



Supervisor Data Management & Reporting Software

Key features:

- Easy to use, intuitive interface
- Easy measurement database management and browsing
- Very convenient and fast report generation with templates
- Powerful tools for data analysis
- Easy installation including sample measurement files

Main applications:

- Noise dosimetry
 - Exceedance data presentation
 - Noise exposure recalculations to ISO 9612
 - Hearing protection adjustment to ISO 4869-2
 - What-if analysis
- Vibration dosimetry
 - Hand-Arm dose recalculations to ISO 5349-2
 - Whole-Body dose recalculations to ISO 2631-1
- Sound level measurements
 - Time history recalculations with possibility of break-time and disturbance removal
 - 1/1 and 1/3 octave band sound analysis

Supervisor is the software package dedicated for health and safety specialists. Software supports the whole family of Svantek instruments dedicated to health and safety market including the BIG TRIO: SVAN 971, SV 104 and SV 106.

Each instrument connected to the Supervisor is remembered enabling automatic creation of instruments' database containing important information such as uploaded settings and firmware version, calibration validity date or instrument clock time. Intuitive tools for data organization upon downloading provide folder-structured database as well as files tagging by locations, users or tasks capabilities. Downloaded data files are automatically categorized by measurement time and assigned to the instrument's serial number enabling fast & easy data browsing. In practice this means no more time-consuming data search through PC storage.

Supervisor software adjusts itself to the user's requirements. In case of simple applications that require analysis of only main results such as LAeq, LAFmax or LCpeak, Supervisor offers quick previews and reporting without necessity of data files opening. More advanced applications are handled within sessions where user decides on the type of analysis to be performed.

Those who create noise or vibration reports on a daily basis will appreciate possibility of creating report templates, which once created can be applied to series of measurement files. Whenever necessary user can select data files and create personalized reports with couple of clicks.

INSTRUMENTATION FOR SOUND & VIBRATION MEASUREMENTS

INSTRUMENTS 4 ENGINEERS
Stockport Business & Innovation Centre
3rd Floor Broadstone Mill
Broadstone Road
Stockport, SK5 7DL United Kingdom
Tel: +44 (0) 161 871 7450
sales@instruments4engineers.com

www.instruments4engineers.com



Supervisor Applications

Hand-Arm Vibration Exposure Calculation in accordance with ISO 5349-2

| Hand-Arm vibration exposure (ISO 5349-2) | | | | | | | | | |
|--|-------------------|------------------|------------------|------------------|------------------|-----------------------|---------------------------|-------------------------|-------------------|
| Show exposure: levels | | | | | | | | | |
| User | | | | | | | | Time to reach EAV | Time to reach ELV |
| Zbychu | Exposure duration | RMS (X) | RMS (Y) | RMS (Z) | ABQ | Partial exposure | 2.5 m/s ² A(8) | 5 m/s ² A(8) | |
| Task | hh:mm | m/s ² | m/s ² | m/s ² | m/s ² | m/s ² A(8) | hh:mm | hh:mm | |
| [-] Drill | 00:00 | 5.389 | 10.012 | 5.480 | 12.618 | 0.364 | 01:00 | 04:02 | |
| <input checked="" type="checkbox"/> File name: DRILL1 (04-3) | | 5.662 | 12.274 | 5.929 | 14.757 | 0.426 | 00:13 | 00:55 | |
| <input checked="" type="checkbox"/> File name: DRILL2 (04-3) | | 5.630 | 9.386 | 5.236 | 12.134 | 0.350 | 00:20 | 01:21 | |
| <input checked="" type="checkbox"/> File name: DRILL3 (04-3) | | 4.031 | 7.052 | 5.272 | 10.617 | 0.307 | 00:36 | 01:46 | |
| Total duration: | 00:00 | | | | | | | | |
| | | | | | | Daily exposure | | | |
| | | | | | | User | m/s ² | | |
| | | | | | | Zbychu | 0.364 | | |

ISO 5349-2 gives practical guidelines in accordance with ISO 5349-1 to perform measurements of hand-transmitted vibration at the workplace. The strategy for measurement requires that at least three samples are taken into calculation of daily vibration exposure.

