

LDS23

Download and data processing
software

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I – Introduction

Supplied with the range of dosimeters, **LDS23** is a software of setting, recovery and processing of data stored in the instrument memory.

Easy to use, it allows an immediate data management.

The main functions are :

- Visualization and results of the different measurement modes
- Formatting and editing of measurement reports
- Data recovery and creation text files
- Zoom function for more precise study of a period

II – Software installation

1. Please take necessary rights. Otherwise, contact the administrator.

2. Insert the CD-ROM. The installation program starts automatically.

Note : If setup does not start automatically, go to desktop or Windows Explorer and double-click on LDS23.

3. Follow the instructions on the screen.

Note : Depending on softwares installed on the computer (in particular NET Framework), the waiting time can be significant – Wait. For a few moment.

4. Restart computer.

It is strongly recommended that you restart the computer after installation. Remember to save and close all other programs in use before clicking Finish.

5. Software is now installed, LLX200 icon is displayed on the desktop.

III – Driver installation

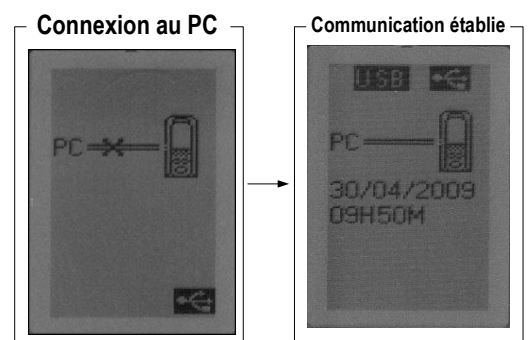
1. Connect the instrument to the computer through the provided USB cable

2. Press “**screen**” key then go down with arrow key to “**PC**”.

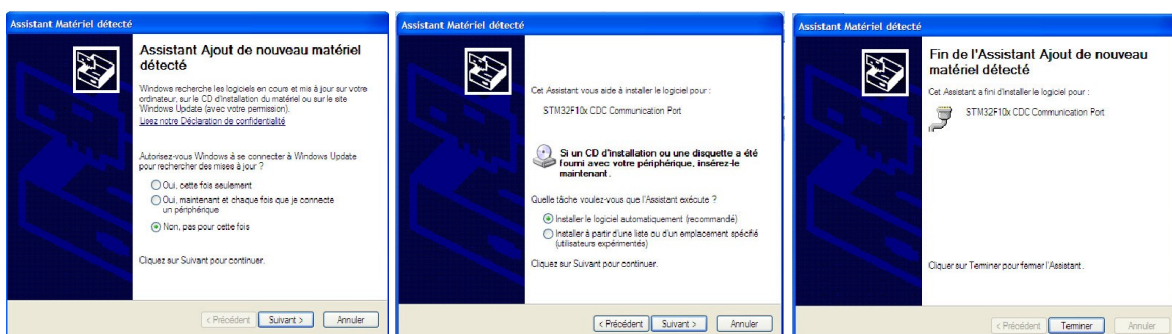
3. Press “**USB**” logo.

Computer detects **DS200** instrument and proposes to install USB driver from “**Hardware wizard**” of Windows.

4. Follow the instructions on the screen, click on “**Next**” then on “**Finish**” to validate installation.



Example : Hardware Wizard



LDS23 can now convey with **DS200** instrument and receive measurement files. See “**Established communication**” figure.

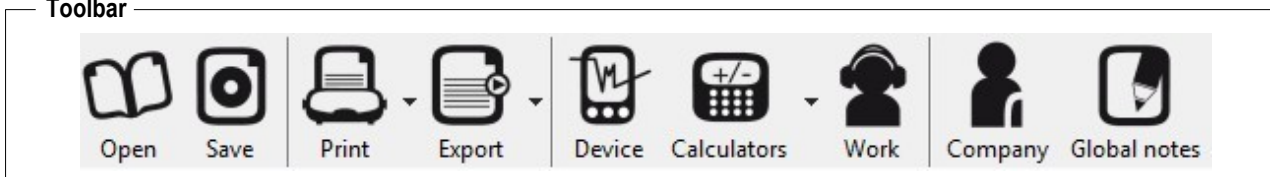
IV – Software presentation

Open the software by double clicking on **LDS23** icon.
The **LDS23** home page opens with its toolbar :



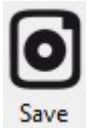
IV 1 – Meaning and function of the toolbar buttons

Toolbar



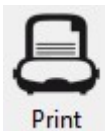
Open a file

Open



Save a graph

Save



Print a graph

Print



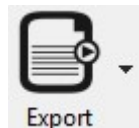
Connect device

Device



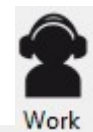
Display calculator

Calculators



Export data

Export



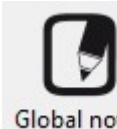
Add informations about workstation

Work



Enter the name of the company

Company



Add a general comment to the dataset

Global notes

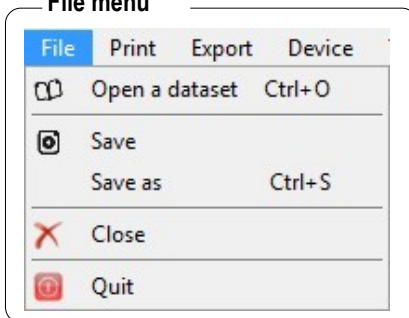
Only the **Open**, **Instrument** and **Calculator** buttons are active when you open the software.

