

User manual

Sound Level Dose Meter

SA40 & LYDIA

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Sound Level Dose Meter SA40 and LYDIA are marketed in cooperation with



Sound Level Dose Meters SA40 and LYDIA are made in Sweden by



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INTRODUCTION

Entomed MedTech AB is, in cooperation with HLF in Norway, marketing a sound level dose meter designed to allow for an easy and efficient noise level screening and monitoring, as a complement to traditional methods for sound level dose calculations and measurements.

It is designed for continuous use, thus adding the time perspective to the measurements, but yet most easy to use. Put it on the wall at a suitable location; connect the enclosed mains adaptor to the nearest mains outlet – Ready to use!

All sound level dose meters are shipped with the alarm level factory pre-settings as follows:

- Red indicates sound levels of 70 dBA or more.
- Yellow indicates sound levels of 67 dBA or more.
- Green indicates its currently monitoring the sound level.

These settings and the indicator lamps intensity might easily be altered using the rotary switch at the bottom.

The following sound level dose meter models are available:

- Lydia U sound level indicator (not available on all markets)
- Lydia X sound level dose meter
- SA40 sound level dose meter



The SoundReport reporting program, enclosed in the shipment, adds additional monitoring and reporting features to the level dose meter, such as parameter settings and real time monitoring and visualization of the sound level.

For Lydia X and SA40, with their unique design in automatically storing the sound level measurements in their measurement data memories, the SoundReport program provides a complete and easy to operate system for the screening and monitoring of sound levels and sound level doses, to be analysed, printed and documented into reports – fully in accordance to the occupational health and safety legislation and its noise level regulations.

LYDIA U although basically being a sound level indicator, but yet designed to allow for being upgraded with additional software and a measurement data memory – in order to provide exactly the same functionality as the Lydia X type sound level dose meter.

The sound level dose meter is shipped with pre-settings, ready to be used

Put it on the wall at a suitable location and connect the enclosed mains adaptor to the nearest mains outlet. The green light indicates that it has started monitoring the sound level and according to the factory pre-settings, the yellow light indicates a sound level of 67 dBA or more and the red light indicates 70 dBA or more.

Positioning the sound level dose meter on a wall

It is important that the sound level dose meter is positioned in such a way that the measured sound levels are relevant to the sound levels of the room. When positioned on a wall, the recommended horizontal distance to the closest corner is 30-45% of the length of the wall. I.e. if the wall is 3.0 m, the recommended distance is 0.9 to 1.35 m from the corner.

Regarding the vertical position, it's recommended to be related to the level of the heads of the people occupying the room, adults or children, standing upright, sitting down on chairs or directly on the floor.

Setting of the alarm levels and the indicator light intensity

The sound level dose meter has a rotary switch at the bottom - providing for manual settings

The pre-set values for the alarm levels and for the indicator light intensity might easily become altered by the use of the rotary switch at the bottom.



(Please Note. The switch should always be set back into position "0" when operating the sound level dose meter).

Sound level, manual setting of alarm levels for yellow and red indicators

Manual setting of the alarm levels for the yellow and the red indicator lights.

Disconnect it from the mains, then turn the rotary switch into position "D". Reconnect it to the mains and all three indicators are switched on.



Position	2	3	4	5	6	7	8	9	A	B	C	D
Red	40	50	60	70	75	80	85	87	90	95	100	103
Yellow	37	47	57	67	72	76	79	81	84	89	94	97

Turn the rotary switch into the position of the desired alarm level (in dB) in accordance to the table to the left.

When the desired setting has been selected, all indicators provide one flash, then wait until the green indicator has provided one flash. Disconnect it from the mains; turn the rotary switch back into position "0" and the selected alarm levels have been set.

The sound level dose meter, with the new alarm level settings, is ready for use and to be connected to the mains.

Manual setting of the indicator light intensity

The indicator light intensity could be altered from maximum down to minimum or even switched off.

The factory pre-setting, when shipped, is the second to maximum setting, corresponding to the rotary switch position "E".

To alter this setting, disconnect it from the mains, turn the rotary switch into position "F". Reconnect it to the mains and all three indicators are switched on at maximum intensity.



For maximum intensity, disconnect it from the mains; turn the rotary switch back into position "0". For less intensity, turn the rotary switch step by step counter clockwise until the desired intensity has been achieved. Position "F" represents the maximum and position "1" the minimum intensity.

Disconnect it from the mains; turn the rotary switch back into position "0" and the selected indicator light level has been set.

The sound level dose meter, with the desired light intensity, is ready for use and to be connected to the mains.

