

Logiciel SpectraPlus-DT

Hardware Supported: Data Translation

Sampling Rate: highest rate supported by Data (2.0 MHz using DT-9832A)

Frequency Span: Up to 1/2 of selected sampling rate

Sampling Precision: 8, 16 or 24 bit (hardware dependent)

Maximum Channels: 16 (hardware dependent)

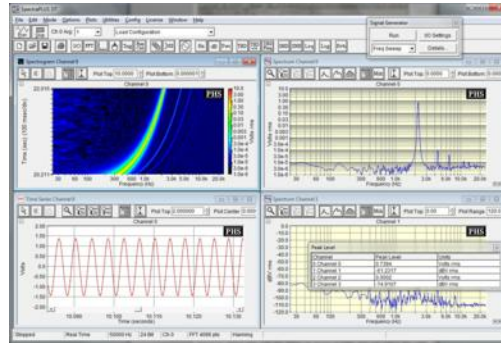
Selectable Input Voltage Range (gain), AC or DC coupling, IEPE Current source, Single Ended or Differential Inputs (hardware dependent)

Tachometer input channel support: Plot RPM versus Time as well as dedicated RPM display window.

Order Analysis: plot Order vs RPM and Amplitude vs Order

Triggering: Analog or TTL with user Accept/Reject option. Selectable threshold, channel and delay. Edge or Level detection.

Run Control: automatically stop after user selectable FFT count or time limit



Modes: Real-Time, Recording, Post-Process

Post-Process Editing: Cut, Copy, Paste, Play, Play Special, Mute, Gain Adjust, DC Offset, Dynamic DC Offset removal, Digital Filtering

Digital Filtering Options: Low Pass, High Pass, Bandpass, Notch or User defined filter shape

Hard Disk Recording: Automatic rollover when Wave file size limit reached.

Displays: Time Series, Spectrum, Phase, 3-D Surface Plot, Spectrogram

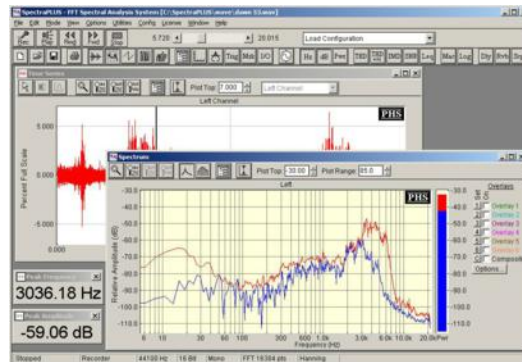
Data Views: Pop up window of underlying data values.

Spectral Overlays: Up to 6 simultaneous overlay traces, unlimited save and retrieve from hard disk

Composite overlay: average of any selected overlays or the difference between any two overlays.

Video Zoom: Arbitrary Zoom In to any portion of overall frequency or time span

Auto Scaling



Cursor Measurements: Absolute, Differential (Ctrl key), Harmonic cursors (Shift key), Sideband cursors (Ctrl + Shift key)

Right Click Action Menus: Various Cross display functions, Inverse FFT, Cepstrum, Smooth Spectrum, Expand and other Edit functions

FFT Sizes, 32, through 1,048,576 pts (in powers of two increments)

Overlap Processing: Up to 99% of FFT size in Post Processing mode

Smoothing Windows: Bartlett, Blackman, Flat Top, Hamming, Hanning, Kaiser, Parzen, Triangular, Uniform, Force, Exponential, Gaussian

Averaging Modes: 1) Free Run with selectable block size. 2) Sound Level Meter mode (Off/Fast/Medium/Slow/Forever)

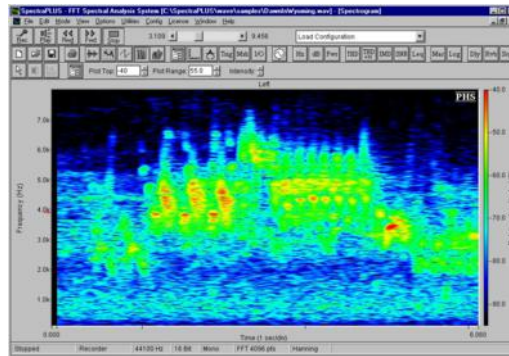
Averaging Types: Exponential, Linear or Vector moving average

Peak Hold: live peak hold with selectable timeout

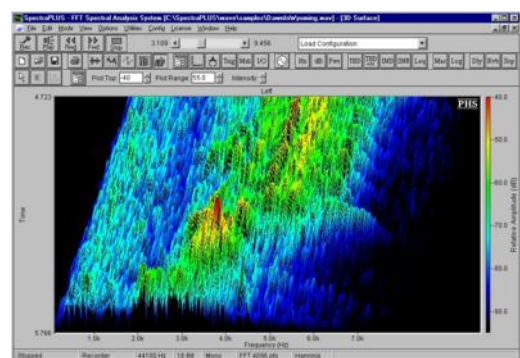
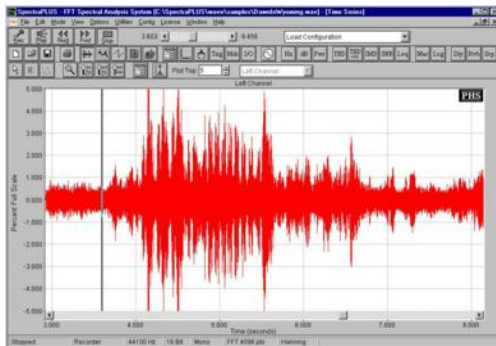
Composite Channel operations: Average, Cross Spectrum, Real and Complex Transfer Functions, Coherence

