.

Channel ID : Modal ID or machine ID.

Time windows : Rectangular,hanning,flattop,force,exponential, Hamming, Bartlett, Blackman and Kaiser

Engineering units :

Automatic unit conversion; user defined unit table

Mathematics : Unit conversion, integration, differentiation, Fourier transform, inverse Fourier transform, band pass filter, band notch, high pass filter, low pass filter, scaling, weighting function and windowing function.

Function generator : Random, chirp, sine, square and pulse; continuous or ramp output.

FFT module

Functions for FFT analysis : Time waveform, auto power spectrum,complex spectrum, cross power spectrum, FRF, coherence cepstrum, power spectra density, envelope spectrum, envelope waveform, overall level, Mean trend and Rate trend, rotation speed.

Trigger for FFT analysis : Trigger source, trigger slope, trigger level, trigger delay and peak trigger.

Number of reference channels : Single (SIMO) or multiple reference channels (MIMO)

Band & resolution for FFT analysis : Select from 50 Hz to 20 kHz(D4) or 50Hz to 40kHz(D8,D16,D24 and D32) frequency band and 100 to 12800 lines of resolution with real-time zoom FFT.

Average for FFT analysis : Spectral or time domain average; linear, exponential average or peak hold; overlap percentage: 0%, 25%, 50%, 75% or max.; average number: from 1 to 5,000 times selectable; overload rejection and preview of waveform.

Signal map for FFT analysis : Map functions: time waveform, auto power spectrum, complex spectrum and cross spectrum; Measurement controls: free run, armed by time step or armed by rpm step; Display signal map in waterfall plot or intensity map.

Multiple analyses : Run up to 3 real-time FFT measurements at the same time. The parameters of each measurement can be set independently.

Order Tracking module

Functions for Order Tracking analysis : order trace, order spectrum, spectral map, orbit, filtered orbit, orbit and waveform, shaft centerline, DC gap and RPM profile.

Order resolution : 1/2 order, 1/4 order, 1/8 order or 1/16 order

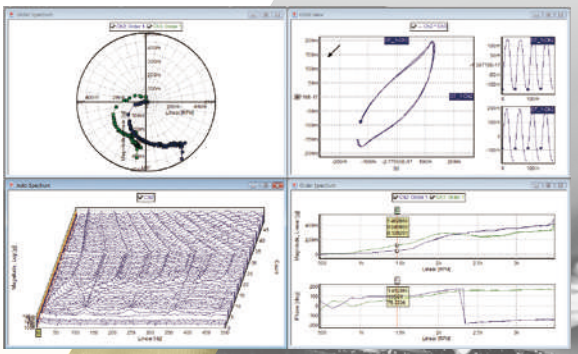
Max order : 5, 10, 20, 50, 100, 200, 400, or 800 order

Rotation speed : 30 to 240,000 rpm

Types of average : Off, linear, exponential and peak hold

Overlap level : 0%, 25%, 50%, 75% and max Trigger method for tachometer channel: time waveform or spectrum

Measurement control : Time step, RPM step (run up, coast down or up and down) or both



Octave module

Functions for Octave : Octave spectrum and spectrum map.

Conforming standard : IEC 61260 & IEC 61672

Octave resolution : 1/1, 1/3 or 1/12 Octave

Integration time : 1/128, 1/64, 1/32, 1/16, 1/8, 1/4, 1/2,1, 2, 4, or 8 seconds

Average time : 1/128, 1/64, 1/32, 1/16, 1/8, 1/4, 1/2, 1, 2, 4, or 8 seconds

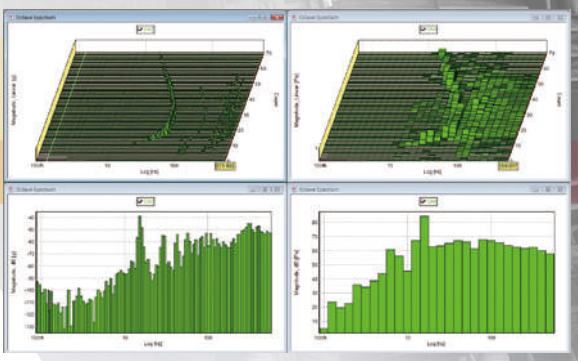
Types of detection : Fast, slow, impulse or linear

Types of average : Off, linear, exponential and peak hold

Types of trigger : Off or triggered by the level of a selected band

Measurement control for spectral map : Free run, time step or RPM step

Built-in filters : A, C, ISO 6954, ISO 8041, ISO 22867 and ISO 20643



Hardware specification (Novian D04)

Analog input channels	4 analog input channels (BNC connector)
Input range	±1 V peak and ±10 V peak
Type of AD converter	24 bits Delta-sigma AD converters
Maximum sampling rate	51.2 kS/s
Input coupling	AC/DC/IEPE
AC couple start frequency	0.1 Hz
IEPE power	4.0 mA constant current
Analog output channe	1 channel (BNC connector)
Maximum output level	±10 V peak
Maximum output sampling rate	51.2 kS/s
Tacho input channel	1 channel with power supply,
Tacho channel connector	6 pin LEMO connector
Interface and power	USB 2.0

Hardware specification (Novian D08, D16, D24, D32)

Number of analog input channels	Novian D08: 8 channels, D16: 16 channels, D24: 24 channels, D32: 32 channels. Maximum number of total channels: 128 channels via synchronizing cables.
Type of AD converter	24 bits Delta-sigma AD converters
Maximum sampling rate	102.4 kS/s
Input coupling	AC/DC/IEPE
Input range	±1V, ±10V
IEPE power	4 mA constant current
Harmonic distortion	<0.0006%
Cross talk	>-120dB
Analog output channel	2 channels (BNC connector)
Maximum output level	±10 V peak
Maximum output sampling rate	216 kS/s
Output DA resolution	32 bit
Tacho input channel	1 channel with power supply,
Tacho channel connector	6 pin LEMO connector
Power supply	5V to 24V DC
Interface	USB 2.0

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