Please Note! In position "0" all indicators are switched off – an important feature for the Lydia X and Entomed SA40 models thus allowing for the monitoring of the sound levels "unaffected" of individual behaviour.

SoundReport - Program for PC

The SoundReport program-CD is enclosed free of charge, as a free-ware, with all shipments of all models (Lydia U, Lydia X with memory and SA40 with memory) of the sound level dose meter.

Installation

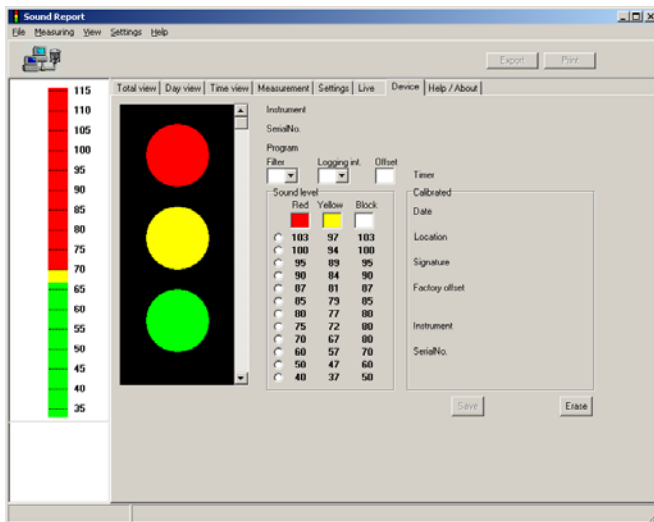
Insert the SoundReport CD into the CD-ROM drive. The installation guide will start automatically – select **"Install SoundReport"** and follow the instructions.

(In case the CD-ROM doesn't start automatically, try the **"Start"**-menu, select **"Run"** use **"Browse"** to find the **"Install SoundReport.exe"**-file on the SoundReport CD and follow the instructions).

General information

When opening the program, the following starting menu is being presented. All other menus and alternatives are accessed both via the menu bar at the top, as well as shortcuts directly via the tab bar.

The alternatives provided are as follows:



- **Total view** the sound pulse levels accumulated over the measured periods
- **Day view** the daily sound exposure level LEX
- **Time view** the sound pressure level LpAeq and maximum time-weighted sound pressure level LpAFmax.
- **Measuring** uploading, administration of measurement data files
- **Settings** for program-and calculation settings
- **Live** real time sound level presentation - live mode
- **Device** for Sound Level Dose Meter identification and parameter settings
- **Help/About** for the user manuals and program information

Connecting the Sound Level Dose Meter

The Sound Level Dose Meter is connected via the enclosed RS 232-cable to a serial port of the PC, or to an USB-port, by using the USB-adaptor (This adaptor is optional for the Lydia U, but included in the shipment for the Lydia X and SA40).

Please Note! When using the USB-adaptor, the enclosed mini-CD with the USB-driver program needs to be installed as well. Follow its separate instructions.

Make sure the sound level dose meter rotary switch is set to position "0" and connect it to the mains. Start the SoundReport program and then connect the sound level dose meter to the PC.



When the connection to the PC is established, the SoundReport connection icon changes to the proper status and that the indicator lights of the sound level dose meter will all be switched off.



Further information regarding communication port settings, automatic/manual, please refer to page 10.



SoundReport - Real time presentation (Live mode)

Live – real time presentation of the sound pressure level

In this mode all models of the Sound Level Dose Meter presents the present sound pressure level in dBA (or dBC depending on weighting filter setting) is displayed in digits, in an analogue VU-meter bar, as well as in a diagram.

Connect the Sound level Dose Meter to the PC, select tab "Device" for setting the frequency weighting filter **A** or **C**, and click the "Save"-button to download the setting into the Sound Level Dose Meter.

Disconnect it from the mains – set the rotary switch into position "A" - reconnect it to the mains and it's up and running in this real time mode. Select tab "Live" – and the sound pressure level display starts automatically. (In cases of manual "Settings" use the "Start" / "Stop"-buttons).



In the menu bar, the horizontal time axis of the diagram might be set for 1, 5, 10, or 30 min. resp. from 1 or 12h up to 1 day. The sound pressure level, presented as a red graph, starts from the left to the right. When the diagram time frame has been filled, the diagram starts to "scroll to the left" thus the last time period selected is always continuously displayed.

The diagram time frame might be altered during the ongoing measurement.

Zooming in – zooming out resp. repositioning of the diagram

Zooming in. Any part of the diagram can be zoomed into individual preferences. Position the pointer at the upper left corner of the desired area, press left mouse button - pull the pointer to the lower right corner of the desired part (displayed as a black frame in the diagram) – release the left mouse button – the zoomed area is displayed.