IV 2 – Meaning and function of menu bar buttons

Menu bar

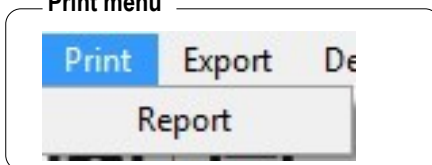
File Print Export Device Tools Windows Help

File menu



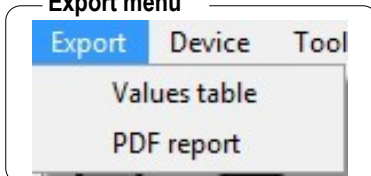
- **Open** : allows to open a dataset saved on the computer, on **.exp** format
- **Save / Save as...** : allows to save open file.
- **Close** : close current dataset.
- **Exit** : exits software.

Print menu



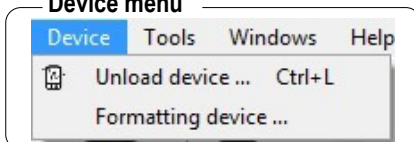
- **Report** : print a report according user settings

Export menu



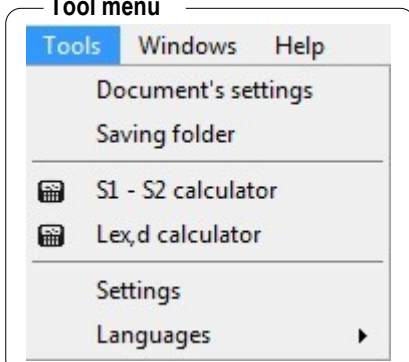
- **Table of values** : exports table of values in **.txt** format.
- **pdf report** : exports the report in **.pdf** format.

Device menu



- **Device downloading** : allows to open the downloading window of the instrument.
- **Formatting device** : allows to delete all data from the instrument.

Tool menu



- **Document setting** : allows to fill in header and footer of document for printing or exportation
- **Backup folder** : allows to modify the location where are saved the different datasets.
- **S1 + S2 calculators** : allows to add or subtract levels expressed in decibel.
- **Lex,d calculator** : allows to calculate daily noise exposure from the LAeq and the effective duration of the workstation.
- **Settings** : allows to set LC and Dose parameters
- **Languages** : allows to change the software language : English or French

V – Connect the DS200

1. Turn on and connect the device to the computer with the USB cable.
2. Press 5 key “**Screen**” then go to “**PC**” with 1 or 2 key.
3. Press 3 key “**Val**”.

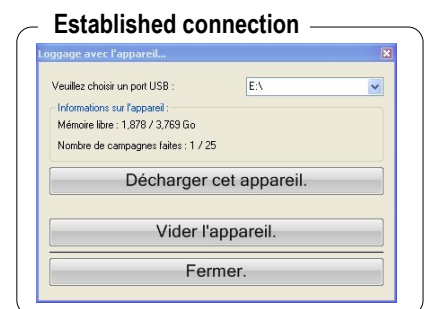
Click on icon  .

4. The connection window appears. See “**Connection**” screen.
5. Perform the connection selecting a USB port in the drop-down list.



6. When connection is established, the user can :

- **Transfer data** in **DS200** instrument by clicking “**Download this instrument**” button.
- **Delete** all measurement datasets of the device by clicking on “**Vider l'appareil**”.



The “**Established connection**” window gives also informations on the remaining memory of the device and on the number performed datasets.

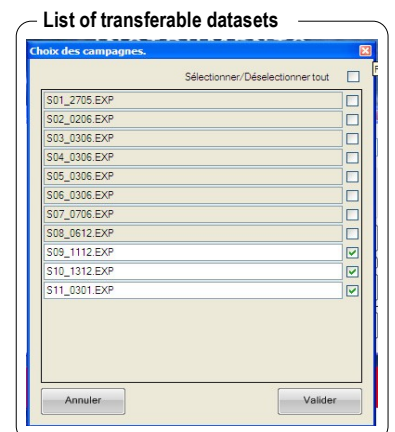
During the device downloading, files will be shown for information in a directory (see opposite window) :

Close the window or open the required file by double-clicking on it.

- Select the files to transfer or all of them according to your choice.

in case of already attributed file name, a modification window for the name opens automatically and asks :

- To replace or “**overwrite**” the file already present in your computer or
- to **rename** the file to transfer or
- Write a new file name then press “**Rename**” or press directly “**Overwrite**”.



5. Once the saving is finished, the user can :

- Erase memory device.
- Disconnect the device.
- Close the window.

VI – Open a file

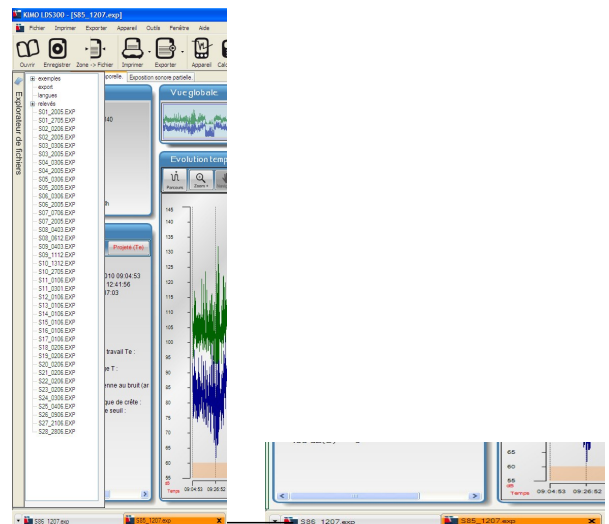
Several possibilities allow to open a file :

From the software explorer which is available on the left side of the screen :

- Double-click on a file to open it.



