Alto-6channels

Multi-function Acoustic Measuring System

Alto-6ch is a 24 bits- 6 Inputs & 2 outputs measurement systems that include a powerful TI 6424 DSP to take in charge critical computations when required.

Alto-6ch ensures real time processing while display and storage are taken in charge by a PC.

Various software measurements modules of the ***OPUS™ suite*** are available to take advantage of the Alto-6ch hardware: ***SLM-4ch module***, ***6-ch DataLogger*** module, ***Building Acoustic*** module, ***Building Vibration*** (DIN 4150), **Human Vibration** module (ISO 2631) etc.

Compact, low consumption, flexible, the **Alto-6ch** provide professional measurements conform to usual acoustic and vibration standard as 60561/60804/61672, ISO 2631, DIN 4150, ANSI 1.43

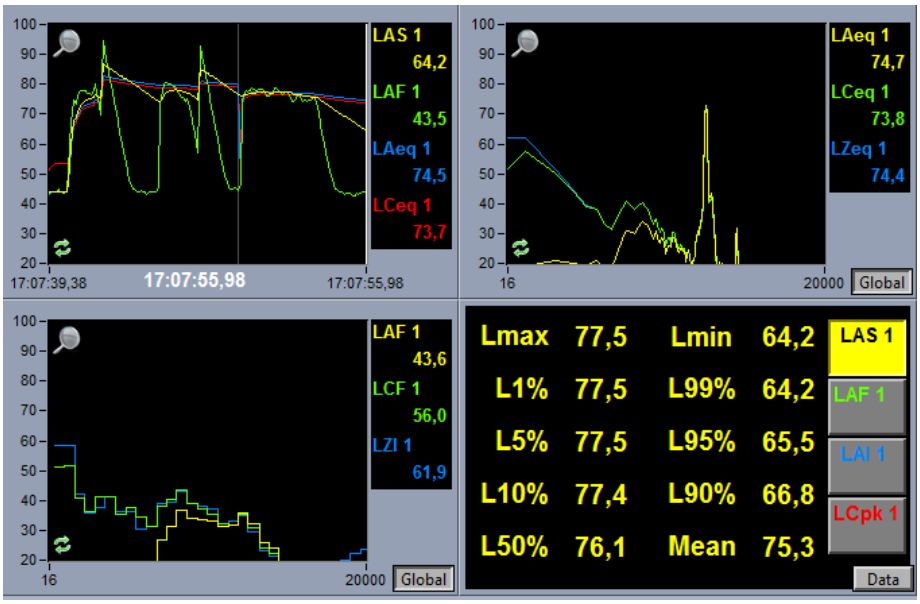
Hardware specification

Real time bandwidth	DC to 24 kHz @ 6 channels (Up to 48 kHz on 2 channel)	Communication	USB 2.0 Hi-Speed & Internet
Dynamic Range	100 dB per range (112 dB total)	Connector type	Limo
Noise floor	25 dBA, 30 dBZ for 40mV/Pascal	Display	Monochrome (42x14mm)
THD + noise	> 90 dB@ 1/4 dynamic range	Keypad	Silicon "quiet touch"
Cross talk	> 115 dB @ 1kHz	Dimension:	190x135x35mm
Random noise	< 14 µV(A), < 17 µV(Z) @ 0.1 Hz	Weight	2 lb. 950 g.
Sensor Power	ICP 4mA	Power Supply:	12-15 volt; 1watt
Input filter (DC, AC)	Adjustable: 0,1 to 16 Hz	Internal Cells	6 AA-NiMH
Max Input voltage	12 Vpk-pk	Battery Life	Approximately 5 hours

SLM 4ch - Measurement Module

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

Measurement



1 to 4 channel Simultaneously

- LF, LS, LI & LPk, Leq;
- A, C & Z weightings
- Ln Statistics (L0.1 to L99.9)
- Real time 1/3 octave (IEC 1260 Type 0)
- 3.1Hz to 20kHz/2ch.; 20-20kHz/4ch.
- Time history resolution up to 10msec.
- 1024 lines FFT; adjustable band width

Real time Display:

- 1 to 4 graphs; up to 4 curves/graph.
- History, 1/3 Oct., FFT, Statistic.