Repositioning the diagram left/right. In order to view the sound level graph outside the displayed diagram window time frame, it's possible to move the diagram left/right. Place the pointer on the diagram - press right mouse button - move the diagram left or right to desired "time"-position - release the right mouse button.

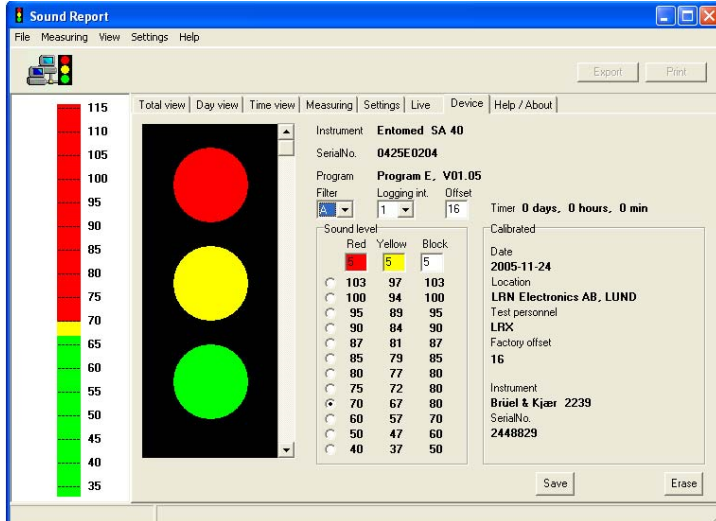
Reset zoom/reset position. Position the pointer on the diagram – press left mouse button – pull the pointer towards upper left – release the left mouse button - and the diagram zoom/diagram position is reset to standard.

Please Note! Zoom/position are always reset to standard, when SoundReport is opened/restarted

SoundReport – Settings for the Sound Level Dose Meter

Device – Settings for the Sound Level Dose Meter

Connect the sound level dose meter to the PC, select tab "Device" the following will be presented:



The sound level dose meter (type, serial no, program version and for Lydia X and SA40 - the measurement data memory status)

Its settings (indicator light intensity, alarm level settings and selected weighting filter A/C and for Lydia X and SA40 logging interval for the measurement data memory

and information regarding its calibration status.

The following parameters could be set on all three types:

- **Light intensity** Stepwise setting (from "off" to "max") for the indicator light intensity
- **Alarm levels** Stepwise setting for the desired sound levels/alarm levels to be indicated by the yellow and red indicator lights.
- **Filter** Frequency weighting filter A/C. Weighting filter A corresponds to the human hearing at "normal" sound levels and is used for the sound pressure level L_{pAeq} and for the maximum time-weighted sound pressure level L_{pAFmax} measurements. Frequency weighting filter C corresponds to the human hearing at "high" sound pressure levels and is used for the sound C peak level L_{pCpeak} measurements.
- **Offset** Special function. The default setting "Factory offset" is the factory calibration setting. In cases the sound level dose meter is positioned at a distance from the source of noise, this "offset"-setting could be used in order to correlate the sound level dose meter reading to the known level at the source of noise.

Use the "Save"-button to download the selected parameter settings into the sound level dose meter. Disconnect it from the mains - and the Sound Dose Level Meter is ready for use.

The Lydia X and SA40 sound level dose meters do also have the following parameter setting:

- **Logging int.** Time interval setting for how frequent the results of the measured sound level data should be stored into the measurement data memory (every 1, 5, 10, 15 or 20 minutes). At the "1" minute setting the memory is capable of storing up to 14 days and so forth up to 285 days at the "20"-minutes setting.

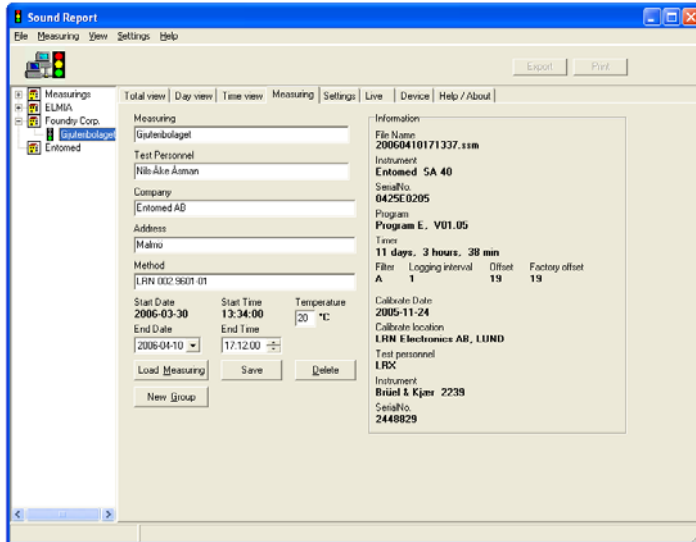
Please Note! To alter this setting for the Lydia X and the SA40, the measurement data memory has to be erased. Refer to tab "Measurement" for uploading the measured data or use the "Erase"-button to erase the measurement data memory (the yellow indicator flashes during this process, about 15 sec).

