

# Concerto

Soft dB

4-Channels, Multi-Function, Hand Held, Acoustic Measurement System

## Features and Applications

- SLM Class 1 and 3 axis Vibration, including ISO 2631
- 4-channel SLM Class 1
- 4-channel Data Logger
- Building Acoustic (RT-60, EDT, C80, D50 & Ts)
- Building Vibrations, DIN 4150
- Sound Intensity (Coming Soon)
- Integrated Camera (Optional)

## Highly intuitive and easy to use

- All Functions easily accessible on the touch screen
- Results are displayed according to the user choice
- Wide color touch screen

## Handy, Lightweight and Fully Ruggedized Tablet-PC

- Rain, Heat, Cold, Dust and Shock Resistant (Sealing IP 67 and MIL STD-810E 5145 rating)
- Weight only 1.8 kg (4 lbs)
- Small size: approx 23 x 18 x 6 cm (9 x 7 x 2.25 in)
- Makes field work more efficient and easier in any conditions



Monitoring Station with Remote Access capabilities



*Very flexible, the Concerto meets the needs of engineers and consulting firms in acoustics and vibration.*



## ▶ Sound Level Meter and Vibration Measurement Module

Conform to IEC 60561/60804/61672; ANSI S1.43-1997

### SLM Metrics

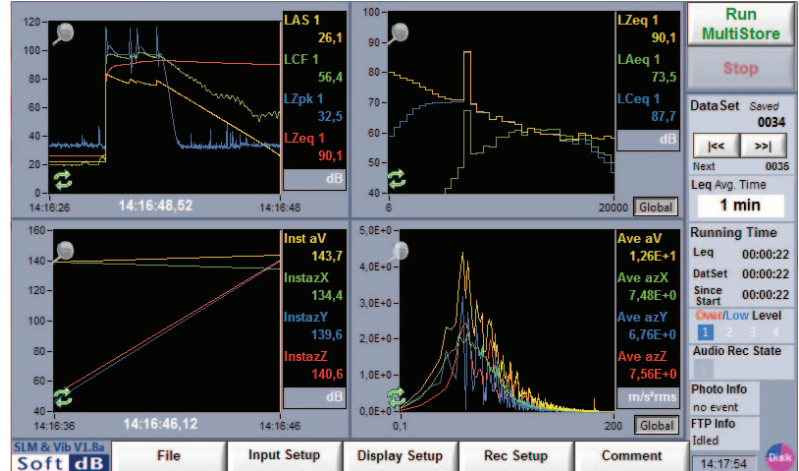
- LF, LS, LI, Lpk, Leq and SEL
- A, C, Z weightings
- 1024 lines FFT spectra
- Frequency Range: 6.3 Hz to 20 kHz

### Vibration Metrics

- FFT Bandwidth: 0.5 to 1000Hz
- FFT Resolution: 1 Hz to 0.05 Hz
- Preset Filters: Wb, Wc, Wd, We, Wf, Wk
- ISO 2631 Automatic Set-Up
- Custom Set-Up

### Display and Special Features

- Real-Time Display; 1 to 4 graphs
- Time History and 1/3 octave
- Recording of all metrics simultaneously
- Programmable measurement period
- WAV, MP3 and Photo recording
- Recordings on triggered and/or interval
- Voice and note pad annotation
- Export data in TXT or XLS files
- Advanced Post Processing Software
- Programmable output signal for automatic calibration (compatible Larson-Davis 4100)
- USB Port
- Camera for photo documentation



## ▶ Building Acoustic Module

### Measurement modes

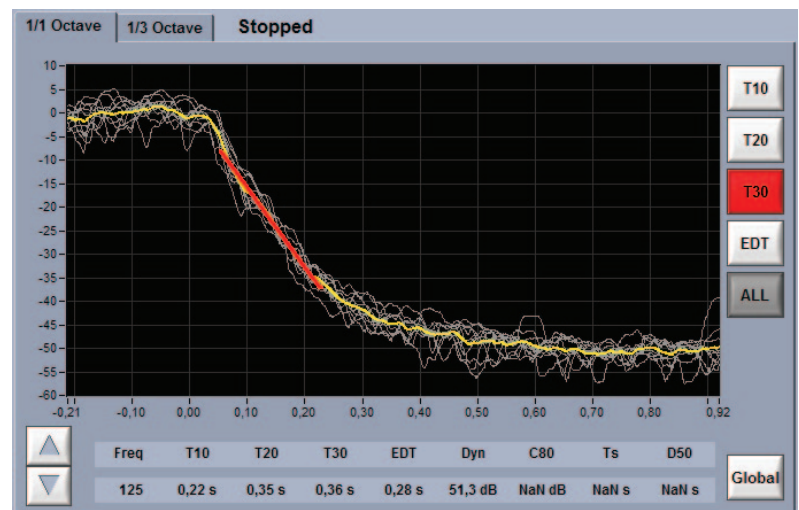
- Automatic/Manual white noise interrupted
- Automatic Schroeder mode
- Automatic detection impulse mode

### Processing

- Automatic averaging process
- Automatic 1/1 & 1/3 Oct. analysis
- Edit and suppress specific curves