Special features

- Recording of all metrics simultaneously
- Voice & note pad annotation
- Programmable measurement period
- .wav recording on triggered level and/or interval
- Photo recording on triggered level and/or interval (option)
- Frequency tracking
- Export data in .txt or .xls
- Advance post-processing Software
- Programmable output signal for automatic calibration (compatible with Larson Davis 4100)

SLM 4ch-Advance Post-Processing Module

Graphical Interface

- Time History Graph
- 1/3 Octave Spectrum Graph
- FFT Spectrum Graph
- Percentile Graph and Data Table
- Wave Record Player
- User annotation indicator
- Photo display

Computing:

- Redefinition of Leq Periods
- Masking Noise Events

Special features

- Export data (.xls)
- Graph image (.bmp)

6-Ch Data Logger Module

Measurement

1 to 6 channel simultaneously

- 6 Input; dynamic range 12 Vpk-pk
- Band width: Up to 24 kHz/ch.
- Input types: Direct DC/AC and ICP
- Calibration function
- Input user defined set-up table

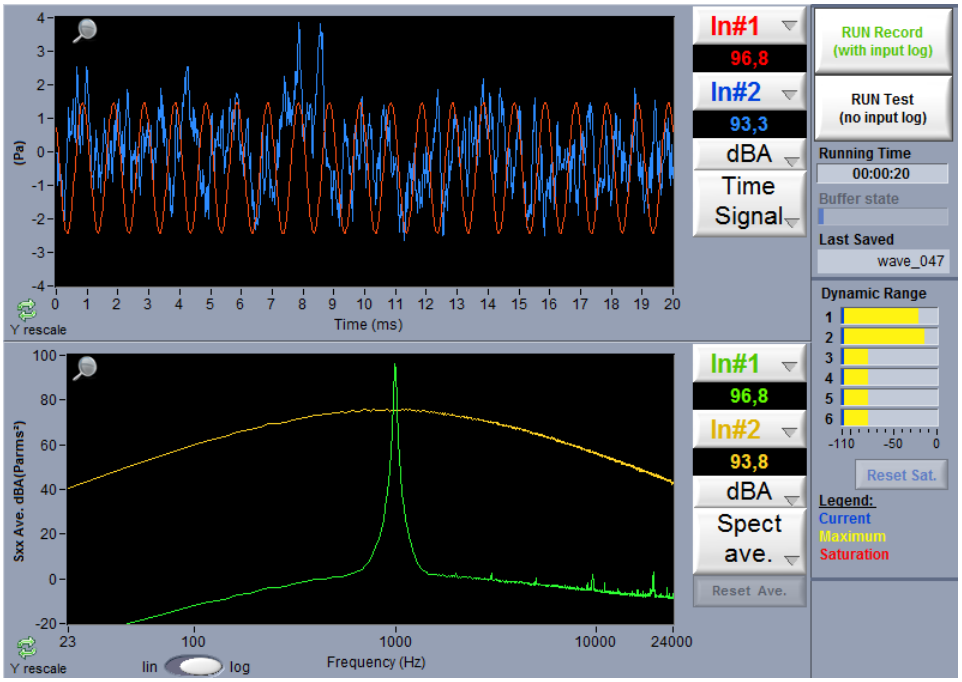
Real time monitoring

- Time signal, FFT, global level,
- overload/low level detectors
- User define graph format (Lin, Log (A,C,Z) rms, rms^2, Peak)