Use the "Save"-button to download the selected parameter setting into the sound level dose meter. Disconnect it from the mains - and the Sound Dose Level Meter is ready for use.

SoundReport - Uploading measurement data files from the Lydia X/SA40 Sound Level Dose Meters

Measurement – Uploading the measurements from Lydia X/SA40

Connect the sound level dose meter to the PC and select tab "Measurement"



Select the desired folder of the tree structure for the storing of the measured data file and click "Load Measurement" to initiate the upload. Enter the information related to the measured data. Check/adjust "Date" resp. "Time" and click "Save" to store the measured data file and its related information to the PC hard drive.

When completed, the information stored is displayed in the information area to the right of the screen and a popup window appears, asking whether the measured data file in the sound level dose meter data memory should be erased "Yes" or "No".

Please Note! By clicking "No" – its possible to conduct yet another attempt to upload the measurement data file in case the previous attempt was not completed successfully. When the upload has been verified, the measurement data memory could be erased at any time. Select tab "Device" and click "Erase", for further information see page 7.

Pre-setting of measurement file identity pre-sets

Provisions are made to have this information (Name; Company; Location and Notes) pre-set as default values. Please refer to tab "Settings" part "Measurement file identity pre-sets".

Correction of measurement start and stop time – Date and Time

In order to secure that the time scale is correct for each individual measurement data file, it is possible to verify/correct the point of time for the measurement start and stop. Make a note of the date and time (hours-minutes) when the Lydia X and/or SA40 is connected to the mains/the measurement has started thus making it possible to verify or to correct the time scale, if needed, before saving the uploaded measurement data file to the PC hard drive.

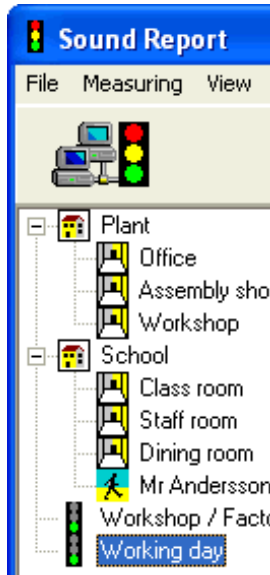
Correlation to other references - Notes

The Lydia X and the SA40 Sound Dose Level Meter are intended for the screening and for the monitoring of sound/noise levels over time, as a complement to other conventional methods.




Depending of its position, its distance to the source of sound/noise, the acoustic characteristics of the premise, etc. the reading will diverge as compared to an absolute reading at the point of sound/noise. Notes about this information and/or correction values to be considered can be entered to the file under the label "Notes".

SoundReport – Administration of measurement data files


To support the administration and handling of all measurement data files, SoundReport provides a tree structure for having the folders and measurements organized as follows:



The folders are available with three different symbols/icons to simplify and to support the administration and handling of the various files.

-  **Building** Building, premise, workshop, office, etc.
-  **Room** Room, place of work, etc.
-  **Mobile** Individual, vehicle or similar.

With these folders a hierarchical structure of folders and folders in folders can be developed in accordance to individual preferences.

 **Measurement data file** – the individual measurement data file.

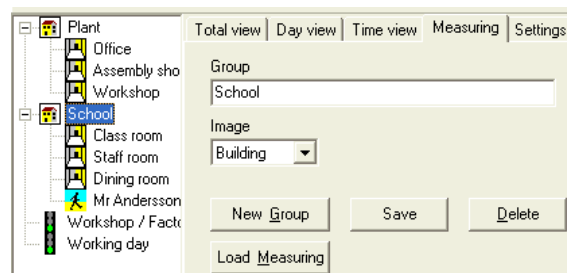
Organizing folders and measurement data files

Both the folders and the individual measurement data files can easily be moved and repositioned in the tree structure. Place the mouse pointer on the desired folder/file icon, press left mouse key, pull it to the new position/folder, release the left mouse key – and the move is completed.

Creating a new folder

Select a desired position in the tree structure.

Click **"New Group"**, type the name of the folder, select a suitable icon and click **"Save"** to create the folder in the tree structure.