It's possible from the explorer to open several files. They are identified by the tabs located on the bottom of the screen. The choice to display or close the file is made by these tabs.



It's also possible to open a file with the button



“Open a

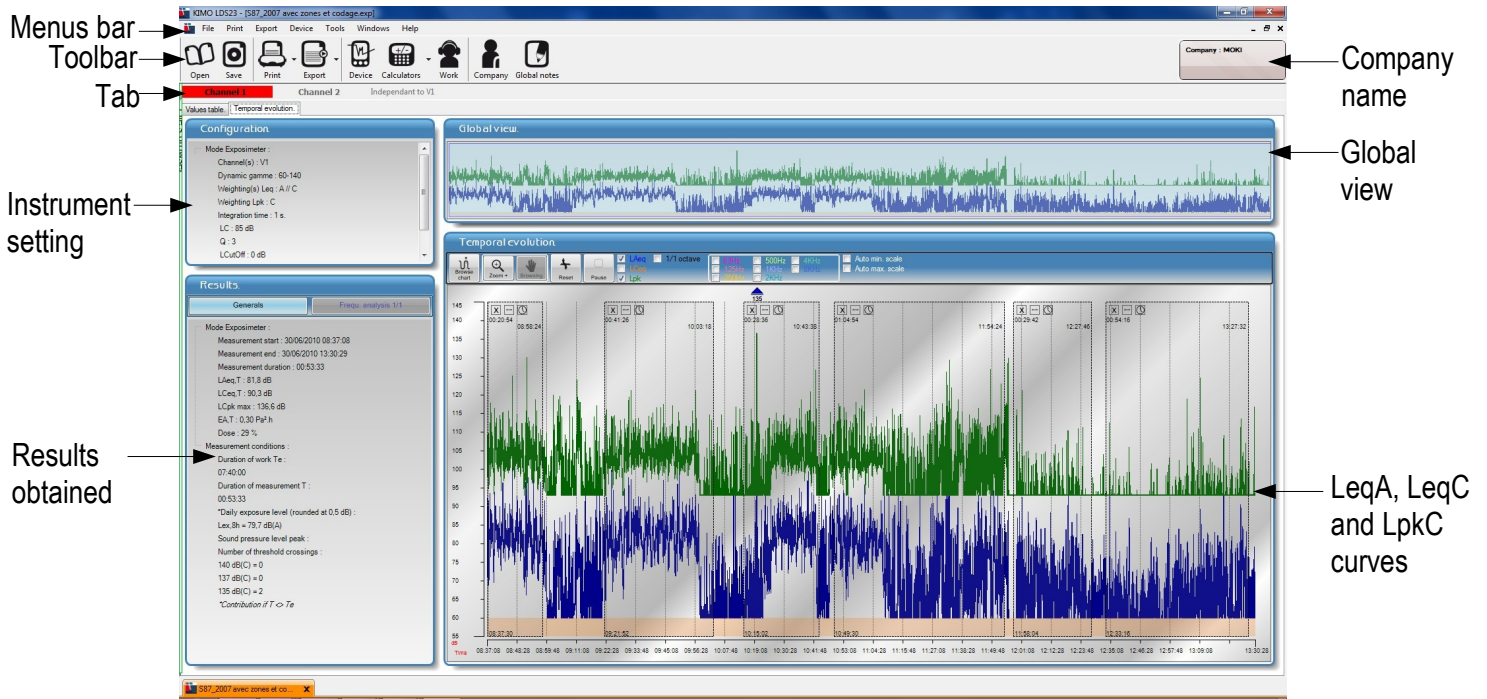
dataset” or go to **File > Open a dataset.**

File menu

File	Print	Export	Device
Open a dataset			Ctrl+O
Save			
Save as			Ctrl+S
Close			
Quit			

VII – Software operation

VII 1 – File overview



.exp files that are represented have 2 tabs :

- “Table of values” tab
- “Time evolution” tab

VIII-1 Table of values tab

The table of values presents obtained values during the dataset with for each value :

- Date and time
- LAeq dB value
- LCeq dB value
- LCpk or LZpk value
- Possible overload
- Possible comments

• Add a comment

To add a comment, double-click on “**Comment**” line , enter the comment in the window then click on “**Validate**”.

Date et heure	LAeq dB	LCeq dB	LCpk dB	Surcharge	Commentaires
25/02/2010 10:12:23	61,2	66,3	...		
25/02/2010 10:12:24	60,7	63,2	...		
25/02/2010 10:12:25	62,0	63,6	...		
25/02/2010 10:12:26	78,1	87,7	109,1	✓	
25/02/2010 10:12:27	77,8	86,2	109,4		
25/02/2010 10:12:28	65,3	62,0	...	✓	
25/02/2010 10:12:29	64,6	62,2	...		
25/02/2010 10:12:30	63,6	61,8	...		
25/02/2010 10:12:31	63,7	63,9	...		
25/02/2010 10:12:32	64,1	61,4	...		
25/02/2010 10:12:33	62,7	60,9	...		
25/02/2010 10:12:34	66,2	63,8	...		
25/02/2010 10:12:35	65,2	61,1	...		
25/02/2010 10:12:36	65,0	61,1	...		
25/02/2010 10:12:37	64,8	62,5	...		
25/02/2010 10:12:38	64,6	62,5	...		
25/02/2010 10:12:39	63,4	62,2	...		
25/02/2010 10:12:40	65,1	61,5	...		
25/02/2010 10:12:41	63,9	61,1	...		
25/02/2010 10:12:42	65,2	61,1	...		
25/02/2010 10:12:43	64,2	63,8	...		
25/02/2010 10:12:44	70,6	69,6	...		
25/02/2010 10:12:45	63,9	60,2	...		
25/02/2010 10:12:46	64,7	60,2	...		
25/02/2010 10:12:47	63,9	61,1	...		
25/02/2010 10:12:48	63,5	60,5	...		
25/02/2010 10:12:49	63,2	60,2	...		
25/02/2010 10:12:50	64,7	60,4	...		
25/02/2010 10:12:51	63,6	60,6	...		