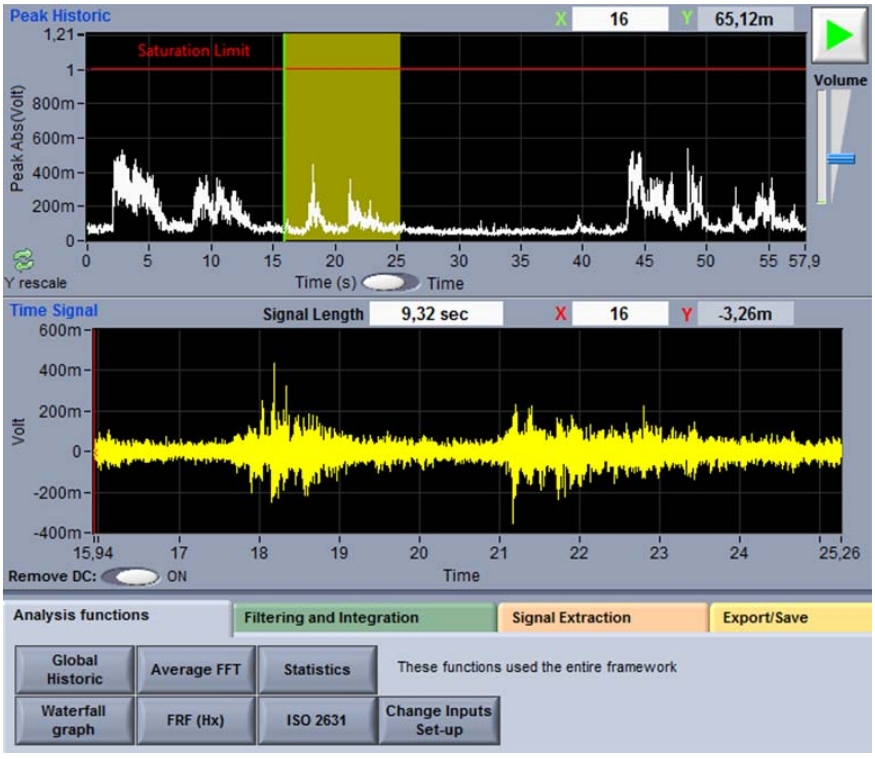
Signal generator

- 2 independent Multi-function

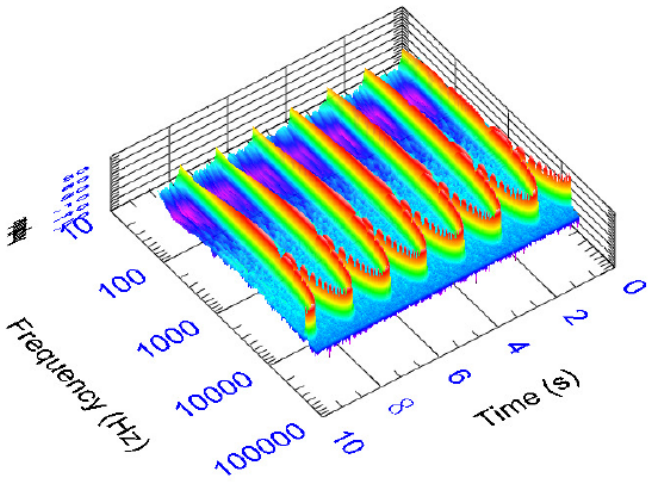
Output dynamic range ±2V)



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)