Deleting a folder or a measurement data file

Identify the folder and/or the measurement data file to be deleted, click **"Delete"**, and a popup window appears – verify your choice **"Yes"** or **"No"**.

Measurement data files – backing up, export, import,

All measurement data files created by the SoundReport programme will have the encrypted file format ".ssm" and are automatically stored in the SoundReport program folder on the local hard drive. (i.e. "C:\Program\EPP Competence Group\SoundReport" resp. "20040304104010.ssm").

For **backing up** the measurement data files, open the SoundReport folder on the local hard drive ("C:\Program\EPP competence Group\SoundReport") copy all the ".ssm"-files and insert/"paste" them into a suitable folder on the common server, or other media in accordance to the local safety backup procedure routines.

The measurement data files are easily **exported**, enclosed with an e-mail, copied to an USB-memory stick, or other portable media, to be made available to other users.

For **import**, insert a copy of the measurement data file (".ssm") into the SoundReport program folder on the local hard drive. Restart the SoundReport programme and the imported measurement data files appear in the above mentioned tree structure.

SoundReport – Pre-set information alternatives

Settings – customizing the SoundReport pre-set information

Select tab "Settings"

Measurement file identity pre-sets

In order to simplify the registration procedure, it is possible to customize the preferred default information. However, its still possible to accept/alter this information when saving the individual file to the PC (please refer to tab "Measurement").



Setting the time interval/point of times for the calculation of L_{EX}

The Lydia X and SA 40 measurement data files contain continuous information about the sound level 24 h/day throughout the entire measurement period. In order to calculate the sound exposure level, L_{EX}, alt. the daily sound dose exposure, L_{EX,8h}, please enter the relevant points of time and the days of the week for the period to be calculated and reported.

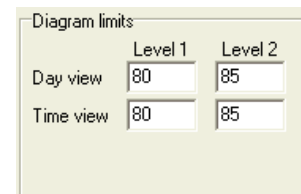
The programme provides the calculation possibilities of two separate time periods/work day (i.e. work day divided with brake for lunch). This, in combination with the selection of work-days/week, provides the means for simplified automatic calculations and report procedures in cases of shift work, 24-hour duty services, 7 days/week alt. where calculations for parts of the work day are preferred.



Please note, the calculation settings do not affect the measurement data file contents, thus providing the possibilities for repetitive and/or alternative calculations and hard copy print-outs for individual of a work team etc. or exposure levels for a specific period of time of the day.

Limit values in the diagram's

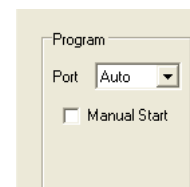
In cases when limit values are being preferred in the "Day view" and "Time view"-diagram's, the levels could be pre-set/alterd, in dB, as follows.



Communication port settings of the PC

In default setting "Auto" the SoundReport program automatically identifies/connect to the proper port the Sound Level Dose Meter has been connected to. Its settings and the information stored in the measurement data memory are automatically communicated to the PC.

For manual management of this communication, tick "Manual Start" and the menus "Device" resp. "Live" are then automatically updated with manual buttons for "Load" resp. "Start" and "Stop".

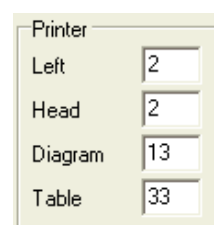


In cases when the PC do not succeed to connect in the "Auto"-mode, its always possible to proceed with a manual port identification to find the proper communication port using the "Port" –selector in order to avoid interference and/or conflicts with other programs installed to the PC.

Hard copy print-out settings

The default values for hard copy print-outs, could be altered as follows:

- Left left margin
- Head head margin
- Diagram diagram position
- Table table position



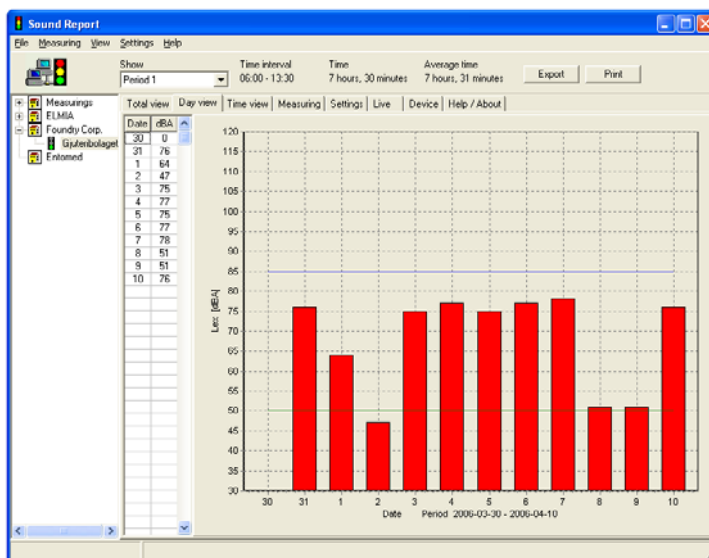
Reporting – Overall sound/noise-exposure

Day View – Daily sound exposure level LEX.