This kind of measurement is possible with SV 106 Human Vibration analyser with dosimeter mode enabled and Hand-Arm vibration settings selected. The measurement data files downloaded into Supervisor data base are assigned either to the user either to a task and all calculation is done automatically.

Measurement results are expressed in m/s² and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector. All information displayed within the panel window is directly printable to the report.

Whole-Body Vibration Exposure Calculation in accordance with ISO 2631-1

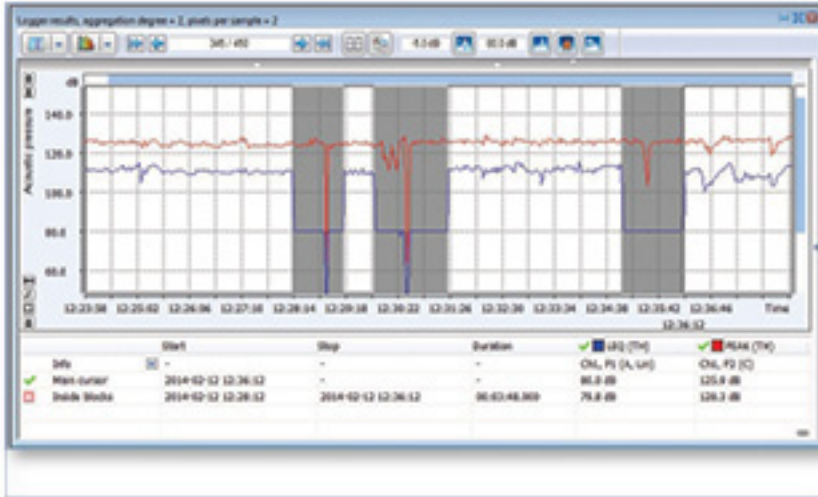
| Whole-Body vibration exposure (ISO 2631-1) | | | | | | | | | |
|--|-------------------|------------------|------------------|------------------|-----------------------|-----------------------|-----------------------|----------------------------|----------------------------|
| Mode: A(8) calculator | | | | | | | | | |
| Show exposure: levels | | | | | | | | | |
| User | | | | | | | | Time to reach EAV | Time to reach ELV |
| John | Exposure duration | RMS (X) | RMS (Y) | RMS (Z) | Partial exposure (X) | Partial exposure (Y) | Partial exposure (Z) | 0.50 m/s ² A(8) | 1.15 m/s ² A(8) |
| Task | hh:mm | m/s ² | m/s ² | m/s ² | m/s ² A(8) | m/s ² A(8) | m/s ² A(8) | hh:mm | hh:mm |
| [+] Car | 04:00 | 0.079 | 0.005 | 0.237 | 0.070 | 0.064 | 0.167 | >24:00 | >24:00 |
| Total duration: | 04:00 | | | | | | | | |
| | | | | | Total exposure (X) | Total exposure (Y) | Total exposure (Z) | | |
| | | | | | m/s ² A(8) | m/s ² A(8) | m/s ² A(8) | | |
| | | | | | 0.070 | 0.064 | 0.167 | | |
| | | | | | | Daily exposure | | | |
| | | | | | | User | m/s ² | | |
| | | | | | | John | 0.267 | | |

ISO 2631-1 standard defines general guidance on the method of assessment of whole-body vibration exposure. The measurement can be performed with SV 106 Human Vibration analyser or SV 100 Whole-Body Vibration meter.

The measurement data files downloaded into Supervisor data base are assigned either to the user either to a task and all calculation is done automatically. Measurement results are expressed in m/s² and can be directly compared to limits given by the European Directive 2002/44/EC. It is also possible to convert units into Points widely used in health & safety sector.