Add a comment



• Overload indication

If during a dataset a value is overloaded, the overload box will be tick.

Overload

03/12/2009 09:03:38	56,7	59,6		
03/12/2009 09:03:38	64,8	80,7	✓	
03/12/2009 09:03:38	65,9	62,0		

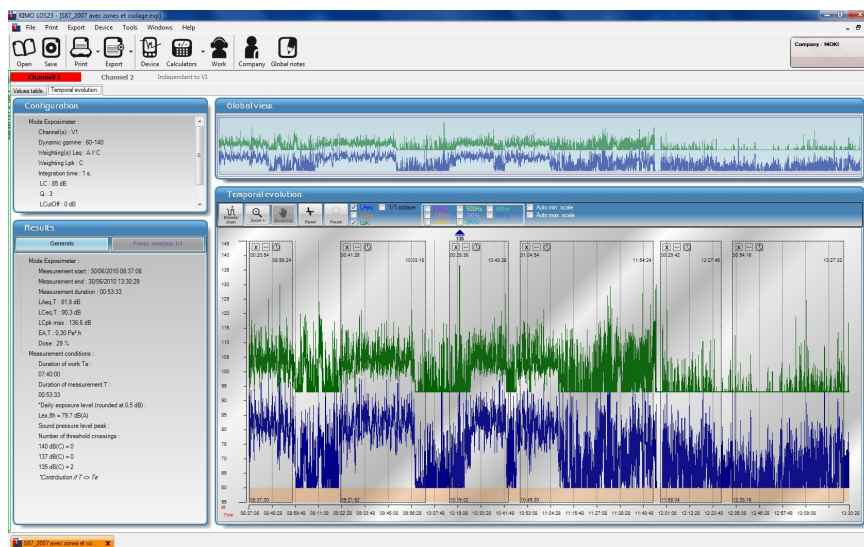
VIII-2 Time evolution tab

“Time evolution” is divided into 4 parts :

- Configuration
- Results
- Global view
- Time evolution

“Configuration” tab gives information about :

- measurement mode : dosimeter
- dynamic range : 60-140 or 40-120
- weighting type for Leq : A or A/C
- weighting type for Lpk : C or Z
- the elementary integration duration
- the reference value LC for the calculation of dose : 85 dB
- bisection index : 3
- LCutoff : limit below which noise levels are not taken into account in the calculation: 0 dB
- Référence DOSE 100% : 85 dB / 8 heures



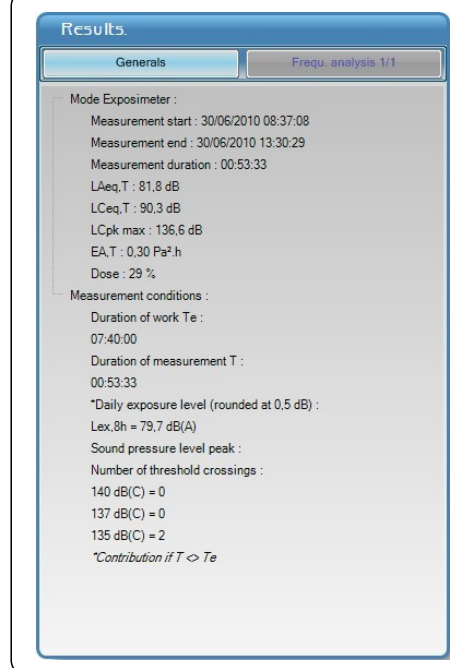
The “Results” part gives informations for Dosimeter mode :

- date and time of measurement start
- date and time of measurement end
- measurement duration in hh:mm:ss
- LAeq, T value
- LLeq, T value
- LCpk max value
- EA, T value
- dose

This part also gives informations about the measurement conditions :

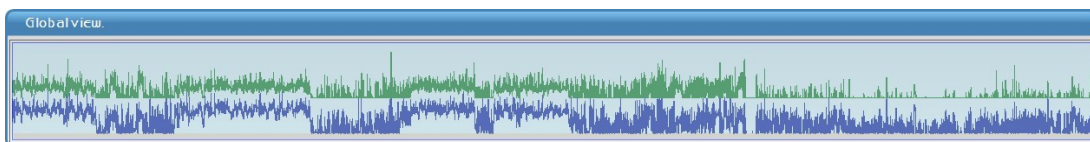
- the effective duration of Te workstation
- the effective duration of T measurement
- the daily noise exposure Lex- *contribution if T < or > than Te
- the noise peak pressure level
- number of threshold exceeded

Results



Global view

The global view allows to have a global view of the dataset.



Time evolution : this part presents the graph of the measurement dataset. Several actions are possible :



Allows to browse the chart and point accurately the corresponding values.



Allows to zoom on a part of the graph



Allows to navigate on the graph from zoom function



Allows to reset the graph from the zoom.