Select "Day view" - then click the desired measurement data file from the tree structure, to the left, for displaying the calculated sound/noise exposure level report, both in a diagram form as well as a table to the left of the diagram. (For additional information, refer to tab "Measurement").

The menu bar above the diagram, provides for the following settings (refer to tab "Settings"):

- Show reports either calculation period 1, 2 or Day (period 1 + period 2)
- Time interval reports the time settings for the selected calculation period
- Time reports the lapse time/duration for the selected "Time interval"
- Average time reports the mean value for the period of time the sound level dose meter has measured a sound/noise level of at least 35 dB, during the "Time interval"



Please Note! Reported values in the diagram, table and print-outs are all based upon the settings in the "Show"-menu bar.

Please Note! For weighting filter C, the sound levels measured will then accordingly be reported in dBC.

Zooming in – zooming out resp. repositioning of the diagram

Zooming in. Any part of the diagram can be zoomed to individual preferences. Position the pointer at the upper left corner of the desired area, press left mouse button - pull the pointer to the lower right corner of the desired area (displayed as a white frame in the diagram) – release the left mouse button – the zoomed area is displayed.

Repositioning of the diagram in the diagram window. Place the pointer on the diagram - press right mouse button - move the diagram to desired position - release the right mouse button.

Reset Zoom/reset position, manually made only according to the following two alternatives:

1. Click right mouse button – the dialogue button "Reset zoom" appears – place the pointer on the button – click left mouse button – and the diagram zoom/diagram position is reset to standard.
2. Position the pointer on the diagram – press left mouse button – pull the pointer towards upper left – release the left mouse button - and the diagram zoom/diagram position is reset to standard.

Please Note! Zoom/position are always reset to standard, when SoundReport is opened/restarted

Documentation – hard copy print-outs/export of measurement data

"Print" –button initiates a hard copy print-out on selected printer.

Please Note! Hard copy print-outs will have the same diagram size/position as displayed on screen.

"Export" –button generates a "text file" allowing export of the information to become imported into other programmes.

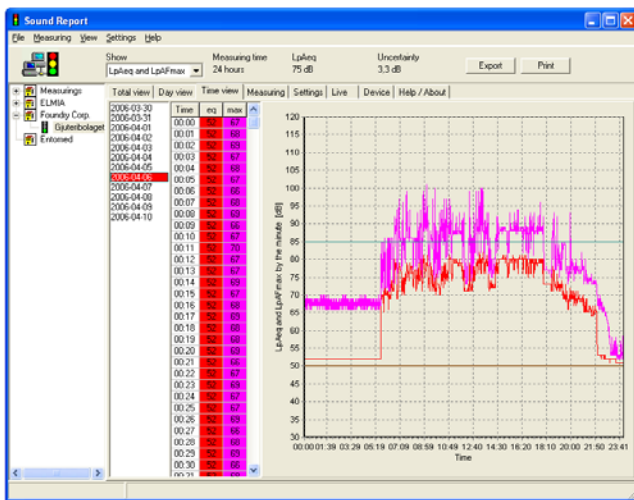
Reporting – Detailed sound level variation over time

Time View - Equivalent L_{pAeq} and maximal sound pressure level L_{pAFmax}

Select "Time view" - then click the desired measurement data file from the tree structure for displaying the equivalent L_{pAeq} and the maximal sound pressure level L_{pAFmax} exposure reports, as a diagram and as a table. (For additional information, refer to tab "Measurement").

The menu bar above the diagram, provides for the following settings (refer to tab "Settings"):

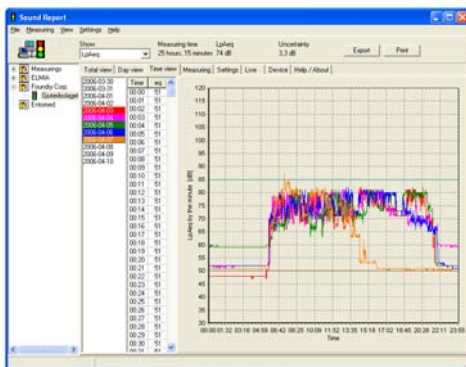
- Show reports either L_{pAeq} + L_{pAFmax} ; L_{pAeq} Or L_{pAFmax}
- Measuring time the total time, for the select day (24h) that the SA 40 has measured a sound/noise level of at least 35 dB
- L_{pAeq} reported equivalent sound pressure level L_{pAeq} for selected day (24h)
- Uncertainty automatically calculated statistical measurement uncertainty for the selected measurement, in accordance to the GUM10 (refer to measurement uncertainty – automatically reported calculation).



