



Model 831 FFT Option

Fast Fourier Transform (FFT) with 831-FFT Firmware.

Highlights

- Hand-held, single-channel, FFT measurement
- Wide dynamic range
- Used for transient and continuous signals
- Real-time operation (no data loss)
- Up to 6400 lines of analysis
- Resolution down to 0.016 Hz
- Frequency spans from 100 Hz to 20 kHz in 1-2-5 sequence
- Display zoom
- Max hold and average spectrum
- Auto max cursor
- Utility software for archiving and viewing data
- Field upgradable – requires no other options

Applications

- FFT Analysis of Sound & Vibration
- Tone Detection
- Run-up, Run-down
- Machinery Troubleshooting
- Product Development
- Rumble and Rattle of HVAC Installations
- Road and Rail Traffic Signature
- Quality Control



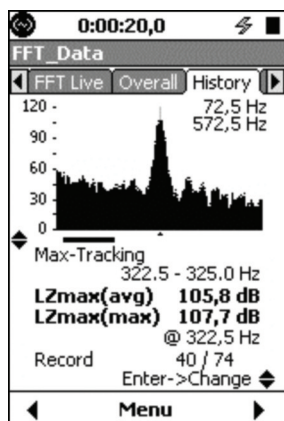
When you need more frequency resolution than 1/3rd octave band spectral analysis can provide, Model 831 FFT Frequency Analysis is the ideal solution. The Fast Fourier Transform (FFT) algorithm is implemented in the Model 831 for precision spectral analysis of acoustic signals. By utilizing a variety of frequency span and resolution settings, FFT acquisition settings can be adjusted to tune into specific acoustic and vibration phenomena.

Model 831-FFT has 3 operational modes serving the different applications. “Count” mode accumulates the average spectrum and maximum for a fixed number of FFT spectra. The “Timed” mode repeats the count mode for a given period of time and accumulates the spectra in a history. The “Timed” mode is best suited for transient signals while the “Manual” mode is typically used for steady state measurements. In manual mode the number of averages is open and each Start-Stop sequence adds an entry to the history table.

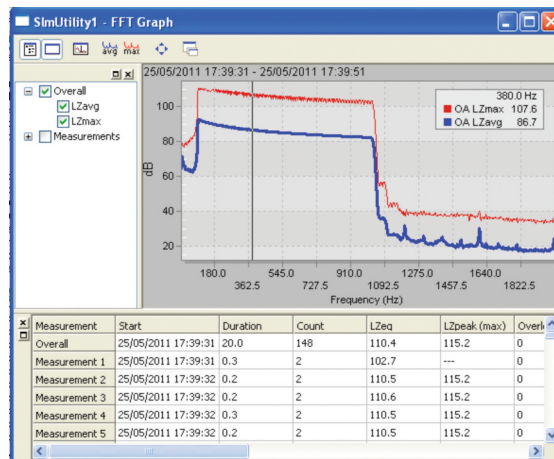
Up to 6400 lines of resolution are available with Model 831-FFT allowing for detailed measurement analysis.

Users can field upgrade their Model 831 with FFT Analysis utilizing SLM-Utility G3 Software (Supplied).

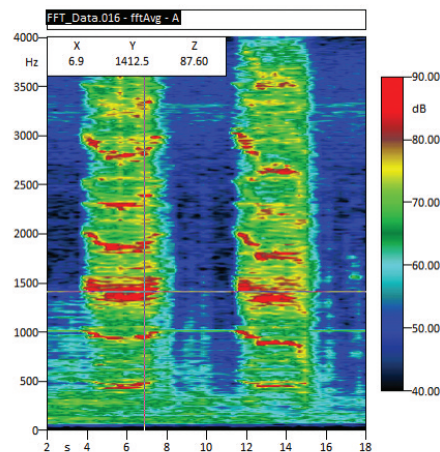




FFT Max-tracking on Model 831



SLM-Utility G3 FFT Data Report



DNA Software FFT-spectrogram of stone-cutting operation

831-FFT

831-FFT with Model 831 complies with following standards

IEC 61672-1:2002 Class 1 Electroacoustics - Sound level meters

Fast Fourier Transform (FFT)

Frequency span	100, 200, 500, 1000, 2000, 5000, 10000, 20000 Hz
Number of FFT lines	400, 800, 1600, 3200, 6400
FFT Window	Hanning, Flattop, Rectangular
Frequency weighting	Z, A, C
Measurement control modes	Manual, Count, Time
Frequency range	3 Hz to 20 kHz
Overlap processing	Automatic, up to 67%
Displays	Live Broadband SPL, Live FFT, Overall Average & Maximum FFT, and History of Averages & Maximum FFT (in dB)
Cursor mode	Manual or Maximum Tracking
Harmonic cursor	Yes, 4 to 24 Harmonic Indicators
Cursor zoom factor	Full Spectrum 6400 Lines to 120 Bars to 1 Line Per Bar, in Factors of 2
Output	Magnitude

Data management

Storage of data on Model 831 – Number of Measurements Limited Only by Memory

Export of Data to SLM Utility-G3, MS Excel, DNA and SDK

SLM Utility-G3 Utility Program

Control of Model 831 for Run/Stop, Data Storage, Status, Clock Set and Firmware Upgrade

Configuration Setup and Setup Manager for Different Instruments

Download of Data Files for FFT, RT and SLM Mode

View Data Plots for FFT Data in Overlay of Average and Maximum

Screengrabber Function to View Model 831 on PC Screen

Ordering information

831-FF or 831-RI Model 831 Sound Level Meter with Class-1 Pre-polarized Precision Condenser Microphone (50 mV/Pa), Preamplifier (PRM831), Accessory Kit (831-ACC).

831-FFT Upgrade for Model 831 Sound Level Meter. FFT Mode. Does Not Require Any Other Options. ***DSP Revisions Must Be 0.5 or Greater***

CAL200 Class 1 Acoustic Calibrator with User Selectable Output of 94 or 114 dB at 1 kHz.

EXA025 Microphone Extension Cable, 5 pin Switchcraft, 25' (8m).



LARSON DAVIS

A PCB PIEZOTRONICS DIV.

3425 Walden Avenue, Depew, NY 14043-2495 USA

Phone 716-926-8243

Toll-Free in USA 888-258-3222 Fax 716-926-8215

E-mail sales@larsondavis.com Web Site www.larsondavis.com

ISO 9001 CERTIFIED

© 2011 PCB Group, Inc. In the interest of constant product improvement, specifications are subject to change without notice. PCB, and ICP are registered trademarks of PCB Group Inc., SoundTrack LXT, Spark and Blaze are registered trademarks of PCB Piezotronics, Inc. HV Manager is a trademark of PCB Piezotronics, Inc. All other trademarks are properties of their respective owners.

LD-831-FFT-0611

Printed in U.S.A.

For environmental noise monitoring and building acoustics, **Larson Davis** offers a full line of instruments, accessories and software. For personal noise and vibration exposure monitoring, Larson Davis complements this with sound level meters, personal noise dosimeters, human vibration meters, audiometric calibration systems and hearing conservation programs.

Visit www.larsondavis.com to locate your nearest sales office