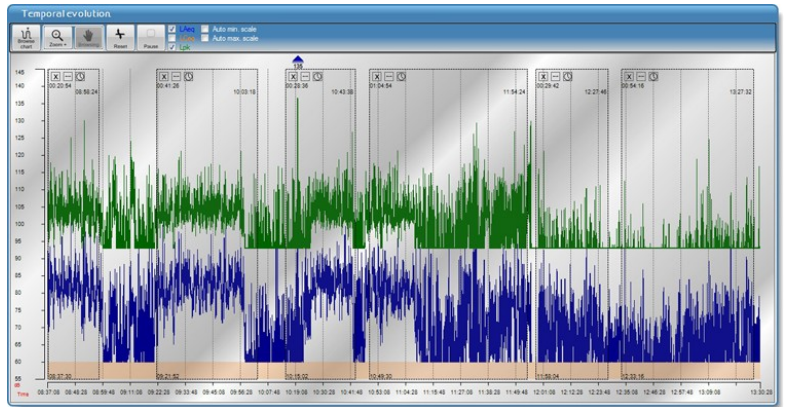
Allows to insert breaks on the graph. These breaks will be not take into account in the calculations.

Red arrows ▼ show overloads.

- Right click on the arrow to know the sound level reached during this overload.



Peak values 135 - 137 - 140 dB are also represented as blue - green - red triangles.



Overloads and peak values indications

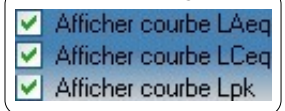


VII1-2a Selection of curves and scales to display

It is possible to select to display **LAeq** curve and/or **LCeq** curve and/or **Lpk** curve.

- Tick the corresponding box of the curve to display.

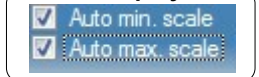
Curve display



It is also possible to choose to change of scale and to activate the **automatic minimum scal** or the **automatic maximum scale**.

- K the corresponding box of the scale to display.

Scale display



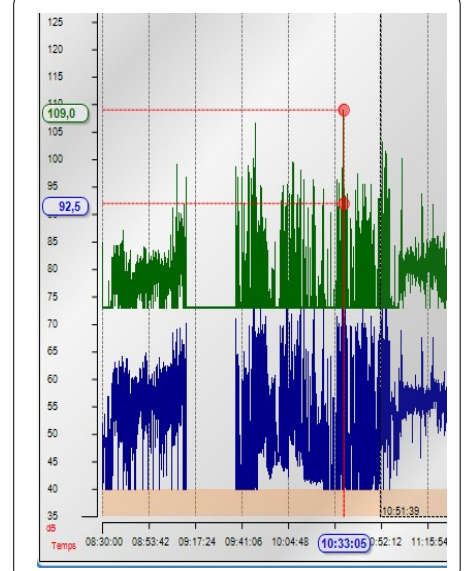
VII1-2b Browse the chart

- Click on **“Browse”** button.
- Click on the graph the required place.
- Stay clicked and drag the mouse on the graph to browse all the graph.

Value in dB are wtritten on the left of the graph, lines insure the good correspondence between values of 2 or 3 curves (LAeq-LCeq-LCpk).

To quit this function, click on **“Browse”** button.

Browse



VII1-2c Use zoom function

The software allows to display accurate areas of the graph :

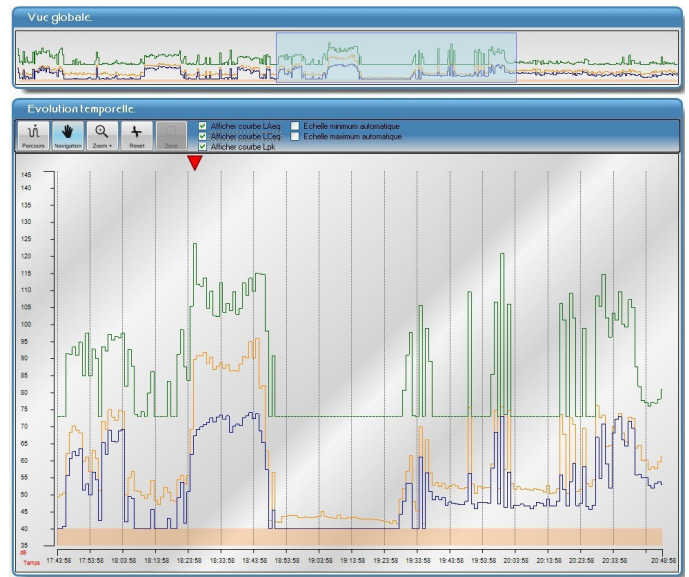
For that, use the “**zoom+**” icon.

- Click on the required place of the beginning of the zoom and stay clicked.
- Drag the mouse until the end of the zoomed period.
- Release mouse button.
- Move lateraly the graph with the hand if necessary.

The global view allows th have always a view of the totality of the dataset.

Blue area indicates the displayed period..

To back to global graph, click on “**Reset**” icon.



NOTE Zoom is only about the graph, diplayed resuts are always the ones of the global file..

VII1-2d Use pause function

Using of “**Pause** » function : this function can be used to delete a part of the measurement.

For exemple : during pauses or to eliminate a beginning or an end of unrepresentative measurement of the workstation. As soon as the area is present, results displayed on the left of the “**Results**” part are modified.