Select a date from the list of dates and the diagram reports the sound pressure level in accordance to the a.m. settings and the table reports the measured levels by the point of times in accordance to the pre-set "Logging interval" (refer to tab "Measurement" for measurement data file settings and tab "Device" for down-loading preferred settings into Lydia X/SA 40).

Please Note! Reported results in the diagram, table and print-outs are based upon the a.m. "Show"-menu bar setting.

Please Note! For weighting filter C, the sound levels measured will then accordingly be reported in dBC.



Comparing several graphs to each other

In order to provide recognition of repetitive patterns, to analyse or to compare sound level graphs of various dates to each other, there is a built-in function for displaying several graphs (max 7 pcs) in one diagram.

Select equivalent L_{pAeq} or maximal sound pressure level L_{pAFmax} , press "Ctrl"-key and click left mouse button to add those dates to be compared.

Zooming in – zooming out resp. repositioning of the diagram

Please refer to page "Day view" for detailed information regarding these functions.

Documentation – hard copy print-outs/export of measurement data

"Print" –button initiates a hard copy print-out on selected printer.

Please Note! Hard copy print-outs will have the same diagram size/position as displayed on screen.

"Export" –button generates a "text file" allowing export of the information to become imported into other programmes.

Reporting – Sound pulse peak levels accumulated

Total view – Sound pulse peak levels L_{pCmax} accumulated over period.

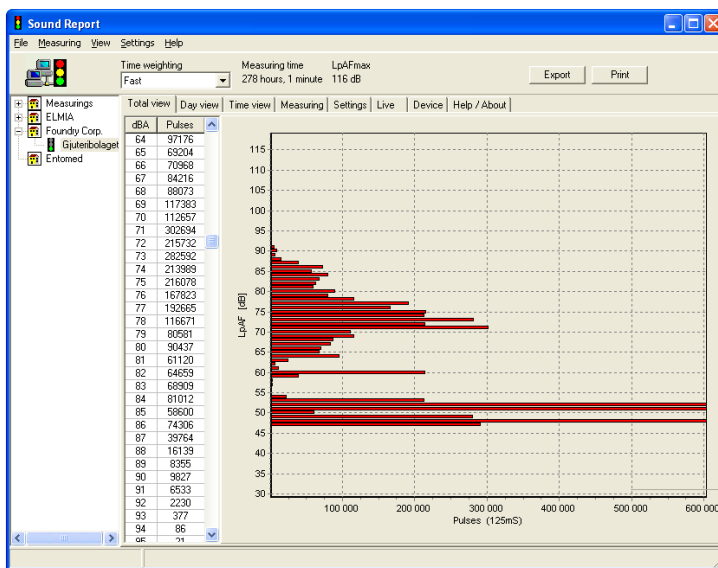
Select tab "Total view" - then click the desired measurement data file, from the tree structure, for displaying the accumulated report for each measured dB-value of the sound pulse peak levels over the entire measurement period, as a diagram and as a table (please refer to tab "Measuring").

The menu bar above the diagram, provides for the following settings (refer to tab "Settings"):

- Time weighting reporting the sound peak level pulse information in time weighting **F/fast** (in number of 125 mS pulses) or alt. as **S/slow** (accumulated time in sec. in accordance to the sound level measurement standard IEC 61672-1:2002
- Measuring time reports the total time, that the SA 40 has measured a sound/noise level of at least 35 dB
- L_{pAFmax}/L_{pCFmax} sound pulses measured, reported in time weighting **F/fast**
- L_{pASmax}/L_{pCSmax} sound pulses measured, reported in time weighting **S/slow**

The table, to the left of the diagram reports the measured sound pressure levels listed in dB reading by dB reading.

Please Note. The reported information in both the diagram and the table are based upon the a.m. "Time weighting"-setting and that this setting is reported on all hard copy print-outs as well.



(Refer to tab "Measuring" for the measurement data file settings and tab "Device" for the down-loading preferred settings into the SA 40).

Please note, the measurements are all reported in **dB(A)** for **weighting filter A**, and accordingly reported in **dB(C)** for **weighting filter C** settings.