Building Vibration Module

DIN 4150 and USBM RI 8507

Triaxial Vibration Measurement

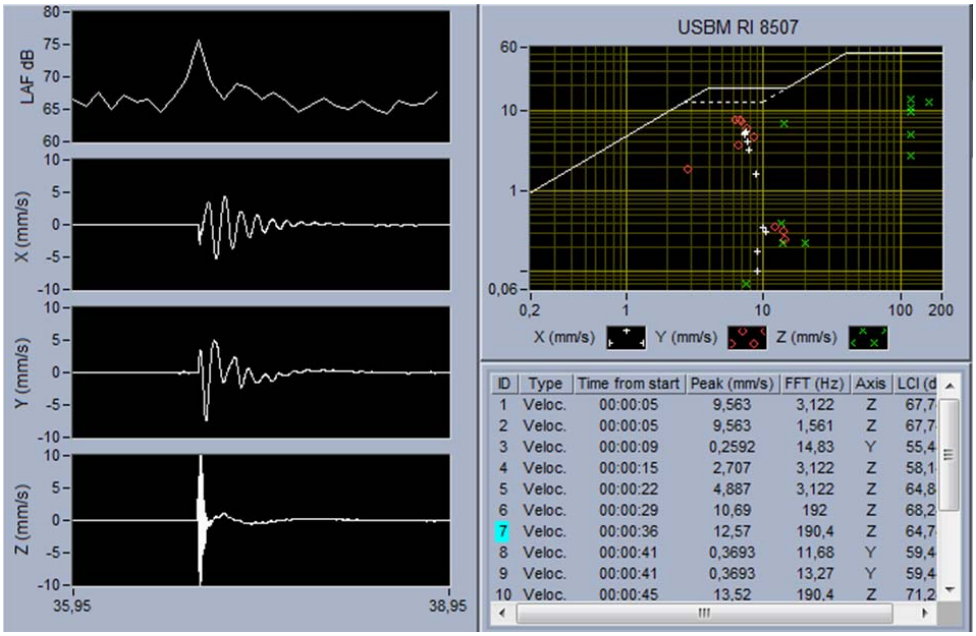
- Acceleration, Velocity and Displacement
- Recording on trigger

Acoustic Measurement:

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

Real time Analysis

- Peak velocity & maximum PF in main axe
- Marker on velocity/frequency graph
- comparison with guidelines values



Field of application

Vibration Control according to DIN 4150 or USBM RI 8507
for Construction works, blasting, industrial production etc.

Building Acoustic Module

Measurement modes

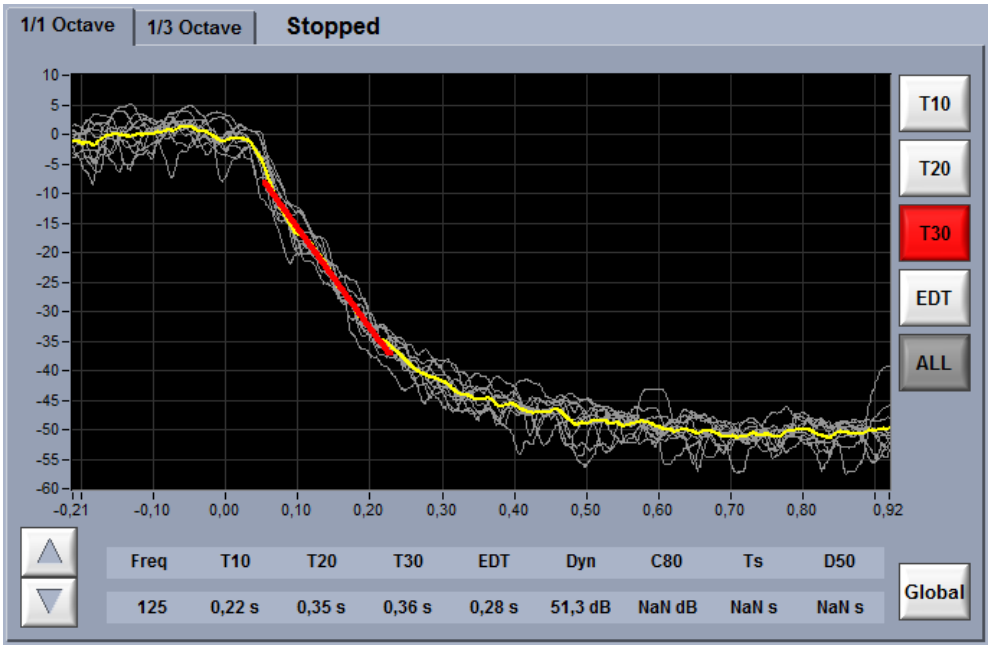
- Automatic/Manual white noise interrupted
- Automatic Schreader mode
- Automatic detection impulse mode

Processing

- Automatic averaging process
- Automatic 1/1 & 1/3 Oct. analysis
- Edit (suppression of specific curves)

Results

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



Standard

- EN/IEC 61672, ANSI SLM, ISO 3382