Logiciel SpectraPlus

Amplitude Axis Scaling: Linear, Logarithmic or Log Magnitude. Power Spectral Density (PSD) option
Frequency Axis Scaling: Narrowband Linear, Narrowband Logarithmic, 1/1, 1/3, 1/6, 1/9, 1/12, 1/24, 1/48 or 1/96 Octave
Spectral Weighting: Flat, A, B, C ANSI weighting curves
Transducer Compensation: Independent compensation for each channel
Markers: Up to 8 user defined markers with user customizable labels
Calibrated Inputs (Volts, Millivolts)
Calibrate directly by specifying transducer sensitivity (mic, hydrophone, accelerometer, force) or calibrate to an external reference source.
Amplitude Calibration: V, mV, dBV, dBmV, dBu, SPL or PA (in air or water), psi, or custom units
Vibration Measurements: Acceleration (G), Velocity (ft/sec, in/sec, mils/sec, mm/sec), Displacement (ft, in, mils, mm)
Independent Calibration and Scaling: each channel can be scaled and calibrated independently



Signal Generator: Pink Noise, White Noise, Tone Burst, Noise Burst, 1 kHz Tone, Multiple Tones (freq, level, phase), Frequency Sweep, Frequency Step, Level Sweep, IMD test tones, Pulse, Sawtooth, Triangular, Squarewave, User Defined (from .WAV source). DTMF, Digital Zero.
Utility Measurements: Peak Frequency, Peak Amplitude, Total Power
Distortion Measurements: THD, THD+N, SNR, IMD
THD+N versus Frequency utility - quickly and conveniently measure the distortion characteristics of a device over a range of frequencies. Results are shown on a semilog/log plot and can be saved/loaded from disk or printed.
Acoustic Tools: Reverberation Time (RT-60), Equivalent Noise Level (Leq, LeqT, Lsel, Lpk, Lmax, Lmin, L10, L50, L90). Sound Power Level utility (ISO-3744/3746)
Automation Tools: COM based Application Programming Interface (API).
Data Logging - output text file (per channel) containing selected spectral parameters + time-stamp.
Import/Export: .WAV, ASCII, and Binary file formats
Configuration Files: Store and recall common analyzer test setups from disk. Quick load from toolbar
Color Printing: All displays plus annotation, comments, and margin control
Clipboard support: WAV segments, tabular data and bitmap images



Logiciel SpectraPlus

Base Analyzer

Features include 16 channels, Real Time Mode, Spectrum, Time Series, and Phase displays, Narrowband FFT sizes through 32,768 points, 1/1, and 1/3 Octave Analysis, Triggering, Markers, Overlays, Averaging, Peak Hold, Decimation, Mic Compensation, A, B, C Spectral weighing

Option /01

Composite Channel Processing

Up to 16 Composite channels: Real and Complex Transfer Functions, Coherence, Multichannel Averaging, Cross Spectrum. Each composite channel can be separately configured and displayed in any or all of the spectrum plots (Spectrum, Phase, Spectrogram, 3-D Surface).

Option /02

Recording and Post-Processing Modes

Recorder and Post Processing modes - allows direct hard disk recording and playback of up to 16 channels. Post Processing mode provides comprehensive analysis from WAV files. Includes Digital Filtering capability

Option /03

Signal Generator Utility

Advanced Signal Generation - Pink/White noise, Noise Burst, Swept Sine, 1 kHz tone, Multiple Tones, Saw, Square, Pulse, IMD test tones and User Defined WAV source.

Can generate different signals in each channel. Generator can utilize either the Data Translation D/A channels or your sound card output (not all DT modules provide analog outputs).

Option /04

Color Spectrogram Display

Spectrogram View - displays the spectrum versus time in greyscale or color format for advanced joint time-frequency analysis. Up to 16 spectrogram plots can be displayed.

Option /05

3-D Surface Display

3-D Surface View - displays the spectrum versus time in a 3-Dimensional perspective format. Up to 16 3-D Surface plots can be displayed.

Option /06

Distortion Analysis Utilities

Distortion Analysis - measurement utilities for THD, THD+N, IMD, SNR, NF, SINAD.

Each measurement is displayed in real time in a separate resizable window.

Also includes a dedicated THD+N versus Frequency utility that quickly and conveniently measures the distortion characteristics of your device over a range of frequencies.

Option /07

High Resolution Analysis

Adds FFT sizes from 65536 to 1,048,576 points, and Octave resolutions of 1/6, 1/9, 1/12, 1/24, 1/48, and 1/96.

Option /08

Advanced Scaling, Calibration, Tachometer and Order Analysis

Calibration conversions from Acceleration to Velocity or Displacement. Power Spectral Density scaling option for noise measurements. Support for Tachometer input channel and RPM versus Time plots.

Order Analysis - Spectrogram plot with Order vs RPM options and Spectrum Order Plot.

Option /09

Acoustic Toolset

Reverberation Time (RT60) utility features bar graph of reverberation time versus frequency band, 3-D Surface plot of the decay versus frequency and individual decay plots versus time.

Equivalent Noise (Leq) utility provides comprehensive noise level calculations for LeqT, Leq, Lpk, Lsel, Lmax, Lmin, L10, L50, L90. Sound Power Level measurement utility (ISO-3744).

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- Averaging Types: Exponential, Linear or Vector moving average
- Peak Hold: live peak hold with selectable timeout
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- psi, or custom units
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