Zooming in – zooming out resp. repositioning of the diagram

Please refer to page "Day view" for detailed information regarding these functions.

Documentation – hard copy print-outs/export of measurement data

"Print" –button initiates a hard copy print-out on selected printer.

Please Note! Hard copy print-outs will have the same diagram size/position as displayed on screen.

"Export" –button generates a "text file" allowing export of the information to become imported into other programmes..

Documentation – hard copy print-outs of reports

Reporting sound pressure level measurements in hard copy print-outs



All the reports are designed to fulfil the applicable demands (incl. traceability) as identified in internationally recognized standards related to the Lydia X/SA 40 Sound Level Dose Meter (i.e. sound level meters, sound level measurement, quality management, calibration equipment and procedures etc.).

Generating the hard copy print-outs

Select desired tab "Day view", "Time view" resp. "Total view" depending of the information to be printed. Check the diagram zoom, click the "Print"-button thus generating the hard copy print-out on selected printer (alt. generates a PDF-file in cases a PDF-writer program is being installed).

Please Note! Hard copy print-outs will have the same diagram size/position as displayed on screen.

Export of measurement data

Select desired tab "Day view", "Time view" resp. "Total view" depending of the information to be exported, click the "Export"—button thus generating the information into the format of a "text file". A pop-up window "Save as" appears, enter a desired file name - select the folder for saving the file.

Measurement uncertainty – automatically reported calculation

There are a number of factors, which all together will have an influence on both the accuracy of the measurement as well as the Uncertainty of Measurement (UM) of the measured sound/noise pressure levels. An indication of the size of such an Uncertainty of Measurement (UM), calculated in accordance to the principles established by GUM¹, is automatically provided to every, in tab "Time view" reported sound pressure level measurement.

$$1,6 \cdot \sqrt{X^2 + Y_1^2 + Y_2^2 + Z^2}$$

¹

GUM, Guide to the Expression of Uncertainty in Measurement, 1995.

Quick reference guide – Lydia U, Lydia X and SA40 - SoundReport

Settings – to present, alter or to delete measured values

Connect the Sound Dose Level Meter to the PC, select tab "**Device**" to report or to alter the current settings and, for Lydia X/SA40, to delete the measured values stored in their measurement data memories.

Parameter settings:

- **Frequency weighting filter A/C**
- **Logging interval for the data memory** 1, 5, 10, 15 or 20 minutes
- **Sound level** setting of the alarm levels for the yellow and red indicators.
- **Indicator light intensity** various settings from "off" to max.

The "**Save**"-button is for downloading the settings and the "**Erase**"-button for erasing existing data in the Lydia X/SA40 data measurement memory. Disconnect the mains power module - the Lydia U, Lydia X and the SA40 are then updated and ready for use.

Real time sound level monitoring - (Live mode)

Connect the Sound Dose Level Meter to the PC, select "**Device**" for verifying/selecting the desired frequency weighting filter A/C and click "**Save**" to download the setting into the unit. Disconnect the mains power module – turn the rotary switch into position "**A**". Reconnect it to the mains, click "**Live**" and the current sound level is being presented.

Quick reference guide – Lydia X and SA40 - SoundReport

Uploading measured values from the Lydia X and the SA 40

Select "**Measurement**" and then select the desired folder, of the tree structure, for the storing of the measured data file. Click "**Load**" to initiate the upload. Enter the information related to the measured data file, check/adjust "**Date**" resp. "**Time**" and click "**Save**" to store the measured data file and its related information to the PC hard drive.

When completed, the information stored is displayed in the information area (to the right) and a popup window appears, asking whether the measured data file in the data memory should be erased "**Yes**" or "**No**".

Documentation – hard copy print outs/export of measurement data

Select "**Total view**"; "**Day view**" or "**Time view**" depending of the information (measured data, diagram or table) to be documented.

"**Print**" –button initiates a hard copy print out on selected printer.

"**Export**" –button generates a "text file" to become imported into other programmes.

Measurement data memory check

The memory status is verified as follows:

- A number of flashes of the yellow indicator followed by 3 flashes of the green indicator = the measurement data memory is erased – the entire memory capacity is available for this measurement and the measurement has actually started and is continuing until the memory is completely filled.
- Only 3 flashes by the green indicator = there are already measurement data stored in the memory, the current measurement has just been initiated and will continue until the memory is completely filled.

Please Note! When the memory is completely filled, the indicators continue to indicate in accordance to the settings, but the measurement data storage into the memory is stopped in order prevent data losses from the time when the measurement was initiated.

(This manual edition is based upon the document original EPP115 edition 4.)