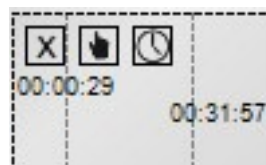
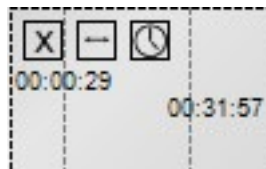
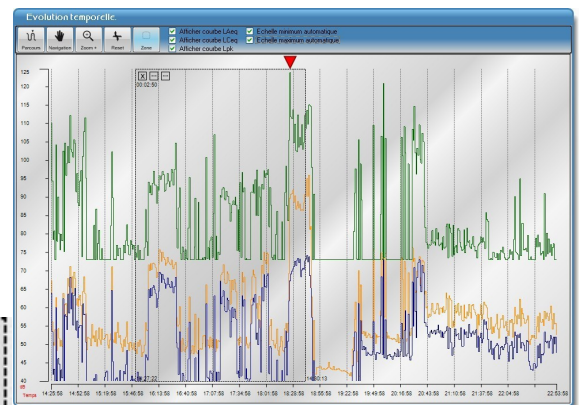
To insert a pause :

- Click on“**Pause**” button.
- Click on the location on the graph of the beginning of the pause.
- Stay clicked.
- Drag the mouse until the end of the pause.
- Release the mouse button.

To adjust the area, go to the right end and drag the mouse (↔ cursor must be active)

To move it, click on the cursor ↔ on the top left of the area to to see a hand and drag the area on the required location with the hand.

To delete it, click on the cross on the top left of the area.



Setting time

Modify the duration of the area according to a start time and an end time :

- Use “**Clock**” icon.

A setting frame of the start and end times opens.

The indicated times are those of the concerned area.

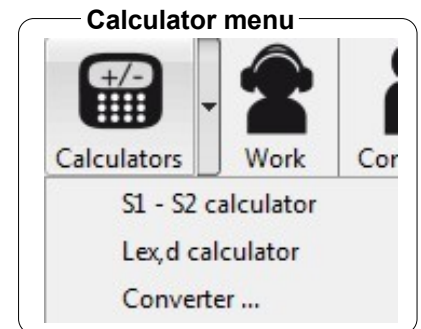
- Set the times with the arrows.
- Validate.

VII 2 – Use the calculators

Three calculators are available from the software launching. Click on the icon to select a calculator.

They allows :

- **S1-S2 calculator** : to determine the level of a sound source from two or to calculate the equivalent level of two sound sources.
- **Lex,d calculator** : to calculate the daily exposure level from an equivalent continuous level representative of the workstation and of the effective duration of the workstation.
- **Time converter calculator** : to convert in decimal expression a duration expressed in HH:MM:SS or vice versa.

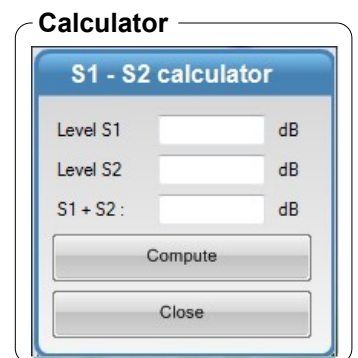


VII2-1 S1-S2 calculator

VII2-1a Calculate the level of two sound sources

To calculate two sound sources :

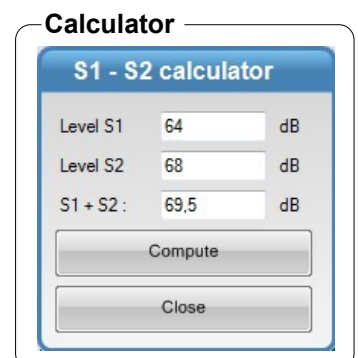
- Enter S1 level.
- Enter S2 level.
- Click on "**Calculate**" button.
- Click on "**Close**" button to quit.



VII2-1b Calculate the sound level of one source

To calculate a sound source (S1 or S2) :

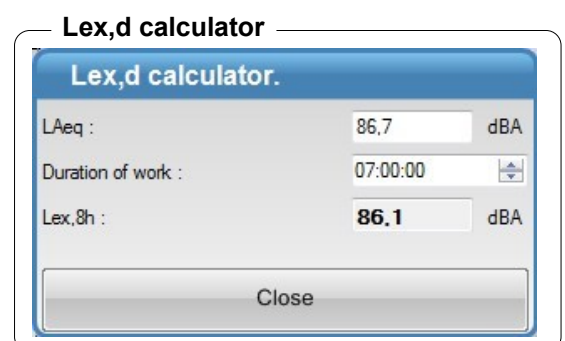
- Enter S1 or S2 level.
- Enter S1 + S2 level.
- Click on "**Calculate**" button.
- Click on "**Close**" button to quit.



VII2-2 Lex,d calculator

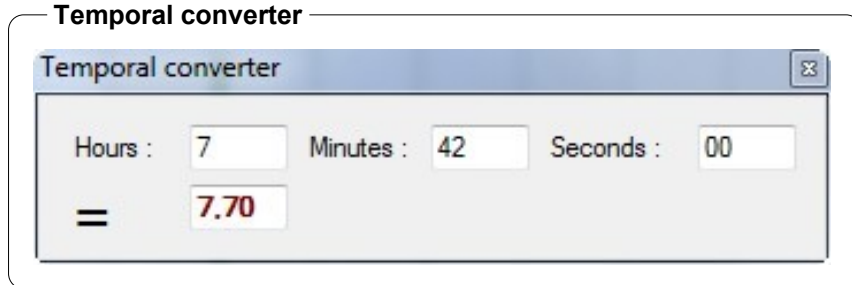
To calculate a Lex,d daily exposure :

- Fill in the representative workstation **LAeq**.
 - Fill in the "**Effective duration of workstation**".
- The Lex, 8h is directly calculated on the last line.
- Click on "**Close**" button to quit.