### Results

- T10, T20, T30
- Early Decay Time (EDT)
- Dynamic, Clarity (C80)
- Central Time (Ts)
- Definition (D50)



## ▶ Building Vibration Module

DIN 4150 and USBM RI 8507

### Simultaneous Triaxial Vibration and Acoustic Measurement

#### Triaxial Vibration Measurement

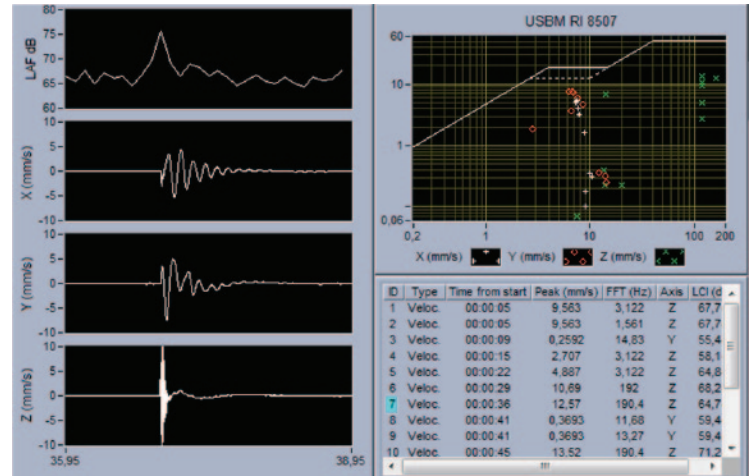
- Acceleration, Velocity and Displacement
- Recording on trigger or continuous

#### Acoustic Measurement

- Leq (A, C and Z)
- SPL Slow, Fast and Impulse (A, C and Z)
- Wave Recording

#### Real-Time Analysis

- Peak Velocity, Acceleration and Displacement
- Maximum Peak Frequency
- Marker on velocity/frequency graph
- Comparison with guidelines value



## ▶ 4-ch Data Logger Module

### 1 to 4 wave recordings simultaneously

- Dynamic range 12 V p-p
- Bandwidth: up to 24 kHz/ch, on 4 channels
- Input types: Direct DC/AC and ICP
- Calibration function
- Input user defined set-up table

### Real-Time Monitoring

- Time signal, FFT, global level
- Overload/low level detectors
- User defined graph format (Lin, Log (A,C,Z), RMS, RMS<sup>2</sup>, Peak)
- 2 Independent signal generators

### Post-processing

- Efficient visualisation of long time signal using a streaming approach
- Global historic, average FFT, statistic, waterfall, FRF analysis function
- Advance function: Filtering, integration, ISO 2631 analysis
- Signal extraction; Export/Save data (.txt, xls, .sdf)



<b>Signal Processing: Ensure by Signal-Ranger-MK3 DSP board</b>	
Processor	TI TMS320C642
I/O	4 Input/ 2 Output - 96 kHz/24-bit
Dynamic Range	100 dB per range (112 dB total)
Noise floor	22 dBA, 25 dBC, 30 dBz (for 40mV/Pascal)
THD + noise	> 90 dB@ 1/4 dynamic range
Cross talk	> 115 dB @ 1kHz
Random noise	< 14 $\mu$ V(A), < 17 $\mu$ V(Z) @ 0.1 Hz
Anti-aliasing filter	yes
Input filter (DC, AC)	Adjustable: 0,1 to 16 Hz)
Low and High Pass Filters	Low Pass: 0.5 Hz; High Pass: 20 kHz
Overload Detection	Yes
Input/Output voltage	6 V pk-pk
Safe Max. input	25 Vpk-pk
Sensor Power Supply:	ICP 4mA
<b>Rugged Tablet from DAP Technologies - Model M9000</b>	
Operating system	Intel® Atom™ E660T 1.3 GHz, GB DDR2 SDRAM, USB Port 16GB high-speed solid state drive; up to 32 & 64GB Windows® Embedded Standard 7
Display	7-inch WVGA (800 x 480), 550 nits Sunlight viewable, Hardened touchscreen (Passive stylus or finger operation) Light sensor for auto backlight adjustment
Connectivity Options	WLAN, Bluetooth, WWAN (gobi 3000), GPS
Battery operation	1 Primary internal battery, 3000 mAh, 7.4V Lithium-Ion; 1 Secondary battery Li-ion battery pack, 7.4 V, 3000 mAh (hot-swappable)
Audio	Speaker & 3.2 mm stereo headset jack
Operating temp	-22 to +122 °F [-30 to +50 °C]; Charging T: 32 to +104 °F [0 to +40 °C]
Dimensions	230 x 185 x 60mm (9.00" x 7.28" x 2.36")
Weight	1,4 kg (3.2 lbs)
Protection rating	Drop: Multiple 6ft (1.8m) drops on concrete Sealing: IP67 (Rain, Humidity, 1 meter immersion) ESD: 15 kV air discharge, 8 kV direct discharge Humidity: 95% non-condensing Temperature: MIL-STD-810-F Vibration: MIL-STD 810E 514.5
Approvals	FCC Class B, IC, RoHS,CE, WEEE
Warranty	Manufacturer's warranty: 1-year limited warranty, parts & labor Optional 3-year warranty extension
Options	Universal Imager with 5MP camera with auto-focus, OCR and video capture;



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