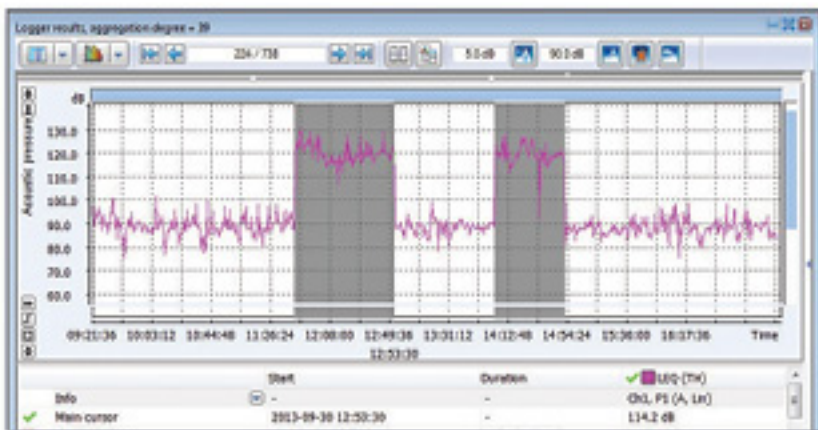
The single click on the Mode switches to the calculation based on VDV which may be necessary if the vibration was characterized as impulsive. All information displayed within the panel window is directly printable to the report.

Simulation of changes of noise source emission



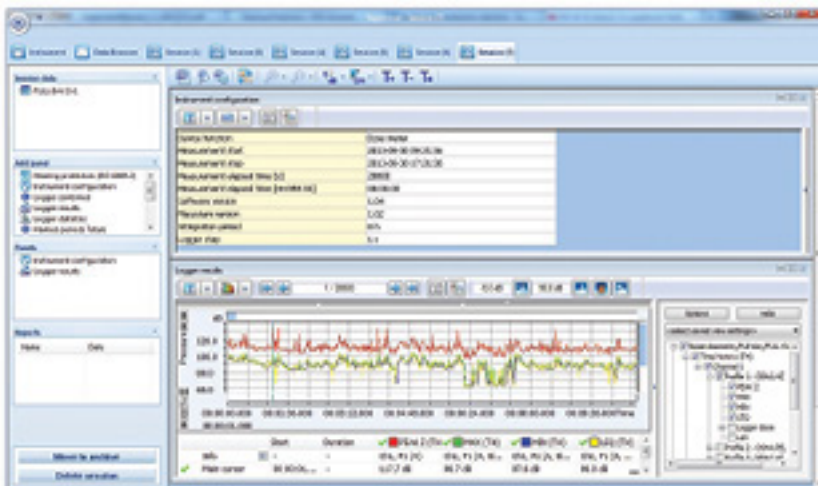
The Supervisor software offers the users tools to simulate hypothetical situation in which the noise would be different from the measured one. Selection of the block of data gives possibility to create scenarios where the measured data is shifted up or lowered down for the given dB value. It is also possible to simulate the situation where noise is equal to a given dB value or completely removed from time history.

Recalculation on the changed data is performed automatically and both original and recalculated values are given answering the question "What if".




| Parameter | Original value | Recalculated value |
|------------------------|----------------|--------------------|
| Threshold (dB) | 95.0 | 99.9 |
| Criterion level (dB) | 95.0 | 99.9 |
| Exchange rate | 5 | 5 |
| Reached time (minutes) | 08:00 | 08:00 |
| Function name | Original value | Recalculated value |
| DOSE | 99.5 % | 99.5 % |
| DOSE ₉₀ | 99.5 % | 99.5 % |
| KOEF | 99.5 % | 99.5 % |
| L ₉₀ | 89.5 dB | 89.5 dB |
| L ₅₀ | 90.1 dB | 90.1 dB |
| L ₁₀ | 93.3 dB | 93.3 dB |
| T ₉₀ | 95.5 dB | 95.5 dB |
| T ₅₀ | 95.7 dB | 95.7 dB |
| T ₁₀ | 95.7 dB | 95.7 dB |
| L ₉₀ | 90.1 dB | 90.1 dB |
| L | 3.7 dB | 3.7 dB |
| EP | 3.7 dB | 3.7 dB |

Reporting: What You See is What You Get!



The way to create a report with Supervisor is very fast and easy. User need to select the data file and open it by double click.

Measurement data is automatically grouped into context panels which can be opened and closed with a single click. The order of panels is arranged with the drag & drop method.

These steps already allow to create a report by a single click on MS Word™ icon. The biggest advantage of such approach is giving the user full control over the report layout. Whenever necessary, the layout can be saved as a report template and used for other data files.

The list of available panels contains data viewing as well as data recalculation but also a text panel allowing to add text description or photo to enrich the measurement report.