VII2-3 Temporal converter calculator

- Fill in hours : minutes : seconds : the decimal expression appears.
- Inversely, write a decimal value to get the hours : minutes : seconds breakdown.



Note : those calculators can be activated simultaneously.

VII 3 – Documents setting for exportation or printing

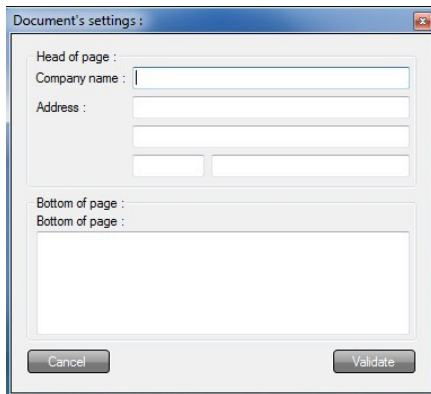
LDS23 software allows to export or print the results obtained as dataset reports. Some settings must be performed before exporting or printing a report.

On this dataset report, it is possible to fill in :

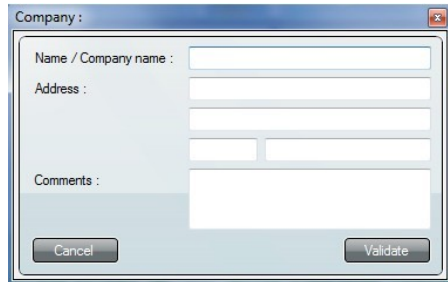
- Address and telephone number in the “**Documents setting**” frame.
- Customer address and telephone number in the “**Company**” frame.
- Concerned workstation (name, first name, identification number, service and effective duration work)

Here is how to proceed:

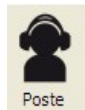
- Click on “**Tool**” then “**Documents setting**”, the following window opens :
- Fill in the fields.



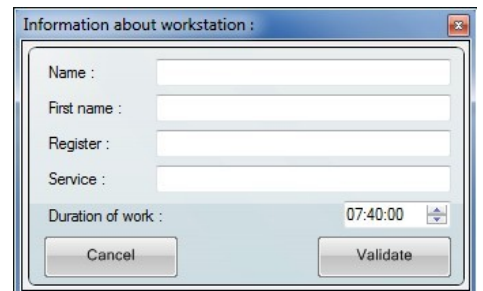
- Click on “**Company**” button, the following window opens :
- Fill in the fields.



To fill in the workstation, click on

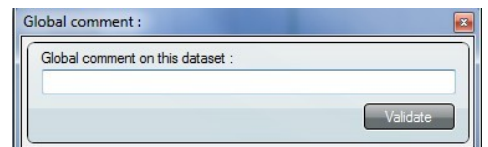


button then fill in fields of the opposite window.



It is possible to insert a global comment :

- Click on “**Global note**” button and fill in the frame.




VII 4-1 – Exportation

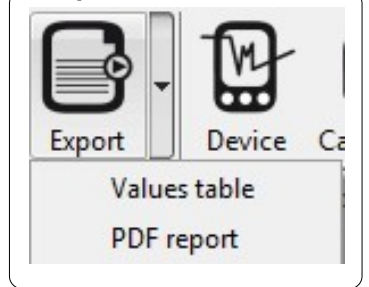
Exportation is about :

- The table value as **.txt** file, easily readable by a spreadsheet.
- A measurement report in **.pdf** format of all or a part of elements that constitute the treatment of the original file.


Export the table of values :

- Click on the arrow of the exportation button  and select **“Table of values”** mode.
- Validate and save the file in the directory **“Export”**.
- View the report to control it.

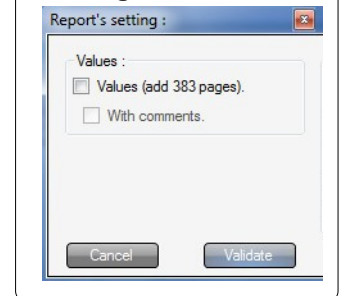
Exportation




Export the measurement report in pdf format :

- Click on the arrow of the exportation button  and select **“PDF report”** mode.
- Choose the desired configuration in the frame **“Report configuration”**.
- Validate and save the file in the directory **“Export”**.
- View the report to control it.

Configuration



NOTE

One click on the icon  directly concerns the exportation of report in pdf format.

Report example :

Page 1 : general information supplied when configuring or to complete manually (date and calibration certificate number of The dosimeter)

This page also presents the graph related to the measurement dataset.

Following pages : list of reported values with comments, if validate when configuring the report.