Supervisor Applications

Noise exposure recalculations in accordance with ISO 9612

The screenshot displays the 'Noise exposure (ISO 9612): Task-based measurement' window. It features a tree view on the left for user selection and a main data table. A 'Measurement strategies...' dialog box is open, showing three options: Strategy 1: Task-based measurement, Strategy 2: Job-based measurement, and Strategy 3: Full-day measurement.

| User | T _{eq} | T _{eq} | T _{eq} | L _{p,Aeq,Tn} | L _{p,Aeq,Tn} | L _{p,Aeq,Tn} |
|------------|---------------------------|--------------------------|-------------------------|-----------------------|-------------------------|-----------------------|
| John | Duration of task in | Duration of samples | Average duration of ... | LEQ for task in | Noise exposure level | LEQ-value difference |
| Task | Hours | Hours/Hours... | Hours | dB | dB | dB |
| [-] Byll | 00:00 | | 00:00 | 96.5 | 96.5 | 25.4* |
| File name: | T5-L: 2013-09-27 15:13:32 | | | 96.6 | | |
| File name: | T5-L: 2013-09-27 15:23:32 | | | 102.1 | | |
| File name: | T5-L: 2013-09-27 15:33:32 | | | 96.3 | | |
| File name: | T5-L: 2013-09-27 15:43:32 | | | 99.3 | | |
| File name: | T5-L: 2013-09-27 15:53:32 | | | 98.7 | | |
| | T _{eq} | Effective duration of... | 00:00 | | | *exceed 3dB |
| | | | | | LEQ | 1/3LEQ |
| | | | | | Task noise exposure ... | Expanded uncertainty |
| User | dB | | | | dB | |
| John | 96.5 | | | | 5.6 | |

The Supervisor software provides complete tool for determination of occupational noise exposure from noise level measurements. The Supervisor provides automatic calculation of all required measurement results and uncertainties in accordance to three measurement strategies described in ISO 9612: task-based, job-based and full-day.

Hearing protection selection in accordance with ISO 4869-2

The screenshot shows the 'Hearing protector (ISO 4869-2)' window. It includes a table for selecting a protector and comparing current noise levels against the protector's SNR and HML values.

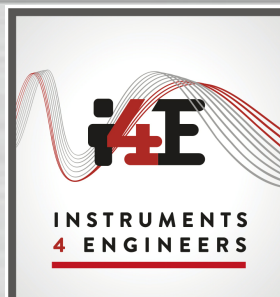
| Mode | Protectors database | Measure database |
|-----------------------------|---------------------|--------------------|
| File | Channel | |
| T5-L | C61 | |
| Protector | Protector | |
| [-] SNR method: | | |
| L _c [dB] | 117.0 | |
| SNR [dB] | 40 | |
| Current L _c [dB] | 77 | Good |
| | | Compare protectors |
| [-] HML method: | | |
| L _c [dB] | 112.0 | |
| L _c [dB] | 117.0 | |
| H [dB] | 30 | |
| M [dB] | 33 | |
| L 200 | 35 | |
| Current L _c [dB] | 76 | Good |
| | | Compare protectors |

Workers should wear hearing protectors if the noise or sound level at the workplace exceeds 85 decibels. The selection of hearing protectors depends on a noise level in the working environment. Therefore the selection of suitable hearing protector should be based on noise measurement. Each hearing protector has attenuation characteristics expressed in units of three methods:

- SNR _____ Single Number Rating,
- HML _____ High, Medium and Low frequency method, using A-weighted and C-weighted sound measurements in the calculation
- Octaves _____ the most accurate method requiring measurement in 1/1 octave bands

The Supervisor supports all three methods allowing users to build up the hearing protectors data base. The calculation is done automatically with selection of data files containing noise results required by selected method.

SVANTEK Sp. z o.o.
ul. Strzygłowska 81
04-872 WARSAW, POLAND
phone (+48) 22 51 88 300
fax (+48) 22 51 88 312
<http://www.svantek.com>
e-mail: office@svantek.com.pl



Proudly distributed by:
INSTRUMENTS 4 ENGINEERS LTD
Stockport Business & Innovation Centre
3rd Floor Broadstone Mill, Broadstone Road
Stockport, SK5 7DL United Kingdom
Tel +44 (0) 161 871 7450
sales@instruments4engineers.com