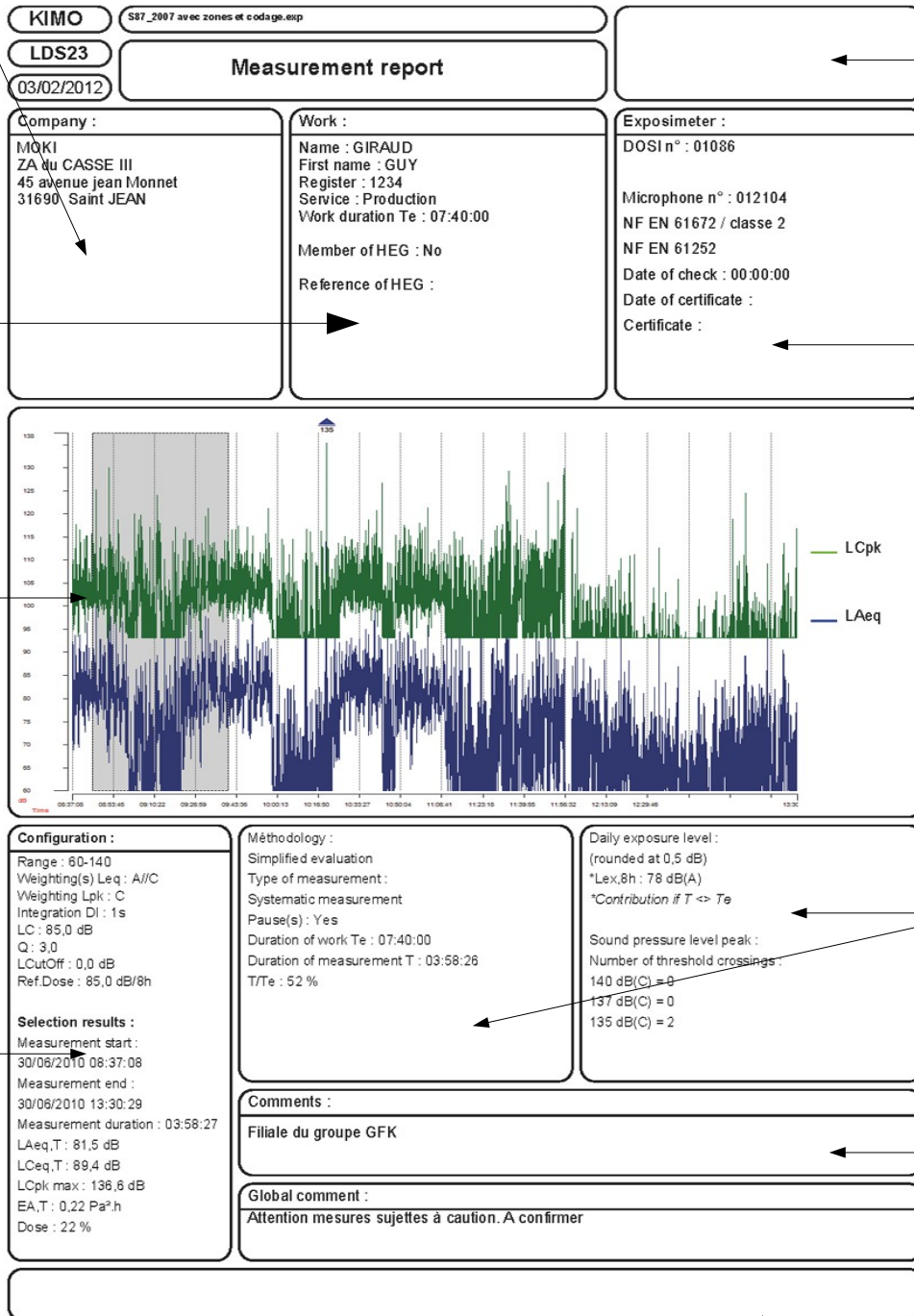
Description of the different parts of the report, first page.

Informations on the company/organization in which measurement have been made appear in the exportation or printing document

Informations about the workstation

Graph on time evolution

General results of the measurement dataset



Header

General features of the measuring instruments, date and certificate number (to be manually inform)

Standardized results

Observations : ex : measurement conditions

Footer

VII 3-2 – Printing

Printing concerns :

- measurement report of all or a part of elements that constitute the treatment of the original file.

Print the report :

Click on the “**Printing**” button  .


Tick the box “**Values**” (if necessary) to include values in the printing and the box “**With comments**” to include comments.

- Click on “**Validate**” .

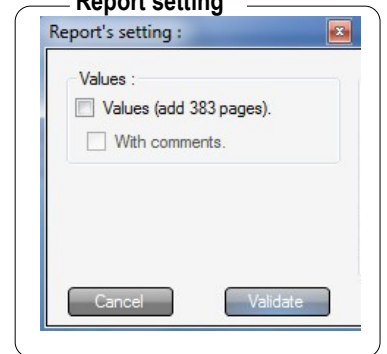
Printing window opens.

Select the printer then click on “**Print**”.

*The “**Aperçu avant impression**” window opens.*

- Launch printing by clicking on the icon “**Printer**”  of the overview.

Report setting



VII 4 – Close file

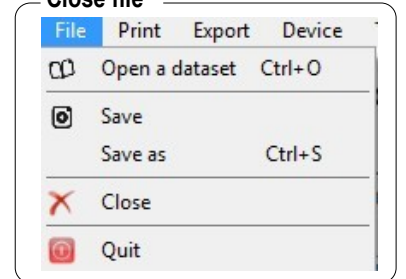
To close the file :

- Click on **File**.
- Click on **Close**.



When file is closed, software back to the home page.

Close file

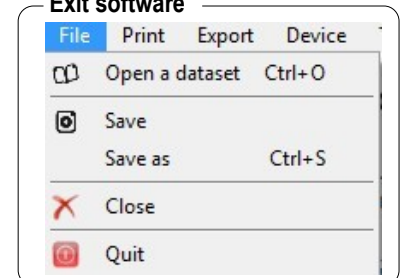


VII 5 – Exit software

To exit software :

- Click on **File**.
- Click on **Exit**.

Exit software



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